

# SYLLABUS

## DEPARTMENT OF EDUCATION

### **BACHELOR OF EDUCATION (B. Ed.)**

Two Year Regular Programme



*'A' Grade by NAAC & 'A' Category by MHRD*

## **JAIN VISHVA BHARATI INSTITUTE**

(Deemed to be University under section 3 of UGC Act, 1956)

**Ladnun-341306 (Raj.)**

2017

Price : Rs. 50/-

# BACHELOR OF EDUCATION (B.ED.) PROGRAMME

## Two Years Regular Programme

Jain Vishva Bharati Institute has launched a Bachelor of Education programme recognized by NCTE. The first session started from July 2005. The programme places specific emphasis on meditation as a tool to enhance learning skills and I.Q. This programme is also the first national teachers training programme to offer study in Education for Sustainable Development. Innovative syllabus and enthusiastic faculty work towards not only training the teachers but also assisting them with campus recruitment. Jain Vishva Bharati Institute is looking forward to train a new class of future generation teachers.

### Introduction :

Enlightened, emancipated and empowered teachers lead communities and nation towards better and higher quality of life. Teachers are expected to create social cohesion, national integration and learning society. They disseminate knowledge and also generate new knowledge therefore, it becomes essential for any nation to give necessary professional inputs to its teachers. Jain Vishva Bharti Institute pursues the curriculum for its pre-service teacher training programme for women candidates who are far behind but can lead the whole nation. This will be a special programme focussed with a strong foundation in Science of Living. The candidates are encouraged to flourish an environment that promotes value and technology based society.

**Duration:** The B.Ed. programme is full time two years programme.

**Eligibility:** A candidate who has passed B.Ed. degree from any recognized university and qualified PTET conducted by the Rajasthan Government for that year as per guideline of State Government.

### Objectives:

- ❖ To develop professionalism in teacher Education Programme.
- ❖ To motivate creative thinking and work among teacher trainees.
- ❖ To foster moral, social character and spiritual values of trainees.
- ❖ To develop Inter-relationship among Department, School and Society.
- ❖ To develop cognitive, Affective and Psycho-motor domain of the teacher trainees
- ❖ To promote for future Prospective, Employability and Skill based Teacher Training
- ❖ To develop Self Evaluation, Positive Attitude and self confidence
- ❖ To apply educational innovation and new strategies of the Teacher Education and trainee.

### 1. Title and Commencement

These regulations shall be called the Jain Vishva Bharati Institute (Deemed-to-be) University, Ladnun Regulations for Choice Based Credit System (CBCS) and Continuous Assessment Grading Pattern (CAGP) for Post-Graduate and Under-Graduate Programmes. These regulations were adopted from academic year 2015-2016.

### 2. Definitions

- 2.1 "Programme" is used for a fixed educational programme in place of Degree. A Post-Graduate Programme shall be of four semester's duration and a normal under-graduate programme shall be of four semester's period.
- 2.2 "An Academic Year" consists of two semester's. Each semester consists of different papers of four units. Each unit will have 6 weeks for academic work.
- 2.3 "Course" is a component of programme i.e. in CBCS, papers will be referred to as courses. Each course is identified by a unique course Code. Every course may not be of equal

weightage. Each course, in addition of having a curriculum will have learning objectives and learning outcome.

A Course may be designed to involve Lectures/Tutorials/Laboratory Work/Field Work/Project Work/Vocational Training/Viva-voce etc or combination of some of these.

Every course offered will have three components associated with the teaching learning process of the Course. Namely (I) Lecture – L (II) Tutorial-T (III) Practical's –P. Where

L- Stands for Lecture session.

T- Stands for Tutorial session consisting of participatory discussion/self study/desk work/brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in Lecture classes.

P- Stands for practice session and it consists of hands on experience/laboratory experiments/ field experiments/case studies that equip students to acquire much required skill component.

In terms of credit, every one hour session of L (per week) amounts to I credit per semester and minimum of two hour session of T or P (per week) amounts to I credit per unit over a period of one course of 24 weeks for teaching-learning process (inclusive of teaching and examination).

A course shall have one, two or all three components. That means a course may have only lecture component or only practical component or combination of any two or all the three components.

The total credit earned by a student at the end of the semester upon successfully completing the course is L+T+P. The credit pattern of the course is indicated as L:T:P

**Different categories of courses are as follows:**

- **Core Course**

A Course which should compulsorily be studied by candidate as a core requirement is termed as core course.

- (a) Core-Compulsory is a course which has to be studied compulsorily as a part of core requirement so as to get degree in concerned discipline.
- (b) Core Elective or Core allied is a course that supports / strengthens the core compulsory.

- **Elective Course**

It is a course which can be chosen from pool of courses. The course may be specific / specialized / supportive or advanced to the discipline of study.

- (a) Generic Elective Course add generic proficiency to the students and they are for the said discipline of study
- (b) Open Elective courses are from the pool of courses that are interdisciplinary and or multidisciplinary.

- **Foundation Course**

It is a course that aims to improve proficiency and skill of the student.

- (a) Compulsory Foundation Course add generic proficiency to the students belonging to all disciplines of study.
- (b) Elective Foundation Courses are value based and aimed at man making education.

2.4 A module means a course having independent entity.

2.5 'Unit' means a course having independent part in a course.

2.6 "Credit" means the unit by which the course work is measured. It defines the quantum of contents/syllabus prescribed for the course. It also determines the number of hours of instructions required per week. In these regulations one credit means one hour of direct teaching work or two hours of practical work/field work per week for 20 weeks in a semester.

- 2.7 “Grade Letter” is an index to indicate the performance of student in a particular course. It is arrived at by transformation of actual marks secured by a student in a said course. Grade letters are O,A,B,C,D,E,F.
- 2.8 “Grade Point” is the weightage allotted to each grade letter depending on the range of marks awarded in a course.
- 2.9 “Credit Points” refers to the product of “Number of credit assigned to the course” and the grade point secured for the same course.
- 2.10 “Semester Grade Point Average” (SGPA) is an index of a student’s performance in a given semester. It is the ratio of the “Total credit points earned by students in all courses at the semester” and the “Total number of credit assigned to the courses” in the semester.
- 2.11 “Cumulative Grade Point Average” (CGPA) refers to the cumulative grade point average of SGPA and is computed based on the following formula.

$$\text{CGPA} = \frac{\text{Sum of all Credit Points of Entire Programme}}{\text{Sum of Credits up to the end of Programme.}}$$

### 3. Credit Framework for Normal under Graduate Level Course

- 3.1 The normal graduation programme have 20 credits per each course and per semester making total credits for whole programme as 80. The distribution of credits or weightage of core, elective and Foundation courses may be as follows:

Distribution of Credits for Semester is as follows:				
Semester	I	II	III	IV
Credits	20	20	20	20

### 4. Credit and Teaching Hours.

- 1 Credit = 1 hour Teaching  
 1 Credit = 2 hour of Practical / Fieldwork  
 4 Credit Course needs four hour Student Teacher contact in a week.

### 5. Units and Course : A theory course shall have Four units.

### 6. Credits and Marks

- 1 Credit = 25 marks

### 7. Grading

Grade Points	Description	% of Marks	Division	Grade
10	Outstanding	90% - 99%	First	O
9	Excellent	80% - 89%	First	A
8	Very Good	70% - 79%	First	B
7	Good	60% - 69%	First	C
6	Fair	50% - 59%	Second	D
5	Average	36% - 49%	Pass	E
4	Dropped	Below 36%	Fail	F



## 8. Performance Evaluation (Calculation)

### SGPA = ECG/EC for a Semester

G is grade and C is Credit of Course.

Cummulative Grade Point Average (CGPA) for entire course

### CGPA = ECG/EC for all semester taken together.

The total credits cover the core, elective, field work or extension activities, soft skills etc.

GPA is calculated at the end of each term after grades have been processed and after any grade has been updated or changed.

Some criteria are to be followed for individual assignment / Quizzes/Test/Unit Test/Tutorials/ Practical/ Projects/ Seminar.

The teacher should convert his/her marking in to the quality points and letter grade.

## 9. Scheme of Examination

1. Hindi/English shall be medium of instruction of examination.
2. Examination shall be conducted at the end of each semester as per the academic/examination calendar notified by the Institute.
3. Each theory paper will be valued as per marks division given in the prospectus which will include semester end theory exam. Practical (wherever applicable) and continuous internal assessment (CIA).
4. CIA will include the following components:

▪ Attendance regularity	10 marks
▪ Class Tests	05 marks
▪ Assignments	10 marks
▪ Class Presentation/Seminar	05 marks
<b>Total</b>	<b>30 marks</b>

- For UG students to pass a semester, a student has to secure a minimum of 40% marks in aggregate and minimum of 36% marks in individual theory papers. A student has to pass in written examination.

## 10. Evaluation Panel:

### Internship Evaluation Panel:

Pre-Internship and Post Internship

- HOD of the concerned Department
- Departmental Supervisor/School Head Master/Principal of the School/Nominated School Teacher

### Final Lesson Panel: (Two Teaching Subject)

- ❖ HOD of the concerned Department
- ❖ Internal/ External subject expert

### EPC Evaluation Panel:

Theory/Practical and viva-voce Examination Panel will be :

- HOD of the concerned Department.
- Internal Subject Expert.

**Bachelor of Education (B.Ed)**  
**Semester I**  
**Distribution of Papers, Marks and Credits**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 101	Childhood and Growing Up	CC	4	30	70	100
BED 102	Contemporary India and Education	CC	4	30	70	100
BED 103	Language Across the curriculum	CC	4	30	70	100
BED 104	Understanding Discipline and Subjects	Any one CE	4	30	70	100
BED 105	Innovative Methods					
JVB101	Introduction to Jainism	FC	4	30	70	100
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

**Semester II**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total					
BED 201	Assessment for Learning	CC	4	30	70	100					
BED 202	Learning and Teaching	CC	4	30	70	100					
BED 203	Pre-Internship	CC	4	100 Pre Internship		100					
BED 204	Hindi	Pedagogy of a school subject Any two CE	4	30	70	100					
BED 205	English										
BED 206	Sanskrit										
BED 207	History										
BED 208	Civics										
BED 209	Social Science										
BED 210	Economics										
BED 211	Geography										
BED 212	Home Science										
BED 213	Chemistry										
BED 214	Physics										
BED 215	Mathematics										
BED 216	General Science						CE	4	30	70	100
BED 217	Biology										
BED 218	Commercial Practice										
BED 219	Book-keeping										
		<b>Total</b>	<b>20</b>	<b>120</b>	<b>380</b>	<b>500</b>					

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 301	Post Internship	CC	16	160 Internship+ 120+120=240 Practical (Final Lesson in two school subjects)		400
JVB 301	Critical Understanding of ICT	FC	2	15 Practical	35	50
JVB 302	Yoga and Preksha Meditation	FC	2	15 Practical	35	50
		<b>Total</b>	<b>20</b>	<b>30</b>	<b>470</b>	<b>500</b>

### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 401	Gender, School and Society	CC	4	30	70	100
BED 402	Reading & Reflecting on Texts (EPC)	CC	2	15	35 Practical & Viva-Voce	50
BED 403	Drama & Arts in Education (EPC)	CC	2	15	35 Practical & Viva Voce	50
BED 404	Knowledge and Curriculum (part-A)	Any one CC	4	30	70	100
BED 405	Knowledge and Curriculum (part-B)					
BED 406	Creating an Inclusive school	CC	4	30	70	100
BED 407	Optional Course 1. Environmental Education	Any one CE	4	30	70	100
BED 408	2. Health and Physical					
BED 409	3. Guidance and Counseling					
BED 410	4. Distance Education					
BED 411	5. Additional Course (Any one)					
	5.1 Hindi					
	5.2 English					
	5.3 Sanskrit					
	5.4 History					
	5.5 Civics					
	5.6 Social Science					
	5.7 Economics					
	5.8 Geography					
	5.9 Home Science					
	5.10 Chemistry					
	5.11 Physics					
	5.12 Mathematics					
	5.13 General Science					
	5.14 Biology					
	5.15 Commercial Practice					
	5.16 Book-keeping					
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

- EPC- Enhancing Professional Capacities
- CIA-Continuous Internal Assessment
- CC- Core Compulsory
- CE - Core Elective
- FC- Foundation Course

## Semester - I

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED101	Childhood and Growing Up	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know the concept, methods & applications of Educational Psychology.
- ❖ To know the implication of Educational Psychology for school education.
- ❖ To know the concept of Growth & Development.
- ❖ To know the concept and developmental dimensions of childhood.
- ❖ To plan various activities to fostering imagination, creativity & interests at school level.
- ❖ To know about various aspect related to Cognitive, Emotional & Social development of learner.
- ❖ To aware about various activities for personality development & balanced mental health of a learner.
- ❖ To know the related problems of Adolescence & remedies through Guidance & Counselling services.

### Course Contents:

#### UNIT-I Educational Psychology and Development

- a) Educational Psychology: Concept, Methods & Applications
- b) Implications of Educational Psychology: Teachers, Curriculum, Class-room Situations
- c) Indian Psychology: Concept and its implication
- d) Growth & Development
- e) Cognitive development: - Piaget & Bruner

#### UNIT-II Childhood and Its Development

- a) Childhood: Its concept & characteristics
- b) Childhood: Physical, Mental, Emotional, Social & Moral Development
- c) Childhood: Dimensions to fostering Imagination, Memory & Creativity
- d) Childhood: Activities for Personality Development
- e) Childhood: Language Development

#### UNIT-III Adolescence and Its Development

- a) Adolescence: Its Meaning & Characteristics
- b) Adolescence: Physical, Emotional, Social, Spiritual & Moral Development
- c) Adolescence: Fostering Thinking, Reasoning & Problem- solving abilities
- d) Adolescence: Activities for Personality Development
- e) Adolescence: Related Problems & Remedies
- f) Guidance & Counselling services in schools

#### UNIT-IV Learner: Psychological Dimensions & New Trends

- a) Personality: Concept, Types & Measurement
- b) Intelligence & Multiple Intelligence: Meaning, Theories & Measurement
- c) Creativity: Meaning, Development & Measurement
- d) Adjustment: Concept, Process & Mechanism
- e) Mental Health: Concept, Components & Scope

### Assignment & Practical Works: (Any Two)

- Prepare a short term project to enhance Imagination, Creativity and Memory for school level students
- Prepare, administer and interpret a Case study/ Questionnaire related to problems of adolescence
- One Assignment Work related to topics in above unit
- Organize various Guidance and Counseling campaign for secondary level students
- Administer, Score and interpret a standardized psychological test related to personality/Intelligence/ Creativity/ Mental Health/Adjustment
- Prepare a Survey report related to various psychological dimension, problems and related remedies for school students

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3. Chomskey, N. (1968), Language and Mind, Harcourt Brace, Jovanovich.
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15. श्रीवास्तव, प्रमिला, (2008), बाल विकास एवं शिक्षा संदर्शिका, कनिष्क पब्लिशर्स, नई दिल्ली
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### Semester I

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED102	Contemporary India and Education	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know social aspects of education and develop educational perspective.
- ❖ To solve prevailing problems of education in India.
- ❖ To understand the purpose, function and Role of education in nation building.
- ❖ To understand knowledge of the Indian education system as it has evolved from the past, as it is today.
- ❖ To understand the concept, principle of sustainable development and core concept of educational thinkers.
- ❖ To know social equity and equality of educational opportunities.

**Course Contents:**

#### **Unit-I Concept and Nature of Education**

- a) Education: Concept, Nature, Objectives and Functions
- b) Role and problems of education in nation building
- c) Current educational provisions of education in India (One year)
- d) Educational thoughts of Indians thinkers (Vivekanand and Mahatma Gandhi)

#### **Unit-II Social Aspects of Education**

- a) Sociology in education: Concept, Functions and Contribution
- b) Social change: Meaning, Definition, Factors and Effects of Education
- c) Social mobility
- d) Education and culture
- e) Role of education in development of social skills.

#### **Unit-III Progressive Development of Education in Terms of Commissions and Committees**

- a) Characteristics of ancient, medieval and british period of education.
- b) Radhakrishna Commission of Education (1948)
- c) Mudaliyer Commission of Education (1952)
- d) Kothari Commission of Education (1964)
- e) National education policy (1968 and 1986)
- f) Revised national education policy (1992)

#### **Unit : IV Programmes for Education**

- a) Issues and problems in prevailing education system at National and State level
- b) Right to Education Act 2009
- c) Sarva Shiksha Abhiyan and Mid Day Meal Programme
- d) Rashtriya Madhyamik Shiksha Abhiyan
- e) Education as related to social equity and equality of educational opportunities

### Assignment & Practical Works: (Any Two)

- Write the educational contribution of Any One Indian Thinker.
- Prepare an Assignment Work on how we can inculcate values in the present system of education.
- Prepare a structure of education since ancient period to present time.
- Concept of education in Emerging Indian Society as relevant to school children's
- Development of moral attitude through self management

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## Semester - I

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED103	Language Across the curriculum	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the nature and use of language.
- ❖ To develop the idea of Multilingualism in class room teaching.
- ❖ To create the sense of language and its flavor.
- ❖ To inculcate language skills among trainees.
- ❖ To evaluate skills creative writing and expression.
- ❖ To acquire the idea of composition and art of writing i.e. letter, Paragraph, application etc.
- ❖ To develop ornamental use of vocabulary in different curriculum.

**Course Contents:**

### Unit -I Language acquisition and development

- a) Language : Concept, Meaning and Nature
- b) Language usages : Written, Oral, Role Playing with Communication
- c) 3 Language Policy : First (Mother tongue)  
: Second (Foreign language)  
: Third (Religious or classical language)
- d) Language development : From childhood to Adult stages

### Unit -II Language Skills

- a) Reading : Silent reading vs Rapid reading, News Paper, Journal, Books
- b) Narrative Text vs. Expository text
- c) LSRW (Listening, Speaking, Reading, Writing)
- d) Note making and creative writing (Essay, Application, Letter, Paragraph)

### Unit -III Language & Classroom Interaction

- a) Expression : Public Speech, Lecture, Debating
- b) Multilingualism in classroom
- c) Summarizing and Reflection
- d) Errors and Correction of Language in class

### Unit-IV Vocabulary Building and Language Problems & its Remedies

- a) New Structure and building of vocabulary
- b) Learning new vocabulary and Diagnostic Language Errors
- c) Language Phonemes & Identification of Sound Errors
- d) Remedial Programme for Language Development

**Assignment & Practical Works: (Any Two)**

- Write Any One Assignment Work
- Identify speech defect in classroom teaching
- Prepare a Report on Creative Writing
- Prepare a C.D. on communication (30 minutes)



**References:**

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**Semester - I**

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED 104	Understanding Discipline and Subjects	Any one CE	4	30	70	100
BED 105	Innovative Methods					

**BED 104 : Understanding Discipline and Subjects**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand language of various discipline.
- ❖ To develop expression of various language areas.
- ❖ To acquire scientific study of language phonetics.
- ❖ To know the scientific idea of science education.
- ❖ To apply the thought of social science language in their day today life.
- ❖ To develop interdisciplinary approach of language (Hindi/Sanskrit/English).

**Course Contents:****Unit- I Language and Disciplines**

- a) Meaning of discipline
- b) Characteristics of a discipline
- c) Inter- disciplinary approach

**Unit- II Language and Disciplines**

- a) History of language development (Hindi, Sanskrit and English)
- b) Language technology
- c) Language lab
- d) Phonetics science
- e) Introduction of Kalidas, Tulsidas and Shakespeare

**Unit- III Social Science and Discipline**

- a) History and game cricket
- b) History of woman empowerment
- c) New trends cultural in society
- d) Political socialization
- e) Article of democratic problems (Terrorism, corruption &kola-Brokers)

**Unit- IV Science and Disciplines**

- a) Life sketch of scientists (Dalton, Rutherford, Newton, Mendal and Homi Jahangir Bhabha)
- b) Science and sound
- c) Nutrition and balanced diet

- d) Human diseases
- e) Electricity and light

**Assignment & Practical Works: (Any Two)**

- Write Any One Assignment Work.
- Write a short note on Importance of Language in teacher.
- Read and review an article.
- Prepare a report on creative writing.

**References :**

1. Lado, Robert (1971), Language Teaching, New Delhi, Tata Mc Graw Hill Publishing House co. Ltd.
2. Richards, J.C. of Rodgers, T.S. (2009), Approachas and Methods in Language Teaching, Cambrige, C.U.P.
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4. विज्ञान पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
5. संस्कृत पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
6. सामाजिक अध्ययन पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
7. हिन्दी पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)

**Semester - I**

**BED 105 : Innovative Methods**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop knowledge of vatiuous innovative methods.
- ❖ To understand the idea of methods.

**Course Contents:**

**Unit- I Concept of Innovation.**

- a) Innovation: Meaning, Definition
- b) Characteristics of Innovation
- c) Methods: concept, Objective
- d) Meathods Characteristics and Utility

**Unit- II Methods of Social science**

- a) Time line method
- b) Source method
- c) Biographical method
- d) Socialized Recitation method

**Unit- III Methods of Science**

- a) Demonstration method
- b) Experimental/ Laboratoury method
- c) Heuristic method
- d) Project method

**Unit- IV Methods of Language**

- a) Lecture method

- b) Inductive and Deductive
- c) Supervised study method
- d) Brain Storming

**Assignment & Practical Works: (Any Two)**

- Write Any One Assignment Work
- Write a short note on Importance of Language in teacher
  - Read and review an article
  - Prepare a report on creative writing

**References :**

1. सिंह, कर्ण, (2008), शैक्षिक तकनीकी एवं प्रबन्ध, लखीमपुर – खीरी, गोविन्द प्रकाशन
2. शर्मा, संदीप एवं पारीक, अलका (2007), शैक्षिक तकनीकी एवं कक्षा-कक्ष प्रबन्ध, शिक्षा प्रकाशन, जयपुर
3. कुलश्रेष्ठ, एस.पी. (2005), शैक्षिक तकनीकी के मूल आधार, विनोद पुस्तक मंदिर, आगरा
4. Hillard R.I. (1973), Writing for T.V. and Radio N.Y. Hastings House
5. Philips, Lewis (1971), Educational Television Guide Book N.Y. : Mc.Graw
6. Cassire. Henry R. (1962), Television Teaching Today Paris, UNESCO

**Semester - I**

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
JVB101	Introduction to Jainism	FC	4	30	70	100

**Learning Outcomes: After completion of this course the student teacher will able:**

- ❖ To develop understanding about Jain Ethics & Conduct.
- ❖ To acquire knowledge of Jain way of life.

**Course Contents:**

**Unit I: Jain History**

1. Antiquity of Jainism (*Risabha and Mahavira*)
2. Time cycle
3. Jain religious Schools, Orders, and Sects
4. Jain Festival
5. Jain Literature

**Unit II: Jain Metaphysics**

6. Concept of Reality
7. Cosmology: Jain Perspective
8. The Nine Truths of Classical Jainism
9. Jain life style
10. Salvation and way of it

**Unit III: Jain Principal**

11. Non-violence
12. Non-possession
13. Non-absolutism

#### Unit IV: Jain Principal

14. Syadvada
15. Karmavada
16. Jain Meditation

#### Reference Books

- Acharya Mahaprajna. Jaina Darsana: Manana Aura Mimamsa, Adarsh Sahitya Sangh, Churu,
- Jain Dharma, By Pt. Kailash Chand Jain
- Jain Darshan, By Pt. Kailash Chand Jain
- Shastri Nemichandra, Tirthankara Mahaveer aura Unki Acharya Parampara, Vol.-I., Prachya Shramana Bharati, Mujaffar Nagar, U.P.
- Jain itihās aurā sanskriti, By Dr Samani Riju Prajna, JVBU, Ladnun
- Jain Tattva mimamsa aurā Achara Mimamsa, By Dr Samani Riju Prajna, JVBU, Ladnun

#### Semester - II

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED201	Assessment for Learning	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To describe the role of assessment in education.
- ❖ To distinguish measurement, assessment and evaluation.
- ❖ To explain different forms of assessment that aid student learning.
- ❖ To use wide range of assessment tools, techniques and construct these appropriately.
- ❖ To evolve realistic, comprehensive and dynamic assessment procedures.
- ❖ To calculate item difficulty and discrimination power of a test item.
- ❖ To prepare a good achievement test on any school subject.
- ❖ To realize the importance of continuous and comprehensive evaluation in the process of students learning.

#### Course Contents:

##### Unit I - Assessment and Evaluation in Education

- a) Concept of measurement, assessment and evaluation
- b) Types, Need, scope and relevance of evaluation
- c) Principles of assessment and evaluation
- d) Test, scale and measurement
- e) Types of scale: nominal, ordinal, interval and ratio

##### Unit II - Tools and Techniques of Assessment and Evaluation

- a) Characteristics of a good measuring instrument
- b) Achievement test: steps of construction of achievement test – Teacher made and Standardized test
- c) Types of test items and its construction: subjective test items and objectives test item
- d) Diagnostic test construction and preparation of remedial materials
- e) Analysis of test items – item difficulty level and item discrimination power

##### Unit III - Trends in Assessment

- a) Continuous and Comprehensive Evaluation
- b) Marking system vs Grading system

- c) Semester system (C B C S) Choice Based Credit System
- d) Open book examination and question bank

#### **Unit IV - Basic Statistics in Evaluation**

- a) Measure of Central Tendency:
  - Mean
  - Median
  - Mode
- b) Measure of variability
  - Range
  - Quartile Deviation
  - Average Deviation
  - Standard Deviation

#### **Assignment & Practical Works: (Any Two)**

- Prepare an achievement test of any school subject of secondary school.
- Write one Assignment Work with in the content
- Construct a remedial material for school students in any content problems.
- Select, analyses and try- out a sample tool/test with item discrimination power.

#### **References:**

1. Agrawal, J C. (1997), Essential of Examination System, Evaluation, Test and Measurement. New Delhi: Vikas Publishing House Pvt. Lt.
2. Banks, S.R. (2005), Classroom Assessment: Issues and Practices. Boston: Allyn & Bacon.
3. Blooms, B.S. (1956), Taxonomy of Educational Objective. New York: Longman Green and Company.
4. Cooper, D. (2007), Talk About Assessment, Strategy and Tools to Improve Learning. Toronto: Thomson Nelson.
5. Earl, L.M. (2006), Assessment of Learning: Using Classroom Assessment to Maximize Student Learning. Thousand Oaks, Clifornia: Corwin Press.
6. Gronlund, N.E. (2003), Assessment of Student Achievement. Boston: Allyn & Bacon.
7. Kaplan, R.M. & Saccuzzo D.P. (2000), Psychological Testing, Principles, Application & Issues. California: Wordsworth.
8. Linn, R.L. & Gronlund, N.E. (2000), Measurement and Assessment in Teaching. London: Merrill Prentice Hall.
9. Noll, N.H. S cannell, D.P. & Craig, RC. (1979), Introduction to Educational Measurement. Boston: Houghton Mifflin.
10. Macmillan, J.H. (1997), Classroom Assessment, Principles and Practice for Effective Instruction. Boston: Allyn and Bacon.
11. Hopkins, KD. (1998). Educational and Psychological Measurement and Evolution. Boston: Allyn and Bacon.
12. Chohen, R.J., Swerdlik, M.E., & Phillips, S.M. (1996), Psychological testing and Assessment. An Introduction to the Test and Measurement. California: Mayfield Publishing Co.
13. National Council of Educational Research and Training (2005), National Curriculum Framework, New Delhi: NCERT
14. National Council of Educational Research and Training (2006). Position paper: Examination Reform. New Delhi: NCERT
15. National Council of Educational Research and Training (2008). Source Book on Assessment for class I-V: Social Science. New Delhi: NCERT

## Semester-II

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED202	Learning and Teaching	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To acquire knowledge and understanding of learning and Teaching.
- ❖ To understand the theories of learning.
- ❖ To develop the skill of active engagement of students in teaching learning activity.
- ❖ To investigate differences and connections between learning in school and learning outside school.
- ❖ To inculcate the knowledge of teaching and its process.
- ❖ To understand learners, learning process and school.

### Course Contents:

#### Unit -I Basics of Learning

- a) Learning: Concept, Nature and Characteristics
- b) Factors Affecting Learning
- c) Laws and Types of Learning
- d) Cognitive Learning- Peaget, Bruner
- e) Transfer of Learning

#### Unit-II : Theories of Learning and their Educational Implications.

- a) Trial and Error theory
- b) Classical conditioning theory
- c) Operant conditioning theory
- d) Insight theory of Learning
- e) Social Learning theory (Bandura)

#### Unit-III Concept variables and models of Teaching

- a) Teaching : concept, Nature and characteristics
- b) Variables of Teaching and their functions
- c) Factors Affecting Teaching and Teaching process
- d) Relationship between teaching and Learning
- e) Teaching model- concept, functions, sources and elements

#### Unit-IV Theories and Application of Teaching

- a) Levels of Teaching - memory, understanding and Reflective
- b) Teaching theories-concept, need, types and utility
- c) Analyzing Teaching in Diverse classrooms
- d) Teaching as a complex activity
- e) Teaching as a profession

#### Assignment & Practical Works: (Any Two)

- One Assignment Work on any topic related with above Unit.
- One Practical Work on any topic related with above Unit.

**References:**

1. Baron, R.A., and Byrne D., (2002), *Social Psychology*, (10th Ed.), Prentice Hall of India Private Limited, New Delhi.
2. Beckett Chris (2004) *Human Growth & Development*, Sage Publications.
3. Browne, J.D. (1970), *Development of Educational Technology in college of Education, councils in Education Press*.
4. Cooper, I.M. (1960), *Classroom Teaching Skills*, D.C. Heathco, Toronto, 1960.
5. Coulson, J. E. (1962), *Programme Learning and Computer Based Instruction*, Wiley, New York.
6. *Domain Book - I* (1956), McKay, New York.
7. Gross, Richard (2003), *Key studies in Psychology (IV Ed.)*, Hedder & Stoughton.
8. Khanna, S.D. and etal. (1984), *Technology of Teaching and Teacher Behaviour*, Vth edition, Doaba house, Delhi.
9. Kulkarni, S.S. (1986), *Introduction to Educational Technology*, Oxford and IBH publishing co.
10. Kumar, K.L. (1997), *Educational Technology*, New Age International, Pub., New Delhi.
11. Lindzey, G. & Aronson, E. (Eds.) (1969). *Handbook of Social psychology*, Addison Wesley, New York.
12. Mohanthy Jagannath; *Educational Technology*, Deep and Deep Pub., New Delhi.
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14. Rajaraman, V, *Computer programming in pascal*, Prentice Hall of India, New Delhi.
15. Rajaraman, V; *Computer programming in Fortran*, Prentice Hall of India, New Delhi.
16. Rao, Usha, *Educational Technology*, Himalaya Pub. House, Bombay, 1994.
17. Sarafino Edward P., (1994), *Health Psychology, Biopsychosocial Interactions*
18. Saraswathi, T. (2003) –*Cross-cultural Perspective in Human Development*, Sage Publication
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21. मंगल, एस.के., (2008), शिक्षा मनोविज्ञान, प्रिंटिर्स हॉल ऑफ इण्डिया प्राइवेट, नई दिल्ली.
22. वर्मा, प्रीति, श्रीवास्तव डी.एन., (2008), आधुनिक सामान्य मनोविज्ञान, अग्रवाल पब्लिकेशन, आगरा.
23. यादव, सियाराम, (2008), अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, शारदा पुस्तक भवन, इलाहाबाद
24. शर्मा गणपतराम, व्यास हरिश्चन्द्र, (2007), अधिगम-शिक्षण और मनोसामाजिक आधार, राजस्थान ग्रन्थ अकादमी, जयपुर.
25. शर्मा, जे.डी. (2008), मनोविज्ञान की पद्धतियां एवं सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
26. सुरेश भटनागर, (2008), शिक्षा मनोविज्ञान तथा शिक्षण शास्त्र,, विनोद पुस्तक मन्दिर, आगरा,

### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED 203	Pre-Internship	CC	4	100	Pre Internship	100

#### Pre-internship distribution (4 Weeks)

- | Sr. No. | Contents   |
|---------|--|
| 1.      | <b>Skills Focused Teaching</b> <ul style="list-style-type: none"> <li>➤ Introduction</li> <li>➤ Questioning</li> <li>➤ Black Board</li> <li>➤ Reinforcement</li> <li>➤ Stimulus Variation</li> <li>➤ Communication</li> <li>➤ Personality Development etc.</li> </ul>  |
| 2.      | <b>Comprehensive School Teaching</b> <ul style="list-style-type: none"> <li>➤ Demonstration Lesson Plan</li> <li>➤ Lesson based on Various Approaches Method, such as --                             <ul style="list-style-type: none"> <li>○ Co-operative Learning</li> <li>○ Activities Based Approach</li> <li>○ Team Teaching</li> <li>○ Project Method</li> <li>○ Brain Storming</li> <li>○ Task Based</li> <li>○ Programme Instruction etc.</li> </ul> </li> </ul> |
| 3.      | Unit Plan, Blue Print, Achievement Test and Use of Teaching Aids   |
| 4.      | <b>School Activities</b> <ul style="list-style-type: none"> <li>➤ Physical</li> <li>➤ Cultural</li> <li>➤ Literary</li> <li>➤ Yoga Excess</li> </ul>   |

### Semester-II

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED 204	Hindi	Pedagogy of a school subject (Any two) CE	4	30	70	100

#### अधिगम उपलब्धि :

- ❖ भाषा संरचना में हिन्दी भाषा तत्त्वों का ज्ञान प्रदान करना।
- ❖ श्रवण, भाषण, वाचन एवं लेखन सम्बन्धी भाषायी कौशलों का ज्ञान देना।
- ❖ माध्यमिक स्तर के निर्धारित पाठ्यक्रम एवं पाठ्यपुस्तक का विश्लेषण समीक्षा एवं कुशलता का विकास कराना।



- ❖ इकाई, दैनिक व सूक्ष्म पाठ योजनाओं के महत्त्व से अवगत कराना व निर्माण का ज्ञान कराना।
- ❖ हिन्दी भाषा के वैज्ञानिक स्वरूपों और कौशलों का ज्ञान कराना।
- ❖ हिन्दी भाषा की विभिन्न विधाओं एवं उनके व्यावहारिक शिक्षण पाठ योजनाओं का ज्ञान कराना।
- ❖ प्रश्न पत्र के निर्माण का ज्ञान देना।
- ❖ निदानात्मक एवं उपचारात्मक परीक्षण स्वरूप, महत्त्व एवं उपयोग का ज्ञान देना।
- ❖ मातृभाषा एवं राष्ट्रभाषा के रूप में हिन्दी की स्थिति से अवगत कराना।
- ❖

**विषय वस्तु :**

**इकाई : प्रथम – भाषा के विविध स्वरूप एवं सामान्य अवबोध**

- (अ) मातृभाषा, राष्ट्रभाषा के रूप में हिन्दी शिक्षण की स्थिति
- (ब) मातृभाषा शिक्षण के उद्देश्य एवं सिद्धान्त
- (स) हिन्दी शिक्षण में पुस्तकालय एवं वाचनालय का महत्त्व
- (द) पाठ्यपुस्तक का अर्थ, परिभाषा, अच्छी पाठ्यपुस्तक के गुण-दोष

**इकाई : द्वितीय – भाषा का वैज्ञानिक स्वरूप तथा भाषा कौशलों के विकास हेतु निम्नांकित पक्षों के स्वरूप का शिक्षण**

- (अ) वर्ण विचार, शब्द विचार, वाक्य विचार
- (ब) श्रवण, उच्चारण एवं वर्तनी
- (स) वाचन (सस्वर एवं मौन वाचन),
- (द) अभिव्यक्ति (लिखित एवं मौखिक)

**इकाई : तृतीय – हिन्दी शिक्षण में विभिन्न विधाओं का शिक्षण एवं मूल्यांकन**

- (अ) गद्य शिक्षण, पद्य शिक्षण, व्याकरण शिक्षण
- (ब) रचना शिक्षण (पत्र, निबन्ध, कहानी)
- (स) विभिन्न विधाओं पर पाठ योजना निर्माण
- (द) इकाई योजना एवं नील पत्र निर्माण
- (य) मूल्यांकन (सम्प्रत्यय, पाठान्तर्गत एवं पाठोपरान्त मूल्यांकन)

**इकाई : चतुर्थ – हिन्दी शिक्षण की विभिन्न विधियों का अध्ययन**

- (अ) अभिक्रमिit अनुदेशन विधि
- (ब) आगमन-निगमन विधि
- (स) दल शिक्षण
- (द) हरबर्टीय पद्धति
- (य) प्रायोजना विधि
- (र) पर्यवेक्षित तथा निर्देशित स्वाध्याय विधि

**सत्रीय कार्य – (किसी दो विषय पर)**

- भाषा शिक्षण सम्बन्धी समस्याओं का चयन तथा उसके समाधान का उपाय खोजना।
- हिन्दी शिक्षण में सत्रीय प्रपत्र अथवा प्रश्न पत्र हल करना।
- माध्यमिक स्तर की पाठ्यपुस्तक अथवा किन्हीं दो विशिष्ट लेखों की समीक्षा करना
- किन्हीं पाँच विद्यार्थियों की लेखन सम्बन्धी अशुद्धियों का निदान एवं उपचार (कक्षा 8 से 10वीं)।
- हिन्दी विषय की किसी भी विधा पर पी.पी.टी. पर पाठयोजना तैयार करवाना।

### सन्दर्भ ग्रन्थ सूची :

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2. ओड, एल.के (1982), हिन्दी शिक्षण में त्रुटि, निदान एवं उपचार, वनस्थली विद्यापीठ।
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### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED 205	English	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know about various basic application of grammar
- ❖ To explain the place of English language in India.
- ❖ To describe English as a Second language in the multi -lingual country like India.
- ❖ To explain different methods of teaching English.
- ❖ To apply different teaching skills in the class room.
- ❖ To develop lesson plan, micro lesson plan, TLM (Teaching Learning Materials) for teaching English as a second Language.
- ❖

**Course contents:**

#### Unit- I Basic English Grammar & it's Application

- a) Parts of speech
- b) sentence pattern, Types
- c) Tense and verb patterns
- d) Preposition
- e) Voice change

**Unit - II Place, importance and objectives of English as a second language:-**

- a) Importance of English language: comprehension of English and mother tongue based learning.
- b) Position of English: Pre & post Independence in India.
- c) Status of English in Indian school curriculum
  - Second language
  - First language
- d) English language teaching: problems & issues
  - Library language
  - Window on the world
  - Medium of instruction
- e) Aims and objectives teaching English at different levels.

**Unit- III Methods, Approaches and Strategies and Lesson Planning:**

- a) Grammar-cum-Translation method
- b) Direct method , Audio- lingual and Bilingual method
- c) Structural approach and Communicative approach
- d) Collaborative learning and Dramatization.
- e) Unit plan and Micro plan, Lesson planning ,Blue print and Achievement test

**Unit- IV Developing Language skill and Lesson Planning**

- a) Teaching Prose, Poetry, Story and Grammar.
- b) Strategies of Teaching Skill: Listening, Reading, Speaking and Writing.
- c) Supplementary skills: Reference Skill (e.g. using Dictionaries, Thesaurus, and Encyclopedias)
- d) Concept Mapping

**Assignment & Practical Works: (Any Two)**

- List of structural items included in the text book at the secondary stage.
- Preparation of 5 word cards, 5 Picture cards and 5 puzzles.
- Enlist 50 innovative words with lexical interpretation.
- Prepare an audio/video recording for English Pronunciation

**References :**

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2. Baruah, T.C. (1985), The English Teachers' Handbook, New Delhi: Sterling Publishing Pvt. Ltd.
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7. Hornby, A.S. (1998), Guide to-Patterns and Usage in English O.U.P
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10. Paliwal, A.K. (1998), English Language Teaching, Jaipur: Surbhi Publication.
11. Palmer, H.L. (1964-65), The Principles of Language study, London: O.U.P.
12. Quirk, Randolph and Greenbaum, (1973), A University Grammar of English, London.

13. Richards J.C. and Rodgers.T.S. (1985), Approaches and Methods in Language Teaching, Cambridge C.U.P.
14. Roach, Peter, (1991), English Phonetics and Phonology. Cambridge, C.U.P.
15. Thomson, A.J. and Martinet (1998), A Practical English Grammar, ELBS, O.U.P.
16. Venkateshwaran, S. (1995), Principles of Teaching English. Dehli: Vikas Publishing House Pvt. Ltd.
17. Willis, Jane (1997), Teaching English through English, O.U.P.

### Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BED 206</b>	Sanskrit	Pedagogy of a school subject Any two CE	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>

#### अधिगम उपलब्धियाँ :

- ❖ माध्यमिक स्तर के शिक्षकों में संस्कृत भाषा संबंधी व्याकरण की जानकारी एवं उनके प्रयोग की दक्षता का विकास करना।
- ❖ तृतीय भाषा शिक्षण के आधारभूत सिद्धान्तों का विकास करना।
- ❖ संस्कृत शिक्षण के उद्देश्यों का निर्धारण एवं व्यावहारिक परिवर्तन हेतु प्रयास करना।
- ❖ संस्कृत भाषा के विभिन्न कौशलों का पृथक् एवं समन्वित शिक्षण का विकास करना।
- ❖ विभिन्न विधाओं के सफल अध्यापन हेतु विभिन्न विधियों का प्रयोग करना।
- ❖ संस्कृत भाषा शिक्षण में दृश्य-श्रव्य सामग्री का निर्माण एवं शिक्षण में प्रयोग करना।
- ❖ संस्कृत शिक्षण के मूल्यांकन हेतु प्रश्नपत्र निर्माण करना एवं कौशलाधारित परीक्षण करना।
- ❖ संस्कृत भाषायी दक्षता में होने वाली अशुद्धियों का कौशलानुसार निदान करना।

#### विषय वस्तु :

##### इकाई – प्रथम –संस्कृत शिक्षण के सिद्धान्त, कौशल व उद्देश्य

- (अ) संस्कृत भाषा शिक्षण का महत्त्व एवं उपयोगिता
- (ब) संस्कृत शिक्षण के सिद्धान्त एवं सूत्र
- (स) संस्कृत शिक्षण के उद्देश्य एवं अपेक्षित व्यवहारगत परिवर्तन
- (द) भाषायी कौशल शिक्षण – श्रवण, कथन, पठन एवं लेखन
- (य) संस्कृत शिक्षण में दृश्य-श्रव्य सामग्री

##### इकाई – द्वितीय – व्याकरण का सामान्य ज्ञान

- (अ) शब्द रूप – अकारान्त, इकारान्त, उकारान्त
- (ब) धातु रूप – भू, पठ्, हस्, पा, गम्, सेव्, कथ्, लभ् (लट्, लोट्, लङ्, लृट्, विधिलिङ्, लकारों में)
- (स) सन्धि –
  - अच् सन्धि – इकोयणचि, एचोऽयवायाव ; अकः सवर्णे दीर्घः, आदगुणः वृद्धिरेचि
  - हल् सन्धि – स्तोः श्चुर्नोश्चुः, झलां जशोऽन्ते, यरोऽनुनासिकेऽनुनासिको वा, तोर्लिः
  - विसर्ग सन्धि – ससजुषोरुः, हशि च, रो रि, विसर्जनीयस्य सः
- (द) समास – अव्ययीभाव समास, तत्पुरुष समास, कर्मधारय समास, द्विगु समास, द्वन्द्व समास, बहुव्रीहि समास, इनका सामान्य परिचय एवं समास विग्रह

**इकाई – तृतीय – संस्कृत शिक्षण की विभिन्न विद्याओं का अध्ययन एवं पाठयोजनाएँ**

- (अ) गद्य शिक्षण
- (ब) पद्य शिक्षण
- (स) व्याकरण शिक्षण
- (द) रचना शिक्षण (पत्र, निबन्ध, कहानी)

**इकाई – चतुर्थ – संस्कृत शिक्षण की विधियों का अध्ययन एवं मूल्यांकन**

- (अ) संस्कृत शिक्षण की विधियों का अध्ययन
  - प्रत्यक्ष विधि
  - संग्रन्थन विधि
  - आगमन निगमन विधि
  - विश्लेषणात्मक विधि
  - अनुवाद विधि/भण्डारकर विधि
- (ब) इकाई योजना
- (स) ब्लू प्रिंट एवं प्रश्न पत्र निर्माण

**सत्रीय कार्य : (किसी दो विषय पर )**

- माध्यमिक स्तर की संस्कृत पाठ्यपुस्तक की समीक्षा करना।
- किसी एक वर्ष का प्रश्नपत्र हल करना।
- किसी एक विधा पर शैक्षिक पाठ्यक्रम का आलेखन।
- रचना पाठ के लिए पाँच चित्रों का निर्माण।
- उच्चारण सुधार हेतु पाँच अभ्यास तालिकाओं का निर्माण।
- संग्रन्थन विधि पर पाठयोजना तैयार करना।

**संदर्भ ग्रन्थ सूची :**

1. गौतम, शैलजा एवं गौतम, रजनी (2006), संस्कृत शिक्षण, विनोद पुस्तक मंदिर, आगरा-2।
2. जैन, बनवारी लाल, गोस्वामी, प्रभाकर, भारद्वाज रतन, सैनी, सत्येन्द्र (2007), संस्कृत शिक्षण, शिक्षा प्रकाशन, जयपुर।
3. मित्तल, सन्तोष (2004), संस्कृत शिक्षण, आर. लाल बुक डिपो, मेरठ।
4. पाण्डेय, रामशकल (2003) संस्कृत शिक्षण, विनोद पुस्तक मंदिर, आगरा-2।
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10. सिंह, कर्ण (2004), हिन्दी शिक्षण, गोविन्द प्रकाशन, लखीमपुर खीरी।
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## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 207	History	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To enable the Student teacher to understand the nature, scope and importance of learning history at secondary.
- ❖ To understand the aim and objectives of teaching history at different levels of the secondary stage.
- ❖ To develop knowledge about the basic principle governing the construction of history curriculum and develop the ability history curriculum and develop the ability to organize Co-curricular activities and community resources for promoting history learning.
- ❖ To develop classroom skills needs for applying different methods and approaches of teaching history at the secondary stage.
- ❖ To develop the skill to plan for instruction and the instructional support, materials.
- ❖ To develop the skill needed for diagnostic testing and remedial teaching.

**Course Contents:**

### Unit- I Meaning, Nature and Curriculum of Teaching History

- a) Concept and Objective of Teaching History of the Secondary Stage.
- b) Correlation of History with other school subject.
- c) Principle of Curriculum Teaching History.
- d) Different Approach to Organizing History Curriculum, Chronological, Biographical, Topical, Concentric.

### Unit- II Methods and planning in Teaching History

- a) Lesson plan and Unit plan
- b) Story Telling, Biographical, Source, Time-line, Supervised, and Project Method
- c) History Teacher-professional growth in change's
- d) Teaching Aids- meaning, Type's and importance

### Unit- III Evaluation of Teaching History

- a) Concept of Evaluation
- b) Purpose of Evaluation in Teaching History
- c) Types of Evaluation (Essay Types, short Answer Types and Objective Types)
- d) Blue-Print & Construction of Achievement Test in History

### Unit- IV Innovative Methods in Teaching History

- a) Programmed instruction method.
- b) Team-Teaching
- c) Panel discussion
- d) Field trip

### Assignment & Practical Works: (Any Two)

- Historical study of a place of Local Important
- An Essay on any current Issue
- Critical Appraisal of any of the History Text books Prescribed for the Secondary level
- Preparing a Scrap-book on Any one aspect of History and Culture
- Report writing of a freedom fighter/Social work and the Historical Personality of 20<sup>th</sup> Century at your locality based on interview
- One Assignment Workon any topic related with above Unit.

### References:

1. Allen. J.W., (Black Wood-1909), The Place of History in Education, Chapter 2& 3
2. Burshon W.H., (Mathuen 1963), Principles of History Teaching, Chapter 1&10
3. Clarke F. (Oxford-1929), Foundation of History Teaching, Chapter 2
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10. जोशी दिनेशसिंह, मेहता चतरसिंह (2007), शिक्षक प्रशिक्षण के सिद्धान्त और समस्याएं, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर, 2007
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15. कुमार विष्णु, (2016), इतिहास शिक्षण, शिक्षा प्रकाशन, जयपुर
16. सिंह कर्ण, (2016), इतिहास शिक्षण, राखी प्रकाशन, आगरा

### Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 208	Civics	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the concept, nature & scope of civics.
- ❖ To understand the aims and objectives of teaching civics.
- ❖ To prepare unit plans and lesson plans for different classes.
- ❖ To apply appropriate methods and techniques of teaching civics.
- ❖ To develop competencies in teaching of civics.

### Course Contents:

#### Unit- I Theoretical Perspective of Civics Teaching

- a) Meaning & Development of Civics.

- b) Nature, Scope & Developing Critical Thinking about Civics.
- c) Role of Civics in Promoting International Understanding.
- d) Aims & Objectives of Civics Teaching at Different Levels - Primary, Upper Primary, Secondary & High Secondary.

**Unit- II Planning of teaching & Evaluation**

- a) Planning-annual Plan, Unit Plan, & Daily Lesson Plan.
- b) Audio Visual Aids.
- c) Innovation
- d) Evaluation (different types of test, setting, question paper, blue print, scoring key).

**Unit- III Methods of teaching Civics**

- a) Lecture Method
- b) Project Method
- c) Problem Solving Method
- d) Programme Learning
- e) Team Teaching
- f) Discussion Method, Demonstration

**Unit- IV Curriculum Planning & Activities**

- a) Selection & Organization Content at Various Levels
- b) Fundamental Principal of Formulation Curriculum in Civics
- c) Characteristics of a good Text Book
- d) Planning a Civics Studies Room

**Assignment & Practical Works: (Any Two)**

- Write an essay on any political problem.
- One Assignment Worksolve.
- A critical study of Any one aspect of the constitution or one of its amendments.
- Make five different teaching materials using different type of teaching aids.
- Make charts on fundamental rights & duties.
- Prepare a scrap book on any political issue

**References :**

1. त्यागी, गुरुसरन दास (2007), नागरिक शास्त्र का शिक्षण, विनोद पुस्तक मंदिर, आगरा।
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## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 209	Social Science	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To enable the student teacher to appreciate the need for learning social science .
- ❖ To help them to understand the place of social science in the secondary school curriculum.
- ❖ To develop the skills in student – teachers to select and apply appropriate methods and evaluate social science.
- ❖ To enable the student – teacher to critically examine the social science syllabus and text books.
- ❖ To develop the classroom skills needed for teaching of social science.
- ❖ To develop the ability to organize co-curriculum activity and utilize community resources for promoting social science learning.
- ❖ To acquire the ability to develop instructional support materials.
- ❖ To review the text –book of social science (secondary level).

**Course Contents:**

### **Unit -I Meaning nature and scope of social science**

- a) Historical Development of Social Science
- b) Modern Concept, Nature and Scope of Social Science
- c) Importance of Teaching Social Science at Different Levels of Secondary
- d) Correlation of Social Science with Other School Subject
- e) Aims and Objectives of Teaching Social Science at Different Level

### **Unit -II Social Science Curriculum Principles of Designing a Good Curriculum and Planning in Social Science Teaching**

- a) Different Approaches to Organizing Social Science
  - Chronological
  - Biographical
  - Concentric
- b) Characteristics of Good Text Book
- c) Planning a Social Science Room
- d) Social Studies Teacher – Quality, Functions and Professional Growth of Social Science Teacher
- e) Planning for Teacher of Social science
  - Annual plan
  - Unit plan
  - Lesson plan

### **Unit - III Methods of Teaching Social Science**

- a) Story telling, Biographical, Socialized Recitation, Source method, Problem solving Method, Project method.
- b) Team Teaching
- c) Panel Discussion, Seminar and Workshop
- d) Field Trips
- e) Programmed Instruction

#### **Unit - IV Use of Instruction Material and Evaluation in the Social Science**

- a) Audio- Visual Equipment:- Use of Slide Projector OHP, Epidiascope, Television and Computer.
- b) Teaching Aids of Various kinds, their Effective Use in Class Room (Models, Black-board, Map, Graphs, Time Chart, Films, Coins and Puppet.
- c) Concept, Importance and Purpose of Evaluation in Social Studies.
- d) Construction of Blue Print and Achievement Test in Social Science

#### **Assignment & Practical Works: (Any Two)**

- Studying historical monuments available locally and writing report on it
- Prepare a scrape book on any social issue
- Studying any social problem and write a report of the same
- Two abstracts of articles published in news papers journal on current social issues
- Assignment Work any two topic
- Prepare a lesson plan using local/ community resources as teaching aids (fair, festival ,person, place etc.)
- Construction, administration and interpretation an achievement test of any; standard of school
- Make 2 different teaching materials using different type of teaching (e.i. Charts, as model & power point etc) at school social science subject
- Write film script

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## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BED 210</b>	Economics	Pedagogy of a school subject Any two CE	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To help the students to acquire the basic understanding in the field of Economics.
- ❖ To enable the student teachers to understand the aims and objectives of teaching Economics at the secondary school stage.
- ❖ To develop the ability, to evaluate the present curriculum in Economics at the secondary level.
- ❖ To develop the ability to organize group activities and projects in the subject.
- ❖ To develop the ability to use of various methods of teaching Economics.
- ❖ To enable the student to acquire necessary skills for the use and preparation of teaching aids and instructional material in Economics.
- ❖ To develop in the students appropriate attitudes towards the country's Economy.
- ❖ To develop in the student an adequate sense of awareness about Economic issues of the country and an out-look of problem solving through analysis and application of the theory of Economics.
- ❖ To develop competence in framing objective based achievement and diagnostic test, their administration and their scoring and drawing conclusions there of. 10.To develop in the students an ability to conduct various surveys in Economics and organize field trips.
- ❖ To enable the student-teachers to prepare unit plan, lesson plan and related teaching learning strategies.
- ❖ To enable the student teachers to review the text book of Economics.

**Course Contents:**

### **UNIT-I Concept of Economics**

- a) The Place of Economics in School Curriculum.
- b) Aims and Objectives of Teaching Economics at the Secondary Level
- c) Instructional Objectives, Behavioural Objectives, Measurable and Non-Measurable Objectives, Behavioural Statements of Objectives for Various Learning Points and Lessons.

### **UNIT-II Principle of Curriculum Planning**

- a) Principles and Approaches to Framing Syllabus and its Critical Appraisal at Secondary Level.
- b) Curriculum Planning and Activities.
- c) Evaluation of Text-books in Economics at the School Level:
  - Criteria of Good Text-book
  - Assignments, Exercises, Glossary and Summary in the Text
- d) Maxims and Principles of Class-room Teaching.
- e) Class-room Observation.

### **UNIT-III Planning and Methods of Teaching Economics**

- a) Lecture Method.
- b) Project and Problem Solving Method.
- c) Discussion Method.
- d) Inductive and Deductive Method.
- e) Unit and Daily Lesson Plannings
- f) Teacher's Role and Attitude

#### UNIT-IV Instruction Material and Evaluation in Economics

- Black-board, Maps, Graphs, Slides & Transparency, Audio-visual Aids, Slide Projector, Overhead Projector, LCD etc.
- Importance and Concept of Evaluations,
- Evaluation Devices- Essay type, Short answer Type and Objectives Type Test.
- Blu Print
- Preparation, Administration and Scoring of Unit Test.

#### Assignment & Practical Works: (Any Two)

- Preparation of two teaching aids related to subject. (PPT Transparency)
- Review of two published papers related to subject.
- Review of a text-book at school level.

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#### Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 211	Geography	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the modern concept of Geography.
- ❖ To understand the aims and objectives of teaching Geography.
- ❖ To prepare yearly plan, unit plan, lesson plan for different classes.

- ❖ To prepare maps and charts to illustrate the content of different classes and use them effectively.
- ❖ To critically evaluate the existing school syllabus and review the text book of Geography.
- ❖ To apply appropriate method and techniques of teaching to particular topics at different levels.
- ❖ To arrange field trips and local surveys.
- ❖ To prepare achievement test and diagnostic test, administration of the test, analysis of results, make suggestion for remedial teaching.

#### **Course Contents:**

##### **Unit- I Concept and Objectives**

- a) Development of Geography, Modern concept and new trends of Geography.
  - Its place in school's curriculum.
  - Its importance in day to day life and International understanding
- b) Correlation of Geography with other school subjects.
- c) Teaching objectives of Geography at different levels- Primary, Upper Primary secondary and Higher Secondary.

##### **UNIT- II Curriculum planning in Geography**

- a) Principles of curriculum construction in Geography and its critical appraisal
- b) Basic Principles for selection and organization of content according to learners level.
- c) Co-curricular activities in Geography, study of home region, Organization of field trips and excursion, Geography museum and library.
- d) Evaluation of text book in Geography.

##### **UNIT- III Methods, Planning for teaching and role of teacher**

- a) Annual plan,
- b) Unit plan methods,
- c) Daily lesson plan
- d) Story telling, Regional Method, Demonstration method, laboratory, inductive and Deductive method. Descriptive and Comparative method (Problem Solving, project and Supervised study method). Approaches- Field trips, visit labs, use of local resources in teaching of Geography.
- e) Qualities, Role and professional growth of Geography teacher

##### **UNIT-IV Use of Instructional Material and Evaluation in Geography**

- a) Audio-Visual Equipment:- use of Slide Projector, OHP, Epidiascope, Television and computer in Geography
- b) Teaching aids of Various kinds. Their effective use in class room (Models maps, pictures, sketches, diagrams, film, film strips. Atlas, Slides transparencies etc., Geography room/laboratory. Importance of lab work, equipment and apparatus.
- c) Evaluation of achievements in Geography.
- d) Construction of achievement test.
  - Different types of tests, their merits and limitations, (Essay type. short, answer and objective type.)
  - Blue- Print, preparation of question paper and item analysis.

##### **Assignment & Practical Works: (Any Two)**

- Prepare a scrap book on Geographical articles and news.
- Preparation of maps, charts and models for physical Geography
- Develop some lesson plan based on new methods and approaches.

- Write one or two article or abstract related to the current issues of Geography
- Critical appraisal of geography syllabus at secondary level.
- Construction of objective type test items.
- Collection of news paper cuttings related to Geographical issues.
- Prepare a bibliography of reference books on the topics prescribed in Geography syllabus.
- Practical demonstration of the ability to use some weather instruments.
- Prepare a report on visit to some place of Geographical interest.

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**Semester II**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 212	Home Science	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the Concept, Nature and Scope of Home science.
- ❖ To provide knowledge related to pedagogical concept like as Aims, Objectives, Approaches, Methods, Blue print and Assessment.
- ❖ To stimulate curiosity and creativity for application of different methods according to learning situations.
- ❖ To develop attitude towards skill development, application of new trends and use of information technology to enhance productivity of teaching.
- ❖ To analyze school syllabus of the subject in relation to its applicability in local situations.

**Course Contents:**

**Unit- I Theoretical Perspective of Home Science**

- a) Concept, Nature and Scope of Home science
- b) Correlation of Home science with other school subjects in context of resolving problems related to family and community

- c) Vocational skill Development through Home science teaching
- d) Aims and objectives of Home science teaching

#### **Unit- II Planning, Curriculum & Evaluation**

- a) Planning : Concept, Types and Significance
- b) Criteria of Curriculum Development : Individualized, Interdisciplinary and Special issue oriented
- c) E- resources in Home science: Fashion blog, Nutritional remedies, Blogs, Specific institute related to textile, designing & health
- d) Co- curricular activities : Group Discussion, Exhibition, Excursion etc
- e) Blue print construction, Continuous & Comprehensive Evaluation in Home science

#### **Unit- III Approaches and methods : Concept, Process, Scope and limitations :**

- a) Constructivist approach
- b) Problem solving method
- c) Project method
- d) Experimental method
- e) Dalton method and Dramatization

#### **Unit- IV Measurement and Evaluation**

- a) Concept of Measurement and Evaluation
- b) Criteria of good Evaluation
- c) Preparation of Blue Print
- d) Diagnostic test and Remedial learning material
- e) Continuous and Comprehensive Evaluation

#### **Assignment & Practical Works: (Any Two)**

- Prepare a survey report for vocational skill development through Home science at college level
- Experimental works in food/clothing/textiles/household gadgets in context of teaching and learning
- Visit to Health centre/ Community service centre/ schools/ colleges/ NGO and prepare a file with report
- Construct a project related to recent problem in local area
- Develop a diagnostic test for students and plan remedial works for them
- Prepare two lesson plan based on Constructivist/ experimental approach for students

#### **References:**

1. Asthana S.R. (2007), Grih Vigyan Ka Adhyapan, Laxminarayan Agarwal Prakashan, Agra.
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### Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 213	Chemistry	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop a broad understanding of the principles and procedures used in modern science specially in chemistry.
- ❖ To develop essential skill for practising modern science education.
- ❖ To understand aims and objectives of chemistry.
- ❖ To gain ability for critically evaluate the existing syllabus of science.
- ❖ To prepare achievement test and diagnostic test.
- ❖ To enable him to organize co-curricular activities related to science.
- ❖ To appreciate the contribution of world scientist in connection with historical development of chemistry.

**Course Contents:**

#### UNIT-I Nature and Scope

- a) Nature of Science and Chemistry, Importance of Chemistry in Daily Life, Correlation of Chemistry with Other Subjects
- b) Values of Teaching Chemistry
- c) Scientific Attitude, Scientific Literacy
- d) Eminent World Scientist in the Area of Chemistry Like Dalton, Einstein, Neil Borh, Rutherford, Marry Quarry.
- e) Globalisation and Chemistry

#### UNIT-II Curriculum planning and activities

- a) Place of Chemistry in School Curriculum, Principles of Developing Chemistry Curriculum
- b) Modern Trends in Chemistry Curriculum, Reading Material - Text Book, Journal, Handbook, Science Library
- c) Critical Appraisal of Syllabus of Science with Reference to Chemistry Prescribed by State Board of Secondary Education

#### UNIT-III Methods and approaches of teaching

- a) Lecture cum Demonstration Method (Inductive and deductive method), Project Method, Scientific Method, Heuristic Method
- b) Panel Discussion. Seminars and Workshop Laboratory Method.
- c) Teaching aid-Bulletin Board, Flannel Board, Filmstrips, Transparency, OHP, Direct Projector LCD Panel, Non-formal Approaches- field trips
- d) Laboratory- Lay out Plans, Equipments, Furniture, Maintenance of Records, Repair, Care and Improvisation of Apparatus, Safety measures in Laboratory



#### UNIT-IV

- Planning for Teaching and Role of Teachers. Annual Plan, Content analysis, Pedagogical Analysis
- Inquiry Model of Teaching Lesson Plan and Level Plan Piagian and Brunerian Approach-Behaviourist Contribution
- Evaluation - Criteria of good Evaluation Concept of Evaluation, Types of Test Items : Objective, Short Answer, Essay Type, their Merits and Demerits, Blue Print for a Unit Test
- Achievement and Diagnostic Test

#### Assignment & Practical Works: (Any Two)

- Make a list of practicals related to secondary science curriculum
- Essay related to any topic of the paper
- Make a list of local resources useful in teaching chemistry to the students of vv Secondary class
- Make a visit any senior secondary science laboratory of a school and prepare a report.
- Make a presentation based on any above topic.

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#### Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 214	Physics	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To appreciate the contribution of eminent physicist in connection with the development of the subject.
- ❖ To familiar with the aims and objective of the subject in relation to the present need of the society and educational policies of India.

- ❖ To plan curriculum at the secondary and senior secondary level and analyze the syllabus of the subject in relation to its applicability to practical situation.
- ❖ To develop scientific attitude and provide training in scientific method to their student.
- ❖ To write objectives in behavioural term content analysis and content mapping .
- ❖ To develop yearly plan, unit plan and lesson plan.
- ❖ To plan, equip and organize physics practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and classroom situation.
- ❖ To prepare test paper for theory and practical work.

#### **Course Contents:**

##### **Unit- I Nature Scope & Curriculum**

- a) Nature of science and physics, major milestones in the development of physics
- b) Aims, objectives and values of teaching physics at secondary and senior secondary level
- c) Concept of curriculum place of physics in secondary/sr. secondary level curriculum, selection and organization of content and experience
- d) Correlation of physics with other school subjects and its role in daily life
- e) Critical appraisal of the prescribed syllabus of physics (at senior secondary, secondary level of Rajasthan and CBSE board)

##### **Unit- II Planning for Instruction and Role of Teachers**

- a) Writing of objectives in behavioural terms, content analysis.
- b) Developing yearly, unit and daily lesson plan.
- c) Teachers role in training students in scientific method and in development of scientific attitude.
- d) Qualities, responsibilities and professional growth of physics teacher.
- e) Creativity among students.

##### **Unit- III Methods and Approaches of Teaching Physics**

- a) Demonstration method, Heuristic method, Inductive-Deductive method.
- b) Laboratory method, Project method, problem solving method, assignment method.
- c) Multi sensory aids in teaching of physics like chart, model modern electronic resources like; LCD projector, OHP and ICT
- d) Co-curricular activities like science club, science fairs and field trip.
- e) Role of state and national level institutes and laboratories(DST, ISRO, solar observatories etc.) in promoting science education.

##### **Unit- IV Evaluation**

- a) Types of test items.
- b) Construction of various test items.
- c) Preparation of blue print and achievement test.
- d) Diagnosis and remedial teaching in physics, enrichment material.
- e) Evaluation and practical work in physics.

##### **Assignment & Practical Works: (Any Two)**

- Planning of an out of class activity to use local environment to teach physics.
- Life sketch of any two modern physicists.
- Essay related to a topic prescribed in the paper .
- Case study of Any one senior secondary lab of physics.
- Conducting and reporting three experiments useful at secondary level.
- Description of design of any improvised apparatus.

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**Semester II**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 215	Mathematics	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand and appreciate the uses and Significance of Mathematics in daily life
- ❖ To learn successfully various approaches of teaching mathamethics and use them judiciously.
- ❖ To know the methods of planning instruction for the classroom.
- ❖ To prepare curricular activities and organize the mathematics Laboratory.
- ❖ To appreciate and organize activities to develop aesthetics of mathematics.
- ❖ To give competence in teaching different mathematics topic effectively

**Course Contents:****Unit- I Concept meaning and objectives of mathematics.**

- a) Concept, meaning and nature of mathematics
- b) History of mathematics
- c) Contribution of Indians and western mathematics.
- d) Aims and objectives of teaching mathematics
- e) Blooms taxonomy relating to the teaching objectives in mathematics (cognitive Affective, psychomotor domain)

**Unit- II Methods and approaches of teaching mathematics.**

- a) Inductive vs. Deductive
- b) Analytical vs. synthesis
- c) Heuristic, Project, drill, assignment and supervised study, Laboratory method.

- d) Lesson planning, Unit plan and Yearly plan for mathematics teaching.
- e) Audio visual teaching aids in mathematics (Chart, Model, OHP, LCD, ICT), Improvising Low cost teaching aids in mathematics.

**Unit- III Planning for instruction and curriculum.**

- a) Curriculum development principle for the secondary and senior secondary level.
- b) Teaching of Arithmetic, algebra and Geometry
- c) Text book in mathematics, Quality of good book in mathematics.
- d) Critically evaluation of existing mathematics syllabus prescribed by Rajasthan Board of Secondary Education and C.B.S.E. at different levels.
- e) Using mathematics as a game for recreation, organizing Quiz programmes, magic square, answering puzzle and reasoning.

**Unit- IV Evaluation in teaching mathematics:**

- a) Academic testing – objective vs. subjective type test.
- b) Diagnostic evaluation in mathematics.
- c) Preparation of blue print and achievement test.
- d) Preparations of standardized vs. teacher made test in mathematics.
- e) Process of obtaining feedback and evaluation in mathematics in term of teaching objectives.

**Assignment & Practical Works: (Any Two)**

- Preparation of detailed plan about development of mathematics laboratory or mathematics club.
- Life sketch of any two Mathematicians.
- Essay related to a topic prescribed in above paper.
- Prepare a case study of slow learner in mathematics or gifted child in mathematics.
- Observation of mathematics classroom teaching in any secondary school and then prepare a diagnostic and remedial teaching plan.

**References :**

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## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 216	General Science	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To appreciate the contribution of eminent Indian scientists in connection with the development of the subject.
- ❖ To familiar with the aims and objectives of the subject in relation to present needs of the society and education policies in India.
- ❖ To plan curriculum at secondary and senior secondary level and analyze the syllabus of the subject in relation to its applicability to practical situations.
- ❖ To identify proper methodology to deal with the content which is to be handled by him as teacher in secondary and higher level.
- ❖ To develop a broad understanding of the principles and procedures used in modern science education.
- ❖ To prepare test paper for evaluation.

**Course Contents:**

### UNIT- I Concept and Nature of General Science

- a) Science : concept, nature and scope
- b) Correlation of science with other subjects
- c) General Science and its importance in school curriculum.
- d) Inquiring influence of science on man and environment.
- e) Scientist and their professional achievement.

### UNIT- II Aims Objectives and Curriculum

- a) Writing aims and objectives in behavioural term.
- b) Developing yearly, unit and daily lesson plan.
- c) Principle of curriculum construction in General Science.
- d) Teachers role in training students in scientific method and scientific attitude.
- e) Professional growth of General Science teacher.

### UNIT-III Methods of Teaching General Science

- a) Lecture method, Demonstration method
- b) Inductive-deductive method
- c) Project method, problem solving method
- d) Laboratory method, Assignment method
- e) Heuristic method

### UNIT- IV Activities and Evaluation

- a) Science laboratory
- b) Teaching aids in General science- OHP, LCD Projector , Television.
- c) Co curricular activities, Science club, Science fair
- d) Evaluation : concept and importance
- e) Preparation of blue print and test paper construction.

### Assignment & Practical Works: (Any Two)

- Make a list of practicals related to secondary science curriculum.
- Essay related to one topic prescribe in the paper.
- Preparation of a comprehensive field trip to plan for a group of twenty students.
- Make a list of local resources useful in teaching general science to the students.
- Make a visit at any senior secondary science laboratory of a school and prepare a report.
- Conducting and reporting three experiments useful at secondary level.
- Make a presentation based on any above topic.

### References :

1. Dass- R.C. (1985), Science Teaching in Schools, Sterling Publications Pvt. Limited, New Delhi.
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5. Mittal A. (2004), Teaching of Chemistry, APH Publishing Corporation, New Delhi.
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### Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 217	Biology	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning outcomes:** After completion of this course the student teacher will able :

- ❖ To acquire the knowledge of nature and scopes of Biology.
- ❖ To understand the principles of curriculum, planning and E-resources in Biology.
- ❖ To know and apply the various approaches and innovative methods of Biological science for effective teaching learning process.
- ❖ To apply knowledge of multisensory teaching aids to enhance students engagement and activity based learning.
- ❖ To construct Blue Print, Dignostic test and remedial self learning material and conduct CCE procedure.

## **Course Contents:**

### **Unit- I Theoretical Perspective of Biology**

- a) Meaning , Nature and Scope of Biological science and its branches
- b) Historical Development of Biological science
- c) Development of values through Biology teaching
- d) Science as a domain of enquiry, dynamic body of knowledge and as a process of constructing knowledge
- e) Developing and significance of Scientific Temper through activities
- f) Aims and Objectives of Biological teaching
- g) Writing Objectives in Behavioral terms and Content analysis

### **Unit- II Curriculum and Planning**

- a) Concept and principles of curriculum
- b) Models and approaches related to curriculum organization
- c) Recent curriculum innovations in context of National Curriculum Framework (NCF)
- d) Planning : Concept, Types and Importance
- e) Co- Curricular activities- Excursion, Science fair, Science club
- f) E-resources in Biology : Biology blog, E-learning, Useful links and websites etc.

### **Unit- III Methods and Approaches**

- a) Herbertian & Constructivist approach (Five 'E' model)
- b) Co- operative learning approach
- c) Inquiry training model & its application
- d) Problem solving approach
- e) Inductive and Deductive methods
- f) Multisensory Teaching aids- Low cost models, L.C.D. Projector, Poster making, Concept map etc.

### **Unit- IV Measurement and Evaluation**

- a) Concept of Measurement and Evaluation
- b) Criteria of good Evaluation
- c) Preparation of Blue Print
- d) Diagnostic test and Remedial learning material
- e) Continuous and Comprehensive Evaluation in biology

### **Assignment & Practical Works: (Any Two)**

- Construct, administer and interpret an achievement/diagnostic test and resolving related problems through remedial measure too
- Prepare the Concept map related to school level teaching and demonstrate them to learn different contents in classroom
- Prepare the report on environmental problems in local area and resolving issues through scientific project.
- Poster Presentation/ Drama on various issues related to community awareness about biodiversity/ environmental problems/ waste management.
- Organization of exploratory activities to develop scientific attitude and temper

**References:**

- 1 Choudhary, S. (2010), Teaching of Biology, APH Publishing Corporation, New Delhi.
- 2 Grear, T. L., The Teaching of Biology in Secondary Schools.
- 3 Joshi, S. R. (2005), Teaching of Science, A.P.H. Publishing Corporation, New Delhi.
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**Semester II**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 218	Commercial Practice	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To help the student to acquire the basic understanding in the field of commerce education.
- ❖ To develop the ability to plan curriculum and instructions in commerce at school level.
- ❖ To develop the ability to critically evaluate existing school syllabus and text book.
- ❖ To impart knowledge about the methods and devices of teaching commerce and to develop the skill of using the same.
- ❖ To develop the ability of preparing an achievement test.
- ❖ To develop commercial efficiency among students.

**Course Contents:****Unit - I Concept of teaching commerce**

- a) Meaning, nature and scope of commerce education.
- b) Aims, objectives and values of teaching commerce at senior secondary level.
- c) The place of commerce in education.
- d) Qualities of commerce teacher , role and professional growth.

**Unit - II Planning of Teaching Commerce**

- a) Unit plan and daily lesson plan.
- b) Maxims of teaching.



- c) Devices of teaching commerce.
- d) Classroom observation

### Unit -III Methodology of Teaching Commerce

Modern Methods of Teaching Commerce :

- Analytic & Synthetic method
- Socialised Recitation Method
- Team teaching
- Programmed instruction method
- Project Method

### Unit - IV Instructions Material and Evaluation in Commerce Education

- a) Importance of teaching aids for effective instruction commerce education.
- b) Different audio-visual equipment and material used commerce education.
- c) Evaluation in commerce importance, type of tests essay, short answer and objective type.
- d) Blue print.
- e) Construction of Achievement Test.

### Assignment & Practical Works: (Any Two)

- Content Related subject topic
- Preparation any two teaching aids (Model, P.P.T.,

### References :

1. Bhorali devadas (1988) commerce education in india, D.K. publisher distributors (p) Ltd. New delhi
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9. सिंह एवं सिंह : वाणिज्य शिक्षण

Semester II						
Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 219	Book-keeping	Pedagogy of a school subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To acquire the basic understand of teaching of Book-keeping and Accountancy.
- ❖ To develop the ability to plan curriculum and instruction in Book-keeping and Accountancy.
- ❖ To develop the ability to critically evaluate the existing school curriculum of Book-Keeping.
- ❖ To impart Knowledge of the methods and devices of teaching Book-keeping and to develop the skill of using the same.
- ❖ To apply appropriate methods and devices of teaching Particular topics for Book - Keeping.

- ❖ To prepare achievement and diagnostic Tests.
- ❖ To develop necessary skill in preparation of using various teaching aids.

**Course Contents:**

**Unit- I Meaning and scope of Book-keeping and Accountancy**

- a) Meaning and scope of book-Keeping and Accountancy. it's value and Importance in Social Life.
- b) Aims and objectives of teaching Book-keeping and accountancy at senior secondary level.
- c) Teachers Role and Attitude.

**Unit - II Planning of Teaching Book-keeping and Accountancy**

- a) Unit plan
- b) Lesson plan
- c) Annual plan
- d) Maxims and principle of classroom teaching
- e) Classroom observation

**Unit- III Teaching Approches and methods of Teaching Book-keeping and Accountancy**

- a) Teaching Approches of Book-keping and Accountancy
- b) Journal Approach, Ledger Approach
- c) Cash book Approach, Equation approach
- d) Text book-keeping and accountancy their importance Criteria for selection of text book. Reference book and Journal.
- e) Various methods of teaching book-keeping and accountancy – project, problems solving, Lecture-cum-demonstration method, team Teaching Program learning method.

**Unit- IV Instruction Material and Evaluation in Book-keeping and Accountancy**

- a) Audio-visual aids in teaching Book-Keeping and accountancy computer. (tally) Internet
- b) Evaluation of students performance
- c) Blue Print
- d) Construction of Achievement Test

**Assignment & Practical Works: (Any Two)**

- Content related to subject topic
- Any one subject topic

**References :**

1. Agarwal. J.C.: Teaching of Commerce.
2. Boynton Lewwis D: Methods of teaching Book –Keeping. South Western publication Co. Cincinnanti. Ohio.
3. Gupta and Gupta: Intermediate Book-Keeping and Accounts. Agra Book Store. Agra (Hindi and English Version)
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5. J.N.Vaish : Book- Keeping and Accounts. Part 1 and 2 (Hindi and English version)
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8. Tonne: Pohem and Freeman : Method of teaching Business Subject. Gregg Pub... Dir., Mc Graw Hill Book Co., Inc. New York.
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### Semester III

Course Code	Course Title	Course Category	Credit	CIA	Theory	Total
BED301	Post Internship distribution	CC	16		160 Intership+120+120=240 Practical (Two Subjects final lesson)	400

#### Post Internship distribution (16 Weeks)

- | Sr. No. | Contents   |
|---------|--|
| 1.      | Regular Practice Teaching including - Unit Plan and Blue Print<br>(At least Each Subject of 25 lessons)  |
| 2.      | Observation  |
| 3.      | <b>Block Teaching</b> <ul style="list-style-type: none"> <li>○ School Admission</li> <li>○ Time Table</li> <li>○ Morning Assembly</li> <li>○ Classroom Management</li> <li>○ Organization of Various Activities</li> <li>○ Physical Activities</li> <li>○ Cultural Activities</li> <li>○ Literary Activities</li> <li>○ Yoga Exercises</li> <li>○ Field Trips/Picnic</li> <li>○ Conducting of Meeting</li> <li>○ Maintenance of Garden/School</li> <li>○ Action Research</li> <li>○ Preparation of Register</li> <li>○ Library Management</li> <li>○ Other Work of School</li> <li>○ Swachhata Abhiyan</li> <li>○ S. U. P. W.</li> <li>○ Education Tour</li> </ul> |
| 4.      | Final Lesson (Two teaching subject)  |

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 301	Critical Understanding of ICT	FC	2	15 Practical	35	50

**Learning Outcomes:** After completion of this course the students will able:

- ❖ To explain the concept of ICT in education.
- ❖ To develop skills in using MS Office applications for education.
- ❖ To use internet efficiently to access information and communicate with others.
- ❖ To understand the applications of E-learning in education.

**Course Contents:**

#### Unit - I MS Office

- a) MS- word (Text management)
- b) Power Point (Preparation of Slide)
- c) Smart Class
- d) E - Learning

#### Unit - II Internet and Multimedia

- a) E-mail, Chat
- b) Searching, Downloding and Uploding
- c) Multimedia and its Education Uses.
- d) Mobile Banking

**Assignment & Practical Works: (Any Two)**

- Prepare one Assignment Workon any topic related to above units.
- Prepare power point presentation on Any one topics related to School content/ B.Ed. Syallbus.

**References:**

1. Cooper, I.M., classroom teaching skills, D.C. Heathco, Toronto, 1960.
2. Coulson, J. E. (ed); Programme Learning and Computer Based Instruction, Wiley, New York, 1962
3. Khanna, S.D. and others; Technology of Teaching and Teacher Behaviour, Vth edition, Doaba house, Delhi, 1984.
4. Kulkarni, S.S., Introduction to Educational Technology, Oxford and IBH publishing co., 1986.
5. Sampath, K. Panner Selvam, A and Santhanam, S; Introduction to Educational Technology, Sterling publishers, New Delhi, 1990.
6. Sharma, R.A., Technology of Teaching, Loyal Book Depot Meerut, 1986.
7. Saxena N.R. & Swarup, Oberoi S. C.; Technology of Teaching, Surya Publication, Meerut, 1996.
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9. Thompson, James, J.; Instructional Communication, Van Nostrand Roinhold Co. New Jersey, 1969
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12. मिश्रा, महेंद्र कुमार, 2007, शैक्षिक प्रौद्योगिकी एवं कक्षा-कक्षा प्रबन्ध, युनिवर्सिटी बुक हाउस, जयपुर.
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### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 302	Yoga and Preksha Meditation	FC	2	15 Practical	35	50

#### अधिगम की उपलब्धि

- ❖ जीवन विज्ञान, प्रेक्षाध्यान एवं योग विद्या की जानकारी प्राप्त कर सकेंगे।
- ❖ संतुलित व्यक्तित्व का निर्माण।
- ❖ विद्यालयस्तरीय ध्यान एवं योग के प्रशिक्षक तैयार करना।

#### विषयवस्तु :

##### इकाई-1 योग के प्रयोग

- (अ) योग : अर्थ, परिभाषा, अष्टांग योग की उपयोगिता
- (ब) आसन : सूर्यनमस्कार, (अर्थ, प्रक्रिया एवं लाभ) ताडासन, पादहस्तासन, गरुडासन, जानुशिरासन, वक्रासन, वज्रासन, पद्मासन, उत्तानपादासन, पवनमुक्तासन, भुजंगासन, शलभासन, (स्थिति, विधि, लाभ)
- (स) प्राणायाम : सूर्यभेदी, चन्द्रभेदी, व अनुलोम विलोम
- (द) मुद्रा : ज्ञान मुद्रा, वीतराग मुद्रा
- (य) बन्ध : मूलबन्ध, उड्डियानबन्ध व जालधर बन्ध

##### इकाई-2 प्रेक्षाध्यान

- (अ) प्रेक्षाध्यान का इतिहास, अर्थ एवं उद्देश्य
- (ब) प्रेक्षाध्यान के सहायक अंगों का संक्षिप्त परिचय एवं महत्व
- (स) कायोत्सर्ग, अन्तर्यान्त्रा, श्वास प्रेक्षा एवं ज्योतिकेन्द्र प्रेक्षा (प्रयोग, अभिव्यक्ति एवं प्रस्तुति)
- (द) प्रेक्षाध्यान के मुख्य चरणों का संक्षिप्त परिचय

#### सत्रीय कार्य : (कोई एक)

- विषय से सम्बन्धित कोई एक टर्म पेपर तैयार करना।
- सूर्य नमस्कार की विभिन्न स्थितियों का प्रदर्शन।

#### सन्दर्भ ग्रन्थ सूची :

1. अमूर्त चिन्तन : आचार्य महाप्रज्ञ
2. जीवन विज्ञान की रूपरेखा, लेखक : मुनि धर्मेश कुमार
3. जीवन विज्ञान शिक्षक निर्देशिका – मुनि किशनलाल
4. जीवन विज्ञान : मूल्यपरक शिक्षा का एवं अभिनव प्रयोग – मुनि धर्मेश
5. जीवन विज्ञान प्रेक्षाध्यान एवं योग : समणी मल्लि प्रज्ञा
6. जीवन विज्ञान : शिक्षा का नया आयाम, लेखक : आचार्य महाप्रज्ञ
7. जीवन विज्ञान : शिक्षक प्रशिक्षक मार्गदर्शिका – मुनि किशनलाल
8. जीवन विज्ञान : स्वस्थ समाज रचना का संकल्प, लेखक : आचार्य महाप्रज्ञ
9. नया मानव : नया विश्व – आचार्य महाप्रज्ञ
10. परिवार के साथ कैसे रहें ? – आचार्य महाप्रज्ञ
11. प्रेक्षाध्यान प्रयोग पद्धति – लेखक : आचार्य महाप्रज्ञ
12. प्रेक्षाध्यान : आसन प्राणायाम, मुनि किशनलाल
13. प्रेक्षाध्यान : सिद्धान्त और प्रयोग, लेखक : आचार्य महाप्रज्ञ, सम्पादक : मुनि किशन लाल, शुभकरण सुराना
14. प्रेक्षाध्यान : यौगिक क्रियाएं, मुनि किशनलाल
15. प्रेक्षाध्यान : शरीर विज्ञान, श्री जेटालाल जवेरी, मुनि महेन्द्र कुमार

16. प्रेक्षाध्यान : स्वास्थ्य विज्ञान (भाग 1,2), श्री जेटालाल जवेरी, मुनि महेन्द्र कुमार 'तुम स्वस्थ रह सकते हो, लेखक – आचार्य महाप्रज्ञ
17. प्रेक्षाध्यान : व्यक्तित्व विकास, लेखक : मुनि धर्मेश कुमार
18. प्रेक्षा संदर्शिका – मुनि धर्मेशकुमार
19. Preksha Meditation : Therapeutic Thinking by Arun Zaveri
20. Science of Living, Ed. Muni Mahendra Kumar

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 401	Gender, School and Society	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the modern concept of society, organization & gender sensitivity.
- ❖ To understand the dimension of development of school administration.
- ❖ To develop basic understanding & familiarity with key concept, society, social problem, social relationship, new trends
- ❖ To develop knowledge of the role of different NGO & organizations.

**Course Contents:**

**Unit- I Role of Society & Organization in Gender sensitivity**

- a) Gender Equity : Concept, Needs, Problem and solution
- b) Nature of Society
- c) Women Commission
- d) Right to Education

**Unit- II Dimensions of Development of School**

- a) Administration – Structure of Centre and State education.
- b) Head-Master – Merits, work, duties and leadership
- c) Ideal Teacher – Personality and Qualification
- d) Modern school , Library, Laboratory, and Hostel
- e) Outline of co-curricular activities in school

**Unit- III Present Education & Society**

- a) Role of education in different Areas (Family, school, and society).
- b) Present Social Problems (unemployment, Students indiscipline, Poverty, Illiteracy, Health & Nutrition)Concept, cause, and Solution
- c) Education and Society Relationship

**Unit- IV Role of organization in Gender sensitivity, society, and school**

- a) NGO – (meaning and Role)
- b) Role of present Social – worker
- c) Government Planning
- d) Role of Religious Organization

### Assignment & Practical Works: (Any Two)

- Study of any one significant problem of a secondary school and prepare report detail – it's possible causes and solutions.
- Solve any one Assignment Work.
- Critically evaluate of the different activities of any one school.
- Case study of any N.G.O working in local area.

### References :

1. कुशवाहा, पुष्पलता एवं सक्सैना, कनक, (2006), शैक्षिक प्रबंधन एवं संगठन, आस्था प्रकाशन, जयपुर
2. चौबे, सरयू प्रसाद, (1990), शिक्षा के समाजशास्त्रीय आधार, विनोद पुस्तक मंदिर, आगरा
3. पाण्डेय, रामशक्ल (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
4. बघेला, एच. एस. सिंह, (2007), शैक्षिक प्रबंधन एवं संगठन, राजस्थान प्रकाशन, जयपुर
5. भटनागर, सुरेश (1996), शैक्षिक प्रबंध व शिक्षा की समस्याएं, सूर्या पब्लिकेशन, मेरठ
6. वशिष्ठ, के. के. (1985), विद्यालय संगठन एवं भारतीय समाज की शिक्षा की समस्याएं, लायक बुक डिपो, मेरठ
7. शर्मा, आर. ए. (1995), विद्यालय संगठन एवं शिक्षा प्रशासन, सूर्या पब्लिकेशन, मेरठ
8. शर्मा, ओ. पी., गुप्ता, शोभा (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
9. सुखिया, एस. पी., (2008), विद्यालय प्रशासन एवं संगठन, विनोद पुस्तक मंदिर, आगरा
10. वास्तव अजना (2016), महिला शिक्षा तथा कानून राखी प्रकाशन आगरा 2016

### website

1. [www.gender.com.ac.uk](http://www.gender.com.ac.uk).
2. [www.genderstudies.org](http://www.genderstudies.org).
3. [www.genderparaddigm.com/publication/html](http://www.genderparaddigm.com/publication/html)

### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 402	Reading & Reflecting on Texts (EPC)	CC	2	15	35 Practical & Viva-Voce	50

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop basic Communication Skills.
- ❖ To promote Creative Writing among students.
- ❖ To acquire the knowledge of art of Speaking.

### Course Contents:

#### Unit- I Reading Comprehension

- a) Explain with stage of any self expression of any one guest.
- b) Enlist errors in reading among school students.
- c) Review of any one books with reading.
- d) Write the educational essence of any five stories and morale thought with reading.

#### Unit- II Writing composition & Action Plan

- a) Recite 10 poem / verse/ stanza and write it.

- b) Prepare an action plan and organize accordingly.
- c) Proof reading.
- d) Prepare list of innovative vocabulary for speaking. (50 words).

**Assignment & Practical Works: (Any Two)**

- One Assignment Work on any topic related to above units.
- Prepare a plan and organize any two activities related to above units.
- Demonstrate different type of speaking.
- To identify the causes of ineffective speech and remedies for it.

**Semester-IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BED 403</b>	Drama and Arts in Education (EPC)	CC	2	15	35 Practical and Viva-voce	50

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop skills of role playing and acting.
- ❖ To acquire the knowledge and develop skill of arts, painting and playing musical Instruments.

**Course Contents:**

**Unit- I Write a Drama Script**

- a) Prepare a Drama for any Social issues (Class VI to XI)
- b) Role playing for different scene of Drama
- c) To know different types of Drama

**Unit- II Fine Arts, materials and its relevancy (Any two works)**

- a) Mehendi, Drawing
- b) Rangoli/Model Preparation
- c) Poster Painting

**Assignment & Practical Works: (Any Two)**

- Prepare any one Assignment Work related to above units.
- Plan and organize any two activities related to above units.
- Prepare Arts and crafts with un usual material
- Prepare Fine Arts with paper
- Hand made Architecture
- Soft toys (Teddy bear)
- Dance Art
- Fine Arts/ Painting
- Skill of Playing musical instrument
- Food Shef
- Handicraft



### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 404	Knowledge and Curriculum (part-A)	CC Any one	4	30	70	100
BED 405	Knowledge and Curriculum (part-B)					

#### BED 404 : Knowledge and Curriculum (part-A)

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know the concept objective and principles of curriculum.
- ❖ To develop the idea and bases of curriculum.
- ❖ To understand various types of curriculum.
- ❖ To evaluate the relevancy of curriculum.
- ❖ To describe various approaches to curriculum construction.

#### Course Contents:

##### Unit- I Knowledge and Curriculum Concept

- a) Knowledge : Concepts, Characteristics, Sources of Acquiring, Methods of Acquiring
- b) Curriculum: Meaning, Definition, Characteristics, Aims Importance
- c) Difference between old and new concepts of curriculum
- d) Principle of curriculum construction and Knowledge

##### Unit- II Bases of curriculum

- a) Sociological bases
- b) Scientific bases
- c) Philosophical bases
- d) Psychological bases

##### Unit- III Types of curriculum

- a) Activity centred and life centred curriculum
- b) Subject centred and core centred
- c) Experience centred and work based curriculum
- d) Hidden Curriculum

##### Unit- IV National curriculum

- a) Concept and Characteristics of National curriculum
- b) Curriculum reform in India
- c) NCF-2005 (School education)
- d) NCFTE-2009(Teacher education)

### Assignment & Practical Works: (Any Two)

- One Assignment Work on the topic related with the unit.
- Preparation of any one Assignment Work on curriculum .
- Review of present curriculum (Optional subject related)
- Curriculum framework for 10th class.

### Referances :

1. अग्निहोत्री, रवीन्द्र , आधुनिक भारतीय शिक्षा
2. अग्निहोत्री, रवीन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, रिसर्च पब्लिकेशन
3. अग्निहोत्री, रवीन्द्र (2007), आधुनिक भारतीय शिक्षा और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
4. ओड, एल. के., शिक्षा के नूतन आयाम, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
5. गुप्ता, एस. पी. (2005), भारतीय शिक्षा का अतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड, इलाहाबाद
6. त्यागी, निरंजन, माध्यमिक विद्यज्ञलयों में पाठ्यक्रम शिक्षण, हिन्दी ग्रन्थ अकादमी
7. पाण्डेय, बृजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा,
8. पाठक, पी. डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ
9. यादव, सियाराम संगीता, सिन्धू पूनम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा
10. यादव, संगीता, सिन्धू पूनम (2014), पाठ्यक्रम विकास और अनुदेशन, अर्जुन पब्लिशिंग हाऊस, 4837/24, प्रहलाद गली, अंसारी रोड, दरियागंज, नई दिल्ली-2
11. रावत, प्यारेलाल, प्राचीन एवं आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन, आगरा
12. सक्सैना, एन. आर. स्वरूप, शिक्षा सिद्धान्त, सूर्या पब्लिकेशन, आर. एल. कुक डिपो, मेरठ
13. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर
14. सिंघल, महेशचन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
15. National Curriculum Frame work NCFTE (2009), for Teacher Education, NCTE, New Delhi
16. National Curriculum Frame work NCF (2005), for Scholl Education, NCTE, New Delhi

### BED 405 : Knowledge and Curriculum (part-B)

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop various philosophical bases of curriculum
- ❖ To develop various Sociological bases of curriculum
- ❖ To develop various psychological bases of curriculum
- ❖ To develop Educational New Trends of curriculum

### Course Contents:

#### Unit- I Philosophical bases of curriculum development

- a) Idealism, Naturalism, Pragmatism and curriculum
- b) Jain philosophy , Geeta Philosophy , Buddhism Philosophy and curriculum
- c) M. K. Gandhi, Vivekanand , R. N. Tagore and curriculum

#### Unit- II Sociological basis of curriculum development

- a) Social change and curriculum
- b) Social Mobility and curriculum
- c) Social development and curriculum
- d) Culture and curriculum

### Unit- III Psychological bases of curriculum development

- Structuralism and curriculum
- Behaviourism and curriculum
- Associationism and curriculum
- Gestaltism and curriculum

### Unit- IV Educational New Trends of curriculum

- Skill and curriculum
- Values and curriculum
- NCF-2005(School Education)
- NCFTE-2009( teacher Education)

### Assignment & Practical Works: (Any Two)

- Preparation of One Assignment Work.
- One abstracts of Educational New trends article published in some standard Journals
- Preparation of curriculum Design (any subject related)
- Curriculum frame work for B.Ed. programme.

### References :

1. अग्निहोत्री, रवीन्द्र (2007), आधुनिक भारतीय शिक्षा और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
2. गुप्ता, एस. पी. (2005), भारतीय शिक्षा का अतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड, इलाहाबाद
3. पाण्डेय, बृजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा,
4. पाठक, पी. डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ
5. यादव, सियाराम संगीता, सिन्धू पूनम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा
6. यादव, संगीता, सिन्धू पूनम (2014), पाठ्यक्रम विकास और अनुदेशन, अर्जुन पब्लिशिंग हाऊस, 4837/24, प्रहलाद गली, अंसाशी रोड, दरियागंज, नई दिल्ली-2
7. रावत, प्यारेलाल, प्राचीन एवं आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन, आगरा
8. सक्सेना, एन. आर. स्वरूप, शिक्षा सिद्धान्त, सूर्या पब्लिकेशन, आर. एल. कुक डिपो, मेरठ
9. सिंघल, महेशचन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
10. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर
11. National Curriculum Frame work NCFTE (2009), for Teacher Education, NCTE, New Delhi
12. National Curriculum Frame work NCF (2005), for Scholl Education, NCTE, New Delhi

### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 406	Creating an Inclusive school	CC	4	30	70	100

### Learning Outcomes: After completion of this course the student teacher will able:

- ❖ To develop the understanding of the concept and philosophy of inclusive education in the context of education for all.
- ❖ To identify and address diverse needs of all learners
- ❖ To familiarize with the trends and issues in inclusive education

- ❖ To develop an attitude to foster inclusive education
- ❖ To develop and understanding of the role of facilitators in inclusive education
- ❖ To Prepare teachers for inclusive schools

**Course Contents:**

**Unit- I Introduction to Inclusive Education**

- a) Meaning, Objective , Need and Types of Inclusive Education
- b) Principles of Inclusive Education
- c) Soluation and challenge of Inclusive Education
- d) ICT Material of Inclusive Education

**Unit- II Legislation, Emerging Issues and Role of Agencies in Inclusive Education**

- a) Legislation for inclusive education- National policy of disabilities 2006
- b) Sarva Shiksha Abhiyan (2002)
- c) NGO
- d) RTE-2009

**Unit- III Exceptional Child and Special Educational**

- a) Exteptional Child : Meaning and Types
- b) Mentally Retared Child
- c) Physically Handicapped Child
- d) Hearing Impaired Child
- e) Visually Handicapped Child
- f) Emotionally Disturb Child

**Unit- IV Special Educational Need (SEN) of learners in Inclusive School**

- a) Speech Defective Childern
- b) Language Handicapped Child
- c) Learning Disadvantage Child
- d) Parents of Exceptional Childern
- e) Guidance of Exceptional Childern
- f) Special School (Building Co-curricular Activities)

**Assignment & Practical Works: (Any Two)**

- One Assignment Work
- Write a One Article of Disabilities Child
- Case study of disabilities child
- Write a report of evaluation process in inclusive school

**Suggested Readings:**

1. Ahuja,A, Jangira, N.K. (2002) : "Effective Teacher Training, Co-operative Learnin Based pproach", National Publishing House, 23 Daryaganj, New delhi-02
2. Sharma, P.L. (1990), Teacher Handbook on IED, Helping Children with Special Needs NCERT, Publication Delhi
3. UNESCO (1989), UN Convention on the Right of the Child, UNESCO
4. UNESCO (2006), UN Convention on the Right of Persons with Disabilities.
5. UNESCO (2009), Policy Guideline on Inclusion in Education UNESCO

6. कुशावाहा, पुष्पलता, एवं सक्सैना, कनक (2006),, शैक्षिक प्रबन्धन एवं विद्यालय संगठन, आस्था प्रकाशन, जयपुर
7. परवीन, आबिदा (2013), शिक्षण एवं अधिगम के मनो-सामाजिक आधार, आस्था प्रकाशन, जयपुर
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9. बिन्दु आभारानी, सक्सैना, स्वाति (2008), विशिष्ट बालक, अग्रवाल पब्लिकेशन्स, आगरा
10. योगेन्द्रजीत, भाई (2008), शिक्षा में नवाचार और नवीन प्रवृत्तियाँ, विनोद पुस्तक मंदिर, आगरा
11. सुखिया, एस.पी. (2008), विद्यालय प्रशासन एवं संगठन, विनोद पुस्तक मंदिर, आगरा
12. हन्फी, एम.ए. एवं हन्फी एस.ए. (2009), अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, विनोद पुस्तक मंदिर, आगरा, जयपुर

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 407	Optional Course I. Environmental Education	Any one CE	4	30	70	100

#### BED 407 : Environmental Education

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the problems Concerning Environment through multi disciplinary approach.
- ❖ To make the students in the schools environmentally conscious.
- ❖ To develop the skill of planning and organizing Ecological activities in the schools so the children can equipped to play their part in protection and enrichment of environment.
- ❖ To create Environment Consciousness among the adult learners.
- ❖ To use different Techniques and materials for the affective Dissemination of Environmental information.
- ❖ To conduct local surveys, arrange field trips Environmental games and hobbies.

**Course Contents:**

##### UNIT- I Concept Of Environment

- a) Meaning , Scope, Importance
- b) Eco-System – Charecteristic Qualities
- c) Inter- Dependence In Environment
- d) Natural Resources
- e) Bio-Diversity – Scope & Threats, Preservation

##### UNIT- II Environmental Education

- a) Meaning, Importance and Objective
- b) Scope of Environmental Education
- c) Need for Public Awareness as a subject
- d) Muti-disciplenary Nature of Environmental Studies Curriculum Development

##### UNIT- III Environmental Hazards and Pollution

- a) Air Pollution
- b) Water Pollution
- c) Soil Pollution
- d) Noise Pollution

#### UNIT- IV Global Issues and Environmental Conservation

- Global Issue (Global Warming, Climate Change, Depletion of Ozone Layer and Energy Crisis)
- Different Aspects Related To Environmental Conservation.
- Environmental Preservation & Improvement (At National & International Level)
- National Environment Policy

#### Assignment & Practical Works: (Any Two)

- Study on Any one environmental problems. The report on the study must include efforts of the pupil / teacher in developing awareness among people about the environmental problems.
- Prepare a plan to teach environment at education to the adults.
- One Assignment Work solve.
- Prepare a scrap book of an environmental articles and news.
- Conduct environmental competition for local school student.

#### संदर्भ ग्रन्थ सूची :

- उपाध्याय, राधावल्लभ, (2008), पर्यावरण शिक्षा, विनोद पुस्तक मंदिर, आगरा
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- गोयल, एम. के. (2008), पर्यावरण शिक्षा, विनोद पुस्तक मंदिर, आगरा
- बरौलिया, ए., पर्यावरणीय शिक्षा के नये आयाम, राधा प्रकाशन मन्दिर, आगरा
- बरौलिया, ए. पराशर, राधिका एवं दुबे, श्री कृष्ण, पर्यावरण शिक्षा के नये आयाम, राधा प्रकाशन मंदिर, आगरा
- राजस्थान पाठ्यपुस्तक मण्डल की कक्षा 11 से 12 तक की पुस्तकें
- रावत, कमलेश, पर्यावरण शिक्षा, अलका पब्लिकेशन्स, अजमेर
- श्री वास्तव, पंकज (2007), पर्यावरण शिक्षा, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी,

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 408	2. Health and Physical	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop the organic system of the body.
- ❖ Development of understanding and appreciation of the techniques and strategies of sports
- ❖ To develop correct health habits.
- ❖ Attainment of knowledge of proper health procedure as related with physical exercise.
- ❖ The physical education program will allow the students to participate in developmentally appropriate activities.

#### Course Contents:

##### Unit- I Concept of Health Education

- Meaning of Health education.
- Environmental factor which promote and affect In Health.

- c) Importance and objective of Health education.
- d) General Exercises in school.

**Unit- II Environment and Science of Living and Yoga**

- a) Importance of water to life and our environment.
- b) Science of Living and yoga.
- c) Role of Individual in improvement of sports environment.
- d) Physical and physiological benefits of exercise on children.

**Unit- III Physical Education, Balanced Diet and First Aid**

- a) Meaning and Importance of physical Education
- b) Balanced Diet and Nutrition : Macro and Micro Nutrients
- c) First Aid

**Unit- IV History of Volleyball & Kabbadi**

- a) Historical Development of Volleyball
- b) Measurement and Rule of Volleyball
- c) Historical Development of Kho-Kho
- d) Measurement and Rule of Kabbadi

**Assignment & Practical Works:**

- Write a Term paper on a topic given in the course
- Skill of any one Team Game of choice from the given List

**Suggested Readings:**

1. Thorburn, M. (2000), Physical Education-Intermediate Course Notes, Leckie & Leckie Publisher.
2. कमलेश एवं संगरत्न, शारीरिक शिक्षा में शिक्षण विधियां, विनोद पब्लिकेशन, लुधियाना।
3. पाराशर, गीता एवं कुमार सुनील (2014), स्वास्थ्य शिक्षा तथा मनोरंजन।
4. सफाया, आर. के. स्वास्थ्य एवं शारीरिक शिक्षा, विनोद पब्लिकेशन, लुधियाना।
5. सिंह, बलदेव, स्वास्थ्य एवं शारीरिक शिक्षा, विनोद पब्लिकेशन, लुधियाना।
6. सिंह, परमजीत, राठौड़, भूपेन्द्र सिंह, बाथोनिया, माया, खान, एम. ए. (2007), शारीरिक एवं स्वास्थ्य शिक्षा, कक्षा-9 माध्यमिक शिक्षा बोर्ड, राजस्थान अजमेर।

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 409	3. Guidance and Counseling	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the basic concept, Nature and scope of Educational and Vocational guidance.
- ❖ To understand the aims objective of educational and vocational guidance.
- ❖ To understand the importance of educational and vocational guidance.
- ❖ To understand the role and responsibilities of guidance workers in school.

- ❖ To understand the Nature and Types of guidance service & with reference to school education.
- ❖ To understand the concept, Nature and Types of counseling.

**Course Contents:**

**Unit- I Basics of Guidance**

- a) Meaning and Nature of Guidance.
- b) Aims and Principles of Guidance.
- c) Types of Guidance
- d) Importance of Guidance in schools for individual and for society.
- e) Process of Guidance.

**Unit- II Basics of Counseling**

- a) Meaning, Nature and Principles of counseling
- b) Types of Counseling.
- c) Distinction between Guidance and Counseling.
- d) Role and Responsibilities of Guidance workers in school.
- e) Qualities of a good guidance programme.

**Unit- III Area of Guidance**

- a) Educational guidance
- b) Vocational guidance
- c) Personal guidance
- d) Guidance Implication in the current Indian scenario.
- e) Problems of guidance in India.

**Unit- IV Guidance Services**

- a) Introduction to Guidance Services.
- b) Individual Inventory Service
- c) Information Service
- d) Cumulative Record
- e) Placement Services
- f) Follow up Service

**Assignment & Practical Works: (Any Two)**

- Prepare a term paper on any topic of Educational, Vocational or Personal guidance
- Write an article on current educational problems, providing the solution.
- Observe an educational or co-curricular activity in a school or college and provide guidance for the improvement.
- Case study of two special children.

**Suggested Readings:**

1. Bansal, Aarati (2007), Educational and Vocational Guidance, Sublime Publication, Jaipur
2. Chaturvedi, Ramesh, (2007), Educational and Vocational Guidance and Counseling, Crescent Publishing Corporation, New Delhi.
3. Nayak A. K., Rao V. K. (2007), Guidance and Career Counseling, APH Publishing Corporation, New Delhi.



4. Sharma, Shashi Prabha (2005), Career Guidance and Counseling (Principles and Technique), Kanishka Publishers, New Delhi.
5. Sharma, Sita Ram (2005), Evolution of Educational and Vocational Guidance, ABD Publishers, Jaipur.
6. Sharma, Yogendra K. (2005), Principles of Educational and Vocational Guidance. Kanishka Publishers, New Delhi.
7. Vashist, S. R. (2001), Methods of Guidance, Anmol Publication, Pvt. Ltd., N. Delhi
8. जायसवाल, सीताराम (2006), शिक्षा में निर्देशन एवं परामर्श, विनोद पुस्तक मंदिर, आगरा
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10. शर्मा, आर. ए., चतुर्वेदी, शिखा (2009), शैक्षिक एवं व्यवसायिक निर्देशन एवं परामर्श, आर. लाल. बुक डिपो, मेरठ
11. सिंह, रामपाल, उपाध्याय, राधावल्लभ (2004), शैक्षिक एवं व्यवसायिक निर्देशन, विनोद पुस्तक मंदिर, आगरा

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 410	4. Distance Education	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To provide an effective alternative path to wider opportunities in education and especially in higher education.
- ❖ To provide an efficient and less expensive education.
- ❖ To provide education facilities to all qualified and willing persons.
- ❖ To provide opportunities of academic pursuits to educate citizens willing to improve their standard of knowledge.
- ❖ To provide education facilities to those individuals who look upon education as a life-long activity.

**Course Contents:**

#### **Unit-I Theoretical Prospective of Distance Education**

- a) Meaning and Definition of Distance Education.
- b) Characteristics of Distance Education
- c) Distance education as a discipline.
- d) Need for establishing Distance Education as a discipline.

#### **Unit-II Scenario of Distance Education Institutes**

- a) State wise situation of Distance Education Institutes in India.
- b) Objectives of Indira Gandhi National Open University.
- c) Main Theoretical Bases of Distance Education.
- d) Theory of Independent study by CHARLES WEDEMEYER.

#### **Unit-III Essential Elements of Developing in Distance Education**

- a) Essential Elements of Developing curriculum in Distance education.
- b) Different services provided by Sanchar Kendra IGNOU.

- c) Non- Print Instructional media in Distance Education: Educational RADIO.
- d) Major educational Television projects in Distance education.

**Unit-IV Counseling for Distance Learners**

- a) Organizing counseling Services for Distance Learners.
- b) Various Types of Tele - Conferencing.
- c) Format of the Text in Distance Education.
- d) Distance Learners and Counseling

**Assignment & Practical Works:**

- Write any one term paper on a topic with in the content.
- Make the list of Distance Education programme of various universities in India.

**Suggested Readings:**

1. Datt, Ruddar (1985), Distance Education in India, Open School, New Delhi
2. Hillard, R. I., Writing for T.V. and Radio, N.Y. Hastings House
3. Parmaji, S. (1984), Distance Education, Sterling Publication, New Delhi
4. यादव, सियाराम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.1 Hindi	Any one CE	4	30	70	100

**अधिगम उपलब्धि :** इस पाठ्यक्रम के पूरा होने के बाद छात्र शिक्षक सक्षम होगा।

**उद्देश्य :**

- ❖ काव्य के विभिन्न घटक तत्त्वों का ज्ञान देना।
- ❖ काव्य के घटक तत्त्व रस, छन्द, अलंकारों का ज्ञान प्रदान करना।
- ❖ काव्य के गुण : माधुर्य, ओज, प्रसाद का ज्ञान देना।
- ❖ हिन्दी की शिक्षण विधियों का ज्ञान देना।
- ❖ हिन्दी के विभिन्न व्याकरणिय घटकों का ज्ञान देना।
- ❖ व्याकरण के घटक अनुवाद, संज्ञा, सर्वनाम, कारक, सन्धि, समास एवं विशेषण का ज्ञान देना।
- ❖ सूक्ष्म शिक्षण के विभिन्न कौशलों की जानकारी देना।
- ❖ हिन्दी के विभिन्न कवियों, लेखकों के उपन्यासों, कहानियों, रचनाओं का ज्ञान प्रदान करना।

**विषय वस्तु:**

**इकाई : प्रथम – काव्य के घटक तत्त्व**

- (अ) काव्य के गुण : माधुर्य, ओज एवं प्रसाद
- (ब) अलंकार – शब्दालंकार, अर्थालंकार, श्लेष, यमक, अनुप्रास, उपमा, रूपक, उत्प्रेक्षा, मानवीकरण, अतिशयोक्ति, विभावना, भ्रान्तिमान।
- (स) रस का स्वरूप, रस के अवयव, श्रृंगार रस, हास्य रस, करुण रस, रौद्र रस, वीर रस, भयानक रस, वीभत्स, अद्भुत रस, शान्त रस, वात्सल्य रस, भक्ति रस।
- (द) छन्द-दोहा, चौपाई, कवित्त, सोरठा एवं सवैया।

**इकाई : द्वितीय – शिक्षण विधियों का परिचय**

- (अ) सूक्ष्म शिक्षण – सम्प्रत्यय एवं प्रमुख कौशलों का परिचय।
- (ब) वाचन विधि
- (स) व्याख्या विधि
- (द) अनुवाद विधि

**इकाई : तृतीय – व्याकरणीय घटक**

- (अ) अनुवाद : अर्थ एवं प्रकार
- (ब) शब्द शक्तियों के भेद, उदाहरण
- (स) संज्ञा, सर्वनाम एवं कारक का अर्थ एवं प्रकार
- (द) सन्धि, समास एवं विशेषण का अर्थ एवं प्रकार

**इकाई – चतुर्थ – हिन्दी साहित्यकारों का संक्षिप्त परिचय एवं उनका विशिष्ट अवदान :-**

- (अ) तुलसीदास,सूरदास, कबीरदास एवं रसखान
- (ब) प्रेमचन्द, जयशंकर प्रसाद, हजारी प्रसाद द्विवेदी, मन्नू भंडारी
- (स) महादेवी वर्मा, सूर्यकान्त त्रिपाठी निराला
- (द) रामधारीसिंह दिनकर, हरिवंशराय बच्चन

**सत्रीय कार्य (निम्न में से कोई दो)**

- कक्षा सातवीं की पुस्तक 'बाल-महाभारत' अथवा कक्षा आठवीं की पाठ्य पुस्तक 'भारत की खोज' की समीक्षा करना।
- हिन्दी विषय की वर्तमान स्थिति की दशा एवं दिशा पर रिपोर्ट लिखना।
- अपनी पसन्द की कोई पांच-पांच कहानी अथवा कविताओं का संकलन करना एवं उनका प्रस्तुतिकरण।
- माध्यमिक या उच्च माध्यमिक की हिन्दी विषय की पाठ्य पुस्तक में विभिन्न कहानियों का नाट्य रूपान्तरण करना।
- 'हमारा संकलन' स्क्रैप बुक/पुस्तिका का निर्माण करना, जिसमें विभिन्न समाचारपत्रों, पत्रिकाओं, प्रमुख महापुरुषों, प्रसिद्ध लेखकों, कवियों, कवयित्रियों, प्रसिद्ध खिलाड़ियों व अन्य प्रसिद्ध व्यक्तियों के जीवन परिचय एवं विशेष उपलब्धि का सचित्र वर्णन।

**सन्दर्भ ग्रन्थ :**

1. अवधेश अरुण, (2001), हिन्दी भाषा का स्वरूप, बिहार हिन्दी ग्रन्थ अकादमी, पटना।
2. ओड, एल.के (1982), हिन्दी शिक्षण में त्रुटि, निदान एवं उपचार, वनस्थली विद्यापीठ।
3. कक्षा 6 से 12 वीं तक की एन.सी.ई.आर.टी. की हिन्दी विषय की विभिन्न पाठ्य पुस्तकें।
4. कुमार, योगेश, (2004), आधुनिक हिन्दी शिक्षण, ए.पी. एवं पब्लिशिंग कॉर्पोरेशन, नई दिल्ली।
5. कुशवाहा, पुष्पलता, सक्सैना, कनक (2009), हिन्दी शिक्षण, आस्था प्रकाशन, जयपुर।
6. दुग्गल एवं वर्मा, (1982), हिन्दी शिक्षण, आर्य बुक डिपो, दिल्ली।
7. नाथ, देवेन्द्र, राष्ट्र भाषा हिन्दी की समस्याएँ एवं समाधान।
8. पाण्डेय, रामशक्ल, (2008), हिन्दी शिक्षण, विनोद पुस्तक मंदिर, आगरा।
9. पारीक, सुधीर, टेलर लाल गोपाल (2008), पद्यान्जलि माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर।
10. भाई, योगेन्द्रजीत, (2007), हिन्दी भाषा शिक्षण, विनोद पुस्तक मंदिर, आगरा।
11. रमन, बिहारीलाल, (1990), हिन्दी शिक्षण, रस्तोगी एण्ड कम्पनी, मेरठ।
12. शर्मा, मन्जू, जैन, बनवारी लाल, (2007), हिन्दी शिक्षण, शिक्षा प्रकाशन, जयपुर।
13. शर्मा, लक्ष्मी नारायण, (2001), हिन्दी संरचना का अध्ययन-अध्यापन, केन्द्रीय हिन्दी संस्थान, आगरा।

14. शर्मा, लक्ष्मी नारायण, (2004), भाषा की शिक्षण विधियाँ एवं पाठ नियोजन, विनोद पुस्तक मंदिर, आगरा।
15. सत्तिगेरी, के. आय (2006), नूतन हिन्दी शिक्षण, विनोद पुस्तक मंदिर, आगरा।
16. सिंह, निरंजन कुमार (2008), माध्यमिक विद्यालयों में हिन्दी शिक्षण, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
17. सिंह, सावित्री (2001), हिन्दी शिक्षण, लायल बुक डिपो, मेरठ।

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BED 411</b>	5. Additional Course (Any one) 5.2 English	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To acquire the knowledge of Phonetics and its uses through different organs of speech
- ❖ To develop Understanding of English text
- ❖ To apply the Content knowledge through preparing lesson plan in English Language
- ❖ To explain the idea of assessment of English teaching
- ❖ To describe the Knowledge of diagnostic test and Remedial instruction in English teaching

**Course Contents:**

#### **Unit- I Language production and phonology**

- a) Language acquisition
- b) Organs of speech
- c) Elements of Speaking
- d) Phonology sound system: Vowel, Diphthongs and Consonants)

#### **Unit -II Understanding Language Text**

- a) Text book Vs Reference books
- b) Analysis of a Text book
- c) Quality of good text book

#### **Unit-III Lesson plan and teaching learning materials (TLM)**

- a) Strategies : Language games, Puzzles, role playing.
- b) Teaching Aids in English:(Audio ,Visual, Audio- Visual)
- c) Use of LCD ,OHP, Linguaphone , online Classes, Hand outs

#### **Unit-IV Assessment of English Language**

- a) Diagnostic Evaluation
- b) Remedial instruction
- c) Errors in English (Oral vs. Witten)
- d) Types of test in English teaching(Subjective Vs Objective types)

#### **Assignment & Practical Works: (Any Two)**

- Review of a English Text book
- Prepare a PPT on any topic of English teaching for Secondary School.

- Prepare a PPT on any topic of English teaching for Secondary school.
- Prepare some Phonological words in each Sound in English.( Vowels (12), Diphthongs (8) and Consonants (24)

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1. Bansal, R.K. and Harrison, J.B. (1972), Spoken English for Indians, Madras: Orient Longman Ltd.
2. Baruah, T.C. (1985), The English Teachers' Handbook, New Delhi: Sterling Publishing Pvt. Ltd.
3. Bright and McGregor (2000), Teaching English as Second Language, Longman.
4. Brumfit, C.J. (1984), Communicative Methodology in Language Teaching, Cambridge: C.U.P.
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8. Lado, Robert (1971), Language Teaching, New Delhi, Tata McGraw Hill Publishing House Co. Ltd.
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10. Paliwal, A.K. (1998), English Language Teaching, Jaipur: Surbhi Publication.
11. Palmer, H.L. (1964-65), The Principles of Language study, London: O.U.P.
12. Quirk, Randolph and Greenbaum, (1973), A University Grammar of English, London.
13. Richards J, C. and Rodgers.T.S (1985), Approaches and Methods in Language Teaching, Cambridge C.U.P.
14. Roach, Peter, (1991), English Phonetics and Phonology. Cambridge, C.U.P.
15. Thomson, A.J. and Martinet (1998), A Practical English Grammar, ELBS, O.U.P.
16. Venkateshwaran, S (1995), Principles of Teaching English, Vikas Publishing House Pvt. Ltd., Delhi
17. Willis, Jane (1997), Teaching English Through English, O.U.P.

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.3 Sanskrit	Any one CE	4	30	70	100

**अधिगम उपलब्धियाँ :**

- ❖ विद्यालयी बालकों में व्याकरण की सामान्य जानकारी एवं उनके प्रयोग की दक्षता का विकास करना।
- ❖ संस्कृत भाषायी दक्षता में होने वाली अशुद्धियों का निदान करना।
- ❖ संस्कृत महाकाव्यों, गद्यकाव्यों, नाट्यकाव्यों का ज्ञान प्राप्त करना।
- ❖ हिन्दी वाक्यों का संस्कृत भाषा में अनुवाद कर सकने की योग्यता का विकास करना।
- ❖ संस्कृत विद्यालयों के पाठ्यक्रम का समीक्षात्मक मूल्यांकन करना।

**विषयवस्तु :**

इकाई – प्रथम – संज्ञा, प्रत्यय, उपसर्ग एवं अवयवों का ज्ञान।

- a) संज्ञा प्रकरण – उच्चारणस्थानानि प्रयत्नाः (आभ्यन्तर, बाह्य), अल्पप्राणः, महाप्राणः, घोषः।

- b) प्रत्यया – क्त, क्तवतु, शतृ, शानच्, तुमुन्, अनीयर, ण्वुल्, क्त्वा, ल्यप्, तरप्, तमप् ।
- c) अव्ययानां प्रयोग – उच्चैः, पुनः, शनैः, नमः, खलु, धिक्, प्रातः, कदा, विना, श्व, ह्यः ।
- d) उपसर्गा – प्र, परा, अप्, सम्, दुर, आ, अति, प्रति, सु, परि, अधि ।

**इकाई – द्वितीय – कारक, छन्द एवं अलंकारों का सामान्य ज्ञान ।**

- a) कारक – प्रातिपादिकार्थ लिङ्ग-परिमाण-वचन मात्रे प्रथमा । कर्तुरीप्सिततमं कर्म, अभितः परितः । समयानिकषा हा प्रतियोगेऽपि । कर्तृकरणयोस्तृतीया, येनाङ्गविकार । कर्मणा यमभिप्रैति स संप्रदानम्, रुच्चर्थानां-प्रीयमाणः, क्रुधदुहेर्ष्यासूयार्थानां यं प्रति कोपः । ध्रुवमपायेऽपादानम्, भीत्रार्थानां भयहेतुः । आधारोऽधिकरणम्, यतश्चनिर्धारणम् । षष्ठीशेषे, कर्तृकर्मणोः कृतिः ।
- b) छन्दा – अनुष्टुप्, आर्या, इन्द्रवजा, उपेन्द्रवजा, वसन्ततिलका, मन्दाक्रान्ता, शार्दूलविक्रीडितम् ।
- c) अलंकार – अनुप्रास, यमकम्, उपमा, रूपकम्, सन्देह, दृष्टान्त, अतिशयोक्ति, वक्रोक्ति, उत्प्रेक्षा ।

**इकाई – तृतीय – भारतीय संस्कृति एवं संस्कृत रचनाकारों का संक्षिप्त परिचय ।**

- a) भारतीय संस्कृति – वर्ण व्यवस्था, आश्रम व्यवस्था एवं षोडश संस्कार ।
- b) महाकाव्य कवि – भारवि, श्रीहर्ष एवं बाल्मीकि ।
- c) गद्य काव्य कवि – दण्डी एवं बाणभट्ट ।
- d) नाट्य कवि – कालिदास एवं भवभूति ।

**इकाई – चतुर्थ – शिक्षण विधियाँ ।**

- a) दण्डान्वय विधि
- b) खण्डान्वय विधि
- c) स्वाध्याय निर्देशित पद्धति
- d) स्पष्टीकरण विधि

**सत्रीय कार्य एवं प्रायोगिक कार्य- (किसी दो विषय पर)**

- कक्षा 10 की संस्कृत पाठ्यपुस्तक की समीक्षा करना ।
- पाठ्यक्रम के किसी एक इकाई के एक प्रकरण को विस्तार से समझाइये ।
- कक्षा 8 की पाठ्यसामग्री से कठिन शब्दों की सूची तैयार करना एवं उनका अर्थ ग्रहण (कम से कम 30 शब्द) ।
- 20 श्लोकों का कंठस्थीकरण ।
- संस्कृत में मानव शरीर के अंगों के नाम ।
- किन्हीं 15 घरेलू सामग्रियों के संस्कृत में नाम ।

**संदर्भ ग्रन्थ सूची :**

1. उपाध्याय, बलदेव (2001), संस्कृत साहित्य का इतिहास, शारदा निकेतन, वाराणसी ।
2. ओझा, श्रीकृष्ण (1990), संस्कृत व्याकरण, कॉलेज बुक डिपो, जयपुर ।
3. गौतम, शैलजा एवं गौतम, रजनी (2006), संस्कृत शिक्षण, विनोद पुस्तक मंदिर, आगरा-2 ।
4. तिवारी, भोलानाथ (1992), भाषा विज्ञान, किताब महल, थार्नहिल रोड, अहमदाबाद ।
5. जैन, बनवारी लाल, गोस्वामी, प्रभाकर, भारद्वाज रतन, सैनी, सत्येन्द्र (2007), संस्कृत शिक्षण, शिक्षा प्रकाशन, जयपुर ।
6. मिश्र, इन्द्रभूषण (2004), संस्कृत व्याकरण, ऐवरग्रीन पब्लिकेशन्स (इंडिया) ।
7. पाण्डेय, रामशकल (2003), संस्कृत शिक्षण, विनोद पुस्तक मंदिर, आगरा-2 ।

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9. सफाया, रघुनाथ (1997), संस्कृत शिक्षण, हरियाणा साहित्य अकादमी, चण्डीगढ़।
10. साम्ब शिवमूर्ति: कम्भभपाटि (2009), संस्कृत शिक्षणम्, दीपशिखा प्रकाशन, जयपुर।
11. शर्मा, रीटा, एवं जैन, अमिता (2005), संस्कृत शिक्षण, आविष्कार पब्लिशर्स एण्ड डिस्ट्रीब्यूटर्स, जयपुर
12. शर्मा, राममूर्ति, संस्कृत वाङ्मय का इतिहास।
13. शास्त्री, आचार्य राम (1998), संस्कृत शिक्षण, सरणी आचार्य रामशास्त्री ज्ञानपीठ, संस्कृतनगर, रोहिणी, दिल्ली।
14. शास्त्री, मंगलदेव, भारतीय संस्कृति का इतिहास।
15. शर्मा, प्रभा, (2006), संस्कृत शिक्षण, आस्था प्रकाशन, जयपुर।

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.4 History	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand ancient history on the basis of political, social and economic conditions.
- ❖ To develop the idea of Vedic Jainism, Buddhism & Shaivism religious.
- ❖ To acquire Knowledge of medieval periods in respect of temple, forts and bhakti movement.
- ❖ To evaluate the historical perspective modern India i.e. 1857 movement, gandhian politics.

**Course Contents:**

#### **Unit- I Concept and Revolution of National Freedom**

- a) Concept of History
- b) Main places of Sindhu-Ghati sabbhyata (Harappa, mohen- jodora , kalibanga, lothal)
- c) Revolution of National Freedom (Revolution of Asahayog Andolen, Bharat Chhodo Andolen, Savinay Avagya Andolen)
- d) The Russian Revolution of 1917

#### **Unit- II Historical perspectives of ancient period.**

- a) Political and economic history from the mauryan to the gupta period.
- b) Issue in social history, Including caste and class.
- c) A history of Vedic & Jainism Religious. (A brief review).
- d) A history of Shaivism & Buddhism religious. (A brief review).

#### **Unit- III Historical perspectives of medieval and modern India.**

- a) Structure of agrarian relation in the 16<sup>th</sup> 17<sup>th</sup> centuries.
- b) Architecture & political system during Vijay nagar period.
- c) Ideas and practices of the bhakti-sufi saints.
- d) Medieval society through travelers account's.(Alberuni & Ibn-batuta)

#### **Unit- IV Historical perspectives of modern India.**

- a) East India Company, Revenue Settlement's.
- b) Representations of 1857.
- c) The Nature of Gandhian politics.
- d) Industrial revolution.

**Assignment & Practical Works: (Any Two)**

- Archaeological report on a main site.
- Historical story(Two)
- Planning, organization and report writing on seminar.
- Picture of 1857 (Scrab-Book)
- Prepare a Historical model/Historical Democracy

**Reference:**

1. Jain, M.S. (2004), Concise History of Modern Rajasthan, Vishwa Prakashan, New Delhi.
2. Sareen Tilakra, Indian Revolutionary Movement (1905-1921) Sterling Publishers Pvt. Ltd., New Delhi.
3. www.syllabus - Class 12 Arts.html.
4. www.syllabus - Class 11 Arts.html.
5. कक्षा 6 से 12 तक इतिहास की पाठ्यपुस्तकें (2014), एन.सी.आर.टी., नई दिल्ली
6. गुप्ता, पार्थ सार्थी (2004), ब्रिटेन का इतिहास, दिल्ली विश्वविद्यालय
7. शर्मा, रामशरण (1993), प्रारम्भिक भारत का आर्थिक और सामाजिक इतिहास (हिन्दी माध्यम), कार्यान्वयन निदेशालय, दिल्ली विश्वविद्यालय

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BED 411</b>	5. Additional Course (Any one) 5.5 Civics	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To identify political views among students.
- ❖ To acquaint the content knowledge of political science.
- ❖ To comprehend the dynamic political status and issues of our country.
- ❖ To develop reasoning ability among students for various competitive exam.
- ❖ To enable the pupil teacher to review the text-book of civics content (Secondary level).

**Course Contents:****Unit- I Political Thought**

- a) Socialism
- b) Marxism
- c) Gandhism
- d) Dr.Bheem Rao Ambedakar

**Unit- II Indian Constitution & Political Involvement**

- a) Indian Constitution
- b) Democracy
- c) Political Group
- d) Political socialization

**Unit- III Political Problems and Organization**

- a) Terrorism, political crime, corruption
- b) International organization (DAKSHE, SARK, U.N.O.)
- c) Election commission of India
- d) NCW (National commission for women)



#### Unit- IV Current Political Scenario

- Recent governing member and central, state level ministry
- Fundamental rights and duties
- Lok Sabha, Rajya Sabha, Vidhan Sabha, Vidhan Parishad
- President, Prime Minister, Governor, Chief Minister

#### Assignment & Practical Works: (Any Two)

- One Assignment Worksolve class 11 & 12
- Write an essay on any political problem.
- Study the causes of political problem and write a report of the same.
- Write an essay, story, poem can be created to tell moral values to litigants.
- Prepare scrap book of political news.
- Write any two abstracts related to political issues.

#### References:

1. आर. सी. अग्रवाल, राजनीति शास्त्र के मूल आधार, एस. चॉद एण्ड कम्पनी, नई दिल्ली
2. ऐ. सी कपूर, राजनीतिक विज्ञान के मूल सिद्धान्त, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
3. कुबेर, डब्ल्यू. एन. भीमराव अम्बेडकर, सूचना और प्रसारण मंत्रालय, भारत सरकार
4. चौहान, लाल बहादुर सिंह (1998), हमारे राष्ट्र-रत्न, आत्माराम एण्ड संस, दिल्ली लखनऊ
5. जैन, पुखराज, राजनीति शास्त्र के मूल आधार, साहित्य भवन पब्लिकेशन, आगरा
6. बी. एल. फड़िया, राजनीति विज्ञान के मूल आधार, कॉलेज बुक हाऊस, जयपुर
7. मिश्रा, महेन्द्र (2008), नागरिक शास्त्र शिक्षण, यूनिवर्सिटी बुक हाऊस, जयपुर
8. राजस्थान पाठ्यपुस्तक मण्डल की कक्षा 11 व 12 की पुस्तकें
9. सफाया, शुक्ला, भाटिया (2006), शिक्षार्थी का विकास एवं शिक्षण अधिगम प्रक्रिया, धनपतराय पब्लिशिंग
10. सिंह, रामपाल (2004), शिक्षा एवं उदीयमान भारतीय समाज, विनोद पुस्तक मंदिर, आगरा
11. सिंह, योगेश कुमार (2010), नागरिक शास्त्र शिक्षण, एस. एन. नागिया प्रकाशन

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.6 Social Science	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand Social Science on the basis of political, social and economic conditions.
- ❖ To develop the idea of Society, Social group, Community Marriage.
- ❖ To acquire Knowledge of Indian Social Problems (Culture, Castiesm, Communalism, Poverty, Corruption)
- ❖ To evaluate the Indian Social Issue.

#### Course Contents:

##### Unit-1 Meaning and Concept of Sociology

- Development of Sociology
- The meaning of Sociology
- Subject matter of Sociology
- Sociology and Social Science

##### Unit -II Society

- Society - Meaning and Need

- b) Social group- Meaning and Types [Primary and Secondary]
- c) Community- Meaning, Characteristics Concept of community
- d) Marriage- Aims and Types of Hindu marriage

#### Unit -III Social Change in Indian Society

- a) Social change
- b) Family
- c) Cast and class- meaning and Changes in Caste and Class
- d) Regionalism

#### Unit -IV Indian Social Problems

- a) Culture-definition, Characteristics, Lack of Culture
- b) Communalism
- c) Poverty
- d) Corruption

#### Assignment & Practical Works: (Any Two)

- Write an article on current Social issue.
- Prepare Assignment Workany two subject topic.
- Prepare a case study of Any one local problem.

#### References:

1. Devi, Shakuntala (1999), Caste System in India, Pointer Publishers, Jaipur
2. Kooiman, Dick (1989), Conversion and Social Equality in India, Manohar Publication, New Delhi
3. Robinson, W. Peter (1996), Social Group and Identities, Butter worth-Heinemann Linacre House, Jorden Hill, Oxford.
4. Sharma, K. L. (1994), Social Stratification and Mobility, Rawat Publication, Jaipur
5. Sharma, K. L. (1995), Social One Quality in India.
6. Sharma, K. L. (1995), Caste and Class in India., Rawat Publication, Jaipur
7. Srinivas, M. N. (1998), Caste in Modern India, Printed in India, Bombay
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#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.7 Economics	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To help the students to acquire the basic understanding in the field of Economics.
- ❖ To enable the student teachers to understand the aims and objectives of teaching Economics at the secondary school stage.

- ❖ To develop the ability, to evaluate the present curriculum in Economics at the secondary level.
- ❖ To develop the ability to organize group activities and projects in the subject.
- ❖ To develop the ability to use of various methods of teaching Economics.
- ❖ To enable the student to acquire necessary skills for the use and preparation of teaching aids and instructional material in Economics.
- ❖ To develop in the students appropriate attitudes towards the country's Economy.
- ❖ To develop in the student an adequate sense of awareness about Economic issues of the country and an out-look of problem solving through analysis and application of the theory of Economics.
- ❖ To develop competence in framing objective based achievement and diagnostic test, their administration and their scoring and drawing conclusions there of. 10. To develop in the students an ability to conduct various surveys in Economics and organize field trips.
- ❖ To enable the student-teachers to prepare unit plan, lesson plan and related teaching learning strategies.
- ❖ To enable the student teachers to review the text book of Economics.

**Course Contents:**

**Unit- I Meaning and Concept of Micro and Macro Economics**

- a) Micro Economics
- b) Macro Economics
- c) Concept of National Income

**Unit- II Demand and Supply and Money**

- a) Basic concept of Demand and supply
- b) Consumer Equilibrium
- c) Definition of Money, Its Function
- d) Functions of Commercial Bank
- e) Functions of Central Bank

**Unit- III Indian, Foreign Trade and Economics Planning**

- a) Indian Foreign Trade - Direction and Trends
- b) Concept of Globalization, Privatization and Liberalization
- c) Economic Planning in India
- d) Poverty in India
- e) Unemployment in India

**Unit- IV Method and Evaluation in Economics**

- a) Programmed Instruction Methods
- b) Team Teaching
- c) Computer assisted Instruction (CAI)
- d) Lecture cum Demonstration Method
- e) Evaluation in Economics

**Assignment & Practical Works:**

- Preparation a Assignment Works Any one subject topic.
- Review of two published papers related to subject

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3. Rasure, K. A. (2009), Economics and Business Environment, Avinash Paper Backs, Delhi
4. Samuelson & Nordhaus (2006), Economics, Tata Mc Grow-Hill Publishing Company Ltd, New Delhi
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6. V. Shanmuga Sundaram (2011), The New Institutional Economics, Deep & Deep Publication Pvt. Ltd., New Delhi
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8. खण्डेला, मानचन्द (2007), भारतीय अर्थ व्यवस्था की चुनौतियाँ अरिहन्त पब्लि. हाऊस, जयपुर
9. जैन, टी. आर. त्रेहन मुकेश, त्रेहन, रंजू (2009-10), व्यावसायिक वातावरण, बी. के. इण्डिया इण्टरप्राइजेज, नई दिल्ली
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**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BED 411</b>	5. Additional Course (Any one) 5.8 Geography	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the modern concept of Geography.
- ❖ To understand the aims and objectives of teaching Geography.
- ❖ To prepare yearly plan, unit plan, lesson plan for different classes.
- ❖ To prepare maps and charts to illustrate the content of different classes and use them effectively.
- ❖ To critically evaluate the existing school syllabus and review the text book of Geography.
- ❖ To apply appropriate method and techniques of teaching to particular topics at different levels.
- ❖ To arrange field trips and local surveys.
- ❖ To prepare achievement test and diagnostic test, administration of the test, analysis of results, make suggestion for remedial teaching.

**Course Contents:****Unit- I Motion of the Earth**

- a) Latitudes, Longitudes
- b) Interior of the Earth
- c) Origin of continents and oceans, sudden movements
- d) Atmosphere, Composition, Insulation, Pressure belts, winds
- e) Ocean Currents and Tides

**Unit- II Indian Geography**

- a) Physical features

- b) Climate
- c) Natural vegetation
- d) Drainage
- e) Agriculture

#### Unit-III Rajasthan Geography

- a) Physical features
- b) Climate
- c) Natural vegetation
- d) Drainage
- e) Agriculture

#### Unit- IV Practical Work in Geography

- a) Definition, Scope and Development of Cartography
- b) Technique, Materials, Tools of Map Making
- c) Map
- d) Scale
- e) Representation of Statistical Data

#### Assignment & Practical Works:

- Assignment Work any two topic subject related
- Any two map making

#### References:

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2. Bradshaw, M.J. Abbott., A.J. and Gelstrophe, A.P. "The Earth" Shnanging Surface.
3. Cotter, C.H., The Physical Geography of the Oceans.
4. Easter book, D.J., Principles of Geomorphology.
5. Savindra Singh, Physical Geography English, Pragma Pustak Bhawan, Allahabad.
6. उपाध्याय, डी. पी., सिंह समाश्रय, जलवायु, विज्ञान और समुद्र विज्ञान, वसुन्धरा प्रकाशन, गोरखपुर
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10. शर्मा, जे.पी. (2014), प्रयोगात्मक भूगोल की रूपरेखा, रस्तोगी पब्लिकेशनन्स, मेरठ
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12. सिंह सविन्द्र, पर्यावरण भूगोल, प्रयाग पुस्तक भवन, इलाहाबाद
13. सिंह, जगदीश, सिंह कामेश्वर नाथ, पटेल, रामबस (1989), भारत एवं समीपवर्ती देश, ज्ञानोदय प्रकाशन, गोरखपुर

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.9 Home Science	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the students-teacher will able:

- ❖ To understand the Concept, Nature and scope of Home Science.

- ❖ To explore different ways of creating learning situations for different concepts of Home Science.
- ❖ To facilitate the development of scientific attitude in learner.
- ❖ To provide the knowledge related to Home management, Budgeting, Textile and Fashion as well as common health problems etc.
- ❖ To ensure the application of knowledge to resolve nutritional, health and resources related problems through Home Science
- ❖ To stimulate curiosity, skills and creativity in Home Science.

#### **Course Contents:**

##### **Unit- I Development and Childhood Care**

- a) Home Science Education : Meaning, Definition & Scope, History and Objectives
- b) Concept of Human Development & Growth
- c) Life span stages and Types of Development
- d) Reproductive health and Child Care

##### **Unit- II Nutrients and Dietary Management**

- a) Food : Definition, functions and classification
- b) Nutrients and their composition, sources and functions
- c) Balanced diet with nutrition for pregnancy and different stages of development
- d) Methods of cooking for healthy food
- e) Dietary management during different diseases

##### **Unit- III Resource Management and Clothing**

- a) Resource Management, Budgeting, Saving and Investment in family
- b) Fibers - types and properties, Yarn construction, Marketing, Principles of clothing construction
- c) Preparation of fabrics Cutting-Layout, Pinning, Marking and Cutting
- d) Fashion Terminology and Fashion cycle

##### **Unit- IV Housing and Women**

- a) House planning and furnishing
- b) Financial and legal consideration for housing
- c) Consumer Aids and consumer protection
- d) Women Empowerment : Guidance and Counseling ; Welfare Organizations

#### **Assignment & Practical Works: (Any Two)**

- Data collection for various problems in local community like as nutritional, health issues, consumer awareness and Women Empowerment etc
- Prepare and implement a project related to various community problems
- Plan and organize an exhibition related to Handicrafts, latest fashionable costumes
- Make and demonstrate dye samples/block printing samples/knitting and embroidery
- Prepare and perform a drama (group) related to local issues and awareness

#### **References:**

1. Choudhary, M. & Mogra R. (1999), A Manual on Human Nutrition, Department of Food and Nutrition, College of Home Science, Udaipur
2. Deulkar, D. & Tara Bai (1967), Household Textiles and Laundry work, Atma Ram & Son's, Delhi
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10. सिरौही, सरिता (1997), आधुनिक गृह विज्ञान भाग – 2, कक्षा 12वीं, फ्रैंकी पब्लिशिंग हाउस, नई दिल्ली

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.10 Chemistry	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of Chemistry for secondary and senior secondary level.
- ❖ To improve the various skills of student teachers in practical work.
- ❖ To understand the practical and theoretical description of various content.
- ❖ To solve different problems related with the content of chemistry.
- ❖ To know importance and use of course content.
- ❖ To plan, equip and organize chemistry practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and class room situations.
- ❖ To develop scientific attitude and provide training in scientific method to their students.

**Course Contents:**

#### Unit- I Chemical Properties

- a) Chemical Equation
- b) Chemical Equilibrium
- c) Types of Chemical Reactions
- d) Acid and Base
- e) Chemical Change

#### Unit- II Metal and Non Metals

- a) Metal
- b) Nonmetal
- c) Chemical Properties of Metal
- d) Hydrogen
- e) Water

#### Unit- III Carbon

- a) Bonding in Carbon
- b) Saturated and Unsaturated Carbon Compound
- c) Nomenclature of Carbonic Compound
- d) Chemical Properties of Carbon Compound
- e) Coal and Petroleum

#### Unit- IV Periodic Table

- Periodic Table and Atoms
- Atoms and Molecules
- Atomic Mass and Mole Concept
- Atomic Models
- Isotopes and Isobars

#### Assignment & Practical Works: (Any Two)

- Preparation of a term paper based on any above topic.
- Solve an examination question paper.
- Make a presentation based on any above topic.
- Conducting and reporting three experiments useful at secondary level.

#### Suggested Readings:

1. रसायन विज्ञान, (2014) भाग-1, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
2. रसायन विज्ञान, (2014) भाग-2, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
3. रसायन विज्ञान, (2014) भाग-1, कक्षा 12 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
4. रसायन विज्ञान, (2014) भाग-1, कक्षा 12 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
5. विज्ञान, (2014) कक्षा 8 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
6. विज्ञान, (2014) कक्षा 9 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
7. विज्ञान, (2014) कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
8. अग्रवाल वी. पी., सिडाना के., पारीक के., (2007), विज्ञान शिक्षण, शिक्षा के प्रकाशन, जयपुर
9. कुलश्रेष्ठ पी. के. (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
10. नेगी जे. एस., नेगी आर, (2000), रसायन विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
11. रावत डी. एस. (2009), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
12. शर्मा एस. आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
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14. श्रीमाली एन. के., भूषण ए., रिहानी आई, (2007), विज्ञान शिक्षण, राजस्थान ग्रन्थ अकादमी, जयपुर

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.11 Physics	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of physics for secondary and senior secondary level.
- ❖ To improve the various skills of student teachers in practical work.
- ❖ To understand the practical and theoretical description of various content.
- ❖ To able for solving different problems related with the content of physics.



- ❖ To make student teachers to know importance and use of course content.
- ❖ To plan, equip and organize physics practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and class room situation.
- ❖ To develop scientific attitude and provide training in scientific method to their students.

### Course Contents:

#### Unit- I Electric field

- a) Electric charge
- b) Conductor and non conductor
- c) Charge through induction
- d) Characteristics of electric charge
- e) Coulomb's law

#### Unit- II Optics

- a) Mirror reflection, refraction
- b) Spherical mirror
- c) Total internal reflection
- d) Lens
- e) Power of lens

#### Unit- III Characteristics of matter

- a) Elasticity of solids
- b) Stress
- c) Pressure
- d) Viscosity
- e) Surface energy and surface tension

#### Unit- IV Gravitation and Energy

- a) Gravitation
- b) Work
- c) Energy
- d) Power
- e) Sound

#### Assignment & Practical Works: (Any Two)

- Preparation of a term paper based on any above topic.
- Solve an examination question paper.
- Make a presentation based on any above topic.
- Conducting and reporting three experiments based on above topics.

#### Suggested Readings:

1. भौतिकी, (2014) भाग 1, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
2. भौतिकी, (2014) भाग 2, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
3. भौतिकी, (2014) भाग 1, कक्षा 12 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
4. भौतिकी, (2014) भाग 2, कक्षा 12 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
5. विज्ञान, (2014) कक्षा 8 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
6. विज्ञान, (2014) कक्षा 9 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
7. विज्ञान, (2014) कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर

### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.12 Mathematics	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of Mathematics for Secondary and Senior Secondary level.
- ❖ To know different methods for solve mathematical problems.
- ❖ To understand the mathematics formulas and use them appropriately.
- ❖ To make student teachers speed and accuracy for solving different mathematical questions.
- ❖ To encourage student teachers in the development of mathematical interest.
- ❖ To solve various types of mathematical problems
- ❖ To develop mathematical attitude and provide training in preparing various teaching aids in mathematics.

**Course Contents:**

**Unit- I Number System**

- a) Irrational numbers
- b) Real numbers and their decimal expansions
- c) Operation on real numbers
- d) Laws of exponents for real number
- e) Fundamental theorem of arithmetic

**Unit- II Plane Geometry**

- a) Angles and lines at a point
- b) Angles made by a transversal with two lines
- c) Classification of triangles on the basis of sides and angles
- d) Square, Rectangle and Circle
- e) Congruence of triangles

**Unit- III Algebra**

- a) Linear equations (in two variables )
- b) Polynomials in one variable
- c) Zeros of a polynomial
- d) Factorization of polynomial
- e) Quadratic equation

**Unit- IV Trigonometry**

- a) Introduction
- b) Trigonometric ratio
- c) Trigonometric ratio of various angles
- d) Surface area
- e) Statistics –mean, mode , median

### Assignment & Practical Works: (Any Two)

- Preparation of a term paper based on any above topic
- Solve an examination question paper
- Make a presentation based on any above topic.

### Suggested Readings:

1. गणित, (2014), कक्षा 7 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
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4. गणित, (2014), कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
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6. गणित, (2014), कक्षा 12 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
7. जैन, एस. एल. (2007), गणित शिक्षण, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
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10. सिंह एस. (2005), गणित शिक्षण, विनोद पुस्तक मंदिर, आगरा

### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.13 General Science	Any one CE	4	30	70	100

### BSE 710 : 5.4. General Science

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of General Science for secondary and Senior Secondary level
- ❖ To improve various skills of student teachers in practical work
- ❖ To understand the practical and theoretical description of various content
- ❖ To solve different problems related with the content of science
- ❖ To make student teachers to know importance and use of course content
- ❖ To plan, equip and organize physics practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and class room situation.
- ❖ To develop scientific attitude and provide training in scientific method to their students.

### Course Contents:

#### Unit- I Matter in Our Surroundings

- a) Matter
- b) States of matter
- c) Change in state of matter
- d) Mixture and solution
- e) Physical and chemical changes

### Unit- II Atoms and Molecules

- Laws of chemical combination
- Molecule
- Atom
- Chemical formula
- Mole concept

### Unit- III Motion

- Displacement
- Velocity
- Acceleration
- Force
- Laws of motion

### Unit- IV Atomic Structure

- Atomic structure
- Chemical bonding (Ionic bond and covalent bond)
- IUPAC nomenclature
- Periodic table
- Acid - base concept

### Assignment & Practical Works: (Any Two)

- Preparations of term paper based on any above topic
- Solve an examination question paper
- Make a presentation based on any above topic
- Conducting and reporting three experiments based on above topics.

### Suggested Readings:

1. भौतिकी, (2014) भाग 1, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
2. भौतिकी, (2014) भाग 2, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
3. रसायन विज्ञान, (2014) भाग-1, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
4. रसायन विज्ञान, (2014) भाग-2, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
5. विज्ञान, (2014) कक्षा 8 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
6. विज्ञान, (2014) कक्षा 9 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
7. विज्ञान, (2014) कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
8. अग्रवाल वी. पी., सिडाना के., पारीक के., (2007), विज्ञान शिक्षण, शिक्षा के प्रकाशन, जयपुर
9. कुलश्रेष्ठ पी. के. (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
10. रावत डी. एस. (2009), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
11. शर्मा एस. आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
12. सूद जे. के. (2007), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा

## Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.14 Biology	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the various concepts related to Biology.
- ❖ To facilitate the development of Scientific Temper in learner.
- ❖ To provide critical and analytical knowledge to student teacher.
- ❖ To enhance creativity, skillfulness and teaching abilities among trainees to teach the school level students.
- ❖ To develop the skills related to problem solving, critical analysis and awareness to solve various health problems of community.
- ❖ To stimulate curiosity, application of knowledge and constructive thinking among the student teacher for whole biosphere.

**Course Contents:**

### Unit- I Growth and Development

- a) Cell structure and cell cycle (Mitosis, Meiosis).
- b) Tissues : Types and functions, Internal structure of Monocot and Dicot root, Secondary Growth process, Tissue culture
- c) Taxonomy of plants, Structure of flower, Floral formula & Floral diagram.
- d) Photosynthesis: Pigment, Light & Dark reaction, C3 and C4 cycle, Calvin cycle & affecting factors, Crassulacean acid Metabolism

### Unit- II Reproduction and Genetics

- a) Reproduction : Types, System, Procedure and Reproductive health issues in animals
- b) Genetics and Evolution: Molecular basis, Mendelism, Gene cloning, Gene transfer
- c) Embryology - Stages and Growth, Organogenesis and Test tube baby
- d) Biotechnology : Recombinant DNA technology, Gene mapping

### Unit- III Physiology and Regulation

- a) Respiration : Types, System and process in animals, Glycolysis, Kerb cycle, Oxidative phosphorylation and Fermentation
- b) Human physiology : Various system, Related process (Digestion, Circulation, Excretion)
- c) Regulation in Animals : Nervous system, Endocrine system

### Unit- IV Biodiversity and New Trends

- a) Neo Darwinism, Palentogical & Morphological evidences, Hardy-winberg law.
- b) Biodiversity and Ecology : Types of pollution, Global Warming, Alnino effect, Ecological Pyramids, Bio-geo-chemical cycles
- c) Community and Diseases : Malaria, AIDS, Polio, Cancer, malnutrition etc
- d) New Trends and contribution of Eminent Indian Scientist in Biology

### Assignment & Practical Works: (Any Two)

- Preparation of planning with concept mapping and teaching learning process belongs to five topics in any above unit
- Solve an examination question paper
- Make a power point presentation based on any above topic in units
- Prepare a report related to diseases in local area and organize a awareness campaign in school

### Suggested Readings:

1. Gregaire, L., Gallagher, P. (1992), Life Science, SMD Educational, Publishers, Leiden, The Netherlands.
2. Nair, P. K. G., Hegde, M. J., Prabhu, S. G. (1998), A Text book of Biology (Vol.2), Himalaya Publishing House, Mumbai
3. Naumov, D. (1987), Zoology, Mir Publishers, Moscow
4. Rajendra, K., D' Silva Precilla., Derrandes, Anita (2004), Biology, Boscus Publications, Mangalore
5. Scott, Peter Physiology and Behaviour of Plants, John Wiley & Son's Ltd. West Sussex, England.
6. "जीव विज्ञान" पाठ्य पुस्तकें कक्षा 11 एवं 12 : राष्ट्रीय शैक्षिक एवं अनुसंधान परिषद्, नई दिल्ली
7. शुक्ल, बी. आर. के. व रस्तोगी, सुधा (1994), मानव उद्विकास, सुलभ प्रकाशन, लखनऊ

### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.15 Commercial Practice	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To help the students to acquire the basic understanding in the field of commerce education.
- ❖ To develop the ability to sensitize and equip student teachers to handle issues related to business organization and concerns in responsible manner.
- ❖ To impart knowledge about the methods and devices of teaching.
- ❖ To develop the ability to plan curriculum and instructions in commerce at school level.
- ❖ To develop commercial efficiency among students.

### Course Contents:

#### Unit- I Business Organization

- a) Nature and aims of Business organization.
- b) Forms of business organization, public private and global.
- c) Business service and emerging modes of business.
- d) Social and economic issues and concerns of the present day Indian society.
- e) Business organization, finance and types of business.

#### Unit- II Nature of Management

- a) Meaning and nature of management
- b) Level of management

- c) Co-ordination
- d) Principle of management

**Unit- III Environment of Business Organization**

- a) Meaning and importance of environment of business organization.
- b) Planning-meaning, importance and process
- c) Organization-concept, importance and types
- d) Staffing, need, process, Resource

**Unit- IV Direction**

- a) Concept and importance of direction
- b) Supervision
- c) Motivation
- d) Leadership
- e) Communication
- f) Control

**Assignment & Practical Works:**

- Content related to subject topic.
- Analysis two or article from news paper, T.V., Radio or Journal related business organization and management.

**References:**

1. Marvin Philip (971), *Multiplying Management Effectiveness* American Management Association, U.S.A.
2. Nolakha, Dr. R.L. (2011), *Principles of Management*, Ramesh Book Depot. Jaipur
3. Prasad, L.M. (2005), *Principles and Practice of Management*, Sultan Chand & Sons, New Delhi
4. Tripathi, P.C. (2005)] *Personal Management and Industrial Relation*, Sultan Chand & Sons, New Delhi
5. अग्रवाल, अग्रवाल, कोठारी (2006-07), *वित्तीय प्रबन्धन*, रमेश बुक डिपो, जयपुर
6. अग्रवाल, विजय, सुरोलिया (2001-02), *व्यावसायिक बजटन*, रमेश बुक डिपो, जयपुर
7. एन.सी.ए.आई.बी., *वित्तीय प्रबन्धन*, इंडियन इंस्टीट्यूट ऑफ बैंकिंग एण्ड फाइनेन्स, नई दिल्ली
8. ओझा, डोसी, जैन, मेहता (2002), *वित्तीय प्रबंधन*, अजमेरा बुक कम्पनी, जयपुर
9. शर्मा, एन.एन., शर्मा, आर.के, गुप्ता शशी के. (2006), *वित्तीय प्रबन्धन*, कल्याणी पब्लिशर्स, लुधियाना
10. साध्वी, मोहन कुमारी, साध्वी प्रेमलता (2004) *व्यवसाय प्रबन्धन के सूत्र और आचार्य भिक्षु की मर्यादाएं*, आदर्श साहित्य संघ प्रकाशन, चुरू

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BED 411	5. Additional Course (Any one) 5.16 Book-keeping	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To acquire the basic understand of teaching of Book-keeping and Accountancy.
- ❖ To develop the ability to plan curriculum and instruction in Book-keeping and Accountancy.
- ❖ To develop the ability to critically evaluate the existing school curriculum of Book-keeping.
- ❖ To impart knowledge of the methods and devices of teaching Book-keeping and to develop the skill of using the same.
- ❖ To apply appropriate methods and devices of teaching Particular topics for Book-keeping.
- ❖ To prepare achievement and diagnostic Tests.
- ❖ To develop necessary skill in preparation of using various teaching aids.

**Course Contents:**

**Unit- I Meaning and concept of Book-keeping and Accountancy**

- a) Meaning and Theory Base of Book-keeping and Accountancy
- b) Recording of Business Transactions
- c) Bank Reconciliation statement: need and Preparation
- d) Trial balance and Rectification of Errors
- e) Depreciation, Provision and Reserves
- f) Bill of Exchange.

**Unit- II Company Accounts**

- a) Meaning, characteristics, classification of company
- b) Capital structure of a company
- c) Disclosure of share capital in company's balance sheet
- d) Issue of shares, process of issue of shares
- e) Debenture-issue and redemption

**Unit- III Financial Statements of a Company**

- a) Meaning, nature, objectives and type of financial statements
- b) Characteristics, importance, and format of balance sheet
- c) Analysis of financial statements
- d) Accounting ratios
- e) Cash flow statement

**Unit- IV Accounting for Partnership**

- a) Meaning and basic concepts
- b) Reconstitution of partnership-Admission of partner
- c) Reconstitution of partnership-Death and retirement of partner
- d) Dissolution of partnership firm

**Assignment & Practical Works:**

- Content related to subject topic.
- Analysis news items from news Paper, T. V, Radio etc to write a report on Accountancy / banking related issues and concern of the present day Indian Society.

**References:**

1. Jain, Khandelwal, Pareek (2009), Book-keeping and Accountancy, Ajmera Book Company, Jaipur
2. Jain, S.P. Narang L.K. (2005), Cost Accountancy, Kalyani Publishers, New Delhi



3. Maheshwari, S. N., Maheshwari S. K. (2008), Problem and Solution in Advanced Accountancy, Vikas Publishing House Private Limited Noida, U.P.
4. Maheshwari, S. N., Maheshwari S. K. (2008), Problem and Solution in Advanced Accountancy Vol. II, Vikas Publishing House Private Limited Noida, U.P.
5. Shukla, M.C. Grewal, T.S. Gupta S.C. (2000) Advanced Accountancy, Vol. I, S. Chand & Company, New Delhi
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7. जैन, खण्डेलवाल, पारीक, शर्मा, बहीखाता एवं लेखाशास्त्र, अजमेरा बुक कम्पनी, जयपुर
8. जैन, खण्डेलवाल, पारीक, लागत लेखांकन, अजमेरा बुक कम्पनी, जयपुर
9. जैन, खण्डेलवाल, पारीक, दवे (2009), वित्तीय लेखांकन एवं निर्णयन, अजमेरा बुक कम्पनी, जयपुर
10. वर्मा, जी.डी. गुप्ता, शशी के, गुप्ता आर. के (2005), प्रबन्धकीय लेखांकन, कल्याणी पब्लिशर्स, लुधियाना
11. शर्मा, जांगीड़, अग्रवाल, माथुर, सुथार, सक्सैना, गुजराल (2011-12), वित्तीय लेखांकन, आर.बी.डी. पब्लिकेशन, जयपुर
12. शुक्ला, एम.सी. ग्रेवाल, टी. एस., गुप्ता एम.पी., अग्रवाल बी. एम., एडवांस एकाउण्टेन्स, एस. चन्द एण्ड कम्पनी लि. नई दिल्ली

# SYLLABUS

## DEPARTMENT OF EDUCATION

**Master of Education (M.Ed.)**

Two Year Regular Programme



*'A' Grade by NAAC & 'A' Category by MHRD*

**JAIN VISHVA BHARATI INSTITUTE**

(Deemed to be University under section 3 of UGC Act, 1956)

**Ladnun-341306 (Raj.)**

2017

Price : Rs. 50/-

# **Master of Education (M.Ed.)**

## **Two Years Regular Programme**

Jain Vishva Bharati Institute has launched a Bachelor of Education programme recognized by NCTE. The first session started from July 2005. The programme places specific emphasis on meditation as a tool to enhance learning skills and I.Q. This programme is also the first national teachers training programme to offer study in Education for Sustainable Development. Innovative syllabus and enthusiastic faculty work towards not only training the teachers but also assisting them with campus recruitment. Jain Vishva Bharati Institute is looking forward to train a new class of future generation teachers.

### **1. Introduction :**

Enlightened, emancipated and empowered teachers lead communities and nation towards better and higher quality of life. Teachers are expected to create social cohesion, national integration and learning society. They disseminate knowledge and also generate new knowledge therefore, it becomes essential for any nation to give necessary professional inputs to its teachers. Jain Vishva Bharti Institute pursues the curriculum for its pre-service teacher training programme for women candidates who are far behind but can lead the whole nation. This will be a special programme focussed with a strong foundation in Science of Living. The candidates are encouraged to flourish an environment that promotes value and technology based society.

The purpose of M.Ed. is to prepare learners for higher level functions in education including teacher education who would develop understanding of all contemporary concerns of education like : curriculum planning and development, educational planning and management, research in education, evaluation, guidance, educational technology, science of living, yoga and preksha meditation, ICT, Inclusive Education and Gender Education.

### **Duration:**

The M.Ed. programme is full time two years programme.

### **Eligibility:**

A candidate who has passed B.Ed. degree from any recognized university and qualified PMET conducted by the Rajasthan Government for that year as per guideline of State Government.

### **Objectives:**

- ❖ To develop professionalism in teacher Education Programme.
- ❖ To motivate creative thinking and work among teacher trainees.
- ❖ To foster moral, social character and spiritual values of trainees.
- ❖ To develop Inter-relationship among Department, School and Society.
- ❖ To develop cognitive, Affective and Psycho-motor domain of the teacher trainees
- ❖ To promote for future Prospective, Employability and Skill based Teacher Training
- ❖ To develop Self Evaluation, Positive Attitude and self confidence
- ❖ To apply educational innovation and new strategies of the Teacher Education and trainees.

### **1. Title and Commencement**

These regulations shall be called the Jain Vishva Bharati Institute (Deemed-to-be) University, Ladnun Regulations for Choice Based Credit System (CBCS) and Continuous Assessment Grading Pattern (CAGP) for Post-Graduate and Under-Graduate Programmes. These regulations were adopted from academic year 2015-2016.

## 2. Definitions

2.1 "Programme" is used for a fixed educational programme in place of Degree. A Post-Graduate Programme shall be of four semester's duration and a normal under-graduate programme shall be of four semester's period.

2.2 "An Academic Year" consists of two semester's. Each semester consists of different papers of four units. Each unit will have 6 weeks for academic work.

2.3 "Course" is a component of programme i.e. in CBCS, papers will be referred to as courses. Each course is identified by a unique course code. Every course may not be of equal weightage. Each course, in addition of having a curriculum will have learning objectives and learning outcome. A Course may be designed to involve Lectures/Tutorials/Laboratory Work/Field Work/Project Work/Vocational Training/Viva-voce etc or combination of some of these.

Every course offered will have three components associated with the teaching learning process of the Course. Namely (I) Lecture - L (II) Tutorial-T (III) Practical's -P. Where L- Stands for Lecture session.

T- Stands for Tutorial session consisting of participatory discussion/self study/desk work/brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in Lecture classes.

P- Stands for practice session and it consists of hands on experience/laboratory experiments/field experiments/case studies that equip students to acquire much required skill component.

In terms of credit, every one hour session of L (per week) amounts to 1 credit per semester and minimum of two hour session of T or P (per week) amounts to 1 credit per unit over a period of one course of 24 weeks for teaching-learning process (inclusive of teaching and examination).

A course shall have one, two or all three components. That means a course may have only lecture component or only practical component or combination of any two or all the three components.

The total credit earned by a student at the end of the semester upon successfully completing the course is L+T+P. The credit pattern of the course is indicated as L:T:P

### Different categories of courses are as follows:

- **Core Course**

A Course which should compulsorily be studied by candidate as a core requirement is termed as core course.

(a) Core-Compulsory is a course which has to be studied compulsorily as a part of core requirement so as to get degree in concerned discipline.

(b) Core Elective or Core allied is a course that supports / strengthens the core compulsory.

- **Elective Course**

It is a course which can be chosen from pool of courses. The course may be specific / specialized / supportive or advanced to the discipline of study.

(a) Generic Elective Course add generic proficiency to the students and they are for the said discipline of study

(b) Open Elective courses are from the pool of courses that are interdisciplinary and or multidisciplinary.

- **Foundation Course**

It is a course that aims to improve proficiency and skill of the student.

(a) Compulsory Foundation Course and generic proficiency to the students belonging to all disciplines of study.

(b) Elective Foundation Courses are value based and aimed at man making education.

2.4 A module means a course having independent entity.

2.5 'Unit' means a course having independent part in a course.

2.6 "Credit" means the unit by which the course work is measured. It defines the quantum of contents/syllabus prescribed for the course. It also determines the number of hours of instructions required per week. In these regulations one credit means one hour of direct teaching work or two hours of practical work/field work per week for 20 weeks in a semester.

2.7 "Grade Letter" is an index to indicate the performance of student in a particular course. It is arrived at by transformation of actual marks secured by a student in a said course. Grade letters are O,A,B,C,D,E,F.

2.8 "Grade Point" is the weight age allotted to each grade letter depending on the range of marks awarded in a course.

2.9 "Credit Points" refers to the product of "Number of credit assigned to the course" and the grade point secured for the same course.

2.10 "Semester Grade Point Average" (SGPA) is an index of a student's performance in a given semester. It is the ratio of the "Total credit points earned by students in all courses at the semester" and the "Total number of credit assigned to the courses" in the semester.

2.11 "Cumulative Grade Point Average" (CGPA) refers to the cumulative grade point average of SGPA and is computed based on the following formula.

$$\text{CGPA} = \frac{\text{Sum of all Credit Points of Entire Programme}}{\text{Sum of Credits up to the end of Programme.}}$$

### 3. Credit Framework for Normal Post Graduate Level Course

3.1 The normal Post Graduate Programme have 20 credits per each course and per semester making total credits for whole programme as 88. The distribution of credits or weightage of core, elective and Foundation courses may be as follows:

Distribution of Credits for Semester is as follows:				
Semester	I	II	III	IV
Credits	22	22	22	22

### 4. Credit and Teaching Hours.

1 Credit = 1 hour Teaching

1 Credit = 2 hour of Practical / Fieldwork

4 Credit Course needs four hour Student Teacher contact in a week.

5. **Units and Course** : A theory course shall have Four units.

## 6. Credits and Marks

1 Credit = 25 marks

## 7. Grading

Grade Points	Description	% of Marks	Division	Grade
10	Outstanding	90% - 99%	First	O
9	Excellent	80% - 89%	First	A
8	Very Good	70% - 79%	First	B
7	Good	60% - 69%	First	C
6	Fair	50% - 59%	Second	D
5	Average	36% - 49%	Pass	E
4	Dropped	Below 36%	Fail	F

## 8. Performance Evaluation (Calculation)

**SGPA = ECG/EC for a Semester**

G is grade and C is Credit of Course.

Cummulative Grade Point Average (CGPA) for entire course

**CGPA = ECG/EC for all semester taken together.**

The total credits cover the core, elective, field work or extension activities, soft skills etc.

GPA is calculated at the end of each term after grades have been processed and after any grade has been updated or changed.

Some criteria are to be followed for individual assignment / Quizzes/Test/Unit Test/ Tutorials/ Practical/ Projects/ Seminar.

The teacher should convert his/her marking in to the quality points and letter grade.

### Scheme of Examination

- Hindi/English shall be medium of instruction of examination.
- Total internal examination will be conducted. In case of practical/field work/dissertation external expert for viva-voce may be called.
- There will be four units in each course.
  - a. Each course will have four units of 15 marks each.
  - b. CIA will be of 20 marks for each course
  - c. There will be a term paper of 20 marks for each course.
  - d. Practical/field work evaluation will be conducted at semester end. This consists of 20% marks of CIA and 80% marks for viva-voce/demonstration/file work/field report/field work.
- Distribution of Marks-
  - A. Unit End Test - 60 Marks
  - B. Term paper - 20 Marks
  - C. Continuous Internal Assessment - 20 Marks

### A. Unit End Test-

After completion of 2 units the subject teacher will conduct an exam from those units. Maximum marks for each unit test will be 15 and the unit paper will be of 30 marks. Time given for the examination will be 2 hours.

#### Paper

Type of Questions	Number of Questions	Marks of Each Question	Maximum Marks
Objective type questions	10	01 mark for each question	10
Short answer type questions	4	2.5 marks for each question	10
Essay type questions	2	5 marks	10
Total Marks			30
Total sum			30X2 unit test = 60

### B. TermB. Term Paper

The term paper includes project work or field report or other type of report or interview or any other type of practical work. The topic for this must receive the approval of faculty member under whom the student work before submission. For this candidate will write a detail report in proper format (for UG more than 3000 words and for PG more than 5000 words). This paper is formal and must be typed or hand written. According to the style of choice, the student is advised to include footnotes or endnotes with essential Suggested Reading and bibliography.

Plagiarism: The deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the students own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet source, is guilty of plagiarism.

### C. Continuous Internal Assessment-

The CIA comprises of attendance, participation in co-curriculum activities and group discussion etc. The marks distribution will be as follows-

- |  |            |
|--|------------|
| (1) Attendance   | - 5 marks  |
| (2) Participation in co-curriculum activities, Prayer, Behaviour of candidate, etc.) | - 5 marks  |
| (3) Group discussion/Presentation/desk work  | - 10 marks |

- For PG students to pass a semester, a student has to secure a minimum of 40% marks in aggregate and minimum of 36% marks in individual theory papers. A student has to pass in written examination.

**Master of Education (M. Ed.)**  
**Semester I**  
**Distribution of Papers, Marks and Credit**

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 101	Psychology of Learning and Development	CC	4	20	60	20	100
MED 102	History and Political Economy	CC	4	20	60	20	100
MED 103	Education Studies	CC	4	20	60	20	100
MED 104	Introduction to Research Method	CC	4	20	60	20	100
MED 105	Communication and Expository Writing & Self Development (ISB)	CC	2	50 Practical & Viva-Voce			50
JVB 101	Introduction to Jainism	FC	4	20	60	20	100
<b>Total</b>			<b>22</b>	<b>100</b>	<b>350</b>	<b>100</b>	<b>550</b>

**Semester II**

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 201	Philosophy of Education	CC	4	20	60	20	100
MED 202	Sociology of Education	CC	4	20	60	20	100
MED 203	Teacher Education - I	CC	4	20	60	20	100
MED 204	Dissertation (ISB)	CC	2	50 Practical & Viva-Voce			50
MED 205	Internship in T E I	CC	4	Internship 100			100
JVB 201	Value Education and Spirituality	FC Any one	4	20	60	20	100
JVB 202	Informational Technology and Computer Application						
JVB 203	Preksha Meditation and Self Management						
JVB 204	The Use of English						
JVB 205	Non-Violence and Peace						
JVB 206	Social Work :Themes & Practice						
JVB 207	Introduction to Prakrit						
<b>Total</b>			<b>22</b>	<b>80</b>	<b>390</b>	<b>80</b>	<b>550</b>



### Semester III

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 301	Research Methods and Advanced Statistics	CC	4	20	60	20	100
MED 302	Curriculum Studies	CC	4	20	60	20	100
MED 303	Dissertation (ISB)	CC	2	50 Practical & Viva-Voce			50
MED 304	Internship	CC	4	100 Internship			100
MED 305	<b>Specialization on course I</b> <b>Area A</b> Elementary Education - I	(Any one) CE	4	20	60	20	100
MED 306	<b>Area B</b> Secondary & Senior Secondary Education - I						
MED 307	<b>Specialization on course II</b> <b>Area A</b> Elementary Education - II	(Any one) CE	4	20	60	20	100
MED 308	<b>Area B</b> Secondary & Senior Secondary Education -II						
		Total	22	80	390	80	550

**Semester IV**

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 401	Teacher Education - II	CC	4	20	60	20	100
MED 402	Academic Writing (ISB)	CC	2	50 Practical & Viva-Voce			50
MED 403	Dissertation	CC	4	100 (Dissertation-60+Viva-Voce-40)			100
MED 404	<b>Specialization on courses - I</b> <b>Area (a) : Educational Administration and Managements</b> Principles of Educational Administration and Management	Choose any one area which will comprise of three papers	4	20	60	20	100
MED 405	<b>Area (b) Educational Technology</b> Principles of Educational Technology	CE					
MED 406	<b>Area (c) Measurement and Evaluation</b> Principles of Measurement and Evaluation						
MED 407	<b>Specialization on courses - II</b> <b>Area (a) : Educational Administration and Managements</b> Educational Administration and Management Practice	Choose any one area which will comprise of three papers	4	20	60	20	100
MED 408	<b>Area (b) Education Technology</b> Innovative Methods and Techniques in Educational Technology	CE					
MED 409	<b>Area (c) Measurement and Evaluation</b> Tools and Techniques of Evaluation in Education						
MED 410	<b>Specialization on courses - III</b> <b>Area (a) : Educational Administration and Management</b> Modern Trends in Educational Administration and Management	Choose any one area which will comprise of three papers	4	20	60	20	100
MED 411	<b>Area (b) Education Technology</b> Educational Technology and Computer Application	CE					
MED 412	<b>Area (c) Measurement and evaluation</b> New Trends in Educational Assessment and Statistics						
<b>Total</b>			<b>22</b>	<b>80</b>	<b>390</b>	<b>80</b>	<b>550</b>

**Note:**

- I S B (Inter Semester Break),
- C I A (Continuous Internal Assessment),
- C C (Core Compulsory)
- C E (Core Elective)

## Semester - I

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 101	Psychology of Learning and Development	CC	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To understand concept and process of Educational Psychology.
- ❖ To understand relationship between Education and Psychology.
- ❖ To understand the teaching learning process, cognitive process and intelligence.
- ❖ To understand and assess personality, learning and classroom implications and management.
- ❖ To acquaint the learner with the process and assessment of creativity, adjustment and mental problems.

**Course Contents:**

### Unit -I Educational Psychology and Development of Learning

- a) Educational Psychology : Concept, Nature, characteristics and methods
- b) Process of Growth and Development : Physical, Intellectual, Emotional and Social
- c) Development of Concept formation, Logical Reasoning, Problem solving and creative thinking, Language development
- d) Individual differences – determinants, role of heredity and environment, Implications of Individual differences for organizing educational programmes

### Unit -II Learning

- a) Concept, factors and theories of Learning : E.L. Thorndike, Pavlov, B.F. Skinner, Kohler
- b) Constructivism & Learning
- c) Cognition and Learning : Tolman, Hull, Lewin
- d) Transfer of Learning and its theories

### Unit -III Intelligence, Creativity and Motivation

- a) Concept, theories, types and assessment of Intelligence
- b) Concept, components to fostering creativity and creative thinking
- c) Motivation: Concept and theories
- d) Cognitive Development : Piaget, Bruner, Gagne, Ausubel
- e) Psychology for Gifted and Slow Learners

### Unit -IV Personality, Adjustment and Mental Problems

- a) Personality-Type and Trait theories & its measurement
- b) Mental Health and hygiene-process of adjustment, conflicts and defence mechanism
- c) Sex education

### Term Paper: (Any one)

- Administer any one standardized Psychological Test
- Prepare any two term paper based on the Psychological content in the syllabus
- Prepare a psychological test
- Prepare a report on contribution of any two psychologists

### **Suggested Reading:**

1. यादव, सियाराम, (2008), अधिगमकर्ता का विकास एवं शिक्षण-अधिगम प्रक्रिया, शारदा पुस्तक भवन, इलाहाबाद
2. वर्मा, प्रीति, श्रीवास्तव डी.एन., (2008), आधुनिक सामान्य मनोविज्ञान, अग्रवाल पब्लिकेशन, आगरा
3. भटनागर, सुरेश (2008), शिक्षा मनोविज्ञान तथा शिक्षण शास्त्र,, विनोद पुस्तक मन्दिर, आगरा
4. शर्मा, जे.डी. (2008), मनोविज्ञान की पद्धतियां एवं सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
5. मंगल, एस.के., (2008), शिक्षा मनोविज्ञान, प्रिंटिस हॉल ऑफ इण्डिया प्राइवेट, नई दिल्ली
6. अस्थाना, बिपिन, अस्थाना श्वेता, (2007), मनोविज्ञान और शिक्षा में मापन एवं मूल्यांकन, विनोद पुस्तक मंदिर, आगरा
7. पाठक, पी.डी., (2007), शिक्षा मनोविज्ञान, विनोद पुस्तक मंदिर, आगरा
8. गुप्ता, एस.पी., गुप्ता अलका, (2007), उच्चतर शिक्षा मनोविज्ञान, शारदा पुस्तक भवन, इलाहाबाद
9. पाठक, पी. डी, (2007), शिक्षा मनोविज्ञान, विनोद पुस्तक मंदिर, आगरा.
10. शर्मा, गणपतराम, व्यास हरिश्चन्द्र, 2007, अधिगम-शिक्षण और मनोसामाजिक आधार, राजस्थान ग्रन्थ अकादमी, जयपुर.
11. भाटिया, के. के., (2006), शिक्षण अधिगम प्रक्रिया का मनोविज्ञान, कल्याणी पब्लिशर्स, लुधियाना
12. अरोड़ा रीता, मारवाह सुदेश, (2006), शिक्षा मनोविज्ञान एवं सांख्यिकी, शिक्षा प्रकाशन, जयपुर
13. अस्थाना, मधु एवं वर्षा, किरन बाला (2012) व्यवक्तित्व मनोविज्ञान, मोतीलाल बनारसीदास, वाराणसी, 221009
14. श्री वास्तव डी.एन. एवं श्री वास्तव वी.एन. (2015) आधुनिक विकासात्मक मनोविज्ञान, श्रीविनोद पुस्तक मंदिर आगरा
15. विद्यालंकार, जगदीश (1990), भारतीय मनोविज्ञान, राधा पब्लिकेशनस
16. पाण्डेय, के.पी, (1985), मनोविज्ञान और शिक्षा में सांख्यिकी, दुआबा हारुस, दिल्ली
17. स्कीनर, सी. ई., (1972), शिक्षा मनोविज्ञान के तत्त्व, उत्तरप्रदेश हिन्दी ग्रंथ अकादमी, लखनऊ
18. Murlidhar Dash (2004), Educational Psychology, Deep & Deep Publication, New Delhi
19. Philip G. Zimbardo (1985), Psychology and life, Stanford University, Harper collins, XIIth Edition,
20. Richard H. Price, Mitebell crlicksten Dajd L. Horton (1982), Principles of psychology, University of
21. B. Kuppaswamy (1972), Advanced Educational Psychology : Sterling Publishers (p) Ltd.
22. Bruce Joyce and Morsha Well (1972), Model of Teaching: Prentice Hall International, Inc. London (Chapter 20 Particularly)
23. Jhohn P. Dececo (1968), The Psychology of Learning and Instruction, Prentice Hall India
24. Morris L. Bigge and Maurice P. Haunt (1962), Psychological Foundation of Education,
25. S. S. Chauhan, Advanced Educational Psychoogy, Vikas Publications
26. Bigge and Hunt : Foundation of Educational Psychology
27. Lay Cook : Educational Psychology.
28. Maryland Ronald Basilo, University of Michigan, B S college Publishing, New York
29. K.C. shukla, Tara Chand, Practical Psychology, Commonweath Publishers, New Delhi
30. Philip Gammage, Reutledge and Kegan Paul, Teacher and Pupil: Some Socio-Psychological Aspects

## Semester - I

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 102	History and Political Economy	CC	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To the Prospective Teacher to have Knowledge of the Indian Education System as it has Evolved from the past , as it is today
- ❖ To help the student to acquire the basic understanding in the field of Economy
- ❖ To develop an ability to Conduct Various surveys in Economies and organize Field trips
- ❖ To understand the Concept , Scope & nature of Political Science

**Course Contents:**

### Unit- I Historical prospective of Education

- a) Ancient Period - (2500BC-1200AD)
- b) Medieval period - (1200-1757)
- c) British period - (1757-1947)
- d) Contribution of Indian Educational thinkers  
(Vivekananda, Mahatma Gandhi)

### Unit- II Political Ideology and Education

- a) Democracy – Meaning, Values, Main Features of Democratic Education
- b) World Problems and Terrorism – Cause, Impact on Society and Remedies through Education
- c) Relationship between Politics & Education in India
- d) Education for Protection of Human Rights

### Unit- III Economics of Education

- a) Meaning, Scope, Importance of Economics of Education
- b) Role of education in economic development
- c) Education as an investment and consumption
- d) Education policies for SC/ST/OBC/Minority/Women's/ Tribes/Disabled.

### Unit- IV Impact of Economic Political Ideology on Education

- a) Impact of individualism
- b) Impact of Socialism, Secularism
- c) Impact of Vocationalism
- d) Significance of Educational Economic Development.

### Term Paper: (Any one)

- Prepare a Structure of Education Since an Ancient Period to the Present Time.
- Classification of moral Duties and fundamental rights (Prepare a Structure).
- Prepare one term paper on topic.
- Case Study Of Economically under developed Student.
- Report on fund to education in present five year plan.

### Suggested Reading:

1. पाण्डेय, रामशक्ल (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
2. शर्मा, ओ. पी., गुप्ता शोभा (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
3. त्रिपाठी, शालिग्राम (2008), शिक्षा सिद्धान्त, कनिष्क पब्लिशर्स डिस्ट्रीब्यूटर्स, अंसारी रोड, नई दिल्ली
4. पाठक, पी. डी. (2008), भारतीय शिक्षा और उसकी समस्याएँ, विनोद पुस्तक मंदिर, आगरा
5. पाठक एवं त्यागी (2008), शिक्षा के सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
6. बघेला, एच. एस. (2007), शिक्षा एवं उदीयमान भारतीय समाज, राजस्थान प्रकाशन, जयपुर
7. सिन्हा, मंजरी, सिन्धु आई. एस. (2007), विकासोन्मुख भारतीय समाज में शिक्षा तथा शिक्षक की भूमिका, विनोद पुस्तक मंदिर, आगरा
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9. चौबे, सरयूप्रसाद (2005), शिक्षा के समाजशास्त्रीय आधार, विनोद पुस्तक मंदिर, आगरा
10. Gore, M.S., et. al. (1967), Papers in the sociology of Education in India, New Delhi, NCERT.
11. Hanseu, D.A. et. al (1965), On Education : Sociological Perspective. New York :John Wiley and Sons.
12. Crown, R.G. (1965), A Society of Education, Engineering patterns of class, status and power in the public school, New York : Appleton-century crofts.
13. Durkhem, S. (1956), Education and Sociology of Education, New York : The Free Press of Glenoce.

### Semester I

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 103	Education Studies	CC	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To enable the students to understand the meaning concepts, aims and objectives of education
- ❖ To acquaint the learners with the role of family, society and school
- ❖ To acquaint the learners with the current problems of Indian education
- ❖ To enable the learners to understand the role of NCERT, NCTE, UGC, NIEPA etc.
- ❖ To acquaint the students with the objectives, curriculum and examination system of pre-primary, secondary stages of education

### Course Contents:

#### Unit- I Meaning, Concept and Function of Education

- a) Meaning, Concept of Education.
- b) Aims and Objectives of Education.
- c) Function of Education.
- d) Role of family, Society and school in Education.

#### Unit- II Education development in India

- a) Radha Krishnan commission (1948-49).
- b) Secondary education Mudaliar Commission (1952-1953).
- c) Kothari education commission (1964-1966).
- d) National Education policy (1986).
- e) Modification of New Education policy (1992).

### Unit- III Agencies of education

- National council for Teacher Education (NCTE).
- National Council of Educational Research and Training (NCERT).
- University Grants Commission (UGC).
- College teacher for Education (CTE).

### Unit- IV Current Problems

- Women Empowerment.
- Human Rights in Education.
- Peace education.
- Values Education.

### Term Paper : (Any one)

- Three abstract of Educational articles published in some standard journals.
- Make a presentaiton based on any one topic of the course.
- Any one education studies through survey method in the society.

### References:

- पाण्डेय, रामशकल (2007), शिक्षा के सिद्धान्त, विनोद पुस्तक मंदिर, आगरा।
- रूहेला, सत्यपाल (2006), विकासोन्मुख भारतीय समाज में शिक्षक और शिक्षा, विनोद पुस्तक मंदिर, आगरा।
- शर्मा, ओ. पी., गुप्ता, शोभा (2006), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा।
- त्यागी, गुरुशरण, रावत, मृदुला, सकसैना, स्वाति (2006), शिक्षा के सिद्धान्त, विनोद पुस्तक मंदिर, आगरा।
- पाठक, एवं त्यागी (2005), शिक्षा के सामान्य सिद्धान्त, विनोद पुस्तक मंदिर, आगरा।
- Nayak, Vijay Kumar (2006), Principle of Education, Kitab Mahal Publication, Cuttack, Orrisa.
- Pandey, R. S. (2005), Principle of Education, Vinod Pustak Mandir, Agra.

### Semester I

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 104	Introduction to Research Method	CC	4	20	60	20	100

### Learning Outcomes: After completion of this course the student will able:

- ❖ To develop and understanding about the concept of research in Education and its relevancy.
- ❖ To develop skill in preparing a good research proposal and research design.
- ❖ To include the idea of different bases of research in the field of Education.
- ❖ To impart the sense of scientific attitude in research.
- ❖ To understand about the use of different types of research tools and techniques.
- ❖ To develop skill in analyzing quantitative and qualitative research .
- ❖ To appraise critically about research work in Education field.

### Course Contents:

#### Unit-I Concept of Education at Research

- Meaning ,Nature ,Scope, Needs & Purpose of Educational Research
- Types of Research : Fundamental/ Basic, Applied and Action Research
- Formulation of Research Problems and questions
- Area for identify Research Problems(Philosophical, Sociological, Psychological and new Trends)
- Framing Hypothesis

#### Unit- II Research Method in Education

- Scientific Inquiry and Experimental method
- Descriptive Research Method

- c) Historical Research Method
- d) Field Survey and Field Notes
- e) Ex- post- Facto Research/ Causal - Comparative Research
- f) Ethnography Research Methods
- g) Pilot Study

### Unit-III Literature Study

- a) Concept ,Needs and objectives of Literature Study
- b) Sources of Literature
- c) Types of Literature ( Indian & Abroad)
- d) Rationale of the Literature of Study
- e) Research Variables

### Unit-IV Sample and Data Collection

- a) Concept of Sample, Statistics, Population and Parameter
- b) Characteristics a good sample
- c) Types of Sampling (Random, Stratified, Cluster, Purposive, Quota. Snow-ball, Multi - stages sampling.
- d) Tools and Techniques of Data Collection : Questionnaire, Observation, Rating Scale. Check-List , Interview Schedule, Task- Analysis, Focus-Group Design, Socio-Metric- Techniques
- e) Research Report writing and bibliography Reference/ style of writing

### Term paper : ( Any one)

- Write one term paper.
- Prepare a Research based Article of any problems of Education.
- Prepare a Research Design / Research proposal with Reference to Current Educational problems.
- Construct a Literature Review/ book Review of any reference.

### Suggested Reading:

1. गुप्ता एस.पी. (2011), अनुसंधान संदर्शिका, सम्प्रत्यय, कार्यविधि एवं प्रविधि, शारदा पुस्तक भवन, इलाहाबाद।
2. गुप्ता, अलका (2011), शैक्षिक संतुष्टि, प्रथम संस्करण, शारदा पुस्तक भवन, इलाहाबाद।
3. गुप्ता एस.पी. एवं अलका गुप्ता (2010), आधुनिक मापन एवं मूल्यांकन, परिवर्धित संस्करण, शारदा पुस्तक भवन, इलाहाबाद।
4. यादव, राकेश चन्द (2009), राजर्षि पुरुषोत्तम दास दण्डन के शैक्षिक विचार, प्रथम संस्करण, उत्तरप्रदेश राजर्षि दण्डन मुक्त विश्वविद्यालय, इलाहाबाद।
5. कौल, लोकेश, (2009), शैक्षिक अनुसंधान की कार्य प्रणाली, तृतीय पुनर्मुद्रण, विकास पब्लिशिंग हाउस प्रा. लि., नई दिल्ली।
6. गुप्ता एस.पी. एवं अलका गुप्ता (2008), व्यवहारपरक विज्ञानों में सांख्यिकी विधियां, चतुर्थ संस्करण, शारदा पुस्तक भवन, इलाहाबाद।
7. पाण्डेय, के.पी. (2008), शैक्षिक अनुसंधान, तृतीय संस्करण, विश्वविद्यालय प्रकाशन, वाराणसी।
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11. त्रिपाठी, लाल बचन (2002), मनोवैज्ञानिक अनुसंधान पद्धतियां, तृतीय संस्करण, एच. पी. भार्गव बुक हाउस, आगरा।
12. सिंह अरुण कुमार (2001), मनोविज्ञान, समाजशास्त्र तथा शिक्षा में शोध विधियां, चतुर्थ संस्करण, मातीलाल बनारसीदास, दिल्ली
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15. बघेल, डी. एस. एवं के.सी. पाण्डेय (1976) सामाजिक अनुसंधान, द्वितीय संस्करण, पुष्पराज प्रकाशन, रीवा।
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20. Ravid, Ruth. (2000), Practical Statistics for Education. New York: University Press of America
21. McCall, R. (1993), Fundamental Statistics for the Behavioural Science. New York: Harcourt Brace.
22. Sharma, R.A. (1993), Fundamental of Educational Research (Page 453) International Publishing House, Meerut,
23. Seigel, S. & Castel Ian N.J. (1988), Non-parametric statistics for the Behavioural Science. Singapore: Graw-Hill Book Co.
24. Guilford, J.P. & Fruchter, B. (1981), Fundamental Statistical in Psychology and Education, New York: McGraw-Hill.
25. Ferguson, G.A. (1971), Statistical Analysis in Psychology and Education, Kogakusna, Tokyo : McGraw-Hill.
26. Garrett, H.E. (1971), Statistical in Psychology and Education, New Delhi: Paragon International Publisher.
27. Garrett, H.E. (1966), Statistical in Psychology and Education (Page 491) Vokels Feffers and Simons Ltd., Bombay
28. Kerlinger, Fredan N. (1964), Foundations of Behavioral Research (Page 741) Holt Rinherth and Winston, New Yourk
29. Anderson, R.I., and T.A. Banerot (1952), Statistical Theory of Research, New York, Mc Graw Hill Book Company.

### Semester I

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 105	Communication and Expository Writing & Self Development (ISB)	CC	2		50	Practical & Viva-Voce	50

#### UNIT-I Communication and Expository writing

1. Concept and process of communication
2. Effective communication
3. Barrier in communication
4. Precise writing of three article
5. Writing article on current problem

#### UNIT II : Self Development

1. Identification of self values developed in your life.
2. Inculcate humanitarian values through yoga and Preksha dhyam.
3. Self introspection and extrospection.
4. Enlist good conduct of any five great personalities and compare them with your conduct.
5. Prepare self appraisal report.
6. Write cognitive, affective and psycho motor behavioral changes through self appraisal report.

**Term Paper: (Any one)**

1. Writing in communication
2. Style of writing
3. Mode of Communication
4. Concept, characteristics and needs of self.
5. Self mental ability (Memory, imagination and Reflection) practice for fostering these activities.

**Semester I**

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 101	Introduction to Jainism	FC	4	20	60	20	100

**Unit I: Jain History**

1. Antiquity of Jainism (*Risabha and Mahavira*)
2. Time cycle
3. Jain religious Schools, Orders, and Sects
4. Jain Festival
5. Jain Literature

**Unit II: Jain Metaphysics**

6. Concept of Reality
7. Cosmology: Jain Perspective
8. The Nine Truths of Classical Jainism
9. Jain life style
10. Salvation and way of it

**Unit III: Jain Principal**

11. Non-violence
12. Non-possession
13. Non-absolutism

**Unit IV: Jain Principal**

14. Syadvada
15. Karmavada
16. Jain Meditation

**Reference Books**

- Acharya Mahaprajna. *Jaina Darsana: Manana Aura Mimamsa*, Adarsh Sahitya Sangh, Churu,
- *Jain Dharma*, By Pt. Kailash Chand Jain
- *Jain Darshan*, By Pt. Kailash Chand Jain

- Shastri Nemichandra, Tirthankara Mahaveer aura Unki Acharya Parampara, Vol.-I., Prachya Shramana Bharati, Mujaffar Nagar, U.P.
- Jain itihās aurā sanskriti, By Dr Samani Riju Prajna, JVBU, Ladnun
- Jain Tattva mimānsā aurā Achārā Mimānsā, By Dr Samani Riju Prajna, JVBU, Ladnun

### Semester II

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED201	Philosophy of Education	CC	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To enable the student to understand the nature and functions of philosophy of education
- ❖ To acquaint the learner with the logical analysis, interpretation and synthesis of various concepts and philosophical assumptions about educational phenomena.
- ❖ To enable the students to understand about the critical appraisal of contributions made to education by prominent educational thinkers- Indian and western.
- ❖ To develop the ability to make comparison between different philosophies and their educational implications.
- ❖ To develop the capacity to do independent thinking and a deeper insight into the philosophical roots of educational problems.
- ❖ To stimulate the students to have their own independent and consistent view point of a philosophy of education and issues.

#### **Course Contents:**

##### **Unit- I Philosophical Foundation of Education**

- a) Meaning and Nature of Philosophy.
- b) Relationship of Education and Philosophy.
- c) Branches of Philosophy - Metaphysics, Epistemology, Axiology and their implication for Education.
- d) National Values as enshrined in the Indian Constitution and their educational implication.

##### **Unit- II Indian Schools of Philosophy**

- a) Sankhya educational philosophy.
- b) Vedānta educational philosophy.
- c) Geeta and Upanishad educational philosophy.
- d) Buddhism and Jainism educational philosophy.

##### **Unit- III Philosophical Contribution of Indian Educational thinkers**

- a) Swami Vivekanand
- b) Ravindra Nath Tagore
- c) Mahatma Gandhi
- d) Maharshi Arvind
- e) Acharya Tulsī, Acharya Mahāpragya & Acharya Mahāsrāman

#### Unit- IV Western Philosophical Foundation of Education

- a) Idealism
- b) Naturalism
- c) Pragmatism
- d) Realism
- e) Existentialism

#### Term Paper : (Any one)

- Preparation of one term paper with PPT.
- Three abstracts of Philosophical article published in some standard journals.
- Make a presentation based on any one topic of the course.

#### References:

1. ओड, के. लक्ष्मीलाल (2008), शिक्षा की दार्शनिक पृष्ठभूमि, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
2. पाण्डेय, रामशक्ल (2008), शिक्षा दर्शन, अग्रवाल पब्लिकेशन्स, निर्भय नगर, गैलाना रोड, आगरा
3. पाण्डेय, रामशक्ल, कपूर बीना (2007), शिक्षा के दार्शनिक आधार, प्रकाशन विनोद पुस्तक मंदिर, आगरा
4. त्यागी, जी.एस.डी. (2007), शिक्षा के दार्शनिक एवं सामाजिक आधार, विनोद पुस्तक मंदिर, आगरा
5. भाटिया, के. के. (2006), शिक्षा का दर्शनशास्त्रीय स्वरूप, कल्याणी पब्लिशर्स, लुधियाना
6. पाठक, पी. डी., त्यागी जी. एस. डी. (2005), शिक्षा के दार्शनिक सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
7. Brigge, Morris-L. Educational Philosophies for Teachers, Charles E Merrill Publishing Co., Columbus
8. Brubacher, John S, Modern Philosophies of Education, Mc Grawhill Book company Inc, New York
9. Butler J. Donald, Four Philosophies and their practices in Education and religion Harper

#### Semester II

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED202	Sociology of Education	CC	4	20	60	20	100

#### Learning Outcomes: After completion of this course the student will able:

- ❖ To develop on global perspective and help in solving the prevailing problems of education in India.
- ❖ To understand concept and process of Educational Sociology, Social Organization and Social Sub-system
- ❖ To understand relationship between education and social sub-system and education and social change.
- ❖ To know issues of equality, excellence and inequalities in education.
- ❖ To know the constraints of society in India.

#### Course Contents:

##### Unit: I Sociology and Education.

- a) Education and Sociology
- b) Meaning and Nature of Educational Sociology

- c) Sociology of education
- d) Education as a social subsystem
- e) Education in present Emerging Indian Society

**Unit: II Sociological Impact/Agencies of Education.**

- a) Education and the family
- b) Education and the Community
- c) Education and modernization
- d) Education and Culture
- e) Education and Democracy

**Unit: III Social Change and Mobility**

- a) Socialization of the child
- b) Social change - Meaning and nature
- c) Social stratification
- d) Social mobility
- e) Social Control

**Unit: IV Issue Related to Socialization of Education**

- a) Education as related to social equity and equality of educational opportunities
- b) Education of socially and economically disadvantaged section of the society with special reference to scheduled castes and scheduled tribes, women and rural population
- c) Solutions of social problems in modern India (Unemployment cultural pollution and indiscipline through survey method)

**Term Paper : (Any one)**

- Preparation of one Sociological term paper.
- Three abstracts of Sociological article published in some standard journals.
- Make a presentation based on any one topic of the course.
- Prepare a report on any social problem through survey method in the society.

**References:**

1. पाण्डेय रामशक्ल, (2008), उभरते हुए भारतीय समाज में शिक्षा, प्रकाशन विनोद पुस्तक मंदिर, आगरा
2. शर्मा, ओ.पी., गुप्ता शोभा, (2008), उभरते हुए भारतीय समाज में शिक्षा, प्रकाशन विनोद पुस्तक मंदिर, आगरा
3. त्रिपाठी, शालिग्राम, (2008), शिक्षा सिद्धान्त, कनिष्क पब्लिशर्स डिस्ट्रीब्यूटर्स, अंसारी रोड, नई दिल्ली
4. पाठक पी.डी. (2008), भारतीय शिक्षा और उसकी समस्याएं, विनोद पुस्तक मंदिर, आगरा
5. पाठक एवं त्यागी (2008), शिक्षा के सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
6. एच.एस. बघेला (2007), शैक्षिक एवं उदीयमान भारतीय समाज, राजस्थान प्रकाशन, जयपुर
7. सिन्हा मंजरी, सिन्धू आई.एस. (2007), विकासोन्मुख भारतीय समाज में शिक्षा तथा शिक्षक की भूमिका, विनोद पुस्तक मंदिर, आगरा
8. औदित्य हिमांशु (2007), शिक्षा और उदीयमान भारतीय समाज, आस्था प्रकाशन, दिल्ली
9. पाण्डेय, रामशक्ल (2007), शिक्षा के मूल सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
10. त्यागी जी.एस. डी. (2007), शिक्षा के दार्शनिक एवं सामाजिक आधार, विनोद पुस्तक मंदिर, आगरा
11. सरयू चौबे (2005), शिक्षा के समाज शास्त्रीय आधार, विनोद पुस्तक मंदिर, आगरा

12. Gore, M.S. et al. (1967), Papers in the Sociology of Education in India, NCERT, New Delhi,
13. Hanseu, D.A. et. Al, (1967), On Education : Sociological Perspective, John Wiley and Sons., New York.
14. Kneller , G. F. (1965), Education Anthropology, John Wiley and Sons, New York.
15. Durkheim, E. (1965), Education and Sociology of Education, The Free Press of Glenoce, New York.

### Semester II

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED203	Teacher Education - I	CC	4	20	60	20	100

**Learning Outcomes:** After completion of the course the student will able:

- ❖ To acquaint with the concept, objectives and principles of Teacher education with its historical perspectives.
- ❖ To acquaint with the problems and issues related to the Teacher Education.
- ❖ To acquaint with essentials of Teacher Education.
- ❖ To understand about the development of teacher education curriculum in India, various organizational, patterns in India.
- ❖ To understand about the various aspects of supervision and feed back.

**Course Content:**

**Unit- I Concept and Structure of Teacher Education.**

- a) Meaning, Nature and Scope of the Teacher Education.
- b) Aims and Objectives of Teacher education at different level.
- c) Need and Importance of Teacher education.
- d) Type of Teacher education institution.
- e) Research in Teacher education.
- f) Issues and Problems of Teacher education.

**Unit- II Historical development of teacher education in India.**

- a) Vedic period
- b) Buddha period
- c) Muslim period
- d) British period
- e) After Independence

**Unit- III Teacher Education as a profession.**

- a) Teaching as a profession
- b) Professional growth of teacher education
- c) Quality of teacher education institute.
- d) Teacher's professional organizations.
- e) Curriculum at the different stages of teacher education.

#### Unit- IV Pre Service and In Service teacher education

- Need of Pre-service Teacher education different level
- Need of In-service Teacher education different level.
- Various programmes of in-service teacher education (Orientation and refresher course for teachers).
- Role of different institutions for pre-service and in service teacher education.
- Role of distance education pre-service and in-service teacher education programme.

#### Term paper :( Any one)

- One term paper on any topic related with the about unit.
- A review of a research Article in teacher Education and write Implication for Practitioner.
- Supervision of B. Ed. practice lesson at least ten lesson of students and prepare a report.
- Make a presentation based on any one topic of the above course.

#### References:

- सेन, अमृत, (2008), अध्यापक शिक्षा, इंडियन पब्लिशर्स एण्ड डिस्ट्रीब्यूटर्स, नई दिल्ली।
- अग्निहोत्री, रविन्द (2007), आधुनिक भारतीय शिक्षा की समस्याएं और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
- जोशी दिनेश सिंह, मेहता चतरसिंह, (2007), शिक्षक प्रशिक्षण के सिद्धान्त एवं समस्याएं, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
- भट्टाचार्य जे.सी. (2007), अध्यापक शिक्षा, अग्रवाल पब्लिकेशन्स, आगरा।
- रुहेला, एस. पी. (2007), विकासोन्मुख भारतीय समाज में शिक्षण और शिक्षा, अग्रवाल पब्लिकेशन, आगरा
- सिंह, मयाशंकर (2007), अध्यापक शिक्षा गुणात्मक विकास अध्ययन पब्लिशर एण्ड डिस्ट्रीब्यूटर, दिल्ली।
- Lomax Donald. E. (1973), The Education of Teachers in Britain, John Wiley & Sons, London
- Shrivastava. R. C. and Bose. K. (1973), Theory and Practice-Teacher Education in India. Chug Publication, Allahabad.
- Willey, F.T. and Meddison. R.B. (1971), An Inquiry into Teachers Training. University of London Press Ltd., London
- Hallard, F. H. (1971), Teaching the Teacher-Trends in Teacher Education, George Allen and Unwin Ltd., London.
- Mukherjee, S.N. (1968), Education of Teachers in India (Vol. I). S. Chand & Co. Delhi,
- Stinnet. T.M. (1965), The Profession of Teaching, Prentice Hall of India Pvt. Ltd. New Delhi,

#### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 204	Dissertation (ISB)	CC	2		50 Practical & Viva-Voce		50

#### Research design (Quantitative)

- Selection of research problem
- Review of related literature
- Definition of related concepts

4. Objectives of research
5. Formation of hypothesis
6. Limitation of research
7. Research methodology and design
  - 7.1 Selection of Research method
  - 7.2 Population, sample and sampling
  - 7.3 Variable
  - 7.4 Selection of tools and techniques
  - 7.5 Statistical methods
8. Procedure of Data collection, classification and tabulation
9. Importance of the study

#### References

- Classification of chapter.

#### Semester II

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED205	Internship in T E I	CC	4		100	Internship	100

#### Internship in Teacher Education Institute

1. Understanding the Admission Process
2. Analysis of Time table
3. Morning Assembly
4. Class Management
5. Various Co-curriculum Activities.
6. Study departmental Meeting
7. Study the Library Process of the Institute Education.
8. Prepare an Action Research on any New Educational Problems
9. Regulation 2014 (B.Ed, M.Ed, B.Sc-B.Ed and B.A- B.Ed) Any One Report

#### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 201	Value Education and Spirituality	FC Any one	4	20	60	20	100

#### Objectives

- To understand the need of value oriented education.
- To understand the process of contemplation for value development.



- To understand the non-violence and culture of peace.
- To understand the cardinal principles of Jainism.

#### Unit-I Value Education

- Challenges of Modern Education system and need of value education.
- Values-meaning, definitions, different views and classifications of values.
- Social duties, Responsibilities and Human Rights.

#### Unit- II Socio Ethical Life Style:

- Social Ethics and Jain Concepts.
- Panch Mahavrat- Ahimsa, Satya, Achorya, Bmrahmcharya & Aparigrah.
- Tri Ratna- Samyak Darshan, Gyana & Charitra.
- Anekantvada

#### Unit- III Development of Social Harmony.

- Peace and Its Relevance in social harmony.
- Social Harmony through Conflict Management.
- Training in Non-violence.

#### Unit-IV Enhancement of Values in behavior-

- Development of Moral Values: Contemplation of honesty, self-discipline and Non-violence
- Contemplation of mental balance, will power and patience for development of mental values.
- Development of Emotional & Spiritual Values.

#### Suggested Reading

- Structure of Values, Mukharjee RK (1955).....
- Devatma' Value Education: 4 supplements to present education. Arora K. NCET, New Delhi 1999.
- Helping students ascend the steps of value education. A. Dutta. (2004)
- Values and Ethics in School Education, Luther, M. (2001) New Delhi Mc Grow Hill.
- Value Development in Higher Education, Mukhopadhy M. (Eds.) 2004)
- Human Values and Education-Rahul, S.P. (1986) Sterling New Delhi.
- Education in Human Values. Saraf (1999) Vikash Publication, New Delhi.
- Value Education: Theory and Practice, Dr. N.L. Gupta, Krishna Brothers, Ajmer, 1986.
- अमूर्त चिन्तन- आचार्य महाप्रज्ञ, जैन विश्व भारती प्रकाशन, लाडनू 2001
- गांधी दर्शन शांति मानवाधिकार, प्रो. अनिल धर, जैन विश्व भारती संस्थान, लाडनू।
- विश्वशांति एवं अहिंसा प्रशिक्षण, डॉ. बच्छराज दूगड़, जैन विश्व भारती संस्थान, लाडनू 2001
- जैन धर्म में अहिंसा, वशिष्ठ नारायण सिंहा, वाराणसी।
- जैनदर्शन मनन और मीमांसा- आचार्य महाप्रज्ञ, आदर्श साहित्य संघ, चूरू।
- अहिंसा दर्शन, डॉ. अनेकान्त कुमार जैन, श्री लालबहादुरशास्त्री सं. विद्यापीठ, नई दिल्ली।

#### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 202	Informational Technology and Computer Application	FC Any one	4	20	60	20	100

**The main objectives of this course are;**

- It will expose the students to the fundamentals of the IT.
- Students will be having the introductory knowledge of the MS-Windows
- Practically students will be able to use MS-PowerPoint, MS-Word, MS-Excel and create their own blog.

**Course Contents (Term End Theory Exam):**

**Unit I: Introduction to Computers and Windows**

- Application of Computers
- Block Diagram of Computer
- Input and Output devices
- Types of software
- Introduction to Operating system: Windows
- Functions of operating system
- How you can Fast your Computer or Maintenance of computer

**Unit II: Concept of MS Word and MS Excel and its application**

- MS Word Window Layout
- Creating and Formatting Documents
- Editing Documents
- Working with Tables.
- Mail Merge, Macro Recording, Thesaurus, Printing Document (How to Use Page-Setup Before Printing)
- Introduction to Excel and its Applications
- Concept of workbook and worksheet
- Layout of Worksheets
- Use of basic formula and functions
- Sorting, Filtering and charts
- Report Generation (Pivot Table)
- Security or Protecting Worksheets

**Unit III: Introduction & Application of MS-PowerPoint**

- PowerPoint Slide Creation
- Slide Layout
- Views
- Adding content to slide- Text, Graphics, Sound, Video
- Applying Slide Transition
- Custom Animation
- Slide Show
- Working With Image or ClipArt (how you edit clipart image)

**Unit IV: Internet**

- Introduction to internet

- ISP (Internet Services Providers)
- About Modem, Type of Internet Connection
- Web browser – its functions
- Concept of search engine, What is surfing
- Social Networking site/How to pay online bill/How to book tickets online/How to use Paytm
- Website and its types
- Searching, downloading and uploading
- Basic concepts of sending and receiving E-mail
- Blog uses and creation of blog
- How to Create Simple web page (or Personal web page)

#### Course Contents (Practical) :

- Creating document in MS-Word like Advertisement, Letter, Tables, Charts etc.
- Creation of Simple Worksheet like Mark sheet, Pay slip using MS-Excel.
- Creation of Power Point Presentation on various themes.

#### Outcome:

- Students will apply the knowledge of IT practically in their day-to-day life.
- Students will be able to create well-formatted documents, attractive presentations and calculation part through excel.
- Students will be able to create their own blog.

#### Suggested Reading/Website

1. [http://www.tutorialspoint.com/computer\\_fundamentals/index.htm](http://www.tutorialspoint.com/computer_fundamentals/index.htm)
2. <http://www.gcflearnfree.org/office>
3. Fundamentals of computers (English) 1st Edition by Reema Thareja, Oxford University Press, 2014
4. Introduction to Computer by Peter Norton, Tata Mc Graw hill
5. Introduction to Computer by Gary B Shelly

#### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 203	Preksha Meditation and Self Management	FC Any one	4	20	60	20	100

#### Objectives

1. To understand historical development of Preksha Meditation.
2. To understand the components, spiritual-scientific basis, objectives and benefits of Preksha Meditation.
3. To introduce the practicals & process of Preksha Meditation.

#### Unit-I Preksha Meditation - I

Preksha Meditation: nature, *upsampada*, main, supportive and specific components.

*Kayotsarga* (Relaxation with self awareness): objectives, spiritual and scientific basis and benefits.

Internal Trip (*Antaryatra*): objectives, spiritual and scientific basis and benefits.

## Unit-II Preksha Meditation – II

Perception of Breathing: objectives, spiritual and scientific basis, types and benefits.

Perception of Body: objectives, spiritual and scientific basis and benefits.

## Unit-III Preksha Meditation - III

Perception of Psychic Centres: objectives, spiritual and scientific basis and benefits.

Psychic Colour Mediation (*Leshya Dhyana*): objectives, spiritual and scientific basis and benefits.

Contemplation (*Anupreksha*): objectives, spiritual and scientific basis and benefits.

## Unit-IV Self Management through Preksha Meditation

Personality development and Preksha Meditation.

Health management and Preksha Meditation.

Stress Management and Preksha Meditation.

Memory and Preksha Meditation.

Time management and Preksha Meditation.

Emotional management and Preksha Meditation.

## SUGGESTED READING

- 1 प्रेक्षा पुष्प – आचार्य महाप्रज्ञ, जैन विश्व भारती प्रकाशन, लाडनूँ, 2003।
- 2 अपना दर्पण अपना बिम्ब – युवाचार्य महाप्रज्ञ, जैन विश्व भारती प्रकाशन, 1991।
- 3 प्रेक्षाध्यान : सिद्धांत और प्रयोग – आचार्य महाप्रज्ञ, जैन विश्व भारती प्रकाशन, लाडनूँ।
- 4 प्रेक्षाध्यान : व्यक्तिव विकास – मुनि धर्मेश, जैन विश्व भारती प्रकाशन, लाडनूँ।
- 5 जीवन विज्ञान की रूपरेखा – मुनि धर्मेश, जैन विश्व भारती प्रकाशन, लाडनूँ, 1996।
- 6 जीवन विज्ञान, प्रेक्षाध्यान एवं योग – संपा. समणी डॉ. मल्लीप्रज्ञा, जैन विश्वभारती विश्वविद्यालय, 2009।
- 7 Mirror of the Self – Acharya Mahaprajna, Jain Vishva Bharati Prakashan, Ladnun (Rajasthan), 1995.
- 8 Preksha Dhyana – Theory & Practice, Acharya Mahaprajna, Jain Vishva Bharati Prakashan, Ladnun (Rajasthan), 1994.

## Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 204	The Use of English	FC Any one	4	20	60	20	100

**Course Description:** The Use of English is a course designed to familiarize the students with basic tenants of English language comprising both grammar and composition.

**Unit I:** Basic Sentence Patterns and Transformation.

**Unit II:** Time, Tense and Concord.

**Unit III:** Voice, Narration and Modal Auxiliaries.

**Unit IV:** Writing Skills. (Letter, Application, Précis, Report and Essay Writing.)

### SUGGESTED READING

- Green, David. *Contemporary English Grammar Structure and Composition*. Laxmi Publications; Second edition (2015)
- Hornby, A.S. *A guide to Patterns and Uses*. Oxford University Press, New Delhi.
- Swan, Michael. *Practical English Grammar*. Oxford University Press, New Delhi.
- Harit, S.K. *Communication Skills and English Grammar*. Associated Book Company, Jodhpur.
- Krishnaswamy, N. *Modern English: A Book of Grammar, Usage and Composition*. Laxmi Publications.

### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 205	Non-Violence and Peace	FC Any one	4	20	60	20	100

**Unit- I**            **Violence: Concept, types, impact**  
Non-violence- Philosophical and Historical Interpretation,  
Applied aspect, Training in Non-violence

**Unit-II Conflict – Cause, Forms, Impact**  
Conflict Resolution-Diplomatic, Gandhian and  
Anekantik Techniques.

**Unit-III**        **Human Nature Relationship**  
Environmental Problems.  
Ethical Aspects.

**Unit – IV**      **World Peace**  
Threat to Global Peace  
Initiative For Peace Making

## SUGGESTED READING

- विश्वशांति एवं अहिंसा प्रशिक्षण— प्रो. बच्छराज दूगड़,
- गांधी दर्शन, शांति एवं मानवाधिकार, डॉ. अनिलधर, जैनविश्वभारती संस्थान, लाडनूँ
- पर्यावरण अध्ययन, डॉ. सतिन्द्र सिंह
- Anekant the Third Eye, Acharya Mahapragya.
- Towards a Nonviolent Future, S.L. Gandhi(Ed.), Anuvibha, Jaipur, 2015
- Peace Studies, The Discipline and Dimensions Ashu Pasricha, 2003

## Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 206	Social Work : Themes & Practice	FC Any one	4	20	60	20	100

### Objectives

1. To acquire a clear understanding of Social Work Concept
2. To gain knowledge about Social Work Practice Methods.
3. To Understand Scope and Settings of Social Work Practice

### Unit -I : Concept of Social Work

Social Work: Concept, Objectives, Nature and Scope, Basic Concepts of Social Work: Social Security, Social Reform, Social Service and Social Development, Social Sciences and Social Work.

### Unit-II : Practice Methods of Social Work - I

Social Case Work: Meaning, Objectives and Principles, Social Group Work: Meaning, Objectives, Principles and Skills, Community Organisation: Meaning, Objectives and Principles

### Unit-III : Practice Methods of Social Work – II

Social Welfare Administration: Meaning, Principles and Agencies, Social Work Research: Meaning, Objectives and Steps, Social Action: Meaning and Strategies

### Unit-IV Social Work Settings and Scope

Scope of Social Work Practice: Children, Youth, Women, Aged, Weaker Section

Social Work Practice with Different Settings: Health Care, Industrial, Educational, Correctional

### Outcome:

Understanding of concepts, nature, Methods and practice of professional Social Work.

### Suggested Readings:

1. डॉ. सिंह, सुरेन्द्र, मिश्र पी.डी., समाज कार्य, इतिहास दर्शन प्रणालियां, न्यू रॉयल बुक कम्पनी,, लखनऊ, 2004।
2. मदन, जी.आर., समाज कार्य, विवेक प्रकाशन, दिल्ली, 1996।
3. डॉ. कुमार, गिरीश, समाज कार्य का क्षेत्र, महात्मा गांधी मार्ग, लखनऊ, यू.पी., 1996
4. शास्त्री, राजाराम, समाज कार्य, उत्तर प्रदेश हिन्दी विकास संस्थान, हिन्दी भवन , महात्मागांधी मार्ग, लखनऊ, 1989।
5. कृपालसिंह सूदन, समाजकार्य सिद्धान्त एवं अभ्यास, नव ज्योती सिमिरन पब्लिकेशन, लखनऊ, 2004
6. मिर्जा आर. अहमद, समाजकार्य : दर्शन एवं प्रणालियां, उत्तर प्रदेश हिन्दी विकास संस्थान, लखनऊ, 1990
7. सुरेन्द्र सिंह एवं आर.बी.एस.वर्मा : समाज कार्य के क्षेत्र, यू रॉयल बुक कम्पनी, लखनऊ, 2002.
8. Healy, Karen Social Work Practices, London: Sage Publications.2000
9. Surendra Singh and others (2013): Encyclopedia of Social Work in India (Five Volumes).

### Semester II

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
JVB 207	Introduction to Prakrit	FC Any one	4	20	60	20	100

नोट: प्रत्येक इकाई 15 अंक की है।

इकाई – प्रथम : उत्तराययन सूत्र – अध्याय 1 (गाथा 1–20)

इकाई – द्वितीय : उत्तराययन सूत्र – अध्याय 1 (गाथा 25–48)

इकाई – तृतीय : प्राकृत भाषा का सामान्य परिचय

प्राकृत की उत्पत्ति एवं विकास, प्रमुख प्राकृतों की सामान्य विशेषताएँ (मागधी, अर्द्धमागधी, शौरसेनी, महाराष्ट्री एवं अपभ्रंश)

इकाई – चतुर्थ : प्राकृत साहित्य का इतिहास

श्वेताम्बर एवं दिगम्बर आगम साहित्य, प्राकृत काव्य (महाकाव्य, खण्डकाव्य, ऐतिहासिक काव्य) कथा एवं चरित साहित्य, प्राकृत गद्य एवं चम्पू साहित्य, प्राकृत सट्टक एवं प्राकृत व्याकरण साहित्य।

संदर्भ ग्रंथ :

1. उत्तररञ्जयणाणि – हिन्दी अनुवाद एवं व्याख्या साहित्य, संपादक आचार्यश्री महाप्रज्ञ, जैन विश्व भारती, लाडनू
2. प्राकृत भाषा एवं साहित्य का आलोचनात्मक इतिहास, नेमिचन्द्र शास्त्री, तारा प्रकाशन, वाराणसी
3. प्राकृत साहित्य का इतिहास, डॉ. जगदीश चन्द्र जैन, चौखम्बा प्रकाशन, वाराणसी
- 4- Introduction to Prakrit, A.C. Woolner
- 5- History of Prakrit Literature, Hardev Bahar

### Semester III

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED301	Research Methods and Advanced Statistics	CC	4	20	60	20	100

**Course Objectives:** After completion of this course the students able :

- ❖ To convey the essential characteristics of a set data by representing in tabular and graphical forms.
- ❖ To compute relevant measures of average and measures of variation.
- ❖ To spell out the characteristics of normal probability of distribution.
- ❖ To examine relationship between and among different types of variables of a research study.
- ❖ To calculate the Significant between two sets of independent and correlated samples.
- ❖ To test the hypotheses based on sample Statistics.

**Course Contents:**

#### Unit -I Introduction to Educational Statistics

- a) Concept of Statistics (Meaning , Needs and Importance.)
- b) Data- types, Sources of Educational Data.
- c) Scales of measurement –Nominal, Ordinal, Interval and Ratio.

#### Unit-II Descriptive Statistics

- a) Measure of Central Tendency :
  - Mean
  - Median
  - Mode
- b) Measure of Variability
  - Range
  - Average Deviation (AD)
  - Quartile Deviation (QD)
  - Standard Deviation (SD)
- c) Measure of Relative Positions
  - Percentile & Percentile Rank
  - Quartile
  - Decile's
  - Standard Score (Z) and T- Score

#### Unit- III Test Construction and Data Analysis

- a) Research Tool : Teacher Made and Standardized
- b) Standardization Procedures of Test.
  - Reliability
  - Validity
- c) Graphical representation of Data
  - Histogram
  - Frequency Polygon
  - Ogive
  - Pie-chart
- d) NPC (Normal Probability Curve)
- e) Skewness and Kurtosis
- f) SPSS in Research



#### Unit- IV Inferential Statistics

- a) Sampling Error, Level of Significance and Null Hypothesis.
- b) Type –I Error, and Type-II Error
- c) Testing of Hypothesis(one-tail and Two- tail)
- d) Parametric- Test
  - T-test
  - F/ANOVA test (One way, Two way ANOVA)
  - ANCOVA (Analysis of Co-Variance)
- e) Non- Parametric test
  - Chi – Square( $x^2$ ) Test and its uses
  - U- Test
  - Sign test, Rank test and Median Test
- f) Correlation : Concept and Type
  - Rank- order Correlation
  - Product- Movement Correlation

#### Term Paper : (Any One)

- Write any one term paper with examples and solution.
- Calculate Reliability and Validity of any Teacher made test.
- Prepare a calculation sheet on SPSS Package.

#### NOTE- Calculator allowed in Examination

#### Suggested Reading :

1. गैरेट, हेनरी ई. व बुडवर्थ, आर.ए. संशोधित संस्करण (2016), शिक्षा एवं मनोविज्ञान में सांख्यिकी के प्रयोग, कल्याणी पब्लिसर्स, B-1 राजेन्द्र नगर, लुधियाना-141008
2. भटनागर, आर.पी. भटनागर, ए.बी., भटनागर व अनुराग भटनागर (2014), शिक्षा अनुसंधान, प्रक्रिया, प्रकार एवं सांख्यिकी आधार, आर.लाल बुक डिपो, मेरठ
3. सिंह, गया व राय अनिल कुमार (2013) शैक्षिक अनुसंधान की विधियां, आर. लाल बुक डिपो, मेरठ
4. Ferguson, G.A. (1971), *Statistical Analysis in Psychology and Education*, Kogakusna, Tokyo : McGraw-Hill.
5. Garrett, H.E. (1971), *Statistical in Psychology and Education*, New Delhi: Paragon International Publisher.
6. Guilford, J.P. & Fruchter, B. (1981), *Fundamental Statistical in Psychology and Education*, New York: McGraw-Hill.
7. Mangal, S.K. (2008), *Statistical in Psychology and Education*, New Delhi: Prentice Hall of India Private Limited.
8. Seigel, S. & Castel Ian N.J. (1988), *Non-parametric statistics for the Behavioural Science*. Singapore: Graw-Hill Book Co.
9. McCall, R. (1993), *Fundamental Statistics for the Behavioural Science*. New York: Harcourt Brace.
10. Ravid, Ruth. (2000), *Practical Statistics for Education*. New York: University Press of America

### Semester III

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED302	Curriculum Studies	CC	4	20	60	20	100

**Learning Outcomes:** After completion of the course the student will able:

- ❖ To define Curriculum and its concept
- ❖ To identify the components of Curriculum
- ❖ To describe the various Principles of Curriculum Construction
- ❖ To describe various approaches to curriculum construction
- ❖ To explain and compare various types of curriculum
- ❖ To describe various guiding principles for selection and organization of Learning Experiences
- ❖ To differentiate Formative and Summative Evaluation
- ❖ To explain various tools used in Curriculum Evaluation

**Course Contents :**

**Unit -I Meaning and Concept of Knowledge and Curriculum Development :-**

- a) Define Knowledge and Curriculum
- b) Concept of Curriculum : Official Curriculum and Hidden Curriculum.
- c) Components of Curriculum : Objectives, Content, Learning Experiences and Evaluation.
- d) Bases of Curriculum Development : Philosophical, Sociological and Psychological.
- e) New Trends in Curriculum Development : -
  - NCF 2005 for School Education.
  - NCFTE 2009 for Teacher Education.

**Unit-II Curriculum Development and Design**

- a) Basic principles of curriculum development
- b) Models of curriculum development : -
  - Scientific technical models and non - scientific non - technical models, system analysis
  - Saylor, Alexander and Lewis: administrative model (Deductive model)
  - Taba model (Inductive model/ Grassroots model)
  - Tyler model
- c) Types of Curriculum Design :
  - Child Centered /Learner Centered
  - Activity Centered
  - Community Centered
  - Experience Centered
  - Problem Centered and Core curriculum
  - Spiral Curriculum
  - Designing with Local Specific need Curriculum

**Unit -III Curriculum Implementation**

- a) Rationale of Curriculum Development
- b) Role of State for Making Curriculum
- c) Curriculum as Process and Practice
- d) Relation Ship between Power, Ideology and Curriculum
- e) Differentiate between Curriculum and Syllabus

#### Unit-IV Curriculum Evaluation

- a) Concept and purpose
- b) Types of curriculum Evaluation:
  - Formative
  - Summative
- c) Assessment criterion of curriculum:
  - Time
  - Local need
  - Relevancy
  - Cost and design of tools

#### Term Paper : (Any one)

- Prepare one term paper with related to content.
- Construct any one curriculum model with in the content.

#### References:

1. National Curriculum Frame work NCFTE (2009), for Teacher Education, NCTE, New Delhi
2. National Curriculum Frame work NCF (2005), for Scholl Education, NCTE, New Delhi
3. यादव, सियाराम संगीता, सिन्धू पूनम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा
4. अग्निहोत्री, रवीन्द्र (2007), आधुनिक भारतीय शिक्षा और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
5. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर
6. गुप्ता, एस. पी. (2005), भारतीय शिक्षा का अतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड, इलाहाबाद
7. पाण्डेय, बृजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा,
8. पाठक, पी. डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ
9. सिंघल, महेशचन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
10. सक्सैना, एन. आर. स्वरूप, शिक्षा सिद्धान्त, सूर्या पब्लिकेशन, आर. एल. कुक डिपो, मेरठ

#### Semester III

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 303	Dissertation (ISB) Research design (Quantitative)	CC	2		50	Practical & Viva-Voce	50

#### Selection of research problem

1. Background and rationale
2. Review of related literature
3. Definition of related concepts
4. Objective of research
5. Importance of research
6. Limitation of research

7. Research method
8. Sources of data
9. Collection of data
10. Criticism of Data
11. Interpretation of data

**References -**

Classification of chapter.

**Semester III**

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED304	Internship	CC	4		100	Internship	100

**Internship Work (4 Week)**

- Class Teaching in B.Ed./B.A.-B.Ed./B.Sc.-B.Ed./B.A./B.Sc. College
- Class Supervision
- Morning Assembly

Prepare Innovate lesson (any four methods)

**Semester III**

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED305	Any one Area Specialization on course I Area A Elementary education I	CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To understand the concept and History of Primary Education.
- ❖ To understand the problems of Primary Education.
- ❖ To understand the curriculum, evaluation pattern and different activities of Primary Education.
- ❖ To understand the recent plans or scheme of central and state govt. for Primary Education.
- ❖ To provide the solution of different problems of Primary Education.

**Course Contents:**

**Unit - I History of Primary Education**

- a) Concept of Primary Education.
- b) Primary Education : Origin and Development.

- c) Compulsory Primary Education : History and Development
- d) Objective of Primary Education

**Unit - II Problems of Primary Education**

- a) Wastage and Staganation
- b) Single Teacher School
- c) School Building and Other Facilities
- d) Lack of Proper Guidance

**Unit - III Activities in Primary Education**

- a) Right to Education Act - 2009 : Review
- b) Review the Recent Curriculum of Primary Education
- c) Recent Evaluation System of Primary Education
- d) Different Activities Organized in Primary Education

**Unit - IV Recent Govt. Schemes for Primary Education**

- a) Provisions for Primary Education in Recent Five Year Plan
- b) Recent Rules and Provision of State Govt. for Primary Education
- c) Measures of Quality Enhancement in Primary Education
- d) Organization and Execution of Mid-day-meal Programme

**Term Paper : (Any one)**

- Prepare a term paper on a given topic of your syllabus.
- Review any two recent articles on Primary Education.
- Observe a Primary School, prepare detail report and suggest the solution of its problems.

**References:**

1. Dash, B. N. (2014), History of Education in India, Dominant Publishers & Distributors, New Delhi
2. पारीक, मथुरेश्वर, सिडाना, अशोक (2008), भारतीय शिक्षा की समस्याएँ एवं नई प्रवृत्तियाँ, शिक्षा प्रकाशन, जयपुर ।
3. अग्निहोत्री, रविन्द्र (2007), आधुनिक भारतीय शिक्षा और समस्याएँ, विनोद पुस्तक मंदिर, आगरा ।
4. जौहरी एवं पाठक (2007), भारतीय शिक्षा का इतिहास, विनोद पुस्तक मंदिर, आगरा ।
5. अग्रवाल, बी. डी. (2005), आधुनिक भारतीय शिक्षा और उसकी समस्याएँ, विनोद पुस्तक मंदिर, आगरा ।
6. त्यागी एवं पाठक (2005), भारतीय शिक्षा की समसामयिक समस्याएँ, विनोद पुस्तक मंदिर, आगरा ।
7. पाठक, पी. डी. (2004), भारतीय शिक्षा और उसकी समस्याएँ, विनोद पुस्तक मंदिर, आगरा ।
8. प्राथमिक शिक्षक, त्रैमासिक पत्रिका, एन. सी. ई. आर. टी., नई दिल्ली ।
9. Chaube. S. P. (2005), History and Problems of Indian Education, Vinod Pustak Mandir, Agra.
10. Singh, Yogendra Kumar, Nath, Ruchika (2005), APH Publishing Corp. New Delhi
11. Sharma, Yogendra K. (2003), History and Problems of Education, Kanishka Publishers, New Delhi

### Semester III

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED306	Area B Secondary and Senior Secondary Education I	CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To acquire necessary knowledge, skills and attitudes for the development of the self and the nation.
- ❖ To promote positive environmental and health practice.
- ❖ To enhance enjoyment in learning.
- ❖ To developmentally Society, Morality, Physically and Spirituality.
- ❖ To develop into a responsible and socially well adjusted person.

**Course Contents:**

**Unit - I Secondary Educations : Before and After**

- a) Introduction of Secondary Education.
- b) Secondary Education before Independence.
- c) Secondary Education after Independence.
- d) Development of Secondary Education.

**Unit - II Problems & Their Solution of Secondary Education**

- a) Aimlessness, Student Indiscipline.
- b) Dearth of Money, Absence of Community Life.
- c) Defective curriculum and Examination System.
- d) Immense increase in Non Government School.

**Unit - III Objective of Secondary Education**

- a) Secondary Education Commission 1952-53.
- b) Education Commission 1964-66.
- c) Reasons & Purposes for setting up the education Commission.
- d) Education Policy after independence.

**Unit - IV Suggestion & Recommendation of the Commission**

- a) Education structure and standards.
- b) Equalization of Educational Opportunities.
- c) School curriculum and Science Education.
- d) Teaching Methods, Guidance & Evaluation.

**Term Paper : (Any one)**

- Write a term paper on a topic given in course.
- Prepare a structure of different policy.

**References:**

1. अग्निहोत्री रविन्द्र (2007), आधुनिक भारतीय शिक्षा : समस्याएँ और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
2. सिंह, राकेश, मानवता की आधारशिला : अनुशासन (2006), बात-शिक्षा की वार्षिक पत्रिका।
3. सिंह, कर्ण (2006) भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर-खीरी।
4. मोदी, विकास (2006), नैतिक मूल्य व शिक्षा, शिविरा पत्रिका, जुलाई।
5. पाण्डेय, बृजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा, जुलाई।
6. गुप्ता, एस.पी. (2005), भारतीय शिक्षा का इतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड़, इलाहाबाद।
7. पाठक, पी.डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ, विनोद पुस्तक मंदिर, आगरा।
8. ओड, एल. के., शिक्षा के नूतन आयाम, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
9. कबीर, हुमायूँ, स्वतंत्र भारत में शिक्षा, राजपाल एण्ड सन्स, दिल्ली।
10. पाण्डेय, रामशकल, भारतीय शिक्षा की समस्याएँ, आगरा।
11. मलैया, विद्यावती, भारतीय शिक्षा की समस्याएँ एवं प्रवृत्तियाँ, मैकमिलन कम्पनी ऑफ इण्डिया, दिल्ली।
12. मिश्रा, रेणु, मूल्यपरक शिक्षा, राजस्थान बोर्ड शिक्षण पत्रिका, खण्ड 44-45, अंक - 3-4।
13. रावत, प्यारे लाल, प्राचीन व आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन्स, आगरा।
14. रावत, प्यारे लाल, भारतीय शिक्षा का इतिहास, रामप्रसाद एण्ड सन्स, आगरा।
15. सिंघल, महेश चन्द्र, भारतीय शिक्षा की वर्तमान समस्या, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
16. सैयेदन, के. जी., शिक्षा शास्त्र (साइंस ऑफ एजुकेशन), राजकमल प्रकाशन, दिल्ली।
17. अग्निहोत्री रविन्द्र, भारतीय शिक्षा की वर्तमान समस्या, रिसर्च पब्लिकेशन्स, दिल्ली।

**Semester III**

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED307	Any one Area Specialization on course II Area A Elementary Education II	CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To develop knowledge and understanding of the elementary education, its need and significance.
- ❖ To acquaint the students with the quality concern and administration of elementary education at different levels.
- ❖ To understand the policy perspective on ECCE in India and world.
- ❖ To develop insight for quality dimensions i.e. curriculum, pedagogy and programmes for elementary education.
- ❖ To develop skills for research and evaluation in ECCE and training.

**Course Contents:****Unit -I Early childhood care : Policies and perspectives**

- a) Early childhood care and Education : Concept, Objectives, Need and Significance
- b) Historical perspective and basic provision for children & schools

- c) ECCE : Indian and Global perspectives in light of recent reports
- d) ECCE : Basic administrative structure and quality concern in USA, UK & India

#### **Unit -II Curriculum and Pedagogy**

- a) Curriculum for Elementary Education : Characteristics and Importance
- b) Types of Curriculum : Montessori, Kindergarten and Balwari
- c) Curricular approaches & principles : Activity based, Child centered, Inclusive using Story telling, Role play, Puppetry, Musical and Rhythmic exercises etc.

#### **Unit - III Programmes and Strategies**

- a) Administration and Rote of NCERT, SIERT and DIET for ECCE
- b) Panchayatiraj and Community involvement in planing and management for elementary education
- c) Rote and services of NGO's like Bharati Foundation and Azim premji foundation
- d) National and State level programmes for Girl childhood Education, Residential schools for girls and teacher empowerment

#### **Unit -IV Training, Research and Evaluation**

- a) Need and Significance of personnel involved in ECCE
- b) Status & Nature of Training programmes : pre-service and in-service- critical evaluation, issues and problems
- c) Areas of research studies in Elementary Education and problem solving through Action Research
- d) Recent trends in elementary education for training & skill development

#### **Term Paper : (Any one)**

- Study and prepare a report on present status of Elementary Education at State/Regional/ District level.
- Reflection on literature on quality concern and service of one western country (through Internet and Journals etc.)
- Review of past two years innovative programmes in Elementary Education

#### **References:**

1. Lewis, Ramon (2008), Understanding Pupil Behaviour, Routledge Publication, U K
2. Rao, V. K. (2007), Universalization of Elementray Education, Indian Publishers, New Delhi
3. Aggarwal, J.C. and Gupta, S. (2007), Early childhood care and Education (1st Ed.) Shipra Publication, New Delhi.
4. UNESCO (2007), Strong Foundation : Early childhood care and Education, Paris
5. Mishra, R.C. (2005), Early Childhood Education Today, Prentice Hall Publisher
6. World Bank, (2004), Reching out to the Child : An Integrated Approach to Child Development, Oxford University Press, New Delhi
7. NIPCCD, (2002), Children in Difficult Circumstances : Summaries of Research, Resource Centre of Children, New Delhi
8. Pugh, G. (1996), Contemporary Issues in Early Years : Working Collabaratively for Childern, National Childhood Breau, London
9. Hurlock, E. (1995), Child Development, Mc. Grow Hill Book Company, U.S.A.
10. Kurrian, J. (1993), Elementary Education in India, Concept Publication, New Delhi
11. Seefeldt, Carol (1990), Continuing Issue in Early Childhood Education, Merril Publishing Company, Columbus, Ohio



### Semester III

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED308	Area B Secondary and Senior Secondary Education II	CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To acquire necessary knowledge, skills and attitudes for the development of the self and the nation.
- ❖ To promote positive environmental and health practice.
- ❖ To enhance enjoyment in learning.
- ❖ To developmentally Society, Morality, Physically and Spirituality.
- ❖ To develop into a responsible and socially well adjusted person.

**Course Contents:**

**Unit - I Teacher Education for Secondary and Higher Secondary Level**

- a) Teacher Education for Secondary Level.
- b) Teacher Education for Higher Secondary Level.
- c) Teacher Education for Higher Secondary Level -Vocational System.

**Unit - II In Service Teacher Education & Methods**

- a) In Service Teacher Education for Secondary Level .
- b) Methods of in-service Teacher Education for Secondary Level.
- c) Board of Education, Rajasthan.
- d) CBSE

**Unit - III Curriculum , Control, Administration, Examination, Evaluation of Secondary Education**

- a) Curriculum of Secondary Education.
- b) Co-curriculum activities in secondary education
- c) Role of ICT for secondary education
- d) Control and Administration of Secondary Education.
- e) Examination, Evaluation in Secondary Education.

**Unit - IV Vocationalisation, Expansion of Secondary Education**

- a) Vocationalisation of Secondary Education
- b) Type of secondary schools.
- c) Expansion of Secondary Education.
- d) Quality of secondary education institutions
- e) Career counseling at secondary schools

**Term Paper : (Any One)**

- Write a term paper on a topic given in the course.
- Critically evaluate of the teaching methods of any one school.

## References:

1. अग्निहोत्री रविन्द्र (2007), आधुनिक भारतीय शिक्षा : समस्याएँ और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
2. मोदी, विकास (2006), नैतिक मूल्य व शिक्षा, शिविरा पत्रिका, जुलाई।
3. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर-खीरी।
4. सिंह, राकेश, मानवता की आधारशिला : अनुशासन (2006), बात-शिक्षा की वार्षिक पत्रिका।
5. आचार्य, पं. श्री राम शर्मा (2005), आधुनिक जीवन शैली से अभिशप्त हमारी भावी पीढ़ी, 'अखंड ज्योति', नवा संस्करण, जून।
6. गुप्ता, एस.पी. (2005), भारतीय शिक्षा का इतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड, इलाहाबाद।
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8. पाठक, पी.डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ, विनोद पुस्तक मंदिर, आगरा।
9. पाण्डेय, रामशकल, भारतीय शिक्षा की समस्याएँ, आगरा।
10. मलैया, विद्यावती, भारतीय शिक्षा की समस्याएँ एवं प्रवृत्तियाँ, मैकमिलन कम्पनी ऑफ इण्डिया, दिल्ली।
11. मिश्रा, रेणु, मूल्यपरक शिक्षा, राजस्थान बोर्ड शिक्षण पत्रिका, खण्ड 44-45, अंक - 3-4।
12. रावत, प्यारे लाल, प्राचीन व आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन्स, आगरा।
13. रावत, प्यारे लाल, भारतीय शिक्षा का इतिहास, रामप्रसाद एण्ड सन्स, आगरा।
14. सिंघल, महेश चन्द्र, भारतीय शिक्षा की वर्तमान समस्या, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
15. सैयेदन, के. जी., शिक्षा शास्त्र (साइंस ऑफ ऐजुकेशन), राजकमल प्रकाशन, दिल्ली।
16. अग्निहोत्री रविन्द्र, भारतीय शिक्षा की वर्तमान समस्या, रिसर्च पब्लिकेशन्स, दिल्ली।
17. ओड, एल. के., शिक्षा के नूतन आयाम, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
18. कबीर, हुमायूँ, स्वतंत्र भारत में शिक्षा, राजपाल एण्ड सन्स, दिल्ली।

## Semester IV

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED401	Teacher Education-II	CC	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To acquaint the concept, aims and organizing the student teaching
- ❖ To understand the place of practice teaching and its principles in teacher education.
- ❖ To know various patterns of student teaching, their methods of organization and evaluation.
- ❖ To understand various skills of teaching, teaching models and different competencies for a teacher for effective classroom teaching.
- ❖ To understand various techniques and methods of evaluation of student teaching.
- ❖ To know various innovative instructional methods used in teacher education programme.
- ❖ To know latest researches done in the field of teacher education and student teaching.

## Course Contents:

### Unit- I Student Teaching and its Pattern

- a) Concept of student teaching.
- b) Objectives of student teaching.

- c) Scope and importance of student teaching.
- d) Problems of Student teaching in institutions preparing teachers.
- e) Practice teaching and off campus programme.

#### **Unit- II Training in Teaching Skills**

- a) Teaching models (concept attainment & inquiry training model, garjiya model)
- b) Microteaching programme for training of teaching skill
- c) Lesson plan for student teacher
- d) Planning the practice teaching programme
- e) Supervision of practice teaching programme

#### **Unit- III Instruction Methods and Agencies of Teacher Education and Teacher Behavior**

- a) Instruction methods in teacher education (seminars, workshop, Panel discussion )
- b) Role of Nation level agencies of teacher education (NCTE, NUEPA, NCERT, UGC, NAAC)
- c) Role of State level agencies of teacher education (SCERT, IASE, CTE, DIET)
- d) Maintenance of school records of student performance
- e) Teacher behavior (flanders interaction )

#### **Unit-IV Evaluations of Teacher Education Programme**

- a) Concept of evaluations in teacher education programme
- b) Importance of evaluation in education
- c) Types of evaluations
- d) Internship programme

#### **Term Paper :( Any one)**

- One term paper on any topic related with the about unit.
- Prepare a report on latest rules & regulation of any one educational agency.
- Study of the annual report SCERT/NCERT/RIE to identify various programmes for professional development of teacher education.

#### **References:**

1. सेन, अमृत (2008), अध्यापक शिक्षा, इंडियन पब्लिशर्स एण्ड डिस्ट्रीब्यूटर्स, नई दिल्ली।
2. अग्निहोत्री रविन्द्र (2007), आधुनिक भारतीय शिक्षा की समस्याएँ और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
3. जोशी दिनेश सिंह (2007), मेहता चतरसिंह, शिक्षक प्रशिक्षण के सिद्धान्त एवं समस्याएं राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
4. भट्टाचार्य जे.सी.ए (2007), अध्यापक शिक्षा, अग्रवाल पब्लिकेशन्स, आगरा।
5. रूहेला, एस. पी. (2007), विकासोन्मुख भारतीय समाज में शिक्षण और शिक्षा, अग्रवाल पब्लिकेशन, आगरा।
6. सिंह, मयाशंकर (2007), अध्यापक शिक्षा गुणात्मक विकास अध्ययन पब्लिशर एण्ड डिस्ट्रीब्यूटर, दिल्ली।
7. Lomax Donald. E. (1973), *The Education of Teachers in Britain*, John Wiley & Sons, London
8. Shrivastava. R. C. and Bose. K. (1973), *Theory and Practice-Teacher Education in India*. Chug Publication, Allahabad.
9. Willey, F.T. and Meddision. R.B. (1971), *An Inquiry into Teachers Training*, University of London Press Ltd., London

10. Hallard, F. H. (1971), *Teaching the Teacher-Trends in Teacher Education*, George Allen and Unwin Ltd. London.
11. Edmund. J. King (1970), *The Teacher Education*, Holt Rinehart Winston, London,.
12. Mukherjee, S.N. (1968), *Education of Teachers in India (Vol. I)*. S. Chand & Co. Delhi
13. Stinnet. T.M. (1965), *The Profession of Teaching*, Prentice Hall of India Pvt. Ltd. New Delhi
14. Pires, S.A. (1958), *Better Teacher Education*, Delhi University, Delhi
15. Rugg. H. (1952), *Training of Teachers*, Harper Bros.

#### Semester IV

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 402	Academic Writing (ISB)	CC	2		50	Practical & Viva-Voce	50

#### UNIT I General Writing

- a) Prepare a base review (any reference book)
- b) Script/Story (Drama)
- c) Prepare two content lesson of B. Ed. syllabus. (any two)

#### UNIT II Research Work Writing

- a) Prepare an Article on current topic.
- d) Present a Seminar paper (National/State/International)
- e) Prepare a desertation summary

#### Term Paper : (Any one)

Prepare a term paper on any topic related with above unit.

#### Semester IV

Course code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED403	Dissertation	CC	4		100	(Dissertation-60+Viva-Voce-40)	100

**Dissertation:** Each candidate for the M.Ed. degree is required to investigate a research problem in the field of education and submit a dissertation embodying the results of his/her investigation.

**Viva-Voce Board :** The Viva-Voce board will consist of the following two persons:

- The External Examiner
- The Head of the Department

### Semester IV

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 404	<b>Specialization on courses - I</b> <b>Area (a) : Educational Administration and Managements</b> Principles of Educational Administration and Management	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To develop the fundamental perspective of the theoretical tenants of administration and management.
- ❖ To understand the relationship between educational administration and human relations to enhance the effectiveness of organization.
- ❖ To know and analyze the causes and types of role conflicts in organization and resolve them.
- ❖ To be acquainted with the procedure of decision making and scientific management.
- ❖ To make the students with new trends and techniques of educational management.

**Course Contents:**

**Unit -I Educational Administration and Management**

- a) Concept, Nature, Scope and Development of Administration and Management.
- b) Historical Development and Contribution.
- c) Modern Development : Scientific Management Approach, System Approach, Situational Approach.
- d) Competency Concept of Graft, Administrative Behaviour - Halpin

**Unit -II Educational Organization**

- a) Meaning and principles of Educational Organization.
- b) Organizational Behaviour & Climate - Maslow's theory of needs and job satisfaction.
- c) Organizational Development : Structural patterns, Analysis of factors affecting the organization.

**Unit -III Educational Leadership and Decision Process**

- a) Concept, Types and Styles of Educational Leadership.
- b) Models of Leadership : Ohio State model, Managerial Greid Model.
- c) Concept, Types and styles of Decision making.
- d) Models and Process of Decision making.

**Unit -IV Educational schemes and agencies**

- a) Educational Administration Policies : Post 1986 Development.
- b) Centrally sponsored schemes and Role of state level Educational Administration.
- c) Various agencies related to Educational Administration at state and National level and their functions.

**Term Paper : (Any one)**

1. Prepare a report on recent state/central level schemes related to education and their administration.
2. Prepare a report on any agency related to educational administration at state/National level and its major functions.
3. Prepare ppts on historical development and important contribution related to principles of educational administration and management.
4. Prepare ppts on survey report related to organizational climate of any educational institute and their related remedies.

**References:**

1. मिश्रा महेन्द्रकुमार, (2008), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, यूनिवर्सिटी बुक हाऊस (प्रा.) लि., जयपुर
2. सुखिया उस. पी. (2008), विद्यालय प्रशासन, संगठन एवं स्वास्थ्य शिक्षा, विनोद पुस्तक मंदिर आगरा
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4. वर्मा, जे. पी. (2007), शैक्षिक प्रबन्धन, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
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8. सिंह रामपाल, शर्मा मदनमोहन, सेवानी अशोक, (2007), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, विनोद पुस्तक मंदिर, आगरा
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10. बघेला एच. एस., (2007), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, राजस्थान प्रकाशन, जयपुर
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12. मोहन्ती, जे. शैक्षिक प्रबन्धन एवं प्रकाशन, दीप एवं दीप पब्लिकेशन, नई दिल्ली।
13. गुप्ता, एल. डी. उच्च शैक्षिक प्रशासन, हरियाणा साहित्य अकादमी, चण्डीगढ़।
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15. Tarachand and Ravi Prakash (1997), Advanced Educational Administration, Kanishka Pub., New Delhi.
16. Chandrasekaran, Premila (1994), Educational Planning and Management, Sterling Publishers, New Delhi
17. Compbell, R. F., John E. Coorabally and John A. (1962), Introduction to Educational Administration, Allynand Bacan, Boston.
18. Griffiths, David (1959), Administrative Theory, Appletion Century Crafts. Inc. New York.

**Semester IV**

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 405	Area (b) Educational Technology Principles of Educational Technology	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To acquaint the students with the concept, definition and Scope of educational technology.
- ❖ To acquaint the students with the system approach, communication process and content analysis.
- ❖ To enable the students to understand about the principles of programmed learning.
- ❖ To acquaint the student about the role of instructional technology.
- ❖ To acquaint the student about the teaching model.

**Course Contents:**

**Unit - I Concept of Educational Technology**

- a) Educational Technology: Concept, its definition, nature, scope.
- b) Forms of educational technology: teaching technology, instructional technology and behavior technology.
- c) Approaches of educational technology: Hardware Software and System approach.

**Unit-II Communication & its Process**

- a) Communication in education, communication process, types, communication in teaching learning.
- b) Comparative study of memory, understanding and reflective level of teaching.
- c) Content analysis.

**Unit- III Models of Teaching Technology**

- a) Teaching Models: Concept, characteristics.
- b) Glasser's Basic Training Model.
- c) Creativity Teaching Model.

**Unit-IV Programme Learning Approaches**

- a) Programmed Learning: Meaning, characteristics, principles.
- b) Types of programmed learning: Linear and branching.
- c) Advantages and limitations of programmed learning.

**Term Paper : (Any one)**

- Preparation and administration of programmed learning materials (at least 20 frames) or Development of a computer programme on a topic.
- Preparation of any two low cost teaching aid/ PPT Preparation

**Suggested Reading:**

1. मित्तल, सन्तोष (2008), शैक्षिक तकनीकी एवं कक्षा कक्ष प्रबंध, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
2. सिंह, कर्ण (2008), शैक्षिक तकनीकी एवं प्रबंध, लखीमपुर – खीरी, गोविन्द प्रकाशन।
3. अग्रवाल जे. सी. (2007), शैक्षिक तकनीकी तथा प्रबंध के मूलतत्त्व, विनोद पुस्तक मंदिर, आगरा।
4. शर्मा, संदीप एवं पारीक, अलका (2007), शैक्षिक तकनीकी एवं कक्षा-कक्ष प्रबंध, जयपुर : शिक्षा प्रकाशन।
5. कुलश्रेष्ठ, एस.पी. (2005), शैक्षिक तकनीकी के मूल आधार, विनोद पुस्तक मंदिर, आगरा।
6. Sampath, K. Painiselvam A. and Santhanam (1981), Introduction to Educational Technology New Delhi, Sterling (P) Ltd..
7. Nickson. M. (1981), Educational Technology Technology: A Systematic Approach for Teachers. London,

8. Sharma, R.A. (1980), Technology of Teaching, Meerut, International Publishing House, (Also available in Hindi)
9. Dale, E. (Ed.) (1973), Audio-Visual Methods in Teaching (Revised Edition) N.Y. Holt Rinehart and Winston Inc..
10. Amidon, E.J. and John B.H. (1967), Interaction Analysis: Theory Research & Application Addison Wesley Publishing Co. Reading Messachusetts, Lonson,.
11. Wardlock Educational Thomas, C.A., (1963) : Programmed Learning in Perspective-Aguide to programme writing, Banking Essex, Adelphi.
12. Green, E.J.(1960),The Learning Process & Programmed Instruction. NY.Holt, 1968, Rinehart & Winston Inc.
13. Buch,M.B. & Santhanam M.R. : Communication in Class Room CASE Baroda.

#### Semester IV

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 406	<b>Area (c) Measurement and Evaluation</b> Principles of Measurement and Evaluation	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To understand the meaning and basic concepts of measurments and Evaluation.
- ❖ To differentiate between measurement and evaluation.
- ❖ To acquaint the students with new trends in examination reforms.
- ❖ To develop critical thinking the students to understand the process of test development and their standardization.

**Course Contents :**

**Unit : I Concept of Measurement and Evaluation**

- a) Measurment: Physical vs. Psychological and Educational Measurement
- b) Differentiate between Measurment and Assessment
- c) Types of Evaluation
  - Placement Evaluation
  - Formative Evaluation
  - Summative Evaluation
  - Diagnostic Evaluation
  - Prognostic Evaluation

**Unit : II Measurment of Learning and Achievement**

- a) Norm-referenced Test vs. criterion reference Test
- b) Scale, Test, T-score, Z-score
- c) Construction of an Achievement Test



- Blue print
- Try out of the test
- Item-analysis
- Difficulty Level, Discrimination Power Index

**Unit : III Standardization of Test**

- a) Standardization Procedures for a test administration, Scoring and reporting
- b) Teacher made Test vs. Standardised Test
- c) Quality of a good Test
  - Validity
  - Reliability
  - Objectivity
  - Norms

**Unit : IV Assessment of Validity , Reliability and Norms**

- a) Concept, definition of validity, reliability and norms
- b) Types of validity, reliability and norms
- c) Determining degree of reliability and validity
- d) Factors affecting validity and reliability
- e) Relationship between validity and reliability

**Term Paper : (Any one)**

- Construct, Try out and done item analysis of a teacher made test.
- Calculating Reliability of a test with using any methods.
- Establishing validity of a test with using any methods

**Suggested Reading:**

1. Ferguson , George A.(1971), Statistical Analysis in Psychology and Education. MC-Graw Hill Kegakusha Ltd.
2. Anastasi, A. (1970), psychological Testing, Macmillan New Delhi.
3. Gailford,J.P.& Frutcher,B (1970), Fundamental Statistics in psychology and education MC Graw-Hill Kagakush Ltd.
4. Grounlund, N. E. (1968) Measurement and exaluation in Teaching Macmillan co.
5. Cronbach, L. J. (1960), Essential psychological Testing, New York: Harper
6. Bloom,B.S. (1956), Taxonomy of Objectives "Cognitive Domain", Logman,New York.

**Semester IV**

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 407	<b>Specialization on courses - II</b> <b>Area (a) : Educational Administration and Managements</b> Educational Administration and Management Practice	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To acquaint the knowledge of different Education Administrative Structure in India.
- ❖ To know about various procedures of Educational Supervision and Co-ordination.
- ❖ To develop understanding of the concept and forms of Educational Management.
- ❖ To gain knowledge about the concept and principal of Financial Management.
- ❖ To assess the understanding about different Contemporary Trends in Educational Management.

**Course Contents:**

**Unit- I Educational Administrative Structure in India**

- a) Concept, need, Characteristics, Principles, Functions, Scope, Educational administration and Educational Management.
- b) Level : Panchayat and Zilla Parishad, District.
- c) Level : State and Central
- d) Control and Pressures on Educational Administration.

**Unit- II Educational Supervision and Co-ordination**

- a) Concept, need, Scope of Supervision
- b) Procedure and Process of Supervision
- c) Co-ordination - Concept, Need, Scope

**Unit- III Communication in Educational Administration and Management**

- a) Concept, need, scope
- b) Types and forms
- c) Process and Function
- d) Delimitation

**Unit- IV Educational Financial Management and Contemporary Trends in Educational Management**

- a) Concept, need, scope, Types, Principles Financial Management.
- b) Budget, Concept, need, types, process.
- c) T.O.M. Total Quality Management.
- d) Time Management

**Sessional Works: (Any one)**

- Prepare a case study report of the organizational climate of a school.
- Prepare a financial budget report of a particular school.
- Prepare a two term paper of the content P.P.T.
- Abstracts of two recent articles related to Educational Administration and Management.

**References:**

1. मिश्रा महेन्द्रकुमार (2008), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, यूनिवर्सिटी बुक हाऊस (प्रा.) लि., जयपुर
2. सुखिया उस. पी. (2008), विद्यालय प्रशासन, संगठन एवं स्वास्थ्य शिक्षा, विनोद पुस्तक मंदिर आगरा
3. प्रसाद केशव (2008), विद्यालय व्यवस्था, विनोद पुस्तक मंदिर आगरा
4. सिंह मया शंकर (2007), शैक्षिक प्रबंधन एवं शिक्षण तकनीकी, अध्ययन पब्लिशर्स एंड डिस्ट्रीब्यूटर्स, नई दिल्ली
5. ओड़ एल. के. (2007), शैक्षिक प्रशासन, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

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9. पाण्डेय रामशक्ल (2007), शैक्षिक नियोजन और वित्त प्रबन्धन, विनोद पुस्तक मंदिर, आगरा
10. बघेला एच. एस. (2007), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, राजस्थान प्रकाशन, जयपुर
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12. Choudhary, Namita Roy (2000), Management in Education, A.P.H. Pub. Corporation, New Delhi
13. Sapra, C.L. Towards and Beyond (2000), Preparation of Educational Managers.
14. Delors Jacques, (1998), Education for the 21<sup>st</sup> Century: Issues and Prospects. UNCESCO
15. Vyas, Suresh (1998), HRD priorities, Pointer Publishers, Jaipur
16. Ranganathavi, Snehlata (1996), Educational Reform and Planning Challenge. Kanishka Pub. New Delhi
17. Sundar Ram D. (ed.) (1996), Dynamics of District Administration- A New Perspective, Kanishka Pub.
18. Weihrich, Heinz, Koontz Harold (1993), Management: Global Perspective, Mcgraw Hill, New York
19. Treasury (1984), Economic Management, Government Printer, Wellington
20. Nwankwo, John I. (1982), Educational Administration, Theory and Practice, Vikas Pub. House, New Delhi
21. Tanner, C. Kenneth, Williams Eart J. (1981), Educational Planning and Decision making, Lexington Books Massachusetts
22. Martin John. Rich. (1972), Conflict and Decision analyzing Educational issues. Harper & Row pub.

#### Semester IV

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 408	<b>Area (b) Education Technology</b> Innovative Methods and Techniques in Educational Technology	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will be able:

- ❖ To understand the idea of Methods, Techniques and Models of Teaching Technology.
- ❖ To develop knowledge of Various Teaching Methods and Techniques.
- ❖ To acquire the knowledge of new trends in teaching technology.
- ❖ To apply teaching for effective and innovative class room teaching.

**Course Contents:**

#### **Unit - I Concept of Innovation and Objective**

- a) Innovation : Meaning, Definition and Characteristics.
- b) Methods : Concept, Characteristics and Utility.

- c) Components of Instructional Process: Objectives, Concept and Methods.
- d) Formulation objective domains of behaviour :
  - Cognitive
  - Affective
  - Psychomotor

#### **Unit - II Principal Methods of Teaching**

- a) Democratic Methods : (Concept, Merits and Limitation)
  - Project
  - Laboratory
  - Excursion
  - Group Discussion
  - Problem Solving
  - Programme Learning
  - Brain Storming
  - Review Methods
  - Hueristic Method
  - Co-operative Learning Methods
- b) Auto-cratric methods (Concept, Merits and Limitation)
  - Demonstration
  - Team Teaching

#### **Unit - II Innovative Techniques of Teaching Technology**

- Video - conferencing
- Questioning
- Illustration
- Exposition
- Comparison
- (CAI) Computer Assisted Instruction)
- Reflective dialogue
- Online classes/E-learning

#### **Unit -IV Models of Teaching Technology**

- a) Interaction Analysis (Flander's)
- b) Social Learning Models (Bandura)
- c) Advance Organizer Teaching Model (David Ausubel)
- d) Developmental Teaching Model (Jean- Piaget)

#### **Term Paper: (Any one)**

- Write one term paper.
- Prepare a lesson plan with using any innovative methods.
- Prepare a Teaching model with examples

**References:**

1. सिंह, कर्ण, (2008), शैक्षिक तकनीकी एवं प्रबन्ध, लखीमपुर – खीरी, गोविन्द प्रकाशन
2. शर्मा, संदीप एवं पारीक, अलका (2007), शैक्षिक तकनीकी एवं कक्षा-कक्ष प्रबन्ध, शिक्षा प्रकाशन, जयपुर
3. कुलश्रेष्ठ, एस.पी. (2005), शैक्षिक तकनीकी के मूल आधार, विनोद पुस्तक मंदिर, आगरा
4. Hillard R.I. (1973), Writing for T.V. and Radio N.Y. Hastings House
5. Philips, Lewis (1971), Educational Television Guide Book N.Y. : Mc.Graw
6. Cassire. Henry R. (1962), Television Teaching Today Paris, UNESCO

**Semester IV**

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 409	<b>Area (c) Measurement and Evaluation</b> Tools and Techniques of Evaluation in Education	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

1. To understand the process and performance through using various types of test items.
2. To acquaint the knowledge of preparing tools link Check list, Rating scales, Questionnaires etc.
3. To develop understanding about various Evaluation procedures
4. To obtain the knowledge of objectives in Evaluation
5. To know preparation of achievement and diagnostic tests and complete question paper.

**Course Contents:****Unit : I Role of Testing of Non-Testing Techniques in Educational Evaluation**

- a) Purpose and Function of Testing in School
- b) Interpretation of Raw Score to Standard Score
- c) Types of psychological Tools
  - Questionnaires
  - Check list
  - Rating Scale
  - Interest inventories
  - Sociometric techniques
  - Interview Schedule

**Unit : II Taxonomy of Evaluation and Objectives**

- a) B.S.Bloom's Taxonomy of Objectives
  - Cognitive Domain
  - Affective Domain
  - Psychomotor Domain
- b) Oral Test vs. Written Test

- c) Speed Test vs. Speeded Test
- d) Objective vs. Subjective Test
- e) Objective based Evaluation Procedure

**Unit : III Measurement of Psychological Trait**

- a) Intelligence test
- b) Personality Inventories
- c) Attitude Scale ( Likert and Thurston Scale)
- d) Measurement of creativity (Verbal vs Non-verbal)

**Unit : IV Uses and Limitations of Test Norms**

- a) Item Analysis -Purpose and Procedure
- b) Discrimination Power & Difficulty Index-methods of calculation
- c) Distractor Factor and its needs in a test
- d) Types of Norms: Age,Grade, Percentile, T and Z Score norms
- e) Types of Scale
  - Cardinal Scale
  - ordinal Scale
  - Interval Scale
  - Ratio Scale

**Term paper : (any one)**

- Write any two term paper in the content
- Prepare any one questionnaire for a test.
- Develop a Check List or Interview Schedule.

**Suggested Reading:**

1. Grounland, N.E. (2003), *Educational Measurement & Assessment in Education*, Macmillan co. (8th Edition)
2. Ferguson, George (1971), *A Statistical Analysis in Psychology and Education* (3rd Edition), Mc.Graw hill,New Delhi
3. Dayton, C. (1970), *The Design of Educational Experiments*, MC Graw Hill, New Yoek
4. Edwards A.L. (1970), *Techniques of Allitude Scale Construction* , Mc Graw Hill, New York
5. Anastasi , A. (1968), *Psychological Testing* (3rd Edition) Macmillan , New York
6. Adams, G. S. (1966), *Measurement and Evaluation in Education, Psychology and Guidance*, Hott Rinehart and Winston, New York
7. Vernon ,P.E. (1965), *The Measurement of Abilities*, University of London Press Ltd.
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9. Freeman, F.S. (1962), *Theory and Practice of Psychological Testing*, Oxford and I.B.H. Publication company, New Delhi (3rd Edition)

## Semester IV

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 410	<b>Specialization on courses - III</b> <b>Area (a) : Educational Administration and Management</b> Modern Trends in Educational Administration and Management	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ To develop an insight into modern perspectives and trends of Educational Administration and Management.
- ❖ To acquire the knowledge of Educational Management at different levels through scientific management.
- ❖ To develop the managerial skills through data analysis, planning proposals and decision making process.
- ❖ To develop knowledge of accreditation process, finance management and its application.
- ❖ To understand the planning procedure, human resource management and some new trends.

**Course Contents:**

### **Unit- I Educational Management and Its Levels**

- a) Educational Management - Concept, Scope and Characteristics of good management
- b) Difference between Educational Administration and Education Management
- c) Management at different levels - Elementary, Secondary and Higher Education
- d) Scientific Management through PERT, CPM and PPBS

### **Unit - II Resource Management**

- a) Resources : Types, Scope and Need in Organization
- b) Human resource management : Staff recruitment and cadre management policies and practices
- c) Performance appraisal, Grievance redressal mechanism & Teacher's union
- d) Conflict Management : Types of Conflict, Getzel's theory and Conflict management

### **Unit - III Planning and Financial Management**

- a) Educational planning : Concept, Types and Approches
- b) Appraisal and Analysis of Educational Data, formulation of policy and planning proposal
- c) Finance Management : Process of financing, Types of Educational Expenditure, Monitoring, Accounting and Auditing
- d) Resource Mobilization & Finance, Project Analysis, Criteria for allocation of funds

### **Unit - IV Evaluation and Accreditation**

- a) Evaluation of Educational Management : Summative & Formative
- b) Accreditation & Appraisal of Institute : Objective, Guidelines & Types
- c) Administration - plan & non plan schemes and provisione at central and state level
- d) Educational management information system (EMIS), Project management information system (PMIS)

### Term Paper : (Any one)

- Prepare a report related to performance appraisal of any educational administrative unit.
- Prepare a review report for educational Programmes at state level.
- Prepare a critical report for human resource development programmes in any organization.
- Prepare PPTs related to summative and formative evaluation structures of educational management evaluation.
- Prepare PPTs for monitoring and auditing related to observation for financial management.

### References:

1. प्रसाद केशव (2008), विद्यालय व्यवस्था, विनोद पुस्तक मंदिर आगरा
2. सिंह मया शंकर (2007), शैक्षिक प्रबंधन एवं शिक्षण तकनीकी, अध्ययन पब्लिशर्स एंड डिस्ट्रीब्यूटर्स, नई दिल्ली
1. वर्मा जे. पी शैक्षिक प्रबन्धन (2007), राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
2. सिडाना अशोक शर्मा, अंजलि (2007), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, शिक्षा प्रकाशन, जयपुर
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4. पाण्डेय रामशक्ल (2007), शैक्षिक नियोजन और वित्त प्रबन्धन, विनोद पुस्तक मंदिर, आगरा
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12. Sundar Ram D. (ed.) (1996), Dynamics of District Administration- A New Perspective, Kanishka Pub.
13. Wehrich, Heinz, Koontz Harold, (1993), Management: Global Perspective, Mcgraw Hill, New York
14. Timer Thomas B., Kirp David, L. (1988), Managing Educational Excellence, The Faner Press Philadelphia
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16. Ellio Zapulla, (1983), Evaluating Administrative performance : Current trends and techniques, Star Pub. California 1983
17. Tanner, C. Kenneth, Willams Eart J. (1981), Educational Planning and Decision making, Lexington Books Massachusetts
18. Hall, Richard H. (1977), organizations, Structure and Process, Prentice Hall Inc. New Jersey
19. Sayles Leonard R. Strauss George (1977), Managing Human Resources, Prentice Hall, Inc. New Jersey
20. Martin John. Rich. (1972), Conflict and Decision analyzing Educational issues. Harper & Row publication.



## Semester IV

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 411	<b>Area (b) Education Technology</b> Educational Technology and Computer Application	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the student will able:

- ❖ Students will become aware of various ICT trends.
- ❖ Students will be able to use computer for their studies and get the general introduction about windows operating system.
- ❖ Students can create presentation and use MS Word for their text formatting
- ❖ Students will know how to create simple marksheet and will be able to use Internet for their study purpose.

**Course Contents:**

### Unit - I I C T in Education

- a) ICT : Concept, Characteristics, Importance
- b) Challenges for ICT
- c) Multimedia Approaches :
  - Video conferencing
  - Online classes
  - Smart Classes

### Unit - II Introduction to Computers and Windows Operating System

- a) Introduction to Computers
  - Definition , Application & Block Diagram of Computer
  - Computer Memory, Hardware &Software
  - I/O Devices
- b) Introduction to Windows OS
  - Features of Windows OS
  - Basic Components of Windows OS- Desk Top, Task Bar, System Tray, Icons, Control Panel, File & Folder Management

### Unit - III Introduction to MS-Word & Ms-Power Point

- a) Introduction to MS-Word
  - An overview of the basics of word processing
  - Editing and Formatting Documents
  - Use spell check , grammar check & Thesaurus
  - Creating Tables
  - Introduction to Ms-PowerPoint
  - Creating an effective presentation using power point

#### **Unit - IV Introduction to MS-Excel & Internet**

##### **a) Introduction to MS-Excel**

- Creating an excel worksheet
- Using formula & functions
- Creating Charts & Graphs

##### **b) Introduction to Internet**

- Introduction to Internet, Web Browser and Search Engine
- Surfing the Net using search engines and download
- Email

#### **Term Paper : (Any one)**

- Write one term paper.
- Prepare a P P T lesson with any concept of this paper.

#### **References:**

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8. Green, E. J. (1960), The Learning Process & Programmed Instruction. NY. Holt, 1968, Rinehart & Winston Inc.
9. Ferguson, George (1971), A Statistical Analysis in Psychology and Education (3rd Edition), Mc.Graw hill, New Delhi
10. Dayton, C. (1970), The Design of Educational Experiments, MC Graw Hill, New York
11. Edwards A.L. (1970), Techniques of Allitude Scale Construction, Mc Graw Hill, New York
12. Anastasi, A. (1968), Psychological Testing (3rd Edition) Macmillan, New York
13. Adams, G. S. (1966), Measurement and Evaluation in Education, Psychology and Guidance, Holt Rinehart and Winston, New York
14. Vernon, P.E. (1965), The Measurement of Abilities, University of London Press Ltd.
15. Numally Jum, C. (1964), Educational Measurement and Evaluation, MC Graw Hill Book Company New York
16. Freeman, F.S. (1962), Theory and Practice of Psychological Testing, Oxford and I.B.H. Publication company, New Delhi (3rd Edition)

## Semester IV

Course Code	Course Title	Course Category	Credit	CIA	Unit End Test	Term Paper	Total
MED 412	<b>Area (c) Measurement and evaluation</b> New Trends in Educational Assessment and Statistics	Choose any one area which will comprise of three papers CE	4	20	60	20	100

**Learning Outcomes:** After completion of this course the students will able:

- ❖ To grasp the holistic idea about Educational Assessment.
- ❖ To enhance skill of new trends in education.
- ❖ To apply and diagnose the learning errors of evaluation.
- ❖ To develop the knowledge and basic use of statistics in education.
- ❖ To create innovation in examination system (CBCS).

**Course Contents:**

### Unit - I New Trends in Education

- a) Grading System Vs. Marking System.
- b) Continuous and Comprehensive Evaluation (CCE)
- c) Question Bank and Examination Reforms.
- d) Use of Computer in Evaluation and open book system of Examination.
- e) Semester System and Choice Based Credit System. (CBCS)

### Unit - II Diagnostic Test and Remedial Instruction

- a) Needs of Educational Diagnosis in Elementary and Secondary Schools.
- b) Purpose of Diagnostic Test
- c) Preparation Diagnostic Test
- d) Remedial Instruction : Concept, Procedure and Needs.
- e) Preparation of Remedial Test

### Unit - III Measure of Central Tendency

- a) Mean and its uses
- b) Median and its uses
- c) Mode of and uses

### Unit - IV Measure of Variability

- a) Range
- b) Quartile Deviation
- c) Average Deviation
- d) Standard Deviation

**Term Paper : (Any one)**

- Prepare a diagnostic test or remedial material.
- Write a short notes about new trends of Evaluation in Education.
- Collection and prepare a question bank (minimum five years).
- Choose a problem and calculate Mean, Median, Mode and Standard in the same problems.

**References:**

1. National Council of Educational Research and Training (2008). Source Book on Assessment for class I-V: Social Science. New Delhi: NCERT
2. Cooper, D. (2007), Talk About Assessment, Strategy and Tools to Improve Learning. Toronto: Thomson Nelson.
3. Earl, L.M. (2006), Assessment of Learning: Using Classroom Assessment to Maximize Student Learning. Thousand Oaks, Clifornia: Corwin Press.
4. National Council of Educational Research and Training (2006). Position paper: Examination Reform. New Delhi: NCERT
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8. Kaplan, R.M. & SaccuzzoD.P. (2000), Psychological Testing, Principles, Application& Issues. California: Wordsworth.
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10. Hopkins, KD. (1998). Educational and Psychological Measurement and Evaluation. Boston: Allyn and Bacon.
11. Macmillan, J.H. (1997), Classroom Assessment, Principles and Practice for Effective Instruction. Boston: Allyn and Bacon.
12. Aggrawal, J C. (1997), Essential of Examination System, Evaluation, Test and Measuremnt. New Delhi: Vikas Publishing House Pvt. Ltd.
13. Chohen, R.J., Swerdlik, M.E., & Phillips, S.M. (1996), Psychological testing and Assessment. An Introduction to the Test and Measurement. California: Mayfield Publishing Co.
14. Noll, N.H. S cannell, D.P. & Craig, RC. (1979), Introduction to Educational Measurement. Boston: Houghton Mifflin.
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# SYLLABUS

## DEPARTMENT OF EDUCATION

**Bachelor of Arts-Bachelor of Education (B.A- B. Ed.)**

**Four Years Integrated Regular Programme**



*'A' Grade by NAAC & 'A' Category by MHRD*

**JAIN VISHVA BHARATI INSTITUTE**

(Deemed to be University under section 3 of UGC Act, 1956)

**Ladnun-341306 (Raj.)**

**2017**

**Price : Rs. 100/-**

# **Bachelor of Arts-Bachelor of Education (B.A- B.ED.)**

## **Four Years Integrated Regular Programme**

Jain Vishva Bharati Institute has launched a Bachelor of Education programme recognized by NCTE. The first session started from July 2005 and B.A. B.Ed programme has started from October 2016. The programme places specific emphasis on meditation as a tool to enhance learning skills and I.Q. This programme is also the first national teachers training programme to offer study in Education for Sustainable Development. Innovative syllabus and enthusiastic faculty work towards not only training the teachers but also assisting them with campus recruitment. Jain Vishva Bharati Institute is looking forward to train a new class of future generation teachers.

### **1. Introduction :**

Enlightened, emancipated and empowered teachers lead communities and nation towards better and higher quality of life. Teachers are expected to create social cohesion, national integration and learning society. They disseminate knowledge and also generate new knowledge therefore, it becomes essential for any nation to give necessary professional inputs to its teachers. Jain Vishva Bharti Institute pursues the curriculum for its pre-service teacher training programme for women candidates who are far behind but can lead the whole nation. This will be a special programme focussed with a strong foundation in Science of Living. The candidates are encouraged to flourish an environment that promotes value and technology based society.

**Duration:** The B.A. B.Ed programme is full time four years Integrated programme.

**Eligibility:** A candidate who has passed senior secondary from any recognized Board and qualified entrance test conducted as per guideline of State Government.

### **Objectives:**

- ❖ To give the subject knowledge of graduation level.
- ❖ To develop professionalism in teacher Education Programme.
- ❖ To motivate creative thinking and work among teacher trainees.
- ❖ To foster moral, social character and spiritual values of trainees.
- ❖ To develop Inter-relationship among Department, School and Society.
- ❖ To develop cognitive, Affective and Psycho-motor domain of the teacher trainees
- ❖ To promote for future Prospective, Employability and Skill based Teacher Training
- ❖ To develop Self Evaluation, Positive Attitude and self confidence
- ❖ To apply educational innovation and new strategies of the Teacher Education and trainees.

### **Scheme of Examination**

1. Hindi/English shall be medium of instruction of examination.
2. Examination shall be conducted at the end of each semester as per the academic/ examination calendar notified by the Institute.
3. Each Theory paper will be valued as per marks division given in the prospectus which will include semester end Theory exam. Practical (wherever applicable) and continuous internal assessment (CIA).

4. CIA will include the following components :
- |                              |                 |
|------------------------------|-----------------|
| ▪ Attendance regularity      | 10 marks        |
| ▪ Class Tests                | 05 marks        |
| ▪ Assignments                | 10 marks        |
| ▪ Class Presentation/Seminar | 05 marks        |
| <b>Total</b>                 | <b>30 marks</b> |

For UG students to pass a semester, a student has to secure a minimum of 40% marks in aggregate and minimum of 36% marks in individual theory papers. A student has to pass in written examination.

**Evaluation Panel:**

CIA Concerned Two Subject teacher nominated by the HOD of the Department.

**Internship Evaluation Panel:**

- ❖ Pre-Internship and Post Internship
  - HOD of the concerned Department
  - Departmental Supervisor/School Head Master/Principal of the School/Nominated School Teacher

**Final Lesson Panel: (Two Teaching Subject)**

- ❖ HOD of the concerned Department
- ❖ Internal/External Subject Expert

**EPC Evaluation Panel:**

Theory/Practical and viva-voce Examination Panel will be:

- HOD of the concerned Department.
- Internal Subject Expert.

**(B.A. - B.E.d.)****Semester I**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 101	Childhood and Growing Up	CC	4	30	70	100
BAE 101	Hindi Literature	Any Three CE	4	30	70	100
BAE 102	English Literature					
BAE 103	Sanskrit Literature					
BAE 104	History	CE	4	30	70	100
BAE 105	Political Science					
BAE 106	Sociology					
BAE 107	Geography	CE	4	30	50+20 (Only Geography Practical) 70	100
BAE 108	Economics					
BAE 109	Home Science					
JVB 101	Introduction to Jainism	FC	4	30	70	100
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

**Semester II**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 201	Assessment For Learning	CC	4	30	70	100
EDU 202	Learning And Teaching	CC	4	30	70	100
BAE 201	Hindi Literature	Any Three CE	4	30	70	100
BAE 202	English Literature					
BAE 203	Sanskrit Literature					
BAE 204	History	CE	4	30	70	100
BAE 205	Political Science					
BAE 206	Sociology					
BAE 207	Geography	CE	4	30	50+20 (Only Geography Practical) 70	100
BAE 208	Economics					
BAE 209	Home Science					
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>



**Semester III**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 301	Understanding Discipline and Subjects	Any one CE	4	30	70	100
EDU 302	Innovative Methods					
BAE 301	Hindi Literature	Any Three CE	4	30	70	100
BAE 302	English Literature					
BAE 303	Sanskrit Literature					
BAE 304	History					
BAE 305	Political Science	CE	4	30	70	100
BAE 306	Sociology	CE	4	30	50+20 (Only Geography Practical) 70	100
BAE 307	Geography					
BAE 308	Economics					
BAE 309	Home Science					
JVB 301	Critical Understanding of ICT	FC	2	15 Practical	35	50
JVB 302	Yoga and Preksha Meditation	FC	2	15 Practical	35	50
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 401	Gender, School and Society	CC	4	30	70	100
EDU 402	Reading and Reflecting on Texts (EPC)	CC	2	15	35 Practical & Viva-Voce	50
EDU 403	Drama and Arts in Education (EPC)	CC	2	15	35 Practical & Viva-Voce	50
BAE 401	Hindi Literature	Any Three CE	4	30	70	100
BAE 402	English Literature					
BAE 403	Sanskrit Literature					
BAE 404	History					
BAE 405	Political Science	CE	4	30	70	100
BAE 406	Sociology	CE	4	30	50+20 (Only Geography Practical) 70	100
BAE 407	Geography					
BAE 408	Economics					
BAE 409	Home Science					
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

**Semester V**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 501	General English	CC	4	30	70	100
EDU 502	Contemporary India and Education	CC	4	30	70	100
BAE 501	Hindi Literature	Any Three CE	4	30	70	100
BAE 502	English Literature					
BAE 503	Sanskrit Literature					
BAE 504	History					
BAE 505	Political Science	CE	4	30	70	100
BAE 506	Sociology	CE	4	30	50+20 (Only Geography Practical) 70	100
BAE 507	Geography					
BAE 508	Economics					
BAE 509	Home Science					
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

**Semester VI**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 601	General Hindi	CC	4	30	70	100
EDU 602	Pre- Internship	CC	4	100 Pre- Internship		100
BAE 601	Hindi Literature	Any Three CE	4	30	70	100
BAE 602	English Literature					
BAE 603	Sanskrit Literature					
BAE 604	History					
BAE 605	Political Science	CE	4	30	70	100
BAE 606	Sociology	CE	4	30	50+20 (Only Geography Practical) 70	100
BAE 607	Geography					
BAE 608	Economics					
BAE 609	Home Science					
		<b>Total</b>	<b>20</b>	<b>120</b>	<b>380</b>	<b>500</b>

**Semester VII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 701	Creating and Inclusive Education	CC	4	30	70	100
EDU 702	Language Across the Curriculum	CC	4	30	70	100
BAE 701	Hindi	Pedagogy of a School Subject Any two CE	4	30	70	100
BAE 702	English					
BAE 703	Sanskrit					
BAE 704	History					
BAE 705	Civics					
BAE 706	Social Science					
BAE 707	Economics					
BAE 708	Geography					
BAE 709	Home Science	CE	4	30	70	100
BAE 710	<b>Optional Course</b> Environmental Education	Any one CE	4	30	70	100
BAE 711	Health and Physical					
BAE 712	Guidance and Counseling					
BAE 713	Distance Education					
BAE 714	<b>5. Additional Course (Any one)</b>					
	5.1 Hindi					
	5.2 English					
	5.3 Sanskrit					
	5.4 History					
	5.5 Civics					
	5.6 Social Science					
	5.7 Economics					
	5.8 Geography					
	5.9 Home Science					
	<b>Total</b>		<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

**Semester VIII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU-801	Knowledge and Curriculum (Part-A)	Any one CC	4	30	70	100
EDU-802	Knowledge and Curriculum (Part-B)					
EDU-803	Post Internship	CC	16	160 Internship+ 120+120=240 Practical (Two Subjects final lesson)		400
	<b>Total</b>		<b>20</b>	<b>30</b>	<b>470</b>	<b>500</b>

- # EPC- Enhancing Professional Capacities
- # CIA-Continuous Internal Assessment
- # CC- Core Compulsory
- # CE - Core Elective
- # EC-Elective course
- # FC- Foundation Course

### Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU101	Childhood and Growing Up	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know the concept, methods & applications of Educational Psychology.
- ❖ To know the implication of Educational Psychology for school education.
- ❖ To know the concept of Growth & Development.
- ❖ To know the concept and developmental dimensions of childhood.
- ❖ To plan various activities to fostering imagination, creativity & interests at school level.
- ❖ To know about various aspect related to Cognitive, Emotional & Social development of learner.
- ❖ To aware about various activities for personality development & balanced mental health of a learner.
- ❖ To know the related problems of Adolescence & remedies through Guidance & Counselling services.

**Course Contents:**

#### **UNIT-I Educational Psychology and Development**

- a) Educational Psychology : Concept, Methods & Applications
- b) Implications of Educational Psychology: Teachers, Curriculum, Class-room Situations
- c) Indian Psychology : Concept and its implication
- d) Growth & Development
- e) Cognitive development:- Piaget & Bruner

#### **UNIT-II Childhood and Its Development**

- a) Childhood : Its concept & characteristics
- b) Childhood : Physical, Mental, Emotional, Social & Moral Development
- c) Childhood : Dimensions to fostering Imagination, Memory & Creativity
- d) Childhood : Activities for Personality Development
- e) Childhood : Language Development

#### **UNIT-III Adolescence and Its Development**

- a) Adolescence : Its Meaning & Characteristics
- b) Adolescence : Physical, Emotional, Social, Spiritual & Moral Development
- c) Adolescence : Fostering Thinking, Reasoning & Problem- solving abilities
- d) Adolescence : Activities for Personality Development
- e) Adolescence : Related Problems & Remedies
- f) Guidance & Counselling services in schools

#### **UNIT-IV Learner: Psychological Dimensions & New Trends**

- a) Personality : Concept, Types & Measurement
- b) Intelligence & Multiple Intelligence : Meaning, Theories & Measurement
- c) Creativity : Meaning, Development & Measurement
- d) Adjustment : Concept, Process & Mechanism
- e) Mental Health : Concept, Components & Scope

### Assignment & Practical Work (Any Two)

- Prepare a short term Project to enhance Imagination, Creativity and Memory for school level students
- Prepare, administer and interpret a Case study/ Questionnaire related to problems of adolescence
- One Assignment Work related to topics in above unit
- Organize various Guidance and Counseling campaign for secondary level students
- Administer, Score and interpret a standardized psychological test related to personality/Intelligence/ Creativity/ Mental Health/Adjustment
- Prepare a Survey report related to various psychological dimension, problems and related remedies for school students

### Suggested Readings:

1. Backett Chris (2004), Human Growth & Development, Sage Publication
2. Das, J. P. (1998), The Working Mind : An Introduction to Psychology, Sage Publication.
3. Chomsky, N. (1968), Language and Mind, Harcourt Brace, Jovanovich.
4. Singh Indramani & Parasuraman, Raja (1998) Human Cognition - A Multi Disciplinary Perspective, Sage Publication.
5. Baddeley, A. D. (1996) Human Memory : Theory and Practice, Washington, DC : Psychology Press.
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7. Brown J. (1976), Recall and recognition, London.
8. Piaget, J. (1970), Science of Education and The Psychology of child, New York : Orion Press.
9. Hurlock, Elizabeth B. (2007), Child Development, Tata Mc Grow-Hill Publishing Company Ltd. New Delhi
10. गुप्ता, एस.पी., गुप्ता, अलका, (2007), उच्चतर शिक्षा मनोविज्ञान, शारदा पुस्तक भवन, इलाहाबाद
11. पाठक, पी.डी., (2007), शिक्षा मनोविज्ञान, विनोद पुस्तक मंदिर, आगरा
12. मंगल, एस.के.,(2008), शिक्षा मनोविज्ञान, प्रिंटिस हॉल ऑफ इण्डिया प्राइवेट लिमिटेड, नई दिल्ली
13. मूरजानी जानकी, नारंग, दर्शन कौर एवं मणिका मोहन, बाल विकास का मनोविज्ञान, अपोलो प्रकाशन, जयपुर
14. यादव, सियाराम, (2008), अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, शारदा पुस्तक भवन, इलाहाबाद
15. शर्मा, जे.डी., (2008), मनोविज्ञान की पद्धतियाँ एवं सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
16. श्रीवास्तव, प्रमिला, (2008), बाल विकास एवं शिक्षा संदर्शिका, कनिष्क पब्लिशर्स, नई दिल्ली

## Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 101	Hindi Literature ( प्राचीन एवं मध्यकालीन काव्य)	Any Three CE	4	30	70	100

### उद्देश्य—

1. प्राचीन एवं भक्तिकालीन काव्य एवं कवियों से परिचित करवाना।
2. साहित्य के विभिन्न रूपों की जानकारी प्रदान करना।
3. विभिन्न साहित्यकारों की काव्यशैलियों से परिचित करवाना।

### इकाई I

1. आदिकाल: परिस्थितियाँ, नामकरण, प्रथम कवि, प्रथम रचना प्रमुख काव्य धाराएं उनकी सामान्य प्रवृत्तियाँ,
2. भक्तिकाल का सामान्य परिचय, प्रेरक परिस्थितियाँ, प्रमुख काव्य धाराएं एवं उनकी प्रवृत्तियाँ

### इकाई II

1. ढोला मारू रा दूहा:— सामान्य परिचय, काव्यगत विशेषताएं, संकलित दोहे— 26 से 50 दोहे (ढोला मारू रा दूहा— सं. रामसिंह, सूर्यकरण पारीक, नरोत्तमदास स्वामी, नागरी प्राचारिणी सभा काशी से)
2. हिन्दी काव्य संग्रह—सं. हेमराज मीणा, मीरा सरीन, केन्द्रीय हिन्दी संस्थान आगरा से  
क. कबीर के निर्धारित पद—1—8, साखियाँ—1—15  
ख. कबीर का काव्यगत विशेषताएं, समाज सुधारक रूप

### इकाई III

हिन्दी काव्य संग्रह—सं. हेमराज मीणा, मीरा सरीन, केन्द्रीय हिन्दी संस्थान आगरा से निर्धारित काव्यांश

1. नागमती वियोग खण्ड—जायसी
2. विनय के पद, भ्रमरगीत—सूरदास
3. भरत महिमा—तुलसीदास
4. जायसी, सूरदास और तुलसीदास की काव्यगत विशेषताएं

### इकाई IV

हिन्दी काव्य संग्रह—सं. हेमराज मीणा, मीरा सरीन, केन्द्रीय हिन्दी संस्थान आगरा से निर्धारित काव्यांश

1. मीरा के पद 1—11
2. रसखान के सवैया 1—13
3. मीरा एवं रसखान की काव्यगत विशेषताएं

### उपलब्धियाँ—

1. प्राचीन हिन्दी साहित्य का ज्ञान प्राप्त करेंगे।
2. भक्तिकालीन साहित्य से प्रेरणा प्राप्त कर जीवन में आध्यात्मिक मार्ग पर अग्रसर होंगे।
3. विभिन्न साहित्यकारों की लेखनशैली से परिचित होकर स्वयं की लेखन शैली विकसित कर सकेंगे।
4. प्राचीन एवं भक्तिकालीन साहित्य की जानकारी प्राप्त कर भावी प्रतियोगिता परीक्षाओं के लिये स्वयं को तैयार कर सकेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रंथ

1. ढोला मारू रा दूहा—एक अध्ययन—डॉ. कृष्ण बिहारी सहल आत्माराम एण्ड संस दिल्ली।
2. ढोला मारू रा दूहा—सं. मनोहर शर्मा राजस्थानी जनहित प्रन्यास बीकानेर।
3. हिन्दी साहित्य का इतिहास—सं. डॉ. नगेन्द्र, डॉ. हरदयाल मयूर पेपर बैक्स नोएडा।
4. हिन्दी साहित्य का इतिहास—आचार्य रामचंद्र शुक्ल नागरी प्राचारिणी सभा काशी।
5. हिन्दी साहित्य की भूमिका—आचार्य हजारी प्रसाद द्विवेदी, हिन्दी ग्रंथ रत्नाकर मुंबई।

## Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 102	English Literature (Poetry and Drama)	Any Three CE	4	30	70	100

### Objectives:

1. To enable the students to know about Elizabethan and Romantic Poetry.
2. To make them aware about Indian Poetry.
3. To make them familiar with the dramatic art.
4. 4-To acquaint them with some literary terms and Figures of Speech of these genres.

### Unit I: One Act Plays

- A- Bishop's Candlesticks- Norman Mckinnell
- B- The Dear Departed- Stanley Hongton

### Unit II: English and Indian-English Poems

- A-All the World Is a Stage- William Shakespeare.
- B- Death the Leveler- James Shirley.
- C-The Solitary Reaper- William Wordsworth.
- D- Where the Mind is Without Fear- Rabindranath Tagore.
- E- Indian Weavers- Sarojini Naidu.

### Unit III: Play- Tughlaq- GirishKarnad.

### Unit IV: Literary Terms and Figures of Speech:

Alliteration, Simile, Metaphor, Pun, Personification, Paradox, Oxymoron, Antithesis, Heroic Couplet, Transferred Epithet, Sonnet, Lyric, Ballad, And Rhyme.

### Outcomes:

- 1-The students can understand poetry, One-Act Play and Drama.
- 2-They can learn the difference between the Figures of Speech and Literary Terms.

### Suggested Reading :

1. Abrams, M.H. Glossary of Literary Terms. India, Macmillan Publishers, 2000.
2. Prasad, B. A Background to the Study of English Literature. Macmillan, 2004.
3. Paper-I: Poetry and Drama, Jain Vishva Bharti Institute, Ladnun, 2016.
4. Poet's Pen: (Ed.) Homi p Dustoor. Oxford University Press.
5. Tughlaq- GirishKarnad. Oxford University Press. New Delhi.
6. Contemporary Indian poetry in English: (Ed.) Saleem Peerandina. MacMillan, New Delhi.

**Semester I**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 103	Sanskrit Literature (संस्कृत व्याकरण एवं साहित्य) (लघुसिद्धांत कौमुदी )	Any Three CE	4	30	70	100

**उद्देश्य—**

1. स्वरों एवं व्यंजनों का सामान्य ज्ञान करवाना।
2. शब्दों की सन्धि एवं सन्धि विच्छेद का अभ्यास करवाना।
3. लघु कथाओं से संस्कृत भाषा का अभ्यास करवाना।

**1. लघुसिद्धांत कौमुदी**

संज्ञा, सन्धि, सुबन्त प्रकरण (अजन्त पुल्लिंग तक) सूत्र (1-215)

**2. रचनानुवाद कौमुदी (पाठ 1 से 10)**

**3. सुप्रभातम्**

**4. अभिधान चिन्तामणि छठां काण्ड (श्लोक 1 से 30)**

**उपलब्धियाँ—**

1. स्वरों के ज्ञान से उच्चारण शुद्धि होगी।
2. संस्कृत भाषा को बोलने व समझने का अभ्यास होगा।
3. लेखन कला का विकास होगा।

**पाठ्युस्तक/ संदर्भ ग्रंथ—**

1. लघु सिद्धान्त कौमुदी, श्रीवरदराजकृत, संपादक—महेश सिंह, कुशावाहा, चौखम्बा विद्या भवन, दिल्ली।
2. रचनानुवाद कौमुदी, डॉ. कपिलदेव द्विवेदी, आचार्य विश्वविद्यालय प्रकाशन, वाराणसी।
3. सुप्रभातम्, आचार्य महाप्रज्ञ, जैन विश्व भारती, लाडनूं।
4. अभिधान चिन्तामणि नाममाला, चौखम्बा प्रकाशन, वाराणसी।
5. संस्कृत रचनानुवाद कौमुदी, बी.एस. आप्टे।



**Semester I**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 104	History (प्राचीन भारत का इतिहास) (प्रारंभ से 1206 ई. तक)	Any Three CE	4	30	70	100

**उद्देश्य—**

1. विद्यार्थियों को प्राचीन भारतीय इतिहास का ज्ञान प्रदान करना।
2. विभिन्न कलाओं की मुख्य विशेषताओं से परिचित करवाना।
3. विद्यार्थियों के प्राप्त इतिहास के ज्ञान को प्रतियोगी परिक्षाओं के लिये उपयोगी बनाना।

**इकाई—1**

प्राचीन भारतीय इतिहास की जानकारी के प्रमुख स्रोत—पुरातात्विक, साहित्यिक एवं विदेशी यात्रियों के वृत्तान्त। जैन स्रोत—आगम ग्रन्थ। सिन्धुघाटी सभ्यता—खोज, विस्तारक्षेत्र, कालक्रम, नगर योजना, आर्थिक स्थिति, सामाजिक स्थिति एवं पतन।

**इकाई —2**

वैदिक सभ्यता—ऋग्वैदिक काल एवं उत्तरवैदिक काल—मूल निवास, स्थान, राजनैतिक, आर्थिक एवं सामाजिक स्थिति। सोलह महाजनपदों का उदय। मौर्य वंश—चन्द्रगुप्त मौर्य का उदय एवं उपलब्धियां, अशोक का धम्म, मौर्य प्रशासन, मौर्य साम्राज्य का पतन।

**इकाई—3**

सातवाहन वंश—गौतमी पुत्र शातकर्णी की उपलब्धियाँ। कुषाण वंश—कनिष्क प्रथम की उपलब्धियाँ। सातवाहन—कुषाणकालीन सांस्कृतिक अध्ययन। गुप्तवंश—जानकारी के स्रोत, राजनीतिक इतिहास एवं प्रशासन।

**इकाई—4**

गुप्तकालीन संस्कृति (इतिहास का स्वर्णकाल)—कला, साहित्य, एवं विज्ञान की उन्नति। गुप्तोत्तर भारत—हर्षवर्धन की राजनीतिक एवं सांस्कृतिक उपलब्धियां। राजपूत राज्यों के पतन के उत्तरदायी कारण।

**उपलब्धियाँ—**

1. विद्यार्थी गौरवशाली प्राचीन भारतीय इतिहास को जान पायेंगे।
2. स्थापत्य कला का तुलनात्मक अध्ययन कर पायेंगे।
3. इतिहास का ज्ञान प्राप्त कर प्रतियोगी परीक्षाओं में सफलता प्राप्त कर पायेंगे।

**पुस्तक / सन्दर्भ ग्रंथ:**

1. झा, द्विजेन्द्र एवं के.एम., श्रीमाली—प्राचीन भारत का इतिहास, कार्यान्वयन निदेशालय, दिल्ली विश्वविद्यालय, दिल्ली।
2. शर्मा, कृष्णगोपाल, शर्मा, मुरारीलाल एवं जैन, हुकुमचंद—भारत का इतिहास, अजमेरा बुक कम्पनी।
3. पाण्डे, डॉ. विमल चन्द्र—प्राचीन भारत का राजनीतिक एवं सांस्कृतिक इतिहास, सेन्ट्रल पब्लिशिंग हाऊस, इलाहाबाद।
4. थापर, रोमिला—भारत का इतिहास, राजकमल प्रकाशन, नई दिल्ली।
5. श्रीवास्तव, कृष्णचन्द्र—प्राचीन भारत का इतिहास तथा संस्कृति, यूनाईटेड बुक डिपो, इलाहाबाद।
6. Basham, A.L. – A cultural history of India.
7. Kosambi, D.D. – An Introduction to the study of Indian History

### Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 105	Political Science ( राजनीति विज्ञान के मूल आधार)	Any Three CE	4	30	70	100

#### उद्देश्य—

1. विद्यार्थियों को राजनीति विज्ञान के आधारभूत सिद्धान्तों की जानकारी देना।
2. विद्यार्थियों को राजनीति विज्ञान की विभिन्न अवधारणाओं से परिचित करवाना।
3. विद्यार्थियों की प्रतियोगी परीक्षाओं में तर्क शक्ति बढ़ाना।

#### इकाई—1

राजनीति विज्ञान का पारम्परिक एवं अभिनव दृष्टिकोण, व्यवहारवाद एवं उत्तर—व्यावहारवाद।

#### इकाई—2

राज्य : प्रकृति, राज्य का सावयव सिद्धान्त, लोक कल्याणकारी राज्य की अवधारणा।

#### इकाई—3

राजनीतिक व्यवस्था, राजनीतिक विकास, राजनीतिक आधुनिकीकरण, राजनैतिक दल, दबाव समूह, प्रतिनिधित्व के सिद्धान्त।

#### इकाई—4

राजनीतिक विचारधाराएँ : उदारवाद, आदर्शवाद, मार्क्सवाद, लोकतांत्रिक समाजवाद एवं अराजकतावाद।

#### उपलब्धियाँ—

1. विद्यार्थी राजनीति विज्ञान के आधारभूत सिद्धान्तों को जान सकेंगे।
2. विभिन्न अवधारणाओं के तुलनात्मक अध्ययन से वैज्ञानिक दृष्टिकोण का विकास कर सकेंगे।
3. परम्परागत एवं आधुनिक राजनीतिक सिद्धान्तों की जानकारी प्राप्त कर सकेंगे।

#### पाठ्यपुस्तकें/संदर्भ ग्रंथ—

1. G. Catlin : A Study of the Principles of Politics, London and New York, Oxford University Press, 1930.
2. Sir, E. Barker : Principles of Social and Political Theory, Calcutta, Oxford University, Press, 1976
3. M. Carnoy : The State and Political Theory, Princeton NJ, Princenton University, Press, 1984.
4. N.P. Barry : Introduction to Modern Political Theory, London, Macmillan, 1995
5. आर.सी. अग्रवाल—राजनीति शास्त्र के मूल आधार, एस. चांद एण्ड कम्पनी, नई दिल्ली।
6. ए.सी. कपूर—राजनीति विज्ञान के सिद्धान्त, एस. चांद एण्ड कम्पनी, नई दिल्ली।
7. बी.आर. पुरोहित—राजनीति विज्ञान के मूल सिद्धान्त, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
8. पुखराज जैन—राजनीति के मूल आधार, साहित्य भवन पब्लिकेशन्स, आगरा।
9. वी.एल. फड़िया—राजनीति विज्ञान के मूल आधार, कॉलेज बुक हाउस, जयपुर।

## Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 106	Sociology (Principales of Sociology)	Any Three CE	4	30	70	100

### Objectives:

- To enable the students to understand the meaning, nature and origin of sociology.
- To acquaint the learners with the concept of culture, society, community, institution, social structure.
- To enable the learners to understand the dynamics in sociology.
- To enable the learners to understand the theories of social change.

### Unit - I Introduction to Sociology

- ❖ Origin of Sociology
- ❖ The Meaning and Nature of Sociology.
- ❖ The Sociological Perspective, The Scientific and Humanistic Perspective Study.
- ❖ The use of Sociology, Introduction of Applied Sociology

### Unit - II Basic Concepts in Sociology

- ❖ Basic Concept : Culture, Society, Community, Institution, Association, Social Structure, Social Group, Status and Role

### Unit - III Dynamics in Sociology

- ❖ Socialization - Meaning and Theories (Sigmund Freud, G. H. Mead)
- ❖ Relation between Individual and Society
- ❖ Social Stratification : Meaning and Forms and Theories (Functional and Marxist)
- ❖ Social Mobility : Meaning and Forms

### Unit - IV Theories of Social Change

- ❖ Social Control : Norms/Values, Types and Agency
- ❖ Social Change : Meaning and Type (Linear and Cyclical)
- ❖ Social Change : Theories of Ogburn, Sorokin and Karl Marx

### Reference :

1. आहुजा, राम एवं आहुजा, मुकेश 2008, समाजशास्त्र विवेचना एवं परिप्रेक्ष्य, पावत पब्लि. जयपुर,
2. दोषी, एस.एल. एवं जैन, पी. सी., 2006, समाजशास्त्र, नई दिशाएँ, जयपुर, रावत पब्लिकेशन्स,
3. सिंघी, नरेन्द्र कुमार एवं गोस्वामी, वसुधाकर 2007, समाजशास्त्र विवेचन, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
4. सिंह, जे.पी. 2008, समाजशास्त्र : अवधारणाएँ एवं सिद्धान्त, प्रेंटिस हॉल ऑफ इण्डिया प्राइवेट लिमिटेड, नई दिल्ली
5. सिंह, जे.पी. 2008, आधुनिक भारत में सामाजिक परिवर्तन, प्रेंटिस हॉल ऑफ इण्डिया प्राइवेट लिमिटेड, नई दिल्ली
6. Beteille, Andre Zooz : Sociology : Esay on Approach and Method, New Delhi, OUP
7. GiddensAnthony 2005, Sociology, London, Polity Press.
8. Rawat, H.K. 2007, Sociology, Basic Concepts, Rawat Publications, Japur
9. Rawat, H.K. 2013, Contemporary sociology, Basic Concepts, Rawat Publ., Japur
10. Schaefer, Richard T. and Rober P. Lamm 1999, Sociology, New Delhi, Tata Mac Graw Hill.

## Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 107	Geography (Physical Geography)	Any Three CE	4	30	50+20 (Practical) 70	100

### Objectives:

1. To make aware of physical Geography in Detail.
2. Knowledge about interior layers of Earth.
3. Deep Knowledge about all the layers of Atmosphere.

### Unit-I

- a. Definition and scope of physical Geography.
- b. Origin of the earth: Tidal Hypothesis of James Jeans and Big Bang theory.
- c. Interior of the earth: Structure, Composition & Zones.
- d. Origin of the continent and oceans: Wegner's Theory of Continental drift and Plate tectonics.

### Unit- II

- a. Theories of mountain building: Geosynclines Origin Theory of Kober.
- b. Isostasy: Concept and Views of Airy and Pratt.
- c. Weathering: Physical, Chemical and Biological
- d. Drainage pattern and Cycle of erosion: Davis & Penck.

### Unit - III

- a. Composition and Structure of the atmosphere.
- b. Atmospheric temperature: Insulation and heat budget.
- c. Air masses: Source region and classification of air masses.
- d. Climate Classification by W. Koppen.

### Unit - IV

- a. Relief of the Ocean basins.
- b. Distribution of Temperature and Salinity of oceans.
- c. Ocean Currents and Tides.
- d. Coral reefs: Conditions of growth, types and origin according to Darwin and Murray.

### PRACTICAL

- a. Scale: Plain, Diagonal, Comparative.
- b. Enlargement, Reduction & Combination of maps.
- c. Representation of Relief.
- d. Weather Instruments: Thermometer, Barometer, Hygrometers, Rain gauge & Wind vane.
- e. Weather symbols and interpretation of Indian weather maps.
- f. Chain tape survey.

### Outcome-

1. Knowledge about three branches of physical Geography: Geomorphology, Climatology and Oceanography.
2. Get Aware about the reasons of many natural disasters & knowledge to overcome that.
3. Get aware about the atmosphere in which they are living.

### Reference:

1. सविन्द्रसिंह : भौतिक भूगोल, वसुन्धरा प्रकाशन, गोरखपुर
2. शर्मा एच.एस. : "भौतिक भूगोल" पंचशील प्रकाशन, जयपुर
3. चतुर्भुज मामोरिया एवं जैन : भौतिक भूगोल एवं जीव मण्डल, साहित्य भवन आगरा
4. वीरेन्द्र सिंह चौहान : भौतिक भूगोल, रस्तोगी पब्लिकेशन्स, मेरठ
5. उपाध्याय एल.एन. : भौतिक भूगोल, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

## Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 108	Economics (Salient Features of Indian Economy)	Any Three CE	4	30	70	100

### Objectives:

- ❖ To enable the students teacher to acquire the basic understanding in the field of Economics.
- ❖ To enable the students teacher to acquire the Indian Economics.
- ❖ To enable the students teacher to understand the main features of Indian agriculture.
- ❖ To enable the students teacher to understand the need for industrialisation in India.

### Unit - I Introduction of Indian Economy

- ❖ Characteristics of Indian Economy
- ❖ Problems of poverty and inequality
- ❖ Human resource - population growth and population policy

### Unit - II Main features of Indian agriculture

- ❖ Factors affecting cropping pattern and productivity in India.
- ❖ Recent measures for agricultural development relating to irrigation.
- ❖ Finance and marketing green revolution: New agriculture strategy and modernisation of agriculture.

### Unit - III Need for Industrialisation in India

- ❖ Small scale and cottage industries problems and measures for their development
- ❖ Industrial and licensing policies in India
- ❖ Function of the Reserve Bank of India

### Unit - IV Changes in Indian Economy

- ❖ Major changes in India's commodity export and imports since 1951 with regard to value
- ❖ Composition and direction, liberalization and Economic reforms.
- ❖ Main heads of revenue and items of expenditure of central government.

### Reference:

1. रुद्रदत्त एवं के. पी. एस. सुन्दरम : भारतीय अर्थव्यवस्था (हिन्दी एवं अंग्रेजी) एस. चन्द, नई दिल्ली
2. लक्ष्मी नारायण, नाथुरामका : भारतीय अर्थ व्यवस्था, रमेश बुक डिपो, जयपुर
3. Mishra, S. K. and Puri, V. K. : Indian Economy, Himalya Publishing House, N. Delhi
4. Agarwal, A. N., Indian Economy, Vikas Publishing Co. N. Delhi
5. Government of India Economic Survey (Hindi & English)
6. Government of India : Five Year Plan (Latest)

### Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 109	Home Science (Food and Nutrition)	Any Three CE	4	30	70	100

#### Objective:

- Concept and classification of food, nutrients, vitamins and energy metabolism.
- Meal planning for families and individuals.
- Nutritional requirements, related problems and need based dietary guidelines.
- Methods of cooking, their advantages & disadvantages and effect on nutritive value and improving methods to maintain nutritional quality of foods.
- Difference between normal and therapeutic nutrition.
- Recommended dietary allowances and their effect on health.

#### Unit - I Nutrition and Energy Metablism

- a) Concept and Types of Nutrition
- b) Classification and Functions of Food
- c) Functions , sources, Effect of deficiency & Daily allowances of :  
Macro nutrients: Carbohydrates, Proteins & Fats  
Micro Nutrients: Minerals, Calcium, Iron, Iodine, Fluorine, Vitamins
- d) Energy Metabolism: Measurement of Energy, BMR and factors affecting BMR, Energy requirement and factors affecting energy requirement, Water Balance

#### Unit - II Food, Diet and Dietary Guidelines

- a) Basic terminology used in food preparation
- b) Basic Food Groups, Food Composition, Nutritional Contribution & Selection Factors for the following : Cereals & Millets, Pulses, Fruits, Vegetables, Milk & Milk Products, Nuts & Oil seeds, Meat, Fish & Poultry, Eggs, Sugars, Condiments & Spices
- c) Role of Beverages and appetizers in diet : a) Stimulating b) Refreshing c) Nutrition
- d) Meal planning: Goals, Factors & Significance
- e) Nutritional requirements, related problems and dietary guidelines for: Pregnancy, Lactation, Infancy, Childhood, Adolescents, Adults and Elderly person

#### Unit - III Cooking and Nutritional Quality

- a) Methods of cooking, their advantages & disadvantages and effect on nutritive value- Retention of Nutritive value of foods during preparation, Food Adulteration – meaning & common adulterants in food, Food poisoning
- b) Improving Nutritional Quality of Foods: Germination, Fermentation, Supplementation, Substitution, Fortification & Enrichment
- c) Role of Conveniences food : Ready to use foods, Protein Supplements

#### **Unit - IV Therapeutic Nutrition and related problems**

- a) Therapeutic Nutrition: Modification of normal diet to therapeutic diet
- b) Dietary management for obesity, underweight, diseases of the gastrointestinal tract-Diarrhoea, Constipation, Indigestion, Fever, Jaundice, Diabetes, Hypertension
- c) Nutritional problems of public health importance and their management: Protein Energy Malnutrition, Anemia, Fluorosis, Vitamin A deficiency, Iodine deficiency disorder

#### **Practicals**

##### **Methods of cooking**

- Preparation of any four dishes using the following methods:  
Boiling, Steaming, Simmering, Frying (Shallow and deep), Baking, Roasting
- Preparation of Beverages, Cereal cookery, Legumes and pulses, Dry and baked vegetables, milk and milk products, Soups, salads
- Savory food preparation and sweets

##### **References Books:**

1. Srilakshmi, B. (2011) Dietetics, New Age International Publishers, New Delhi
2. Srilakshmi, B. Food Science, New Age International Publishers, New Delhi
3. Swaminathan, MS(2010) Aahar evam Poshan, NR Brothers, My Hospital Marg, Indore
4. Bamji MS, Krishnaswamy K, Brahman GNV (2009) Text book of Human Nutrition, 3<sup>rd</sup> Edition, Oxford and IBH publishing co. pvt. Ltd.
5. Chadha R and Mathur P (2015) Nutrition: A Lifecycle Approach, Orient Black Swan, Delhi
6. Wardlaw and Insel MG, Insel PM (2004) Perspectives in Nutrition, Mosby
7. Khanna K, Gupta S, Seth R, Mehna R, Rekhi T (2004) The Art and Science of Cooking: A practical manual, Elite Publishing House Pvt. Ltd.

## Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 101	Introduction to Jainism	FC	4	30	70	100

### Unit I: Jain History

1. Antiquity of Jainism (*Risabha and Mahavira*)
2. Time cycle
3. Jain religious Schools, Orders, and Sects
4. Jain Festival
5. Jain Literature

### Unit II: Jain Metaphysics

6. Concept of Reality
7. Cosmology: Jain Perspective
8. The Nine Truths of Classical Jainism
9. Jain life style
10. Salvation and way of it

### Unit III: Jain Principal

11. Non-violence
12. Non-possession
13. Non-absolutism

### Unit IV: Jain Principal

14. Syadvada
15. Karmavada
16. Jain Meditation

### Reference Books

- Acharya Mahaprajna. *Jaina Darsana: Manana Aura Mimamsa*, Adarsh Sahitya Sangh, Churu,
- *Jain Dharma*, By Pt. Kailash Chand Jain
- *Jain Darshan*, By Pt. Kailash Chand Jain
- Shastri Nemichandra, *Tirthankara Mahaveer aura Unki Acharya Parampara*, Vol.-I., Prachya Shramana Bharati, Mujaffar Nagar, U.P.
- *Jain itihasa aura sanskriti*, By Dr Samani Riju Prajna, JVBU, Ladnun
- *Jain Tattva mimamsa aura Acharya Mimamsa*, By Dr Samani Riju Prajna, JVBU, Ladnun



## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 201	Assessment For Learning	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To describe the role of assessment in education.
- ❖ To distinguish measurement, assessment and evaluation.
- ❖ To explain different forms of assessment that aid student learning.
- ❖ To use wide range of assessment tools, techniques and construct these appropriately.
- ❖ To evolve realistic, comprehensive and dynamic assessment procedures.
- ❖ To calculate item difficulty and discrimination power of a test item.
- ❖ To prepare a good achievement test on any school subject.
- ❖ To realize the importance of continuous and comprehensive evaluation in the process of students learning.

**Course contents:**

### Unit I - Assessment and Evaluation in Education

- a) Concept of measurement, assessment and evaluation
- b) Types, Need, scope and relevance of evaluation
- c) Principles of assessment and evaluation
- d) Test, scale and measurement
- e) Types of scale : nominal, ordinal, interval and ratio

### Unit II -Tools and Techniques of Assessment and Evaluation

- a) Characteristics of a good measuring instrument
- b) Achievement test: steps of construction of achievement test – Teacher made and Standardized test
- c) Types of test items and its construction : subjective test items and Objectivess test item
- d) Diagnostic test construction and preparation of remedial materials
- e) Analysis of test items – item difficulty level and item discrimination power

### Unit III -Trends in Assessment

- a) Continuous and Comprehensive Evaluation
- b) Marking system vs Grading system
- c) Semester system (C B C S) Chioce Based Credit System
- d) Open book examination and question bank

### Unit IV - Basic Statistics in Evaluation

- a) Measure of Central Tendency:
  - Mean
  - Median
  - Mode

- b) Measure of variability
- Range
  - Quartile Deviation
  - Average Deviation
  - Standard Deviation

**Assignment & Practical Work (Any Two)**

- Prepare an achievement test of any school subject of secondary school.
- Write two Assignment Work with in the content
- Construct a remedial material for school students in any content problems.
- Select, analyses and try- out a sample tool/test with item discrimination power.

**References:**

1. Agrawal, J C. (1997), *Essential of Examination System, Evaluation, Test and Measuremnt*. New Delhi: Vikas Publishing House Pvt. Lt..
2. Banks, S.R. (2005), *Classroom Assessment: Issues and Practices*. Boston: Allyn & Bacon.
3. Blooms, B.S. (1956), *Taxonomy of Educational Objectives*. New York: Longman Green and Company.
4. Cooper, D. (2007), *Talk About Assessment, Strategy and Tools to Improve Learning*. Toronto: Thomson Nelson.
5. Earl, L.M. (2006), *Assessment of Learning: Using Classroom Assessment to Maximize Student Learning*. Thousand Oaks, Clifornia: Corwin Press.
6. Gronlund, N.E. (2003), *Assessment of Student Achievement*. Boston: Allyn & Bacon.
7. Kaplan, R.M. & SaccuzzoD.P. (2000), *Psychological Testing, Principles, Application& Issues*. California: Wordsworth.
8. Linn, R.L. & Gronlund, N.E. (2000), *Measurement and Assessment in Teaching*. London: Merrill Prentice Hall.
9. Noll, N.H. S cannell, D.P. & Craig, RC. (1979), *Introduction to Educational Measurement*. Boston: Houghton Mifflin.
10. Macmillan, J.H. (1997), *Classroom Assessment, Principles and Practice for EffEctive Instruction*. Boston: Allyn and Bacon.
11. Hopkins, KD. (1998). *Educational and Psychological Measurement and Evolution*. Boston: Allyn and Bacon.
12. Chohen, R.J., Swerdlik, M.E., & Phillips, S.M. (1996), *Psychological testing and Assessment. An Introduction to the Test and Measurement*. California: Mayfield Publishing Co.
13. National Council of Educational Research and Training (2005), *National Curriculum Framework*, New Delhi: NCERT
14. National Council of Educational Research and Training (2006). *Position paper: Examination Reform*. New Delhi: NCERT
15. National Council of Educational Research and Training (2008). *Source Book on Assessment for class I-V: Social Science*. New Delhi: NCERT

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 202	Learning And Teaching	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To acquire knowledge and understanding of learning and Teaching.
- ❖ To understand the theories of learning.
- ❖ To develop the skill of active engagement of students in teaching learning activity.
- ❖ To investigate differences and connections between learning in school and learning outside school.
- ❖ To inculcate the knowledge of teaching and its process.
- ❖ To understand learners, learning process and school.

**Course Contents:**

### Unit -I Basics of Learning

- a) Learning: concept, Nature and characteristics.
- b) Factors Affecting Learning.
- c) Laws and Types of Learning.
- d) Cognitive Learning- Peaget, Bruner.
- e) Transfer of Learning

### Unit-II : Theories of Learning and their Educational Implications.

- a) Trial and Error theory.
- b) Classical conditioning theory.
- c) Operant conditioning theory.
- d) Insight Theory of Learning.
- e) Social Learning theory (Bandura)

### Unit-III Concept variables and models of Teaching

- a) Teaching: concept, Nature and characteristics.
- b) Variables of Teaching and their functions.
- c) Factors Affecting Teaching and Teaching process.
- d) Relationship between teaching and Learning.
- e) Teaching model- concept, functions, sources and elements.

### Unit-IV Theories and Application of Teaching

- a) Levels of Teaching - memory, understanding and Reflective.
- b) Teaching theories-concept, need, types and utility.
- c) Analyzing Teaching in Diverse classrooms.
- d) Teaching as a complex activity.
- e) Teaching as a profession.

## Assignment & Practical Work

- One Assignment Work on any topic related with above Unit.
- One Practical Work on any topic related with above Unit.

## References:

1. Baron, R.A., and Byrne D., (2002), Social Psychology, (10th Ed.), Prentice Hall of India Private Limited, New Delhi.
2. BEckett Chris (2004) Human Growth & Development, Sage Publications.
3. Browne, J.D. (1970), Development of Educational Technology in college of Education, councils in Education Press.
4. Cooper, I.M. (1960), Classroom Teaching Skills, D.C. Heathco, Toronto, 1960.
5. Coulson, J. E. (1962), Programme Learning and Computer Based Instruction, Wiley, New York.
6. Domain Book - I (1956), McKay, New York.
7. Gross, Richard (2003), Key studies in Psychology (IV Ed.), Hedder & Stoughton.
8. Khanna, S.D. and etal. (1984), Technology of Teaching and Teacher Behaviour, Vth edition, Doaba house, Delhi.
9. Kulkarni, S.S. (1986), Introduction to Educational Technology, Oxford and IBH publishing co.
10. Kumar, K.L. (1997), Educational Technology, New Age International, Pub., New Delhi.
11. Lindzey, G. & Aronson, E. (Eds.) (1969). Handbook of Social psychology, Addison Wesley, New York.
12. Mohanthy Jagannath; Educational Technology, Deep and Deep Pub., New Delhi.
13. Rai and Rai, Effective Communication, Himalaya Pub., Delhi 2001.
14. Rajaraman, V, Computer programming in pascal, Prentice Hall of India, New Delhi.
15. Rajaraman, V; Computer programming in FORTRAN, Prentice Hall of India, New Delhi.
16. Rao, Usha, Educational Technology, Himalaya Pub. House, Bombay, 1994.
17. Sarafino Edward P., (1994), Health Psychology, Biopsychosocial Interactions
18. Saraswathi, T. (2003) –Cross-cultural Perspective in Human Development, Sage Publication
19. गुप्ता, एस.पी. गुप्ता अलका, (2007), उच्चतर शिक्षा मनोविज्ञान, शारदा पुस्तक भवन, इलाहाबाद
20. पाठक, पी.डी., (2007), शिक्षा मनोविज्ञान, विनोद पुस्तक मंदिर, आगरा
21. मंगल, एस.के., (2008), शिक्षा मनोविज्ञान, प्रिंटिर्स हॉल ऑफ इण्डिया प्राइवेट, नई दिल्ली.
22. वर्मा, प्रीति, श्रीवास्तव डी.एन., (2008), आधुनिक सामान्य मनोविज्ञान, अग्रवाल पब्लिकेशन, आगरा.
23. यादव, सियाराम, (2008), अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, शारदा पुस्तक भवन, इलाहाबाद
24. शर्मा गणपतराम, व्यास हरिश्चन्द्र, (2007), अधिगम-शिक्षण और मनोसामाजिक आधार, राजस्थान ग्रन्थ अकादमी, जयपुर.
25. शर्मा, जे.डी. (2008), मनोविज्ञान की पद्धतियां एवं सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
26. सुरेश भटनागर, (2008), शिक्षा मनोविज्ञान तथा शिक्षण शास्त्र,, विनोद पुस्तक मन्दिर, आगरा,

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 201	Hindi Literature कथा साहित्य (उपन्यास एवं कहानी)	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थियों को नवीन गद्य विधा, उपन्यास एवं कहानी से परिचित कराना।
2. विद्यार्थियों में कहानी लेखन कौशल विकसित करना।
3. विद्यार्थियों को गद्य समीक्षा कौशल में निपुण बनाना।

### इकाई I

1. हिन्दी गद्य साहित्य का उद्भव एवं विकास
2. उपन्यास एवं कहानी विधा का उद्भव एवं विकास तथा प्रमुख गद्य विधाओं का सामान्य परिचय
3. प्रमुख उपन्यासकार एवं कहानीकार तथा उनकी प्रमुख रचनाएँ

### इकाई II

1. गबन(उपन्यास) प्रेमचन्द—अरिहन्त प्रकाशन सोजतीगेट जोधपुर

### इकाई III

#### निर्धारित कहानियाँ—

1. परदा— यशपाल
2. इनाम – जैनेन्द्र कुमार
3. सेव और देव— अज्ञेय

### इकाई IV

#### निर्धारित कहानियाँ—

1. परमात्मा का कुत्ता – मोहन राकेश
2. बिरादरी बाहर – राजेन्द्र यादव
3. उसने कहा था – पं. चंद्रधर शर्मा गुलेरी
4. परिन्दे – निर्मल वर्मा

### उपलब्धियाँ—

1. विद्यार्थी उपन्यास एवं कहानी साहित्य की विस्तृत जानकारी प्राप्त कर विभिन्न लेखन शैलियों से परिचित होंगे।
2. विद्यार्थी स्वयं कहानी लेखन का अभ्यास कर सकेंगे।

### पाठ्यपुस्तक / संदर्भग्रंथ

- 1 कथा संचय, सं. दुर्गा प्रसाद अग्रवाल, यूनिवर्सिटी बुक हाउस, नई दिल्ली
- 2 हिन्दी उपन्यास: लक्ष्मीसागर वार्ष्णेय, राधाकृष्ण प्रकाशन नई दिल्ली
- 3 हिन्दी कहानी: स्वरूप और संवेदना—राजेन्द्र यादव, नेशनल पब्लिशिंग हाउस नई दिल्ली
- 4 कहानी: नई कहानी— नामवरसिंह, लोकभारती प्रकाशन, इलाहाबाद
- 5 हिन्दी साहित्य का इतिहास नगेन्द्र मयूर पेपर बैक्स नोएडा
- 6 हिन्दी कहानी: अन्तरंग पहचान रामदरश मिश्र नेशनल पब्लिशिंग हाउस नई दिल्ली
- 7 हिन्दी उपन्यास: एक अंतर्यात्रा— रामदरश मिश्र राजकमल प्रकाशन नई दिल्ली
- 8 कथाकार वृंदावन लाल वर्मा— शशिभूषण सिंहल, हरियाणा साहित्य अकादमी चंडीगढ़

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 202	English Literature (Prose and Fiction)	Any Three CE	4	30	70	100

### Objectives:

1. To enable the students to compose stories.
2. To make them familiar with prose and Narrative art.
3. To acquaint them with some literary terms of these genres.

### Unit I: Short Stories

- A. The Refugee- Pearl S. Buck.
- B. The Luncheon- William Somerset Maugham.
- C. The Babus of Nayanjore- Rabindranath Tagore.
- D. The Axe- R.K. Narayan.

### Unit II: English Essays

- A. Of Studies- Francis Bacon.
- B. Dream Children: A Reverie- Charles Lamb
- C. On National Prejudices- Oliver Goldsmith
- D. On the Pleasures of No Longer Being Very Young- G.K. Chesterton.

### Unit III: Novel- Animal Farm.

### Unit IV: Literary Terms and Figures of Speech:

Essay, Elements of Short Story, Myth, Legend, Folk Tale, Aphoristic Style,

### Outcomes:

1. The students can understand Essay, Short Story and Novel.
2. They can learn the difference between the Figures of Speech and Literary Terms.

### Suggested Reading:

1. Abrams, M.H. Glossary of Literary Terms. India, Macmillan Publishers, 2000.
2. Prasad, B. A Background to the Study of English Literature. Macmillan, 2004.
3. A Choice of Short Stories. (Ed.) Shakti Batra. OUP, New Delhi.
4. Forms of English Prose. Oxford University Press, New Delhi.
5. Animal Farm. George Orwell. Orient Longman.

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 203	Sanskrit Literature ( संस्कृत व्याकरण एवं साहित्य ) ( लघु सिद्धांत कौमुदी )	Any Three CE	4	30	70	100

### उद्देश्य—

1. शब्दों के स्त्रिलिङ्गी प्रत्ययों का ज्ञान करवाना ।
2. अव्ययों का ज्ञान करवाना ।
3. शेषुषी में व्याकरण एवं साहित्य का समन्वयात्मक ज्ञान करवाना ।

### इकाई—1 लघु सिद्धांत कौमुदी

1. सुबन्त (अजन्त स्त्रीलिङ्ग से सुबन्त तक)
2. अव्यय प्रकरण (सू. 216-372)
3. स्त्री प्रकरण (सू. 1244-1272)

### इकाई—2 रचनानुवाद कौमुदी (पाठ 11 से 20)

### इकाई—3 शेषुषी, छन्द एवं अलंकार

1. अनुवाद
2. लघुत्तरात्मक प्रश्न
3. श्लोक रचना  
चयनित छन्द— अनुष्टुप, इन्द्रव्रजा, उपेन्द्रव्रजा, शिखरिणी  
चयनित अलंकार— अनुप्रास, यमक, श्लेष, उपमा एवं दृष्टान्त

### इकाई—4 अभिधान चिन्तामणि (श्लोक 31 से 60)

1. दो श्लोक पूर्ति
2. दो शब्दों के संस्कृत में पर्यायवाची
3. पांच शब्दों के अर्थ

### उपलब्धियाँ—

1. स्त्रिलिङ्ग शब्दों के निर्माण की प्रक्रिया का ज्ञान होगा ।
2. अव्ययों का सामान्य ज्ञान होगा ।
3. सरल संस्कृत संभाषण का अभ्यास होगा ।

### पाठ्य पुस्तक/संदर्भ ग्रंथ :

1. लघु सिद्धान्त कौमुदी, श्रीवरदाजकृत, संपादक—महेश सिंह कुशवाहा, चौखम्बा विद्या भवन, दिल्ली
2. रचनानुवाद कौमुदी, डॉ. कपिल देव द्विवेदी, आचार्य विश्वविद्यालय प्रकाशन, वाराणसी
3. शेषुषी, युवाचार्य महाश्रमण, जैन विश्व भारती, लाडनू
4. अभिधान चिन्तामणि नाममाला, चौखम्बा प्रकाशन, वाराणसी
5. संस्कृत रचनानुवाद कौमुदी, बी.एस. आप्टे
6. संस्कृत वाक्य रचना बोध, लेखक—आचार्य महाप्रज्ञ, जैन विश्व भारती, लाडनू
7. सरल वाक्य रचना बोध, मुनि श्री श्रीचंद, जैन विश्व भारती, लाडनू
8. अनुवाद चन्द्रिका, डॉ. ब्रह्मानंद त्रिपाठी, चौखम्बा प्रकाशन, वाराणसी
9. व्याकरण रचनानुवाद, डॉ. बाबूराम त्रिपाठी, महालक्ष्मी प्रकाशन, आगरा
10. संस्कृत रचनानुवाद कौमुदी, बी.एस. आप्टे

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 204	History ( भारतीय संस्कृति के मूलाधार )	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थियों को भारतीय संस्कृति की विशेषताओं से परिचित करवाना।
2. बौद्ध एवं जैन धर्म के सिद्धान्तों एवं शिक्षाओं को समझाना।
3. वर्ण, आश्रम, पुरुषार्थ, संस्कार आदि के महत्त्व को समझाना।
4. कालिदास, तुलसीदास, राजाराममोहनराय, महात्मा गांधी, आचार्य तुलसी, आदि की उपलब्धियों से परिचित करवाना।

### इकाई-1

भारतीय संस्कृति की मुख्य विशेषताएं, सिंधु धर्म की मुख्य विशेषताएं, भगवान महावीर का जीवन परिचय एवं प्रमुख शिक्षायें, महात्मा गौतम बुद्ध का जीवन एवं शिक्षाएं। वैदिक धर्म की मुख्य विशेषताएं।

### इकाई-2

वर्ण व्यवस्था, आश्रम व्यवस्था, पुरुषार्थ चतुष्टय, 16 संस्कार—उपनयन एवं विवाह संस्कार के विशेष संदर्भ में, प्राचीन काल में शिक्षा के केन्द्र— तक्षशिला और नालन्दा। रामायण एवं महाभारतकालीन भारतीय संस्कृति।

### इकाई-3

कालीदास एवं तुलसीदास का जीवन एवं उनकी रचनाएँ। सैन्धवकालीन कला की प्रमुख विशेषताएं, मौर्यकालीन कला की मुख्य विशेषताएं, गुप्तकालीन मन्दिर स्थापत्य कला एवं प्रमुख मंदिर, जैन कला की विशेषताएं।

### इकाई-4

भक्ति आंदोलन और उसका भारतीय संस्कृति पर प्रभाव, महात्मा गांधी का अहिंसा एवं सत्याग्रह की विचारधारा। आचार्य तुलसी का जीवन परिचय एवं उनके सामाजिक, सांस्कृतिक विचारों का योगदान।

### उपलब्धियाँ

1. विद्यार्थी भारतीय संस्कृति की विशेषताओं को समझकर उनको आत्मसात् कर अपने व्यक्तित्व का विकास कर सकेंगे।
2. बौद्ध और जैन धर्म की शिक्षाओं को समझकर उनको अपने जीवन में अपनाकर अपने व्यक्तित्व का विकास एवं आदर्श समाज की स्थापना में योगदान कर पायेंगे।
3. कालिदास, तुलसीदास, राजाराममोहनराय, आचार्य तुलसी, रविन्द्रनाथ टैगोर आदि के जीवन से प्रेरणा प्राप्त कर पायेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रंथ :

1. भारतीय संस्कृति के मूलाधार—शर्मा एवं व्यास, पंचशील प्रकाशन, जयपुर
2. भारतीय संस्कृति का इतिहास—कालीशंकर
3. भारतीय कला—के.डी. वाजपेयी
4. भारतीय कला—वासुदेव शरण अग्रवाल, पृथ्वी प्रकाशन, वाराणसी
5. भारतीय संस्कृति—एस.एल. नागौरी, बोहरा प्रकाशन, जयपुर



## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 205	Political Science (प्रतिनिधि भारतीय राजनीतिक विचारक)	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थियों को प्राचीन भारतीय राजनैतिक विचारकों की विचारधाराओं से अवगत करवाना।
2. विभिन्न विचारकों के दर्शन की प्रासंगिकता को समझाना।
3. विभिन्न विचारकों का तुलनात्मक अध्ययन कर विद्यार्थियों को नये आयाम देना।

इकाई—1 मनु, कौटिल्य

इकाई—2 राजाराम मोहन राय, स्वामी दयानन्द सरस्वती

इकाई—3 गोपाल कृष्ण गोखले, बाल गंगाधर तिलक

इकाई—4 मोहनदास करमचन्द गांधी, जवाहरलाल नेहरू, डॉ. भीमराव अम्बेडकर

### उपलब्धियाँ—

1. विद्यार्थी प्राचीन विचारकों के दर्शन को जान पायेंगे।
2. विद्यार्थी प्राचीनकाल से लेकर आधुनिक काल तक विभिन्न विचारधाराओं का अध्ययन कर सकेंगे।
3. विद्यार्थी प्राचीन राज व्यवस्था एवं आधुनिक राज-व्यवस्था का तुलनात्मक अध्ययन कर सकेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रन्थ:

1. J. Bandhopadhyaya: Social and Political Thought of Gandhi, Bombay Alieid, 1969.
2. Jayaswal: Hindu Policy
3. Sharma R.S. : Political Ideas and Institutions in Ancient India.
4. Ghosal: History of Indian Political Ideas.
5. Verma V.P. : Modern Indian Political Ideas.
6. K. Damodram: Indian Thought - A critical Survey, London, Asia Publishing House.
7. विश्वनाथ प्रसाद वर्मा—आधुनिक भारतीय राजनीतिक चिन्तन
8. पुरुषोत्तम नागर—आधुनिक भारतीय सामाजिक और राजनीतिक चिन्तन
9. परमात्मा शरण—प्राचीन भारतीय राजनीतिक चिन्तन
10. पुखराज जैन—भारतीय राजनीतिक चिन्तन

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 206	Sociology (Indian Society)	Any Three CE	4	30	70	100

### Objectives:

- ❖ To enable the learners to sociological understanding of Indian Society.
- ❖ To enable the learners to understand the structure and compositions of Indian Society.
- ❖ To enable the learners to understand the basic Institutions of Indian Society
- ❖ To enable the learners to understand challenge and problems in Indian Society

### Unit - I Sociological Understanding of Indian Society

- a) Textual and Field-view Traditions : G.S. Ghurge and M.N. Srinivas
- b) Civilization and the Marxiam Tradition : N.K. Bose and D.P. Mukerji
- c) Concept of Varna, Ashram, Dharma, Karma and Pursharth
- d) Cultural and Ethnic Diversity : Histotically Embedded Diversity in RespEct of Language and Religious Beliefs

### Unit - II The Structure and Compositions of Indian Society

- a) Rural, Urban, Tribe
- b) Rural-Urban Linkages
- c) Weaker Section
- d) Dalits Women and Minoroties

### Unit - III Basic Institutions of Indian Society

- a) Family
- b) Marriage
- c) Kinship
- d) Cast and Class : Meaning, Features
- e) Processes of Social Change : Sanskritization

### Unit - IV Challenge and Problem Before Indian Society

- a) Casteism
- b) Communication
- c) Regionalism
- d) Crime Against Women and Chidrens

### Reference :

1. Ahuja Ram,1993, Indian Social System, Rawat Publications, Jaipur
2. Ahuja Ram 2002, Society and Society in India, Asia, Publishing House, Bombay
3. Ahuja Ram 2014, Social Problems in India, Rawat Publications, Jaipur
4. Atal Yogesh 2008, Changing Indian Society, Rawat Publications, Jaipur
5. Sharma K.L. 2007, Indian Social Structure and Change, Rawat Publications, Jaipur
6. आहुजा, राम 2009, भारतीय सामाजिक व्यवस्था, रावत पब्लिकेशन्स, जयपुर
7. दोषी, एस.एल. 2009, भारतीय सामाजिक विचारक, रावत पब्लिकेशन्स, जयपुर
8. शर्मा के. एल. 2006, भारतीय सामाजिक संरचना एवं परिवर्तन, रावत पब्लिकेशन्स, जयपुर
9. दोषी, एस.एल. एवं जैन पी.सी. 2002, भारतीय समाज, नेशनल पब्लिकेशन्स हाउस, जयपुर
10. पटेल, तुलसी 2011, भारत में परिवार : संरचना एवं व्यवहार, रावत पब्लिकेशन्स, जयपुर

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 207	Geography (Geography of Rajasthan)	Any Three CE	4	30	50+20 (Practical) 70	100

### Objectives:

- ❖ Giving Deep Knowledge about climate conditions of Rajasthan.
- ❖ Knowledge about human resources of Rajasthan.
- ❖ Knowledge regarding industries of Rajasthan.

### Unit-I

- Physiographic division of Rajasthan.
- Climate
- Drainage System
- Natural vegetation

### Unit-II

- Soils of Rajasthan
- Agriculture: Type and Distribution of major crops
- Irrigation: Indira Gandhi Canal Project Chambal valley Project, Mahi Bajaj Sagar Project.
- Tourism in Rajasthan.

### Unit- III

- Drought and Desertification
- Industries: Textile, Sugar, Cement, Marble and Granite, Fertilizers, Zinc and Copper Smelting,
- Power & Energy resource
- Trade & Transport Development of Tourism.

### Unit- IV

- Population - number, growth, rural and urban male and female population, literacy status, occupational structure.
- Schedule tribes- Bhils, Meena and Garasias
- Settlement Pattern - Type and Building Materials.
- Rural/Urban Settlement Patterns.

### Practical

- Representation of statistical data through diagrams: Multiple Bar Diagram, Simple Pyramid Diagrams: Rectangular Diagram, Wheel or Pie-Diagram, Spherical Diagrams, Play lineargraph, Climograph.
- Measures of Central Tendency : Arithmetic mean, mode, median (Direct Method)

### Outcomes -

- The students after getting aware about climate conditions can adapt themselves as per climate.
- Proper utilization of available scale resources (Physical & Human) can be made possible.
- Will be aware about various industries of Rajasthan.

### Suggested Reading:

- T.S. Chouhan, राजस्थान का भूगोल, श्री उदयराम चौहान, विज्ञान प्रकाशन, नागौरियों का बास, गली नं. 01, जोधपुर
- R.L. Bhalla, राजस्थान का भूगोल, कुलदीप पब्लिकेशन, जयपुर।
- R.K. Gurjar, इन्दिरा गांधी नहर क्षेत्र का भूगोल, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
- Dr. H.M Saksena,(2015) राजस्थान का भूगोल राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 208	Economics (Economics Theory)	Any Three CE	4	30	70	100

### Objectives:

- ❖ The enable the student to understand the Micro and Macro Economics
- ❖ The enable the student to understand the methods of Economics Analysis
- ❖ The acquaint the learner with the logical analysis, Interpretation of Demand, production and market

### Unit-I Economics

- a) A logic of Choice, Positive and Normative approaches
- b) Macro and Micro Economics
- c) Methods of Economics Analysis - Inductive and Deductive: Statics and Dynamics

### Unit-II Theory of Demand

- a) Law of Demand
- b) Utility Approach, Indifference Curve approach
- c) Elasticity of Demand : Price, Income and Cross Elasticity
- d) Revenue : Total Marginal and Average
- e) Consumer's Surplus

### Unit-III Theory of Production

- a) Introduction, Laws of Returns to Factors and Returns to Scale
- b) Cost-short-run and long run
- c) Concept of Isoquants, Isocosts and Production Possibility Curves

### Unit-IV Market

- a) The commodity Market- Market Demand and Market Supply, Price and put determination in perfect competition
- b) Simple and Discriminatory Monopoly, Monopolistic Competition, Chamberlin's Group Equilibrium
- c) The Factor Market - Marginal Productivity Theory of Distribution
- d) Rent-RECardian, Quasi-Rent and Modern Theories
- e) Profit : Dynamic Risk and Uncertainty Theories
- f) Wages : Meaning, Nominal and Real/Wage Rate Modern Theory of Wages

### References:

1. Seth, M.L., Principles of Economics,
2. Samuelson and Norrdhaus : Economics, Latest English and Hindi Edition
3. Hal, R. Varian : Intermediate MicroEconomics, W W Norton and Co. Fifth Edition
4. D. Salvator : Micro Economics, Harper Colline
5. Ahuja H.L., Advanced Economics Theory; S.Chand and Company, New Delhi
6. Left Witch, R. H.; Price system and Resource Allocation holt, Reinhart and Winston, 3rd Edition (Hindi & English)
7. आहुजा, एच. एल. उच्चतर आर्थिक विद्वान्तए एस, चौद एण्ड कम्पनी, नई दिल्ली
8. नाथुरामका, लक्ष्मीनारायण रू व्याप्ति अर्थशास्त्र, रमेश बुक डिपो, जयपुर

## Semester II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 209	Home Science (Family Resource Management)	Any Three CE	4	30	70	100

### Objectives:

- ❖ To understand the meaning of resources management and concepts related to management.
- ❖ To apply managerial process to management of time, energy and money.
- ❖ To understand saving investment and credit pattern of family.
- ❖ To increase awareness about consumer problems, rights, responsibilities & protection laws.

### Unit I Housing

- a) Housing and Family: Functions, needs & scope.
- b) Principles of house planning: aspect, prospect, grouping of room, roominess, privacy, orientation, flexibility, aesthetics Economy, ventilation services
- c) Site selection: Vegetation- size, soil type drainage, orientation
- d) Kitchen planning: planning, importance of counters, storage and heights

### Unit II Interior designing

- a) Principles and elements of arts and design as related to interior decoration with specific reference to color and light
- b) Floor decoration with use of elementary art, Table setting & etiquettes
- c) Furniture: Types of furniture, selection, use and care
- d) Flower Decoration: Basic equipments, vases and containers preparing plant material, shaping an arrangement

### Unit III Resource management

- a) Meaning, definition and importance of home management
- b) Process of management : Planning, organization, implementation, controlling and evaluation
- c) Introduction to motivational factor: Meaning and types of values, goals, standards, decision making
- d) Time management: Time cost, time norms, peak loads, work curve and rest periods, process of managing time
- e) Energy management: Process, body mechanics, work simplification, Ergonomics

### Unit IV Consumer problems and Waste management

- a) Consumer problems, rights and responsibilities
- b) Seeking redress to consumer problems with special reference to consumer courts
- c) Household waste & its management by 3R
- d) Selection and care of household equipment related to waste management
- e) Swachh Bharat Abhiyaan: Goals, significance and programmes in reference to waste management

### Assignment Work (Any one)

- To prepare a Project report related to techniques of waste management.
- To prepare a file related to patterns and furnishing of interior designing.
- To prepare a scrap book related to flower decoration and kitchen planning models.
- To prepare a Project report on different approaches of resource management.

### References:

1. Agarwal, S. ( 2009) Grih prabandh Manual, Shivam book house, Jaipur
2. Birrel Verla Leone (1967) Colour and Design, A Basic text (Vol. I & II)
3. Bryan, Lawson (1980) How designer think, Architectural press Ltd.
4. David H, Bangs Jr. The market planning guide, Gougotera publishing 3<sup>rd</sup> Ed.
5. Don, Wellers(1974) Who buys- A study of the consumer
6. Donnelly JH, Gibson JL and Ivancevich JM(1995) Fundamental of Management, Chicago
7. Kale MG (1998) Management and human resources

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 301	Understanding Discipline and Subjects	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand language of various discipline.
- ❖ To develop expression of various language areas.
- ❖ To acquire Scientific study of language phonetics.
- ❖ To know the Scientific idea of science education.
- ❖ To apply the thought of social science language in their day today life.
- ❖ To develop interdisciplinary approach of language (Hindi/Sanskrit/English).

**Course Contents:**

#### Unit- I Language and Disciplines

- a) Meaning of discipline
- b) Characteristics of a discipline
- c) Inter- disciplinary approach

#### Unit- II Language and Disciplines

- a) History of language development (Hindi, Sanskrit and English)
- b) Language technology
- c) Language lab
- d) Phonetics science
- e) Introduction of Kalidas, Tulsidas and Shakespeare

#### Unit- III Social Science and Discipline

- a) History and game cricket
- b) History of woman empowerment
- c) New trends cultural in society
- d) Political socialization
- e) Article of democratic problems (Terrorism, corruption &kola-Brokers)

#### Unit- IV Science and Disciplines

- a) Life sketch of scientists (Dalton, Rutherford, Newton, Mendal and Homi Jahangir Bhabha)
- b) Science and sound
- c) Nutrition and balanced diet
- d) Human diseases
- e) Electricity and light

#### Assignment & Practical Works : (Any Two)

- Write Any one Assignment Work
- Write a short note on Importance of Language in teacher
- Read and review an article
- Prepare a report on creative writing

#### References :

1. Lado, Robert (1971), Language Teaching, New Delhi, Tata Mc Graw Hill Publising House co. Ltd.
2. Richards, J.C. of Rodgers, T.S. (2009), Approchas and Methods in Language Teaching, Cambrige, C.U.P.
3. अंग्रेजी पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
4. विज्ञान पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
5. संस्कृत पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
6. सामाजिक अध्ययन पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
7. हिन्दी पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 302	Innovative Methods	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop knowledge of various innovative methods.
- ❖ To understand the idea of methods.

**Course Contents:**

**Unit- I Concept of Innovation.**

- d) Innovation : Meaning, Definition
- e) Characteristics of Innovation
- f) Methods : concept, Objectives
- g) Methods Characteristics and Utility

**Unit- II Methods of Social science**

- f) Time line method
- g) Source method
- h) Biographical method
- i) Socialized RECitation method

**Unit- III Methods of Science**

- f) Demonstration method
- g) Experimental/ Laboratory method
- h) Heuristic method
- i) Project method

**Unit- IV Methods of Language**

- f) Lecture method
- g) Inductive and Deductive
- h) Supervised study method
- i) Brain Storming

**Assignment & Practical Works : (Any Two)**

- Write any one Assignment Work
- Write a short note on Importance of Language in teacher
- Read and review an article
- Prepare a report on creative writing

**Suggested Readings:**

1. सिंह, कर्ण, (2008), शैक्षिक तकनीकी एवं प्रबन्ध, लखीमपुर – खीरी, गोविन्द प्रकाशन
2. शर्मा, संदीप एवं पारीक, अलका (2007), शैक्षिक तकनीकी एवं कक्षा-कक्ष प्रबन्ध, शिक्षा प्रकाशन, जयपुर
3. कुलश्रेष्ठ, एस.पी. (2005), शैक्षिक तकनीकी के मूल आधार, विनोद पुस्तक मंदिर, आगरा
4. Hillard R.I. (1973), Writing for T.V. and Radio N.Y. Hastings House
5. Philips, Lewis (1971), Educational Television Guide Book N.Y. : Mc.Graw
6. Cassire. Henry R. (1962), Television Teaching Today Paris, UNESCO

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 301	Hindi Literature (रीतिकालीन काव्य)	Any Three CE	4	30	70	100

#### उद्देश्य—

1. विद्यार्थियों को रीतिकालीन काव्य से परिचित करवाना।
2. विद्यार्थियों को विभिन्न कवियों की काव्यशैली की जानकारी देना।
3. विद्यार्थियों को विभिन्न कवियों की भाषाशैली से परिचित करवाना।

#### इकाई I

1. रीतिकाल: परिस्थितियाँ नामकरण, रीतिकालीन साहित्य का वर्गीकरण, प्रमुख प्रवृत्तियाँ, प्रमुख रचनाकार एवं उनकी रचनाएं

#### इकाई II

- रीतिरस तरंगिणी: ऑक्सफोर्ड बुक डिस्ट्रीब्यूटर्स, जयपुर निर्धारित कवि एवं काव्यांश  
क. केशवदास—1. सरस्वती वंदना 2. रामवंदना 3. पंचवटी वर्णन 4. हनुमान लंका गमन 5. सीतादर्शन 6. सीता हनुमान संवाद 7. हनुमान रावण संवाद 8. हनुमान रामचर्चा 9. रामरावण युद्ध 10. रावण वध  
ख. बिहारी – दोहे (1, 3, 10, 11, 14, 16, 22, 27, 29, 32)
- 2. निर्धारित कवियों की काव्यगत विशेषताएं

#### इकाई III

- रीतिरस तरंगिणी: ऑक्सफोर्ड बुक डिस्ट्रीब्यूटर्स, जयपुर निर्धारित कवि एवं काव्यांश  
क. घनानंद – सुजान प्रेम  
ख. देव— जीवन सार सुधा  
ग. सेनापति— ऋतुवर्णन, श्लेषवर्णन, शृंगार वर्णन
- 2. निर्धारित कवियों की काव्यगत विशेषताएं

#### इकाई IV

- रीतिरस तरंगिणी: ऑक्सफोर्ड बुक डिस्ट्रीब्यूटर्स, जयपुर निर्धारित कवि एवं काव्यांश  
1. क. भूषण—शिवाजी का शौर्य, छत्रसाल प्रताप  
ख. मतिराम—दानवीर महिमा, भक्तिभाव, प्रकृतिवर्णन  
ग. वृंद—सतसई
- 2. निर्धारित कवियों की काव्यगत विशेषताएं

#### उपलब्धियाँ—

1. विद्यार्थी विभिन्न कवियों की लेखनशैली से परिचित होकर अपना मत प्रस्तुत कर सकेंगे।
2. विद्यार्थी रीतिकालीन काव्य का परिचय प्राप्त कर स्वयं काव्य रचना का प्रयास कर सकेंगे।

पाठ्यपुस्तक/संदर्भ ग्रंथ:—

1. रीतिरस तरंगिणी, ऑक्सफोर्ड बुक डिस्ट्रीब्यूटर्स, जयपुर
2. रीतिकाव्य की भूमिका—डॉ नगेन्द्र नेशनल पब्लिशिंग हाउस, नई दिल्ली
3. हिन्दी साहित्य का वृहद इतिहास (16 खण्ड) संपादक डॉ नगेन्द्र प्रचारिणी सभा काशी
4. हिन्दी साहित्य की भूमिका—आचार्य हजारी प्रसाद द्विवेदी हिन्दी ग्रंथ रत्नाकर, मुंबई
5. हिन्दी साहित्य का अतीत(भाग 2) —आचार्य विश्वनाथ प्रसाद मिश्र वाणी प्रकाशन नई दिल्ली
6. हिन्दी साहित्य का इतिहास; रीतिकाल—आचार्य रामचन्द्र शुक्ल नागरी प्रचारिणी सभा काशी



### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 302	English Literature (Poetry and Drama)	Any Three CE	4	30	70	100

#### Objectives:

- 1- To enable the students to compose poems.
- 2- To make them familiar with Romantic and Victorian Poetry, Indian Poetry and Drama.
- 3- To acquaint them with some literary terms of these genres.

#### Unit I: Indian Poetry

- A- Night of the Scorpion: Nissim Ezekiel.
- B- Servants: Gieve Patel.
- C- A Bomb Site: AdilJussawala.
- D- The Queen's Rival: Sarojini Naidu.

#### Unit II: English Poetry

- A- Elegy Written in a Country Churchyard: Thomas Gray.
- B- The World is too Much With Us: William Wordsworth.
- C- Dover Beach: Matthew Arnold.
- D- Prospice: Robert Browning.
- E- Crossing the Bar: Alfred Lord Tennyson.

#### Unit III: Drama: As you Like It- William Shakespeare.

#### Unit IV: Literary Terms: Elegy, Sonnet, Ode, Epic, Dramatic Monologue, Comedy, Soliloquy, Aside. A Social and Literary Background to the Writers Prescribed.

#### Outcomes:

- 1- The students can understand the changing nature of Literature through ages.
- 2- They will become familiar with various forms of verse and dramatic art.

#### Suggested Reading:

1. Abrams, M.H. Glossary of Literary Terms. India, Macmillan Publishers, 2000.
2. Prasad, B. A Background to the Study of English Literature. Macmillan, 2004.
3. Poet's Pen. Homi p. Dustoor. Oxford University Press, New Delhi.
4. Paper I (Poetry ) Jain Vishva Bharti University, Ladnun.  
As You Like It. William Shakespeare.

**Semester III**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 303	Sanskrit Literature संस्कृत व्याकरण एवं साहित्य (लघुसिद्धान्त कौमुदी)	Any Three CE	4	30	70	100

**उद्देश्य—**

1. नाटक एवं महाकाव्य की शैली का अवबोध करवाना।
2. कारक से शब्दरूप की विभक्तियों का ज्ञान करवाना।
3. समास के द्वारा शब्दों के निर्माण की विधि सिखाना।

**इकाई 1. लघुसिद्धान्तकौमुदी**

- क. कारक प्रकरण (सूत्र 888 से 903 तक)
- ख. समास प्रकरण (सूत्र 904 से 993 तक)
- ग. तद्धित प्रकरण (चातुरर्थिका तक) (सूत्र 994 –1064 तक)

**इकाई 2. रचनानुवाद कौमुदी (पाठ 21 से 30)****इकाई 3. रघुवंशम् (द्वितीय सर्ग) एवं स्वप्नवासदत्तम्**

रघुवंशम् – 1. चरित्र चित्रण 2. श्लोकार्थ

स्वप्नवासदत्तम् – 1. चरित्र चित्रण 2. अनुवाद 3. कथा सारांश

**इकाई-4. अभिधान चिन्तामणि (छठा काण्ड, श्लोक 61 से 90)****उपलब्धियाँ—**

1. नाटक पठन से संभाषण कला का ज्ञान होगा।
2. विभक्ति संबंधी ज्ञान में अशुद्धि नहीं रहेगी।
3. श्लोक रचना आदि में समास का कार्यकारी ज्ञान होगा।

**पाठ्य पुस्तक/संदर्भ ग्रन्थ:**

1. स्वप्नवासदत्तम्, महाकवि भास, व्याख्याकार डॉ. रूपनारायण त्रिपाठी, हंसा प्रकाशन, जयपुर, 2006
2. रघुवंशम् द्वितीय सर्ग—महाकवि कालिदास संपादक—डॉ. रविकान्तमणि, हंसा प्रकाशन, जयपुर, 2007
3. लघु सिद्धान्त कौमुदी, श्रीवरदाजकृत, संपादक—महेश सिंह कुशवाहा, चौखम्बा विद्या भवन, दिल्ली
4. रचनानुवाद कौमुदी, डॉ. कपिल देव द्विवेदी, आचार्य विश्वविद्यालय प्रकाशन, वाराणसी
5. अभिधान चिन्तामणि नाममाला, चौखम्बा प्रकाशन, वाराणसी
6. लघु सिद्धान्त कौमुदी, महेश सिंह कुशवाहा, चौखम्बा विद्या भवन, दिल्ली
7. लघु सिद्धान्त कौमुदी, टीकाकार—राजेन्द्र चौधरी, रामनारायण वेणीप्रसाद, इलाहाबाद
8. लघु सिद्धान्त कौमुदी, भैमी व्याख्या, आचार्य भीमसेन शास्त्री
9. रचनानुवाद कौमुदी, डॉ. कपिलदेव द्विवेदी आचार्य, विश्वविद्यालय प्रकाशन, वाराणसी
10. संस्कृत रचनानुवाद कौमुदी, बी.एस. आप्टे
11. कालू कौमुदी, मुनि चौथमल, जैन विश्व भारती, लाडनूं

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 304	History (मध्यकालीन भारत का इतिहास)	Any Three CE	4	30	70	100

#### उद्देश्य—

1. मध्यकालीन भारत के इतिहास से परिचित करवाना।
2. अकबर की महानता से परिचित करवाना।
3. मुगलकालीन कला से परिचित करवाना।

#### इकाई—I

भारत में तुर्की साम्राज्य की स्थापना—कुतुबुद्दीन ऐबक, इल्तुतमिश, रजिया। दिल्ली सल्तनत में बलबन की महत्वपूर्ण उपलब्धियाँ एवं योगदान, अलाउद्दीन खिलजी—साम्राज्य विस्तार, प्रशासनिक नीति, बाजार नियन्त्रण प्रणाली एवं जनता पर प्रभाव।

#### इकाई II

मोहम्मद बिन तुगलक की नवीन योजनाएं एवं प्रभाव, फिरोज तुगलक की धार्मिक एवं सार्वजनिक नीति, दक्षिण भारत में विजयनगर साम्राज्य का उत्थान, उपलब्धियाँ एवं पतन। सल्तनतकालीन प्रशासन।

#### इकाई III

मुगल साम्राज्य की स्थापना—बाबर, हुमाँयु। शेरशाह सूरी का उत्कर्ष एवं प्रशासन प्रबंध। अकबर—साम्राज्य विस्तार, सुदृढीकरण, राजपूत नीति, धार्मिक नीति का मूल्यांकन।

#### इकाई IV

मुगल दरबार में नूरजहां जुन्टा गुट की भूमिका। औरंगजेब की राजपूत नीति, दक्षिण नीति एवं असफलता के कारण। शिवाजी का उत्कर्ष एवं शासन प्रबंध।

मुगलकालीन—स्थापत्य कला, शासन प्रबंध एवं पतन के कारण।

#### उपलब्धियाँ—

1. विद्यार्थी मध्यकालीन भारतीय इतिहास के प्राप्त ज्ञान का उपयोग प्रतियोगी परीक्षाओं में कर पायेंगे।
2. विद्यार्थी मुगलकालीन संस्कृति, शासन प्रबंध आदि से परिचित हो पायेंगे।
3. मुगल कला के विश्लेषणात्मक अध्ययन से विद्यार्थियों में कला के तुलनात्मक अध्ययन की क्षमता बढ़ेगी।

#### पाठ्यपुस्तक/सन्दर्भ ग्रंथ:

1. सेंगर, शैलेन्द्र— मध्यकालीन भारत का इतिहास, अटलांटिक पब्लिशर्स, जयपुर, 2005
2. भार्गव, डॉ. वी.एस.—मध्यकालीन भारतीय इतिहास, रिसर्च पब्लिकेशन, जयपुर।
3. वर्मा, हरिश्चन्द्र—मध्यकालीन भारतीय इतिहास, भाग-1 एवं 2, हिन्दी माध्यम कार्यान्वयन निदेशालय, नई दिल्ली।
4. गुप्ता व पेमाराम—मध्यकालीन भारत का इतिहास, क्लासिक पब्लिकेशन हाउस, जयपुर

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 305	Political Science (प्रमुख राजनीतिक व्यवस्थाएँ)	Any Three CE	4	30	70	100

#### उद्देश्य—

1. विद्यार्थियों को विश्व के प्रमुख संविधानों की जानकारी देना।
2. विद्यार्थियों को संघात्मक एवं एकात्मक संविधानों से अवगत कराना।
3. लिखित एवं अलिखित संविधानों के बारे में बताना।
4. विद्यार्थियों की प्रतियोगी परीक्षाओं में तर्क शक्ति बढ़ाना।

#### इकाई I

ब्रिटेन का संविधान—प्रमुख विशेषताएं, संवैधानिक परम्पराएँ (अभिसमय) सम्राट एवं राजमुकुट, मन्त्रिमण्डल एवं प्रधानमंत्री, स्पीकर का पद, संसद—कॉमन सभा एवं लार्ड सभा

#### इकाई II

संयुक्त राज्य अमेरिका संविधान—प्रमुख विशेषताएं, शक्ति पृथक्करण का सिद्धांत, अमेरिकी संघ व्यवस्था, राष्ट्रपति का पद, कांग्रेस—प्रतिनिधि सभा एवं सीनेट, सर्वोच्च न्यायालय

#### इकाई III

स्विस संविधान—प्रमुख विशेषताएं, मौलिक अधिकार एवं स्विस संघ व्यवस्था, संसद, संघीय परिषद, संघीय सर्वोच्च न्यायालय, प्रत्यक्ष प्रजातंत्र।

#### इकाई IV

जनवादी चीन का संविधान—प्रमुख विशेषताएं, राष्ट्रीय जन कांग्रेस, राष्ट्रपति एवं राज्यपरिषद, चीन का साम्यवादी दल।

#### उपलब्धियाँ—

1. विद्यार्थी विभिन्न देशों के संविधानों को विस्तृत रूप से जान सकेंगे।
2. विभिन्न देशों के संविधानों का तुलनात्मक अध्ययन कर सकेंगे।
3. परम्परागत एवं आधुनिक संविधानों के दृष्टिकोण को समझ सकेंगे।
4. विभिन्न संविधानों में संशोधनों की जानकारी प्राप्त कर सकेंगे।

#### पाठ्यपुस्तक/ संदर्भ ग्रन्थ:

1. Ogg & Zink : Modern Foreign Governments.
2. Menelly : Contemporary Government Japan. Houghton Muffin, 1963
3. V.D. Mahajan : Modern Constitutions.
4. H. Finer : Theory and Practice of Modern Government, London.
5. A.H. Brich : British System of Government.
6. पुखराज जैन—प्रमुख राजव्यवस्थाएँ, साहित्य भवन, पब्लिकेशन्स, आगरा
7. बी.एल. फडिया—प्रमुख राजनीतिक व्यवस्थाएँ, कॉलेज बुक हाउस, जयपुर
8. आर.सी.अग्रवाल—विश्व के प्रमुख संविधान, एस.चन्द एण्ड कम्पनी, नई दिल्ली

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 306	Sociology (Social Research Method)	Any Three CE	4	30	70	100

**Learning outcomes :** After completion of this course the student will able-

- ❖ To develop and under standing about the concept of research in social science.
- ❖ To develop skill in pro paring a good research proposal and research design.
- ❖ To include the idea of different bases of research in the field of sociology.
- ❖ To Understand about the use of different types of research tools and techniques.
- ❖ To appraise critically about research work in social science field.

#### **Unit - I Scientific Study of Social Phenomena**

- ❖ The Scientific Method
- ❖ Steps in Soical Research
- ❖ Objectives and Subjectivity in Social Science
- ❖ Positivism and Empiricism in Sociology
- ❖ Hypothesis : Meaning, Types

#### **Unit - II Types of Research in Social Science**

- ❖ Meaning, Scope and Significance of Social Survey and Social Research
- ❖ Types of Research :
  - Basic and Applied
  - Historical and Empirical
  - Descriptive, Exploratory, Experimental

#### **Unit - III Research Methods and Techniques**

- ❖ Quantitative and Qualitative Methods
- ❖ Quantitative Techniques : Observation, Case Study Content Analysis
- ❖ Qualitative Techniques : Survey, Questionnaire, Schedule and Interview

#### **Unit - IV Classification and Presentation fo Data**

- ❖ Sources of Data : Primary and Secondary
- ❖ Tabular and Diagramatic Presentation of Data : Tables, Graphs, Histograms
- ❖ Measures of central tendency : Mean, Mode, Median

#### **Reference :**

1. Bryman, Alan 1988 Quality and Quantity in Social Research, London, Unwin Hyman
2. Garrett, Henry 1981, Statistics in Psychology and Education, David McKay : Indian
3. Jayaram, N. 1989, Sociology, Methods and Theory, Madras, Macmillias
4. Kothari C.R., 1989, Research Methodology : Methods and Techniques, Bangalore, Wilag Eastern
5. Young P.V., 1988, Scientific Social Surveys and Research

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 307	Geography (Human Geography)	Any Three CE	4	30	50+20 Practical) 70	100

#### Objectivess-

1. To make students aware about human Geography.
2. To make aware about Population Distribution & Human Development.
3. To make students aware about schools & principles of Human Geography.

#### Unit-I

- a) Definition and scope of Human Geography.
- b) Its relation with other Subjects.
- c) Schools of Human Geography : determinism, possibilism and neo-determinism.
- d) Fundamental principles of Human Geography : Principle of activity, Principle of terrestrial unity.

#### Unit-II

- a) Races of man kind :- Criteria of classification and distribution according to G. Taylor
- b) Migration zone Theory by Griffith Taylor
- c) Factors of evolution of human races
- d) Tribes in the world, Habitat, Occupation & Social Organization : Pigmies, Bushmen, Eskimos and Khirgiz.

#### Unit-III

- a) Distribution of Tribes in India. Habitat, Economic Activities and Social Organization of Bhil, Naga, Toda and Santhal.
- b) Early Economic activities of mankind : Food gathering, Hunting, Fishing & Shifting cultivation.
- c) World distribution, Concept of over population, optimum population and zero population growth.
- d) Migration Internal and International, General laws of Migration

#### Unit-IV

- a) Concept of human development and population problems and policy of India.
- b) Rural, Urban settlement-origin of towns, patterns of cities.
- c) Functional classification of cities, zoning of cities, Christaller's theory.
- d) Urbanization and Problems : slums, town planning, concept and principles.

#### Practical :

- a. Methods of Relief Representation: Hachure', Contours, layer tint, BM, Spot height, Trachographic Method.
- b. Drawing of Profiles: Serial, Composites and Superimposed.
- c. Prismatic Compass Survey: Instrument required for prismatic compass survey
- d. Prismatic Compass Survey: Radiation and intersection method.
- e. CorrEction of closing error with Bowditch rule.

#### Outcomes-

1. Having Knowledge of human geography & its principles, students can adjust & adapt themselves with different cultures prevailing.
2. Comes to know about problems regarding overpopulation, migration& steps to solve them.
3. Deep knowledge about people residing in urban & rural areas, their problems & solutions.

#### Suggested Readings :

1. Blache Vidal de la: Manav Bhugol ke Siddhant (In Hindi)
2. कौशिक, एस.डी. : मानव भूगोल के सरल सिद्धान्त, रस्तोगी पब्लिकेशन्स, मेरठ
3. हूसैन, माजिद : मानव भूगोल, रावत पब्लिकेशन्स

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 308	Economics (Economics of Development and Planning in India)	Any Three CE	4	30	70	100

#### Objectives:

- ❖ To enable to understand the Economics of development.
- ❖ To enable to understand the Rostow's Theory of Historical stage of Growth.
- ❖ To enable to understand the Economics planning in mixed Economy.
- ❖ To enable to understand the Indian planning system.

#### Unit I Economic Development Meaning and Measurement

- a) Meaning of vicious circle
- b) Capital formation and Human Resource Development
- c) Resource Mobilization

#### Unit II Theories of Development

- a) Rostow's Theory of Historical Stage of Growth
- b) Balanced and Unbalanced Growth
- c) Choice of Technique : Capital intensive and Labour Intensive.

#### Unit III Economic Planning

- a) Meaning, Need, Objectives and relevance
- b) Planning under mixed Economy, Prerequisites of effective Planning
- c) The Indian Planning system : Planning commission Plan formulation and Evaluation.

#### Unit IV Appraisal of Planning in India

- a) Summary review of Achievements and Short coming with respect to Agriculture and Industry.
- b) Changing Role of Public Sector
- c) Salient Feature of Current Five Year Plan of India.

#### Reference :

1. Thirlwall, A.F. (2004), Growth & Development, wiled Palgave Mc. Millan.
2. Seth, M.L. : Theory and Practice of Economics Planning, S.Chand & Co. New Delhi.
3. Meir & Baldwin : Economics Development Theory, History & Policy.
4. Planning Commission, Government of India : Current five Year Plan
5. झिगन, एम.एल. रू विकास एवं नियोजन का अर्थशास्त्र, वृन्दा प्रकाशन, नई दिल्ली।
6. सेठ, एम.एल. : आर्थिक नियोजन के सिद्धान्त एवं व्यवहार एस.चांद एण्ड कम्पनी, नई दिल्ली

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 309	Home Science (Human Development)	Any Three CE	4	30	70	100

**Learning outcomes : After studying this course students will able to learn-**

- Concept, scope and foundation of human development
- Different life span stages related to human development
- Major developmental task, problems and support services related to human development
- Types of families and their related challenges in references to physical, motor and socio- emotional development

**Unit I Human Development**

- a) Concept , nature and scope of human development as a field of study
- b) Principles and stages of development
- c) Role of heredity, environment , learning, and maturation in development
- d) Factors affecting development

**Unit II Development in Adolescence : Development from conception to adolescence:**

- a) Physical development
- b) Motor development
- c) Socio emotional development
- d) Language and cognitive development

**Unit III Family and Developmental Tasks**

- a) Importance and Objectiveness of early childhood education, impact of deprivation and early stimulation
- b) Families: Concept, types and functions, changing roles and challenges faced by Indian families
- c) Understanding special children, their classification and related problems
- d) Major developmental tasks, achievements and problems of adulthood and aging

**Unit IV Developmental stages and support system**

- a) Early childhood care and its scope, problems and significance
- b) Adolescence: Activities for personality development at school, family and college level
- c) Need , care and support services for aging individuals
- d) Old age home & Day care center : Need, management and scope in society
- e) Guidance and counseling services in school and college for students

**Practicals: Any two of the following:**

- Anthropometric measurement of children from birth to 6 years plotting and interpretation of data as per WHO norms.
- Organizing and conducting play and creative activities of children in a nursery school.
- Focus group discussion with adolescents to understand their aspirations, educational and career choices.
- Prepare a scrap book on relevant issues of human development.
- Market survey of story books, toys and playing instruments in references to quality, cost, durability etc.

**References:**

1. Santrock JW (2007) Lifespan Development, Tata McGraw Hill New Delhi 3<sup>rd</sup> Ed.
2. Bee H (1995) The developing child, Harper Collins College Publisher
3. Berk L (2006) Child development, Allyn & Bacon. New York
4. Rice F (1992) Human Development: A Life Span Approach , Prentice Hall
5. Vidhya Bhusan and Sachdeva (2000) Introduction to Sociology



### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 301	Critical Understanding of ICT	CF	2	15 Practical	35	50

**Learning Outcomes:** After completion of this course the students will able:

- ❖ To explain the concept of ICT in education.
- ❖ To develop skills in using MS Office applications for education.
- ❖ To use internet efficiently to access information and communicate with others.
- ❖ To understand the applications of E-learning in education.

#### Course Contents:

##### Unit - I MS Office

- a) MS- word (Text management)
- b) Power Point (Preparation of Slide)
- c) Smart Class
- d) E - Learning

##### Unit - II Internet and Multimedia

- a) E-mail, Chat
- b) Searching, Downloading and Uploading
- c) Multimedia and its Education Uses.
- d) Mobile Banking

#### Assignment & Practical Works: (Any Two)

- Prepare one Assignment Work on any topic related to above units.
- Prepare power point presentation on Any one topics related to School content/ B.Ed. Syllabus.

#### References:

1. Cooper, I.M., classroom teaching skills, D.C. Heathco, Toronto, 1960.
2. Coulson, J. E. (ed); Programme Learning and Computer Based Instruction, Wiley, New York, 1962
3. Khanna, S.D. and others; Technology of Teaching and Teacher Behaviour, Vth edition, Doaba house, Delhi, 1984.
4. Kulkarni, S.S., Introduction to Educational Technology, Oxford and IBH publishing co., 1986.
5. Sampath, K. Panner Selvam, A and Santhanam, S; Introduction to Educational Technology, Sterling publishers, New Delhi, 1990.
6. Sharma, R.A., Technology of Teaching, Loyal Book Depot Meerut, 1986.
7. Saxena N.R. & Swarup, Oberoi S. C.; Technology of Teaching, Surya Publication, Meerut, 1996.
8. Skinner, B. F.; Technology of Teaching, Appleton Century Crafts, New York, 1981
9. Thompson, James, J.; Instructional Communication, Van Nostrand Reinhold Co. New Jersey, 1969
10. Verma, Ramesh and others; Modern Trends in Teaching Technology; Anmol Publications Pvt. Ltd., New Delhi, 1990.
11. Computer for Education, Working paper I<sup>st</sup>, NCET, 1967
12. मिश्रा, महेन्द्र कुमार, 2007, शैक्षिक प्रौद्योगिकी एवं कक्षा-कक्षा प्रबन्ध, युनिवर्सिटी बुक हाउस, जयपुर.

### Semester III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 302	Yoga and Preksha Meditation	CF	2	15 Practical	35	50

#### अधिगम की उपलब्धि

- ❖ जीवन विज्ञान, प्रेक्षाध्यान एवं योग विद्या की जानकारी प्राप्त कर सकेंगे।
- ❖ संतुलित व्यक्तित्व का निर्माण।
- ❖ विद्यालयस्तरीय ध्यान एवं योग के प्रशिक्षक तैयार करना।

#### विषयवस्तु :

##### इकाई-1 योग के प्रयोग

- योग : अर्थ, परिभाषा, अष्टांग योग की उपयोगिता
- आसन : सूर्यनमस्कार, (अर्थ, प्रक्रिया एवं लाभ) ताडासन, पादहस्तासन, गरुडासन, जानुशिरासन, वक्रासन, वज्रासन, पद्मासन, उत्तानपादासन, पवनमुक्तासन, भुजंगासन, शलभासन, (स्थिति, विधि, लाभ)
- प्राणायाम : सूर्यभेदी, चन्द्रभेदी, व अनुलोम विलोम
- मुद्रा : ज्ञान मुद्रा, वीतराग मुद्रा
- बन्ध : मूलबन्ध, उड्डियानबन्ध व जालधर बन्ध

##### इकाई-2 प्रेक्षाध्यान

- प्रेक्षाध्यान का इतिहास, अर्थ एवं उद्देश्य
- प्रेक्षाध्यान के सहायक अंगों का संक्षिप्त परिचय एवं महत्व
- कायोत्सर्ग, अर्न्तयात्रा, श्वास प्रेक्षा एवं ज्योतिकेन्द्र प्रेक्षा (प्रयोग, अभिव्यक्ति एवं प्रस्तुति)
- प्रेक्षाध्यान के मुख्य चरणों का संक्षिप्त परिचय

#### टर्म पेपर : (कोई एक)

- विषय से सम्बन्धित कोई एक टर्म पेपर तैयार करना।
- सूर्य नमस्कार की विभिन्न स्थितियों का प्रदर्शन।

#### सन्दर्भ ग्रन्थ सूची :

1. अमूर्त चिन्तन : आचार्य महाप्रज्ञ
2. जीवन विज्ञान की रूपरेखा, लेखक : मुनि धर्मेश कुमार
3. जीवन विज्ञान शिक्षक निर्देशिका – मुनि किशनलाल
4. जीवन विज्ञान : मूल्यपरक शिक्षा का एवं अभिनव प्रयोग – मुनि धर्मेश
5. जीवन विज्ञान प्रेक्षाध्यान एवं योग : समणी मल्लि प्रज्ञा
6. जीवन विज्ञान : शिक्षा का नया आयाम, लेखक : आचार्य महाप्रज्ञ
7. जीवन विज्ञान : शिक्षक प्रशिक्षक मार्गदर्शिका— मुनि किशनलाल
8. जीवन विज्ञान : स्वस्थ समाज रचना का संकल्प, लेखक : आचार्य महाप्रज्ञ
9. नया मानव : नया विश्व – आचार्य महाप्रज्ञ
10. परिवार के साथ कैसे रहें ? – आचार्य महाप्रज्ञ
11. प्रेक्षाध्यान प्रयोग पद्धति – लेखक : आचार्य महाप्रज्ञ
12. प्रेक्षाध्यान : आसन प्राणायाम, मुनि किशनलाल
13. प्रेक्षाध्यान : सिद्धान्त और प्रयोग, लेखक : आचार्य महाप्रज्ञ, सम्पादक : मुनि किशन लाल, भाभकरण सुराना
14. प्रेक्षाध्यान : यौगिक क्रियाएं, मुनि किशनलाल
15. प्रेक्षाध्यान : शरीर विज्ञान, श्री जेठालाल जवेरी, मुनि महेन्द्र कुमार
16. प्रेक्षाध्यान : स्वास्थ्य विज्ञान (भाग 1,2), श्री जेठालाल जवेरी, मुनि महेन्द्र कुमार 'तुम स्वस्थ रह सकते हो, लेखक – आचार्य महाप्रज्ञ
17. प्रेक्षाध्यान : व्यक्तित्व विकास, लेखक : मुनि धर्मेश कुमार
18. प्रेक्षा संदर्शिका – मुनि धर्मेशकुमार
19. Preksha Meditation : Therapeutic Thinking by Arun Zaveri
20. Science of Living, Ed. Muni Mahendra Kumar

## Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 401	Gender, School and Society	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the modern concept of Society & organization Gender sensitivity.
- ❖ To understand the Dimension of Development of School Administration.
- ❖ To develop basic understanding & familiarity with Key concept, society, social problem, social relationship, new Trends
- ❖ To develop Knowledge of the role of different NGO & Organization.

**Course Contents:**

**Unit- I Role of Society & Organization in Gender sensitivity.**

- a) Gender Equity : Concept, Needs, Problem and solution
- b) Nature of Society
- c) Women Commission
- d) Right to Education

**Unit- II Dimensions of Development of School**

- a) Administration – Structure of Centre and State education.
- b) Head-Master – Merits, work, Duties and Leadership.
- c) Ideal Teacher – Personality and Qualification
- d) Modern school , Library, Laboratory, and Hostel
- e) Outline of Co-Curricular Activities in School.

**Unit- III Present Education & Society**

- a) Role of education in different Areas (Family, school, and society).
- b) Present Social Problems (unemployment, Students indiscipline, Poverty, Illiteracy, Health & Nutrition)Concept, cause, and Solution
- c) Education and Society Relationship

**Unit- IV Role of organization in Gender sensitivity, society, and school**

- a) NGO – (meaning and Role)
- b) Role of present Social – worker
- c) Govt. Planning
- d) Role of Religious Organization

**Assignment & Practical Works :**

- Study of any one significant Problems of a secondary school. Prepare report detail – it's possible Causes and Solutions
- One Assignment Work solve.
- Critically Evaluate of the different Activities of any one school.
- Case study of any N.G.O working locally.

**References :**

1. कुशवाहा, पुष्पलता एवं सक्सैना, कनक, (2006), शैक्षिक प्रबंधन एवं संगठन, आस्था प्रकाशन, जयपुर
2. चौबे, सरयू प्रसाद, (1990), शिक्षा के समाजशास्त्रीय आधार, विनोद पुस्तक मंदिर, आगरा
3. पाण्डेय, रामशकल (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
4. बघेला, एच. एस. सिंह, (2007), शैक्षिक प्रबंधन एवं संगठन, राजस्थान प्रकाशन, जयपुर
5. भटनागर, सुरेश (1996), शैक्षिक प्रबंध व शिक्षा की समस्याएं, सूर्या पब्लिकेशन, मेरठ
6. वशिष्ठ, के. के. (1985), विद्यालय संगठन एवं भारतीय समाज की शिक्षा की समस्याएं, लायक बुक डिपो, मेरठ
7. शर्मा, आर. ए. (1995), विद्यालय संगठन एवं शिक्षा प्रशासन, सूर्या पब्लिकेशन, मेरठ
8. शर्मा, ओ. पी., गुप्ता, शोभा (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
9. सुखिया, एस. पी., (2008), विद्यालय प्रशासन एवं संगठन, विनोद पुस्तक मंदिर, आगरा
10. [www.gender.com.ac.uk](http://www.gender.com.ac.uk).
11. [www.genderstudies.org](http://www.genderstudies.org).
12. [www.genderparadigm.com/publication/html](http://www.genderparadigm.com/publication/html)

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 402	Reading and Reflecting on Texts (EPC)	CC	2	15	35 Practical & Viva-Voce	50

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop basic Communication Skills.
- ❖ To promote Creative Writing among students.
- ❖ To acquire the knowledge of art of Speaking.

**Course Contents:**

**Unit- I Reading Comprehension**

- a) Explain with stage of any self expression of any one guest.
- b) Enlist errors in reading among school students.
- c) Review of any one books with reading.
- d) Write the educational essence of any five stories and morale thought with reading.

**Unit- II Writing composition & Action Plan**

- a) Recite 10 poem / verse/ stanza and write it.
- b) Prepare an action plan and organize accordingly.
- c) Proof reading.
- d) Prepare list of innovative vocabulary for speaking. (50 words).

**Assignment & Practical Works : (Any Two)**

- One Assignment Work on any topic related to above units.
- Prepare a plan and organize any two activities related to above units.
- Demonstrate different type of speaking.
- To identify the causes of ineffective speech and remedies for it.

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 403	Drama and Arts in Education (EPC)	CC	2	15	35 Practical & Viva-Voce	50

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop skills of role playing and acting.
- ❖ To acquire the knowledge and develop skill of arts, painting and playing musical Instruments.

**Course Contents:**

#### **Unit- I Write a Drama Script**

- a) Prepare a Drama for any Social issues (Class VI to XI)
- b) Role playing for different scene of Drama
- c) To know different types of Drama

#### **Unit- II Fine Arts, materials and its relevancy (Any two works)**

- a) Mehendi, Drawing
- b) Rangoli/Model Preparation
- c) Poster Painting

#### **Assignment & Practical Works : (Any Two)**

- Prepare any one Assignment Work related to above units.
- Plan and organize any two activities related to above units.
- Prepare Arts and crafts with un usual material
- Prepare Fine Arts with paper
- Hand made ArchitEcture
- Soft toys (Teddy bear)
- Dance Art
- Fine Arts/ Painting
- Skill of Playing musical instrument
- Food Shef
- Handicraft

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 401	Hindi Literature गद्य साहित्य (निबन्ध नाटक एवं एकांकी)	Any Three CE	4	30	70	100

**उद्देश्य—**

1. विद्यार्थियों को नाटक, एकांकी एवं निबंध साहित्य की सामान्य जानकारी देना।
2. हिन्दी के प्रमुख गद्य साहित्यकारों का परिचय देना।
3. हिन्दी की प्रमुख गद्य शैलियों का ज्ञान प्रदान करना।
4. विद्यार्थियों में गद्य लेखन क्षमता का विकास करना।

**इकाई—I**

1. गद्य विधा : निबन्ध, नाटक एवं एकांकी का स्वरूप एवं तात्विक विवेचन
2. निबन्ध : उद्भव एवं विकास, प्रमुख रचनाकार एवं उनकी रचनायें।
3. नाटक : उद्भव एवं विकास, प्रमुख रचनाकार एवं उनकी रचनायें।
4. एकांकी : उद्भव एवं विकास, प्रमुख रचनाकार एवं उनकी रचनायें।

**इकाई—II**

निम्नलिखित निबंधकारों के चयनित निबंध

1. चेतना का संस्कार – संपादक विश्वनाथ तिवारी, वाणी प्रकाशन, नई दिल्ली: निर्धारित निबंध एवं निबंधकार  
क. होली है—प्रतापनारायण मिश्र  
ख. बनाम लॉड कर्जन— बाल मुकुन्द गुप्त  
ग. श्रद्धा—भक्ति – रामचन्द्र शुक्ल  
घ. अशोक के फूल— आचार्य हजारीप्रसाद द्विवेदी  
ड. मेरे राम का मुकुट भीग रहा है— डॉ विद्यानिवास मिश्र

**इकाई—III**

1. ध्रुवस्वामिनी (नाटक) जयशंकर प्रसाद, मलिक एण्ड कम्पनी, जयपुर

**इकाई—IV**

1. धरोहर—संपादक डॉ रामचरण महेन्द्र, बुक लैण्ड पब्लिशर्स, लाल जी सांड का रास्ता जयपुर  
निर्धारित एकांकी एवं उनके रचनाकार  
क. डॉ रामकुमार वर्मा – दीपदान  
ख. सेठ गोविन्ददास— धरोहर  
ग. हमीदुल्ला— हरितगन्धा  
घ. देवीलाल सामर— वीर बल्लू

**उपलब्धियाँ—**

1. विद्यार्थी प्रमुख साहित्यकारों की रचनाओं से प्रेरणा पाकर अपने लेखन कौशल का अभ्यास कर सकेंगे।
2. विद्यार्थी गद्य की विभिन्न शैलियों का ज्ञान प्राप्त कर स्वयं की लेखनशैली का विकास कर सकेंगे।
3. विद्यार्थी स्वयं गद्य लेखन की ओर अग्रसर हो सकेंगे।

**पाठ्यपुस्तक/संदर्भ ग्रंथ**

1. हिन्दी साहित्य का इतिहास— डॉ नगेन्द्र, मयूर पेपर बैक्स नोएडा
2. हिन्दी नाटक—डॉ. बच्चन सिंह, राधाकृष्ण, प्रकाशन नई दिल्ली
3. प्रसाद के नाटक— डॉ. सिद्धनाथ कुमार, अनुपम प्रकाशन, पटना
4. हिन्दी का गद्य साहित्य— डॉ. रामचन्द्र तिवारी, विश्वविद्यालय प्रकाशन, वाराणसी

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 402	English Literature (Prose and Fiction)	Any Three CE	4	30	70	100

#### Objective :

1. To enable the students to compose Stories.
2. To make them familiar with English Essay, Short Stories and Partition Fiction.
3. To acquaint them with some literary terms of these genres.

#### Unit I: Short Stories

- A- A Cup of Tea: Katherine Mansfield.
- B-The Open Window: Saki.
- C- The Gift of Magi: O' Henry.
- D-How Much Land Does A Man Need: Leo Tolstoy.

#### Unit II: English Essay

- A- A Bachelor's Complaint of the Behavior of Married People: Charles Lamb.
- B- On the Rule of the Road: A.G. Gardiner.
- C- From Religion to Vocation: AcharyaMahapragya.
- D- The Civilization of Today- C.E.M. Joad.

#### Unit III: Novel: Train to Pakistan- Khushwant Singh.

#### Unit IV: Literary Terms:Novel, Novella, Partition Novel, Science Fiction, Satire.

#### Outcomes:

- A. The students can understand the changing nature of Literature through ages.
- B. They will become familiar with various forms of prose and narrative art.

#### Suggested Reading:

1. Abrams, M.H. Glossary of Literary Terms. India, Macmillan Publishers, 2000.
2. Prasad, B. A Background to the Study of English Literature. Macmillan, 2004.
3. Popular Short Stories. Oxford University Press, New Delhi.
4. Forms of English Prose. Oxford University Press, New Delhi.
5. Train to Pakistan. Khushwant Singh. Orient Longman.
6. Oxford Dictionary of Literary Terms.

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 403	Sanskrit Literature संस्कृत व्याकरण एवं साहित्य (लघुसिद्धान्तकौमुदी)	Any Three CE	4	30	70	100

**उद्देश्य—**

1. वाक्य निर्माण का अभ्यास कराना।
2. अनुवाद की विधा का प्रशिक्षण देना
3. तद्धित शब्दों की विधि समझाना।

**इकाई—1 तद्धित प्रकरण (शेषिका अधिकार से स्वार्थिका तक) (सूत्र 1065 से 1243 तक)**

**इकाई—2 रचनानुवाद कौमुदी (पाठ 31 से 40)**

**इकाई—3 अभिज्ञान शाकुन्तलम्**

1. दो श्लोकों की सप्रसंग व्याख्या
2. चरित्र चित्रण
3. एक समीक्षात्मक प्रश्न
4. दो सूक्तियों की व्याख्या

**इकाई—4 सिन्दूरप्रकर (1 से 50) एवं अभिधान चिन्तामणि (छठा काण्ड, श्लोक 91 से 120)**

**सिन्दूरप्रकर**

1. दो श्लोकों की सप्रसंग व्याख्या
2. प्रकरण का सारांश

**अभिधान चिन्तामणि**

1. दो श्लोक पूर्ति
2. पांच शब्दों के अर्थ

**उपलब्धियाँ—**

1. वाक्य निर्माण की प्रक्रिया का ज्ञात होगा।
2. शब्द कोश का ज्ञान बढ़ेगा।

**पाठ्यपुस्तक/ संदर्भ ग्रन्थ:**

1. अभिज्ञान शाकुन्तलम्, महाकवि कालिदास, व्याख्याकार यनदुन्दन मिश्र, चौखम्बा पब्लिशर्स, वाराणसी, 1999
2. लघु सिद्धान्त कौमुदी, श्रीवरदाजकृत, संपादक—महेश सिंह कुशवाहा, चौखम्बा विद्या भवन, दिल्ली
3. रचनानुवाद कौमुदी, डॉ. कपिल देव द्विवेदी, आचार्य विश्वविद्यालय प्रकाशन, वाराणसी
4. सिन्दूरप्रकर, आचार्य सोमप्रभ, संपादक—मुनि राजेन्द्र कुमार, जैन विश्वभारती, लाडनूं
5. अभिधान चिन्तामणि—चौखम्बा विद्या भवन
6. लघु सिद्धान्त कौमुदी, महेशसिंह कुशवाहा, चौखम्बा विद्या भवन, दिल्ली
7. लघु सिद्धान्त कौमुदी, टीकाकार—राजेन्द्र चौधरी, रामनारायण वेणीप्रसाद, इलाहाबाद
8. लघु सिद्धान्त कौमुदी, भैमी व्याख्या, आचार्य भीमसेन शास्त्री
9. अभिधान चिन्तामणि—चौखम्बा विद्या भवन दिल्ली
10. संस्कृत रचनानुवाद कौमुदी, बी.एस. आप्टे



## Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 404	History (राजस्थान के इतिहास का सर्वेक्षण)	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थियों को राजस्थान के इतिहास से परिचित करवाना।
2. दुर्ग वास्तुकला से परिचित करवाना।
3. महाराणा कुंभा, महाराणा प्रताप व मानसिंह की उपलब्धियों से परिचित करवाना।
4. किसान आन्दोलन, प्रजामण्डल आन्दोलन व राजस्थान के एकीकरण से परिचित करवाना।

### इकाई— I

राजस्थान के पूर्व पाषाण युग की रूपरेखा, मुख्यतः कालीबंगा, आहड़ एवं बैराठ के पुरातात्विक स्थलों के संदर्भ में, पृथ्वीराज तृतीय की महत्त्वपूर्ण उपलब्धियों एवं साम्राज्य विस्तार। राजपूत राज्यों में सामन्तवाद की विशेषताएं

### इकाई— II

ब्रिटिश प्रभुसत्ता के समय में राजपूत जागीरदारों की स्थिति में परिवर्तन, मालदेव के अधीन मारवाड़ राज्य का उत्कर्ष, दुर्ग वास्तुकला— विशेषतः चित्तौड़, रणथंभोर और आमेर के संदर्भ में। महाराणा कुंभा की राजनीतिक एवं सांस्कृतिक उपलब्धियाँ, महाराणा प्रताप का मुगलों से संघर्ष।

### इकाई— III

आमेर के मानसिंह द्वारा मुगल सहयोग। धार्मिक आन्दोलन मीरा एवं दादू दयाल के विशेष संदर्भ में। राजपूताना में मराठों के हस्तक्षेप के कारण एवं परिणाम। राजस्थान में 1857 के विद्रोह के कारण एवं परिणाम।

### इकाई— IV

राजस्थान में राजनैतिक जागरण के कारण। बिजोलिया किसान आंदोलन। 1818 की संधियों के सम्पन्न होने की परिस्थितियाँ एवं परिणाम विशेषतया मेवाड़, मारवाड़, और कोटा राज्यों के संदर्भ में। राजस्थान राज्य का निर्माण 1948 ई.— 1956 ई.।

### उपलब्धियाँ—

1. विद्यार्थी राजस्थान के गौरवशाली इतिहास से परिचित हो पायेंगे।
2. महाराणा कुंभा, महाराणा प्रताप, मीरा, दादू दयाल आदि के जीवन से प्रेरणा प्राप्त कर अपने व्यक्तित्व का विकास कर सकेंगे।
3. राजस्थान के एकीकरण के विभिन्न चरणों से परिचित हो पायेंगे।
4. राजस्थान के इतिहास के अध्ययन से विद्यार्थी प्रतियोगी परीक्षाओं में सफलता प्राप्त कर पायेंगे।

### पाठ्यपुस्तक/सन्दर्भ ग्रंथ:

1. व्यास, आर.पी.—राजस्थान का बृहद् इतिहास भाग प्रथम एवं द्वितीय, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
2. सक्सेना, के.एम.—राजस्थान में राजनैतिक जागरण, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर।
3. भार्गव, डॉ. वी.एस.— राजस्थान का इतिहास, रिसर्च पब्लिकेशन, जयपुर।
4. शर्मा, डॉ. गोपीनाथ— राजस्थान का इतिहास, शिवलाल अग्रवाल एण्ड कम्पनी, आगरा।
5. शर्मा हरिशंकर एवं पावा, सरोज—राजस्थान का इतिहास, जयपुर पब्लिकेशन, जयपुर।
6. Ratnavat, Syam singh – History and Culture of Rajasthan.

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 405	Political Science (भारतीय राजनीतिक व्यवस्था)	Any Three CE	4	30	70	100

#### उद्देश्य—

1. भारतीय राजनीतिक व्यवस्था की जानकारी देना।
2. शासन की विभिन्न संस्थाओं से परिचित कराना।
3. भारत की वर्तमान बदलती राजनैतिक दशा एवं दिशा का बोध करवाना।
4. विद्यार्थियों की प्रतियोगी परीक्षाओं में तर्क शक्ति बढ़ाना।

#### इकाई— I

भारत शासन अधिनियम 1919 (द्वैध शासन के विशेष सन्दर्भ में) तथा भारत शासन अधिनियम 1935 प्रान्तीय स्वायत्ता के विशेष सन्दर्भ में

#### इकाई— II

संविधान का निर्माण : संविधान सभा में प्रमुख मुद्दे, विशेषताएं, संघव्यवस्था की प्रकृति, मौलिक अधिकार, राज्य नीति के निदेशक सिद्धांत।

#### इकाई— III

संघीय कार्यपालिका (राष्ट्रपति, प्रधानमंत्री एवं मन्त्रिपरिषद्) संघीय संसद, सर्वोच्च न्यायालय एवं न्यायिक पुनरावलोकन।

#### इकाई— IV

राज्यों का शासन : राज्यपाल, मुख्यमंत्री एवं मन्त्रिपरिषद्, राज्यविधान मण्डल, भारतीय राजनीतिक व्यवस्था की प्रमुख चुनौतियां : क्षेत्रियतावाद एवं राजनीति का अपराधीकरण।

#### उपलब्धियाँ—

1. ब्रिटिश सरकार के विभिन्न अधिनियमों की जानकारी प्राप्त कर सकेंगे।
2. शासन की विभिन्न संस्थाओं का तुलनात्मक अध्ययन कर सकेंगे।
3. केन्द्रिय स्तर से लेकर राज्यों की राजनीति की जानकारी प्राप्त कर सकेंगे।

#### पाठ्यपुस्तक / संदर्भ ग्रन्थ:

1. Ogg & Zink : Modern Foreign Governments.
2. Menelly : Contemporary Government Japan. Houghton Muffin, 1963
3. V.D. Mahajan : Modern Constitutions.
4. H.Finer : Theory and Practice of Modern Government, London.
5. A.H. Brich : British System of Government.
6. पुखराज जैन—प्रमुख राजव्यवस्थायें, साहित्य भवन, पब्लिकेशन्स, आगरा
7. बी.एल. फडिया—प्रमुख राजनीतिक व्यवस्थायें, कॉलेज बुक हाउस, जयपुर,
8. आर.सी.अग्रवाल—विश्व के प्रमुख संविधान, एस.चान्द एण्ड कम्पनी, नई दिल्ली
9. वीरकेश्वर प्रसाद सिंह—विश्व के प्रमुख संविधान, ज्ञानदा प्रकाशन, नई दिल्ली

#### Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 406	Sociology (Social Problems in Contemporary India)	Any Three CE	4	30	70	100

#### Learning outcomes

- ❖ To enable the students to understand the conceptual in contemporary India.
- ❖ To enable the students to understand the structural problems in contemporary India
- ❖ To enable the students to understand the disorganizational problems in contemporary India.
- ❖ To enable the students to understand the development problems in contemporary.

#### Unit - I Social Problems : Some Conceptual Issues

- ❖ Social Problems and Social Disorganization : Meaning and Relations
- ❖ Social Problems : Theoretical Perspective
- ❖ Social Problems : Types and Factors

#### Unit - II Structural Problems in Contemporary India

- ❖ Rural Problems, Gender Disparity
- ❖ Communalism and the problems of minorities
- ❖ Problems of Devised Social categories : Scheduled castes and scheduled Tribes

#### Unit - III Disorganizational Problems in contemporary India

- ❖ Crime, Juvenile, Delinquency
- ❖ Corruption, Drug addiction
- ❖ Terrorism, Casteism

#### Unit - IV Development problems in contemporary India

- ❖ Poverty, Unemployment
- ❖ Illiteracy, Environmental pollution
- ❖ Problems of Slums, Development Induced Displacement

#### Reference :

- ❖ Ahuja, Ram, 2014, Social Problems in India, Rawat Publication, Jaipur
- ❖ Beteille, Andre, 1974, Social Inequality, New Delhi, OUP
- ❖ Guha Ramchandra, 1994, Sociology and Dilemma of Development, New Delhi OUP
- ❖ Kothary, Rajni (Ed), 1973, Cast in Indian Politics
- ❖ आहुजा, राम 2009, भारतीय सामाजिक व्यवस्था, रावत पब्लिकेशन्स, जयपुर
- ❖ दोषी, एस.एल. 2009, भारतीय सामाजिक विचारक, रावत पब्लिकेशन्स, जयपुर
- ❖ शर्मा के. एल. 2006, भारतीय सामाजिक संरचना एवं परिवर्तन, रावत पब्लिकेशन्स, जयपुर
- ❖ दोषी, एस.एल. एवं जैन पी.सी. 2002, भारतीय समाज, नेशनल पब्लिकेशन्स हाउस, जयपुर
- ❖ पटेल, तुलसी 2011, भारत में परिवार : संरचना एवं व्यवहार, रावत पब्लिकेशन्स, जयपुर

## Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 407	Geography ( Economic Geography )	Any Three CE	4	30	50+20 (Practical) 70	100

### Objectives-

1. To make students aware about concept of Economic geography, Economic activities & their impact on the environment.
2. Knowledge about various resources : Natural, Soil, Mineral & Energy.
3. Knowledge about agencies (WTO, GATT) engaged in promoting trade & services.

### Unit - I

- a) Definition and Scope of Economic geography.
- b) Development of Economic geography. Its relation with other subjects.
- c) Economic Activities : Primary, Secondary and Tertiary.
- d) Impact of Economic activities on the environment.

### Unit - II

- a) Natural Resources : Meaning and classification of resources, Water & Forest.
- b) Soil Resources : Structure of soil, and soil erosion.
- c) Mineral Resource : Type, Distribution & Production of iron ore. Lead & Zinc
- d) Energy Resources : Types, Distribution and Production of coal and Petroleum.

### Unit- III

- a) Agriculture : Physical and socio - cultural environment influencing crop production.
- b) Agriculture classification : D.Whittleseys Classification.
- c) Spatial distribution, production and international trade of rice & wheat, cotton and rubber, tea & coffee
- d) Water Transport : Suez canal, panama canal, North Atlantic routes.

### Unit – IV

- a) Manufacturing Industry : Meaning & Types.
- b) Industrial location Theory : A Weber's and smith.
- c) Distribution & production of Iron and Steel & cotton textile industry.
- d) Agencies : GATT, WTO, OPEAK AND EROPEAN UNION.

### Practical

- a) Basic Statistical Methods.
  - i) Frequency distribution and its Presentation.
  - ii) Measures of Central tendency: - Arithmetic Mean, Mode & Median (DirEct Method)
  - iii) Standard deviation method & Coefficient of variation.
- b) Representation of statistical data through Diagrams : - One Dismensional, Two Dimensional, Three Dimensional.
- c) Representation of statistical data through graphs: Poly linear graph, Climogarph and Hythergraph.

### Outcomes -

1. Students can know how their activities of trade & services will affEct the environment. This may lead to the path of Green Environment.
2. After knowing availability of various resources availble, their proper utilisation is possible.
3. Students can contribute their efforts towards promoting trade in which our country is having self-sufficiency.

### Suggested Reading:

1. प्रमीला कुमार एवं श्री कमल शर्मा : कृषि भूगोल, म. प्र. हिन्दी ग्रंथ अकादमी, भोपाल, 2000
2. श्रीवास्तव वी.के. आर्थिक भूगोल के मूलतत्त्व, वसुन्धरा प्रकाशन, गोरखपुर, 2001
3. सिंह जगदीश, आर्थिक भूगोल के मूलतत्त्व ज्ञानोदय प्रकाशन, गोरखपुर 2002
4. Dr.H. M.Sakshena, L.C. Agarwal आर्थिक भूगोल, 2015

**Semester IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 408	Economics (Macro Economics Theory)	Any Three CE	4	30	70	100

**Objectives:**

- ❖ To enable the student teacher to understand concept of Macro Economics.
- ❖ To enable the student teacher to understand National Income.
- ❖ To enable the student teacher to understand concept of Money and prices.
- ❖ To enable the student teacher to understand Functions of Commercial Bank and central Bank.
- ❖ To enable the student teacher to understand difference between private and public finance.

**Unit I Introduction to Macro Economics**

- a) Meaning, scope, importance and limitation of macro Economics.
- b) Difference between macro and micro Economics.
- c) National Income - concept relating National Product/National Income : measurement of National Income.
- d) Determinants of National Income - Consumption Function; simple Keynesian consumption Function, Factors affecting saving - consumption.
- e) Investment function : meaning, Determination of level of Investment.
- f) Equality of saving and investment.

**Unit II Money and Prices**

- a) Concept of money supply, value of money and its measurement with Index Numbers.
- b) Quantity Theory of money, Fisher and Cambridge versions.
- c) Commercial Banking - Principles and Functions of commercial Bank, credit creation.
- d) Central Bank - functions of a central bank with reference to India.
- e) Credit control by a central bank.
- f) Relationship between central bank and treasury.

**Unit III International Trade**

- a) International Trade - Meaning
- b) Difference between International and Domestic Trade.
- c) Theory of comparative Advantage, Balance of Payment.
- d) Foreign Exchange : Determination of Exchange Rate - Mint Par Theory and Purchasing Power parity theory.
- e) Objectives and methods of Exchange control.

**Unit IV Public Finance**

- a) Public Finance : meaning.
- b) Difference between private and public Finance.
- c) Public Revenue and its sources : Tax and Non tax.
- d) Sources of Public Debt.
- e) Types and Role of Public Expenditure.

**Reference :**

1. Jhingan M.L. : Macro Economic Theory (Hindi/English) Xied, Vrinda publications.
2. Vaish M.C. : Samasti Arthshastra (Hindi/English)
3. Sethi T.T. : Macro Arthshastra (Hindi/English)
4. K.C. Rana and K.N. Verma, Macro Economics. Analysis, Vishal Publishing Company, Jalandhar-Latest Edition (English/Hindi)
5. H.L. Ahuja, Advanced Macro Economic Theory, S. Chand and Co. Delhi, Latest Edition (English/Hindi)

## Semester IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 409	Home Science - Textiles & Clothing	Any Three CE	4	30	70	100

**Learning outcomes : After studying this course students will able to learn :**

- ❖ After studying this course students will able to know:
- ❖ Basic knowledge of textile and clothing.
- ❖ Basic ideas to make decision in selection of clothing.
- ❖ Recent patterns and innovations in the field of textiles and clothing.
- ❖ Knowledge regarding traditional textiles and embroideries of India.

### Unit I Textile & Processing

- a) Classification of Textiles:
  - Introduction and classification of textiles.
  - Terminology in textiles
  - General Properties of fiber
- b) Manufacturing / Processing: History, Composition, Types, Properties and uses of :-  
Cotton, Silk, Wool, Nylon, Rayon, Polyester

### Unit II Fabrics and Finishing

- a) Study of Yarns & Fabrics
  - Twist and yarn number
  - Types – Simple & Complex
  - Loom – Parts and Process
  - Weaving – Basic Weaves
- b) Knitting, Felting, Lacing and Briding – Properties and uses of knitted fabric
- c) Fabric Finishing: Definition, aims and classification of finishes
- d) Bleaching, Tentering, Calendaring, Mercerizing Sanforizing, Sizing, Glazing, Embossing, Singeing, Schreinerizing, Napping, Crease resistant, Water proofing, Flame proofing, Moth and Mildew proofing

### Unit III Designing and Printing

- a) Classification and uses of dyes
- b) Block Printing, Duplex Printing, Roller Printing, Screen Printing, Discharge Printing Resist Printing (Tie, Batik & Dye)
- c) Principles and elements of designing
- d) Traditional textile: Brocade Sanganeri, Bagru, Kalamkari, Bandhanai, Patola, Kasuti, Kantha, Phulkari, Kutch

#### **Unit IV Garments and Consumer Education**

- a) Selection of ready made garments for different age, season, occupation and occasion.
- b) Storage and care of fabrics.
- c) Comparative study of Home made, Tailor made and ready made garments.
- d) Consumer Education: Need and Advantages
- e) Knowledge of consumer Aids standardization Marks, Advertisement, Packing, Labels
- f) Consumer Laws

#### **Practicals: Any two of the following**

- Prepare a scrap book of the following:
  - Cotton fiber from (Muslin, 2\*2 Rubia, 2\*1 plplin, khadi)
  - Silk fiber from ( Georgette, Chiffon, Crepe, Mulberry)
  - Jute fiber from Gunny Bags & Ropes
  - Rayon fibre from artificial silk dupatta
  - Yarn: ply, textured and metallic yarn
  - Different fabrics samples
  - Technical textile
  - Clothing techniques: Simple, seam, tucks, placket opening, Embroider the frock
  - Tie and dye prepare two sample through any 2 techniques
  - Product design: Cushion cover, pouch with zip, shoulder bag

#### **References :**

1. Hollen & Saddler, Textiles
2. Durga Deolkar, Textiles & Lundry work
3. Susheela Dantyagi, Fundaments of Textiles & Their Uses
4. Joseph Marjory, Introduction to Textiles, 5th Edition, Halt Renchart and winston, New York
5. S. Pandit & Elizabith Tarplag, Grooming Selection and care of cloth
6. Bela Bhargava (2003) "Vastra Vigyan avam dhulai kriya," University Book House Jaipur.
7. Ruby Jain (2006). Basics stitching processes, CBH Publications.

## Semester V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 501	General English	CC	4	30	70	100

### Objective:

1. Students will be able to recognize and understand the meaning of targeted grammatical structures in written and spoken form.
2. Students will practice the grammar skills involved in writing sentences and short paragraphs.

### Unite -I Grammar and Usage :

1. Parts of Speech
2. Basic Sentence Patterns
3. Sentences beginning with 'It' and 'There'
4. Tenses
5. Phrasal Verbs
6. Articles and other Determiners
7. Direct & Indirect Speech
8. Active and Passive Voice
9. Modal Auxiliaries
10. Simple, Complex and Compound sentences.

### Unite -II Book : A Cavalcade of Modern English Prose Essays :

- (1) Essentials of Education
- (2) Testament

### Unite -III Writing Skills

- (1) Paragraph Writing
- (2) Letter & Application Writing

### Unite -IV Vocabulary

- (1) Word often confused
- (2) Antonyms and Synonyms

### Outcome:

1. Students will begin to self-edit their oral and written production.
2. Students will make less grammatical errors.
3. Students will become clear of grammatical terms.
4. Students will get exposure of writing letters, application and paragraph.

### Suggested Reading :

1. R. Quirk et al (ed.) A Grammar of Contemporary English. Longman, London, 1972.
2. A Textbook of General English for Undergraduate students by R.P. Bhatnagar, Rajul Bhargava, Jain Prakashan Mandir, 1024, Shinghiji ki Gali, Chaura Rasta, Jaipur-302 002.
3. English Grammar, Composition and Reference skills by R.P. Bhatnagar & Rajul Bhargava, Board of Secondary Education, Ajmer.
4. Text Book: A Cavalcade of Modern English Prose, R.P. Bhatnagar, Jain Pustak Mandir, Chaura Rasta, Jaipur.
5. English for Indian Learners by R.P. Bhatnagar, University book house, (P), Jaipur.



## Semester V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 502	Contemporary India and Education	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able :

- ❖ To know social aspects of education and develop educational perspective.
- ❖ To solve prevailing problems of education in India.
- ❖ To understand the purpose, function and Role of education in nation building.
- ❖ To understand knowledge of the Indian education system as it has evolved from the past, as it is today.
- ❖ To understand the concept, principle of sustainable development and core concept of educational thinkers.
- ❖ To know social equity and equality of educational opportunities.

**Course Contents:**

### **Unit-I Concept and Nature of Education**

- a) Education : Concept, Nature, Objectiveness and Functions
- b) Role and problems of education in nation building
- c) Current educational provisions of education in India (One year)
- d) Educational thoughts of Indians thinkers (Vivekanand and Mahatma Gandhi)

### **Unit-II Social Aspects of Education**

- a) Sociology in education : Concept, Functions and Contribution
- b) Social change : Meaning, Definition, Factors and Effects of Education
- c) Social mobility
- d) Education and culture
- e) Role of education in development of social skills.

### **Unit-III Progressive Development of Education in Terms of Commissions and Committees**

- a) Characteristics of ancient, medieval and british period of education.
- b) Radhakrishna Commission of Education (1948)
- c) Mudaliyer Commission of Education (1952)
- d) Kothari Commission of Education(1964)
- e) National education policy (1968 and 1986)
- f) Revised national education policy (1992)

### **Unit : IV Programmes for Education**

- a) Issues and problems in prevailing education system at National and State level
- b) Right to Education Act 2009

- c) Sarva Shiksha Abhiyan and Mid day Meal Programme
- d) Rashtriya Madhyamik Shiksha Abhiyan
- e) Education as related to social equity and equality of educational opportunities

**Assignment & Practical Works : (Any Two)**

- Write the educational contribution of any one Indian Thinker.
- Prepare a Assignment Work on how we can inculcate values in the present system of education.
- Prepare a structure of education since ancient period to present time.
- Concept of education in Emerging Indian Society as relevant to school children's
- Development of moral attitude through self management

**References :**

1. Crown, R.G. (1965), A Society of Education, Engineering patterns of class, status and power in the public school, New York : Appleton-century crofts.
2. Durkhem, S. (1956), Education and Sociology of Education, New York : The Free Press of Glenoce.
3. Gore, M.S., et. al. (1967), Papers in the sociology of Education in India, New Delhi, NCERT.
4. Hanseu, D.A. et. al (1965), On Education : Sociological PerspEctive. New York :John Wiley and Sons.
5. चौबे, सरयूप्रसाद, (2005), शिक्षा के समाजशास्त्रीय आधार, विनोद पुस्तक मंदिर, आगरा
6. त्रिपाठी, शालिग्राम, (2008), शिक्षा सिद्धान्त, कनिष्क पब्लिशर्स डिस्ट्रीब्यूटर्स, अंसारी रोड, नई दिल्ली
7. पाण्डेय, रामशक्ल, (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
8. पाठक, पी. डी., (2008), भारतीय शिक्षा और उसकी समस्याएँ, विनोद पुस्तक मंदिर, आगरा
9. पाठक एवं त्यागी, (2008), शिक्षा के सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
10. पाण्डेय, रामशक्ल, (2007), शिक्षा के मूल सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
11. शर्मा, ओ. पी., गुप्ता शोभा, (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
12. सिन्हा, मंजरी, सिन्धु, आई. एस., (2007), विकासोन्मुख भारतीय समाज में शिक्षा तथा शिक्षक की भूमिका, विनोद पुस्तक मंदिर, आगरा

**Semester V**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 501	Hindi Literature (आधुनिक काव्य एवं काव्यशास्त्र)	Any Three CE	4	30	70	100

**उद्देश्य—**

1. विद्यार्थियों को आधुनिक काव्य से परिचित करवाना।
2. विद्यार्थियों को विभिन्न कवियों की काव्यशैली की जानकारी देना।
3. विद्यार्थियों को काव्यशास्त्र की सामान्य जानकारी देना।

**इकाई—I**

1. आधुनिक काव्य की सामान्य प्रवृत्तियां, प्रमुख काव्य धाराएँ— भारतेन्दु युग, द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद, नई कविता, समकालीन कविता की प्रमुख प्रवृत्तियां, रचनाकार एवं उनकी रचनाएँ।
2. वीर सतसई— सूर्यमल्लमिसन संपादक कन्हैयालाल सहल, ईश्वरदान आसिया, पतराम गौड़— राजस्थानी ग्रंथागार, जोधपुर से निर्धारित काव्यांश  
(क) सूर्यमल्ल मीसन—वीर सतसई (प्रथम 20 दोहे)
3. निर्धारित कवियों की काव्यगत विशेषताएं

**इकाई—II**

- हिन्दी काव्य संग्रह—संपादक हेमराज मीणा, मीरा सरीन केन्द्रीय हिन्दी संस्थान, आगरा से निर्धारित कवि एवं काव्यांश
1. (क) मैथिलीशरण गुप्त— 1. सखी बसंत से कहां गये वे 2. भारत भारती  
(ख) जयशंकर प्रसाद— 1. चिंता  
(ग) सूर्यकांत त्रिपाठी निराला— 1. जूही की कली 2. बादल राग
  2. निर्धारित कवियों की काव्यगत विशेषताएं

**इकाई—III**

- हिन्दी काव्य संग्रह— संपादक हेमराज मीणा, मीरा सरीन केन्द्रीय हिन्दी संस्थान, आगरा से निर्धारित कवि एवं काव्यांश
1. (क) महादेवी वर्मा—(1) मैं नीर भरी दुख की बदली (2) पंथ होने दो अपरिचित (3) मधुर—मधुर मेरे दीपक जल  
(ख) अज्ञेय— (1) हिरोशिमा (2) कलंगी बाजरे की (3) यह दीप अकेला
  2. रश्मिर्थी —रामधारीसिंह दिनकर, लोकभारती प्रकाशन, इलाहाबाद से निर्धारित काव्यांश  
(क) रामधारीसिंह दिनकर, रश्मिर्थी (पंचम सर्ग)
  3. निर्धारित कवियों की काव्यगत विशेषताएं

**इकाई—IV**

1. काव्य लक्षण, काव्य हेतु, काव्य प्रयोजन, काव्य भेद
2. रस का स्वरूप, रस के अवयव, रस के भेद
3. अलंकार— सामान्य परिचय, निर्धारित अलंकार—अनुप्रास, यमक, श्लेष, वक्रोक्ति, उपमा, रूपक, भ्रांतिमान, संदेह, उत्प्रेक्षा, विरोधाभास
4. छंद—सामान्य परिचय, निर्धारित छंद—दोहा, सोरठा, चौपाई, रोला, इन्द्रवजा, मंदाकान्ता, उपेन्द्रवजा, मदिरासवैया, मत्तगयन्त सवैया, दुर्मिल सवैया, मन हरण, देव घनाक्षरी

5. काव्य गुण एवं काव्य दोष : निर्धारित काव्य दोष—श्रुति कटुत्व, च्युत संस्कृति, ग्राम्यत्व, अश्लीलत्व, अप्रतीत्य, क्लिष्टत्व, न्यूनपदत्व, अधिकपदत्व, पुनरुक्तत्व, अक्रमत्व, दुष्क्रमत्व
6. शब्द शक्तियां

#### उपलब्धियाँ—

1. विद्यार्थी विभिन्न कवियों की लेखनशैली से परिचित होकर अपना मत प्रस्तुत कर सकेंगे।
2. विद्यार्थी आधुनिक काव्य का परिचय प्राप्त कर स्वयं काव्य रचना का प्रयास कर सकेंगे।
3. विद्यार्थी स्वयं को भावी प्रतियोगिता परीक्षाओं के लिये तैयार कर सकेंगे।
4. विद्यार्थी काव्यशास्त्र का ज्ञान प्राप्त करेंगे।

#### पाठ्यपुस्तक/संदर्भ ग्रंथ

1. जयशंकर प्रसाद, आचार्य नंद दुलारे वाजपेयी, भारती भंडार, इलाहाबाद
2. निराला की साहित्य साधना (भाग 1,2,3) डॉ रामविलास शर्मा, राजकमल प्रकाशन, नई दिल्ली
3. छायावाद : पुनर्मूल्यांकन सुमित्रानंदन पंत, लोकभारती प्रकाशन, इलाहाबाद
4. कविता के नये प्रतिमान—डॉ नामवरसिंह राजकमल प्रकाशन, नई दिल्ली
5. अज्ञेय और आधुनिक रचना समस्या, डॉ रामस्वरूप चतुर्वेदी, लोक भारती प्रकाशन, इलाहाबाद
6. हिन्दी साहित्य का इतिहास—संपादक डॉ नगेन्द्र मयूर पेपर बैक्स, नोयडा
7. हिन्दी साहित्य का इतिहास—आचार्य रामचन्द्र शुक्ल नागरी प्रचारिणी सभा, काशी
8. आधुनिक साहित्य की प्रवृत्तियाँ— डॉ नामवरसिंह, लोकभारती प्रकाशन, इलाहाबाद
9. काव्यशास्त्र— भागीरथ मिश्र, विश्वविद्यालय प्रकाशन, वाराणसी
10. हिन्दी काव्य सिद्धान्त— रामबाबू ज्योति, राजस्थान प्रकाशन, जयपुर
11. काव्यशास्त्र— डॉ. भागीरथ मिश्र, विश्वविद्यालय प्रकाशन, वाराणसी
12. काव्य प्रदीप— रामबहोरी शुक्ल, हिन्दी भवन प्रकाशन, दिल्ली
13. भारतीय काव्यशास्त्र— निशा अग्रवाल, लोक भारती प्रकाशन, नई दिल्ली
14. साहित्य शास्त्र— डॉ. ओमप्रकाश गुप्त, डॉ. गौवर्धन बंजारा, पार्श्व प्रकाशन, अहमदाबाद

**Semester V**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>BAE 502</b>	<b>English Literature (Poetry and Drama)</b>	<b>Any Three CE</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>

**Objectives:**

1. To enable the students to compose poems.
2. To familiarize them with Modern Poetry and Problem Play.
3. To acquaint them with the literary terms related to the genres.

**Unit I: Indian Poetry in English.**

1. Enterprise: Nissim Ezekiel
2. A River: A.K. Ramanujan
3. Railroad Reveries: K.N. Daruwala
4. Lakshman: Toru Dutt

**Unit II: English Poetry**

1. My last Duchess: Browning
2. Pied Beauty: G.M. Hopkins
3. The Second Coming: W.B. Yeats
4. The journey of the Magi: T.S. Eliot

**Unit III: One Act Plays**

1. Refund: Kritzkarinthy
2. The Never-Never Nest: Cedric Mount.

**Unit IV: Drama - A Doll's House: Henrik Ibsen.**

**Outcome:**

1. The students can understand the changing nature of Literature through ages.
2. They will become familiar with various forms of verse and dramatic art.
3. They will be highly motivated to read other compositions and related genres.

**Suggested Reading:**

1. Prasad, B. A Background to the Study of English Literature. Macmillan, 2004.
2. A Doll's House- Henrick Ibsen. MacMillan India Press, Madras.
3. 3: Poet's Pen: (Ed.) Homi P. Dustoor. Oxford University Press.
4. 4: Contemporary Indian poetry in English: (Ed.) Saleem Peerandina. MacMillan, New Delhi.
5. 5: Forms of English Prose. Oxford University Press, New Delhi.

**Semester V**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 503	Sanskrit Literature संस्कृत व्याकरण एवं साहित्य (लघुसिद्धान्त कौमुदी)	Any Three CE	4	30	70	100

**उद्देश्य—**

1. धातुरूप से संस्कृत भाषा की क्रिया संबंधी जानकारी देना।
2. धातुओं के विभिन्न रूपों की जानकारी देना।
3. खण्डकाव्य की विधि से अवगत करवाना।

**इकाई—1 लघुसिद्धान्त कौमुदी को भ्वादि गण से जुहोत्यादि गण तक (सूत्र 373 से 628 तक)**

1. सूत्रार्थ
2. रूपसिद्धि
3. धातु रूपावली

**इकाई—2 रचनानुवाद कौमुदी (पाठ 41 से 50)**

1. संस्कृत से हिन्दी अनुवाद
2. हिन्दी से संस्कृत अनुवाद
3. शब्दार्थ

**इकाई—3 संस्कृत साहित्य का इतिहास**

- (क) वैदिक साहित्य— वेदांग, उपनिषद् साहित्य  
 (ख) महाकाव्य— रामायण (वाल्मीकी) महाभारत (वेदव्यास), अश्वघोष, कालिदास, माघ, भारवि, प्रमुख जैन महाकाव्य— वरांगचरित, वर्द्धमानचरित, पार्श्वनाथ  
 (ग) गद्य काव्य— कादम्बरी, तिलक मंजरी, गद्य चिन्तामणि, शिवराजविजय  
 (घ) नाटक साहित्य— भास, कालिदास, शूद्रक, भवभूति  
 (च) स्तोत्र साहित्य— वैदिक, जैन एवं बौद्ध परम्परा के प्रमुख स्तोत्र
1. दो प्रश्न/दो टिप्पणी

**इकाई—4 अश्रुवीणा (50 श्लोक) एवं अभिधान चिन्तामणि नाममाला (121 से 150)**

- अश्रुवीणा** — 1. दो श्लोकों की सप्रसंग व्याख्या 2. एक सामान्य प्रश्न  
**अभिधान चिन्तामणि** — 1. दो श्लोक पूर्ति 2. दो शब्दों के संस्कृत में पर्यायवाची 3. पांच शब्दों के अर्थ

**उपलब्धियाँ—**

1. विभिन्न धातुओं के अर्थ आदि की जानकारी प्राप्त होगी।
2. संस्कृत की ऐतिहासिकता की जानकारी प्राप्त होगी।
3. काव्य रचना की नवीन विद्या का ज्ञान होगा।

**पाठ्य पुस्तक/ संदर्भ ग्रन्थ :**

1. लघु सिद्धान्त कौमुदी, श्रीवरदाजकृत, संपादक—महेश सिंह कुशवाहा, चौखम्बा विद्या भवन, दिल्ली
2. रचनानुवाद कौमुदी, डॉ. कपिल देव द्विवेदी, आचार्य विश्वविद्यालय प्रकाशन, वाराणसी
3. अश्रुवीणा, आचार्य महाप्रज्ञ, सम्पादक डॉ. हरिशंकर पाण्डेय, जैन विश्वभारती, लाडनू
4. अभिधान चिन्तामणि, चौखम्बा प्रकाशन, वाराणसी
5. संस्कृत साहित्य का इतिहास, आचार्य बलदेव उपाध्याय, शारदा निकेतन, वाराणसी
6. संस्कृत साहित्य का संक्षिप्त इतिहास, वाचस्पति गरोला, वाराणसी
7. संस्कृत साहित्य का नवीन इतिहास, कृष्ण चैतन्य, चौखम्बा प्रकाशन, वाराणसी
8. संस्कृत वाङ्मय कोश—श्रीधर भास्कर वर्णकर
9. संस्कृत के विकास में जैन कवियों का योगदान—डॉ. नेमीचन्द्र शास्त्री

**Semester V**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 504	History (आधुनिक भारत का इतिहास )	Any Three CE	4	30	70	100

**उद्देश्य—**

1. विद्यार्थियों को आधुनिक भारतीय इतिहास का ज्ञान प्रदान करना।
2. ब्रिटिश भू-राजस्व व्यवस्था से परिचित करवाना।
3. भारतीय पुनर्जागरण का ज्ञान प्रदान करना।
4. राष्ट्रीय आन्दोलन के महत्त्व को बताना।
5. भारतीय संविधान की जानकारी प्रदान करना।

**ईकाई-1**

बंगाल में ब्रिटिश सत्ता की स्थापना। प्रशासनिक परिवर्तन (1772-1793 ई)। पानीपत का तृतीय युद्ध-कारण एवं परिणाम। आंग्ल मराठा संघर्ष-मराठों की असफलता के कारण। ब्रिटिश सत्ता के अधीन नवीन भू-राजस्व व्यवस्था-स्थायी बंदोबस्त, महलवाडी व्यवस्था एवं रैयतवाडी व्यवस्था एवं किसानों पर प्रभाव।

**ईकाई-2**

1857 का विद्रोह- कारण, प्रकृति एवं परिणाम। भारतीय पुनर्जागरण- राजा राममोहन राय, दयानन्द सरस्वती एवं स्वामी विवेकानन्द का सामाजिक एवं धार्मिक क्षेत्र में योगदान। भारतीय राष्ट्रीयता के उदय के कारण। भारतीय राष्ट्रीय कांग्रेस की स्थापना।

**ईकाई-3**

भारत सरकार के अधिनियम एवं उनकी मुख्य विशेषताएँ-1909, 1919 एवं 1935 के अधिनियमों के विशेष सन्दर्भ में। 1920 से 1947 के मध्य भारतीय स्वतन्त्रता आंदोलन-असहयोग आन्दोलन, सविनय अवज्ञा आंदोलन एवं भारत छोड़ो आंदोलन।

**ईकाई-4**

साम्प्रदायिक राजनीति का विकास। भारत का विभाजन और भारत की स्वतन्त्रता में सहायक तत्त्व। भारतीय संविधान एवं मुख्य विशेषताएँ।

**उपलब्धियाँ—**

1. ब्रिटिश शासन के सकारात्मक एवं नकारात्मक प्रभाव का विश्लेषणात्मक अध्ययन कर पायेंगे।
2. राजाराममोहनराय, दयानंद सरस्वती एवं स्वामी विवेकानंद आदि के जीवन से प्रेरणा प्राप्त कर अपने व्यक्तित्व का विकास कर पायेंगे।
3. भारतीय संविधान एवं राष्ट्रीय आंदोलन के आदर्शों से प्रेरणा प्राप्त कर पायेंगे।

**पाठ्यपुस्तक / संदर्भ ग्रंथ :**

1. भार्गव, डॉ. वी.एस.-आधुनिक भारत का इतिहास रिसर्च पब्लिकेशन, जयपुर।
2. नागौरी, डॉ.एस.एल.-आधुनिक भारत का राजनैतिक, सामाजिक एवं सांस्कृतिक इतिहास।
3. शुक्ल, रामलखन-आधुनिक भारत का इतिहास, हिन्दी माध्यम कार्यान्वयन निदेशालय, नई दिल्ली।
4. ग्रावर, बी.एल. एवं यशपाल-आधुनिक भारत का इतिहास।
5. चन्द्रा, विपिन-आधुनिक भारत।
6. सरकार, सुमित-आधुनिक भारत।

## Semester V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 505	Political Science (पाश्चात्य प्रतिनिधि राजनीति विचारक)	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थियों को पाश्चात्य राजनीतिक विचारकों की विचारधाराओं से अवगत कराना।
2. विभिन्न विचारकों के दर्शन की वर्तमान में प्रासंगिकता बताना।
3. विभिन्न विचारकों का तुलनात्मक अध्ययन कर विद्यार्थियों को नये आयाम देना।

### इकाई-1

प्लेटो : न्याय सिद्धांत, साम्यवाद का सिद्धांत, शिक्षा सिद्धांत एवं आदर्श राज्य का सिद्धांत, अरस्तु प्रथम वैज्ञानिक विचारक, दासता और नागरिकता सम्बन्धी विचार

### इकाई-2

थॉमस एक्वीनास प्रमुख राजनीतिक विचार एवं कानून का सिद्धांत, मैकियावली के प्रमुख राजनीतिक विचार एवं प्रथम आधुनिक राजनीतिक विचारक के रूप में

### इकाई-3

थॉमस हाब्स, जॉन लॉक एवं जीन जैक्स रूसो का सामाजिक समझौता सिद्धांत और उनके विचारों का तुलनात्मक अध्ययन।

### इकाई-4

जैरेमी बेंथम तथा उसका उपयोगितावाद का सिद्धांत, जे. एस. मिल के स्वतंत्रता सम्बन्धी विचार और बेंथम के उपयोगितावाद में उसके द्वारा प्रस्तावित संशोधन, कार्ल मार्क्स : इतिहास की आर्थिक व्याख्या, वर्ग संघर्ष का सिद्धान्त।

### उपलब्धियाँ—

1. विद्यार्थी पाश्चात्य विचारकों के दर्शन को जान सकेंगे।
2. विद्यार्थी प्राचीनकाल, मध्यकाल एवं आधुनिक काल में बदलते विचारकों के दर्शन को जान सकेंगे।
3. विद्यार्थी राज्य की उत्पत्ति के सिद्धान्तों को समझ सकेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रंथ:

- 1- Hacker : Political Theory
- 2- G.H. Sabine : History of Political Theory
- 3- C.Wayper : Political Thought
- 4- Foster : Masters of Political Thought Vol. I
- 5- Jones : Masters of Political Thought Vol. II
- 6- Lancaster : Masters of Political Thought Vol. III
- 7- Sukhbir Singh : A History of Western Political Thought- Vol. I and II
8. के. एन. वर्मा—पाश्चात्य राजनीतिक विचारधाराएं, भाग 1-3
9. बी.एल. फडिया—प्रमुख प्रतिनिधिक पाश्चात्य राजनीतिक विचारक, कॉलेज बुक हाउस, जयपुर
10. पुखराज जैन—प्रमुख पाश्चात्य राजनीतिक विचारक, साहित्य भवन, पब्लिकेशन्स, आगरा



**Semester V**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 506	Sociology (Foundation of Sociological Thought)	Any Three CE	4	30	70	100

**Unit - I Learning out comes**

- ❖ To enable the students to understand the emergence of sociology.
- ❖ To enable the students to understand the classical sociological tradition.
- ❖ To enable the students to understand the contemporary sociological Tradition.
- ❖ To enable the students to understand the Indian sociological tradition.

**Unit - I Emergence of Sociology**

- ❖ Transition from Social Philosophy to Sociology
- ❖ The Intellectual Context
- ❖ Enlightenment - The Social Economical and Political Forces

**Unit - II Classical Sociological Tradition**

- ❖ Karl Marx : Dialectical Materialism, class Struggle
- ❖ Emile Durkheim : Social Fact, Division of Labour and suicide
- ❖ Max Weber : Social action, Types of Authority

**Unit III Contemporary Sociological Tradition**

- ❖ Jurgen Habermas, Legitimation crisis, communicative action
- ❖ Antonio Gramsci : Hegemony, Civil Society
- ❖ Anthony Giddens : Modernity, Structure and Agency

**Unit - Indian Sociological Tradition**

- ❖ D.P. Mukherji : Diversity, Dialectics of Tradition
- ❖ A.R. Desai : Nationalism, Path of Development
- ❖ G.S. Ghurye : Indian Sadhus, Cast, Class and occupation, Social tension

**Reference :**

- Aron, Raymond 1967, Main currents in sociological thought Harmondsworth Middle Sex, Penguin Book
- Barnes H.E. 1959, Introduction to History of Sociology Chicago, The University of Chicago Press
- Coser, Lewis A, 1979 , Master of Sociological Thought, New York
- Singh, Yogendra 1986, Indian Sociology Social Conditioning and Emerging Trends, New Delhi
- Mukherjee, R. K., Sociology and Indian Society, ICSSR, Vol. I to IV
- Sambhulal Doshi & P. C. Jain : Karl Marx, Emile Durkheim (In Hindi)
- दोषी एवं जैन, प्रमुख समाजशास्त्रीय विचारक कांटे से मर्तन तक

## Semester V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 507	Geography (Geography of India)	Any Three CE	4	30	50+20 (Practical) 70	100

### Objectives -

1. To make students aware about the geography of their country.
2. To make aware about the soil, climate, vegetation, agriculture, minerals, drainage system of India.
3. To give knowledge regarding population, Transport, Tourism and religion of India.

### Unit - I

- a) Introduction: Location; Neighboring countries and frontiers.
- b) India: A land of diversities; Unity within diversities.
- c) Physiographic division; Himalayan region.
- d) The Great Plains of India; Peninsular plateau.

### Unit – II

- a) Coastal plains and Islands.
- b) Drainage systems of India.
- c) Climate: Summer and winter Season.
- d) Soil: Type, distribution & characteristics.

### Unit – III

- a) Vegetation: Type and their distribution.
- b) Agriculture: Major crops and their distribution (Wheat, Rice & Tea).
- c) Minerals: Distribution of Minerals & Minerals Belts – Iron ore & Coal.
- d) Industrial regions of India.

### Unit – IV

- a) Transport & Trade : Ports and foreign Trade.
- b) Population: Distribution & Density of population, Sex Ratio & Literacy rate.
- c). Tourism - Component of Tourism, Types & Tourism Resources.
- d). Resources Region of India

### Practical

- a) Distribution map : General rules and method of drawing map.
- b) Presentation Socio – Economic data, Qualitative methods : Chorochromatic method, Pictorial method, Choroschematic method.
- c) Quantitative method : Choropleth, Isopleth, Dot method.
- d) Plain table survey : Instruments required for plain table survey.
- e) Plain Table survey : Radiation & intersection method.

### Outcomes-

1. Students after having knowledge of overall climate conditions, can adapt themselves at various parts of country.
2. Can contribute to the Economic growth of the country.
3. Steps may be taken for proper utilisation of resources and controlling population, a major problem.

### Suggested Books :

1. गौड़ कृपाशंकर : भारत की भौगोलिक समीक्षा, हिन्दी प्रचार पुस्तकालय, वाराणसी
2. मामोरिया चतुर्भुज : भारत का आर्थिक भूगोल, आगरा बुक स्टोर, आगरा
3. तिवारी विष्णुनाथ : भारत का वृहद् भूगोल, रामप्रसाद एण्ड सन्स, आगरा
4. चौहान, वीरेन्द्रसिंह : विषाल भारत, रस्तोगी एण्ड कम्पनी, मेरठ
5. चौहान, तेजसिंह : भारत का भूगोल, विज्ञान प्रकाशन, जयपुर

### Semester V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 508	Economics (History of Economics Thought)	Any Three CE	4	30	70	100

#### Objectives:

- ❖ To enable the student teachers to understand the importance of Economics Thought.
- ❖ To enable the student teachers to understand the thought of utopian Socialists.
- ❖ To enable the student teachers to understand the Austrian School of Economics Thought.
- ❖ To enable the student teachers to understand the Indian Economics Thought.

#### Unit I : History of Economics Thought

- a) Meaning and Importance of History of Economics Thought.
- b) History of Economic Analysis and Economic History.
- c) Mercantilism, Main Characteristics
- d) Physiocracy : Main Economic Ideas

#### Unit II : Theory of value

- a) Adam Smith, Ricardomill, Austrian School (menger, wieser)
- b) Marginal Utilligy School - (Gossen, Jevons)
- c) New-Classical School (marshall)
- d) The Extension of Classical Ideas of Value the socialists.

#### Unit III : Evolution of Socialistic Thought

- a) Utoplan Socialism (Saint, Simon, Charies Furierns Robert Owen.)
- b) Scientific Socialism (Karl Marx)
- c) Development of Ideas on Capital : Adam Smith and his early critics.
- d) Continental Economists - Keynes and karl Marx.

#### Unit IV : Rent Theory and Indian Economic Thought

- a) Rent Theory - The for mulation of the Rent-Malthus, Ricardo and the theories Extension of Rent.
- b) The Theories of Interest and Profit.
- c) Early Indian Economic Ideas : Kautilya.
- d) Modern Economic Ideas : Ranade, Naroji M.N. Rai, Gandhi Ji.

#### Reference :

1. Gideand Rist : History of Economic Doctrines
2. Haney, L.N. History of Economic Thought
3. Eric Roll : History of Economic Thought
4. Anosh, B.N. and Ghosh, R.R. Concise History of Economic Thought (Himalaya Publishing House, Delhi.
5. वैश्य, एम.सी. "आर्थिक विचारों का इतिहास
6. हज्जेला, टी.एन. : आर्थिक विचारों का इतिहास
7. श्रीवास्तव, एस.के. आर्थिक विचारों का इतिहास (हिन्दी / अंग्रेजी)

## Semester V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 509	Home Science (Advance Family resource management)	Any Three CE	4	30	70	100

**Learning out comes :** After completion of this course students will able to learn :

- ❖ Concept, importance and scope of Economics.
- ❖ Importance and factors of saving, accounts and accounts keeping.
- ❖ Motivating factors of home management and Family resource management.
- ❖ Concept, elements and types of design.
- ❖ Modern family and housing needs.
- ❖ Effects of housing on family life and activities owning versus rented.
- ❖ Planning for construction.

### Unit I Family and Economy :

- a) Economics: Concept, importance and scope
- b) Demand and consumption: wants and utility, laws of consumption
- c) Family Income and expenditure: Types of income, Budget and steps of its planning, Engeli law
- d) Saving and investment: Importance, factors and its characteristics
- e) Family accounts and methods of accounts keeping
- f) Market: classification, cash credit and wholesale

### Unit II Family Resource Management:

- a) Family resource management: components, importance and affecting factors
- b) Family: Its needs and wants, life cycle and stages
- c) Motivating factors of home management: Values, Goals, standards and their interrelationship
- d) Household equipment related to cooking, storage and cleaning, modern alternative cooking fuels like solar energy, electricity

### Unit III Modern Housing

- a) Modern family and housing needs: meaning and functions
- b) Effects of housing on family life and activities, owning versus rented
- c) Planning for construction – costing, Objectives, functional planning and house requirements
- d) Floor covering & curtain- importance and Selection

### Unit IV Designing and Colours

- a) Design : definition characteristics & types: structural & decorative
- b) Elements of Design : Line Pattern, Form Light, Colour Space, Texture

- c) Principle of design : Balance Rhythm, Harmony Emphasis, Proportion
- d) Study of Colours : Classification & Dimensions : Colour Schemes, Psychological effects of colours

**Practical and assignments : Any two of the followings;**

- Prepare a scrap book related to housing, furnishing and their maintenance.
- Prepare a planning Project to construct a building for home
- Prepare a survey report related to colour schemes, pattern and their psychological effect in your local area
- Prepare a file for budgeting and financing schemes for home loans

**References:**

1. Ruth E. Deacon. Francille M. Firebaugh (1975): Family Resource Management – Principle and Application Roy Houghton Mifflin Company
2. Devdas Rajamal. P. The meaning of Home Science, Sri Avinashlingam Home Science College, Cambatore.
3. P. Kalpana R. “What is Home Science,” Evira Publications, Vadodra.
4. H. Rutt, “Home Furnishing” Wiley Eastern Ltd. New Delhi.
5. M K. Mann, Home Management for Indian families
6. R Deshpande, Modern Ideal homes for India
7. Gross & Crandall, Management for Indian Families
8. Nickell & Dorsey, Management in family living
9. Graig & Rush, Home with characters
10. पारिवारिक वित्त-सरस्वती वर्मा, आशा देशपाण्डे
11. गृह व्यवस्था एवं कला – जी.पी. शैरी

## Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 601	General Hindi	CC	4	30	70	100

### उद्देश्य—

1. हिन्दी व्याकरण— संज्ञा, सर्वनाम, कारक, पर्यायवाची, विलोमशब्द, समुच्चारित भिन्नार्थक शब्द, मुहावरें, लोकोक्तियाँ आदि का सामान्य ज्ञान करवाना।
2. देवनागरी लिपि का परिचय देना।
3. व्यावहारिक पत्रों की जानकारी देना।

### इकाई—I

1. वर्ण—विचार, स्वर एवं व्यंजन—प्रयत्न और उच्चारण स्थान की दृष्टि से
2. हिन्दी का शब्द भण्डार —तत्सम, तद्भव, देशज और विदेशी शब्द
3. विकारी शब्द—संज्ञा, सर्वनाम, विशेषण, क्रिया ( अकर्मक,सकर्मक ) परिभाषा, भेद एवं उदाहरण
4. वर्तनी एवं वाक्य शुद्धि

### इकाई—II

1. अविकारी शब्द— क्रिया विशेषण, समुच्चयबोधक, सम्बन्ध बोधक, विस्मयादि बोधक, निपात
2. संधि, समास, उपसर्ग, प्रत्यय
3. देवनागरी लिपि गुण एवं दोष
3. पत्राचार—सरकारी एवं अर्द्ध सरकारी

### इकाई—III

1. अनेकार्थी शब्द, युग्म शब्द, वाक्यांश के लिए एक शब्द, पर्यायवाची शब्द, विलोम शब्द, लोकोक्ति एवं मुहावरे
2. पारिभाषिक शब्दावली (कार्यालयी)
3. निबन्ध लेखन

### इकाई—IV

पाठ्यपुस्तक गद्य प्रवाह/गद्य संग्रह/काव्य संचय में से निम्न लिखित लेखकों की चयनित रचनायें—

1. जयशंकर प्रसाद भारत महिमा, प्रयाण गीत
2. महादेवी वर्मा बहिन सुभद्रा (रेखाचित्र)
3. जैनेन्द्र कुमार साधना के कवि (संस्मरण)
4. हरिशंकर परसाई मूल्यों का उलटफेर (व्यांग्य)

### उपलब्धियाँ—

1. विद्यार्थियों के व्याकरण ज्ञान में वृद्धि होगी।
2. विद्यार्थी कार्यालय पत्र लिखने में समर्थ हो सकेंगे।
3. विद्यार्थी देवनागरी लिपि के महत्त्व, उसकी विशेषता आदि से अपने ज्ञान में वृद्धि करेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रंथ—

1. काव्य संचय, संपादक— डॉ शम्भुनाथ पाण्डेय, अनुराग प्रकाशन, अजमेर
2. गद्य संग्रह, संपादक— डॉ विजय कुलश्रेष्ठ, अल्का पब्लिकेशन, अजमेर
3. हिन्दी व्याकरण एवं रचना, डॉ राधव प्रकाश, पिकसिटी पब्लिकेशन, जयपुर
4. हिन्दी व्याकरण तथा रचना, डॉ भोलानाथ तिवारी, नेशनल पब्लिशिंग हाउस, नई दिल्ली
5. सुबोध हिन्दी व्याकरण एवं रचना, डॉ नरेन्द्र भानावत, डॉ भंवरलाल जोशी, अलका पब्लिकेशन, अजमेर

**Semester VI**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>EDU 602</b>	<b>Pre- Internship</b>	<b>CC</b>	<b>4</b>	<b>100</b> Pre- Internship		<b>100</b>

**Pre-internship distribution (4 Weeks)**

- | <b>Sr. No.</b> | <b>Contents</b>   |
|----------------|---|
| 1.             | <p><b>Skills Focused Teaching</b></p> <ul style="list-style-type: none"> <li>➤ Introduction</li> <li>➤ Questioning</li> <li>➤ Black Board</li> <li>➤ Reinforcement</li> <li>➤ Stimulus Variation</li> <li>➤ Communication</li> <li>➤ Personality Development etc.</li> </ul>  |
| 2.             | <p><b>Comprehensive School Teaching</b></p> <ul style="list-style-type: none"> <li>➤ Demonstration Lesson Plan</li> <li>➤ Lesson based on Various Approaches Method, such as --                             <ul style="list-style-type: none"> <li>○ Co-operative Learning</li> <li>○ Activities Based Approach</li> <li>○ Team Teaching</li> <li>○ Project Method</li> <li>○ Brain Storming</li> <li>○ Task Based</li> <li>○ Programme Instruction etc.</li> </ul> </li> </ul> |
| 3.             | <b>Unit Plan, Blue Print, Achievement Test and Use of Teaching Aids</b>   |
| 4.             | <p><b>School Activities</b></p> <ul style="list-style-type: none"> <li>➤ Physical</li> <li>➤ Cultural</li> <li>➤ Literacy</li> <li>➤ Yoga Exercises</li> </ul>  |

## Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 601	Hindi Literature ( हिन्दी भाषा एवं काव्यांग विवेचन)	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थी को प्रयोजनमूलक हिन्दी के बारे में जानकारी देना।
2. विद्यार्थी को पत्र लेखन शैली से अवगत कराना तथा कार्यालयी पत्र लेखन में निपुण बनाना।
3. अनुवाद विज्ञान की जानकारी देकर भावी अनुवादक तैयार करना।
4. पारिभाषिक शब्दावली की जानकारी प्रदान कर भावी पीढ़ी को तैयार करना।

### इकाई I

1. प्रयोजन मूलक हिन्दी— आवश्यकता और स्वरूप
2. प्रयोजन मूलक हिन्दी की विशेषताएँ
3. प्रयोजन मूलक हिन्दी की प्रयुक्तियाँ एवं प्रयोगात्मक क्षेत्र।
4. राजभाषा हिन्दी— स्वरूप तथा संविधान में हिन्दी।

### इकाई II

1. पत्र—लेखन की विशेषताएँ
2. पत्र—लेखन के निर्देश एवं पत्र के अंग
3. व्यावसायिक और सामाजिक पत्र
4. सरकारी पत्र का ढाँचा तथा सरकारी पत्र की विशेषताएँ

### इकाई III

1. अनुवाद— अर्थ एवं स्वरूप
2. अनुवाद के प्रकार
3. अनुवाद की प्रक्रिया
4. अनुवाद की समस्या
5. अनुवादक के गुण

### इकाई IV

1. पारिभाषिक शब्दावली— परिभाषा और आवश्यकता
2. पारिभाषिक शब्दावली का महत्त्व
3. पारिभाषिक शब्दावली के गुण
4. पारिभाषिक शब्दावली के निर्माण की प्रविधि और प्रक्रिया

### उपलब्धियाँ—

1. विद्यार्थी कार्यालयी पत्र व्यवहार सीख सकेंगे तथा भावी प्रतियोगिता परीक्षाओं के लिये तैयार हो सकेंगे।
2. हिन्दी के अपने व्यावहारिक ज्ञान में वृद्धि कर सकेंगे।
3. विद्यार्थी अनुवाद एवं पारिभाषिक शब्दावली का ज्ञान लेकर एक अच्छा अनुवादक एवं भाषा वैज्ञानिक बन सकेंगे।

### संदर्भ ग्रंथ—

1. प्रयोजन मूलक हिन्दी— विनोद गोदरे, वाणी प्रकाशन, दिल्ली
2. प्रयोजन मूलक हिन्दी : सृजन और समीक्षा, डॉ. रामलखन मीणा,
3. प्रयोजन मूलक हिन्दी : पारिभाषिक शब्दावली— डॉ. मधु धवन
4. प्रयोजन मूलक भाषा और कार्यालयी हिन्दी— डॉ. कृष्ण कुमार गोस्वामी,
5. प्रयोजन मूलक हिन्दी— डॉ. बालेन्दु शेखर तिवारी, संजय बुक सेन्टर, वाराणसी
6. राजभाषा हिन्दी : विकास के विविध आयाम— डॉ. मलिक मोहम्मद,
7. सृजनात्मक साहित्य का अनुवाद— स्वरूप एवं समस्याएँ, सुरेश सिंहल



### Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 602	English Literature (Prose and Fiction)	Any Three CE	4	30	70	100

#### Objectives:

1. To enable the students to compose short stories.
2. To acquaint them with spirituality and psychology.
3. To inculcate human values in the students.

#### Unit I: Prose

- A: From Religion to Vocation: Acharya Mahapragya.
- B: An Ideal Before the Youth: S Radhakrishnan.
- C: Seven Rules of Writing: V.S. Naipaul.
- D: How to Escape the Intellectual Rubbish: Bertrand Russell.

#### Unit II: English Short Stories

- A: The Model Millionaire: Oscar Wilde.
- B: When Mr. Peertzada came to Dine: Jhumpa Lahiri.
- C: Dr. Heidegger's Experiment: Nathaniel Hawthorne.
- D: The Night the Ghost Got in: James Thurber.

#### Unit III: Indian Short Stories

- A-The Gold Watch: Mulk Raj Anand.
- B-Karma: Khushwant Singh.
- C-Upper Division Love: Manohar Malgonkar.
- D-A Client: Raja Rao.

#### Unit IV: (A) Novel - The Guide: R.K. Narayan.

- (B) Media- Interview of Acharya Mahapragya with APJ Abdul Kalam.

#### Outcome:

- 1- They will compose stories without the help of a teacher.
- 2- They will understand the relation between literature and Media.

#### Suggested Reading :

- 1- Prasad, B. A Background to the Study of English Literature. Macmillan, 2004.
- 2- Collected Essays. Jain Vishva Bharti Institute, Ladnun.
- 3- Short Stories of Yesterday and Today. (ED.) Shiv K Kumar. OUP, New Delhi.
- 4- The Guide. R.K. Narayan, OUP, New Delhi.

**Semester VI**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 603	Sanskrit Literature संस्कृत व्याकरण एवं साहित्य (लघुसिद्धान्त कौमुदी)	Any Three CE	4	30	70	100

**उद्देश्य—**

1. गणों का परिचय देना।
2. शुकनासोपदेश और कुमारसंभवम् के ग्रंथों के चयनित अंशों का अध्यापन करना।
3. जिनन्त आदि दस प्रक्रियाओं का ज्ञान कराना।

**इकाई—1 लघु सिद्धान्त कौमुदी के द्वादि गण से लकारार्थ तक (सूत्र 629 से 765), कृदन्त प्रकरण (सूत्र 766 से 887 तक)**

**इकाई—2 रचनानुवाद कौमुदी (51 से 60 )**

1. संस्कृत से हिन्दी अनुवाद
2. हिन्दी से संस्कृत अनुवाद
3. शब्दार्थ

**शुकनासोपदेश**

1. दो पदों की व्याख्या
2. एक सामान्य प्रश्न

**इकाई—3 कुमारसंभव (पांचवा सर्ग)**

1. दो श्लोक की सप्रसंग व्याख्या
2. कुमारसंभवम् पर सामान्य प्रश्न

**इकाई—4 अभिधान चिन्तामणि नाममाला (151 से 180)**

1. दो श्लोक पूर्ति
2. दो शब्दों के संस्कृत में पर्यायवाची
3. पांच शब्दों के अर्थ

**उपलब्धियाँ—**

1. जिनन्त, सनन्त आदि प्रक्रियाओं का ज्ञान होगा।
2. समासबद्ध एवं लघु वाक्यों के निर्माण का अभ्यास होगा।
3. गणों के विभिन्न धातु रूपों का ज्ञान होगा।

**पाठ्य पुस्तक/ संदर्भ ग्रंथ—**

1. लघु सिद्धान्त कौमुदी, श्रीवरदाजकृत, संपादक—महेश सिंह कुशवाहा, चौखम्बा विद्या भवन, दिल्ली
2. रचनानुवाद कौमुदी, डॉ. कपिल देव द्विवेदी, आचार्य विश्वविद्यालय प्रकाशन, वाराणसी
3. कुमार संभवम्, चौखम्बा प्रकाशन,
4. शुकनासोपदेश, मोतीलाल बनारसीदास, दिल्ली या चौखम्बा प्रकाशन, बनारस
5. अभिधान चिन्तामणि, चौखम्बा प्रकाशन, वाराणसी
6. संस्कृत रचनानुवाद कौमुदी, बी.एस. आप्टे

## Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 604	History (आधुनिक विश्व के इतिहास की रूपरेखा)	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थियों को आधुनिक विश्व के इतिहास से परिचित करवाना।
2. अमेरिकी एवं फ्रांसीसी क्रांति के महत्त्व को बताना।
3. इटली एवं जर्मनी के एकीकरण की प्रेरणादायी प्रक्रिया को बताना।
4. राष्ट्र संघ एवं संयुक्त राष्ट्र संघ के महत्त्व को बताना।

### ईकाई—1

पुनर्जागरण : अर्थ, कारण, कला तथा साहित्य का विकास। धर्म सुधार आंदोलन : कारण एवं मार्टिन लूथर का योगदान। प्रतिवादी धर्म सुधार आंदोलन : उद्देश्य, सफलता के कारण एवं परिणाम।

### ईकाई—2

अमेरिका का स्वतंत्रता संग्राम : कारण और परिणाम। फ्रांस की क्रांति : कारण और परिणाम। नेपोलियन बोनापार्ट का उत्कर्ष, विजय अभियान एवं पतन। औद्योगिक क्रांति : कारण और परिणाम। जर्मनी का एकीकरण एवं बिस्मार्क का योगदान।

### ईकाई—3

अफ्रीका में साम्राज्यवाद : कारण एवं परिणाम। इटली का एकीकरण : कठिनाइयां, प्रयत्न, मैजिनी, गैरीबाल्डी एवं काबूर का योगदान। प्रथम विश्व युद्ध : कारण और परिणाम। रूस की 1917 ई. की बोल्शेविक क्रांति के कारण और परिणाम।

### ईकाई—4

इटली में फासिस्टवाद के उदय के कारण। जर्मनी में नाजीवाद के उदय के कारण। द्वितीय विश्व युद्ध : कारण और परिणाम। संयुक्त राष्ट्र संघ : उद्देश्य, सिद्धांत एवं उपलब्धियां।

### उपलब्धियाँ—

1. विद्यार्थी विश्व इतिहास का सामान्य ज्ञान प्राप्त कर सकेंगे।
2. अमेरिकी, फ्रांसिसी, रूसी आदि क्रांति से प्रेरणा प्राप्त कर समाज में व्याप्त अव्यवस्थाओं का विरोध कर पायेंगे।
3. इटली एवं जर्मनी के एकीकरण से राष्ट्र निर्माण की प्रेरणा प्राप्त कर सकेंगे।
4. संयुक्त राष्ट्र संघ के वर्तमान महत्त्व को समझ पायेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रन्थ:

1. शर्मा, हरिशंकर—विश्व का इतिहास, मलिक एण्ड कम्पनी, जयपुर।
2. जैन एण्ड माथुर—पाश्चात्य विश्व इतिहास की रूपरेखा, जैन प्रकाशन मन्दिर, जयपुर।
3. शर्मा, डॉ. कालूराम एवं व्यास, डॉ. प्रकाश—आधुनिक विश्व का इतिहास—पंचशील प्रकाशन, जयपुर।
4. गुप्ता, पार्थ सारथी—युरोप का इतिहास, हिन्दी माध्यम कार्यान्वयन निदेशालय, नई दिल्ली।
5. शर्मा, कृष्णगोपाल, शर्मा दिग्गजसिंह एवं कोठारी, कमलसिंह—आधुनिक विश्व का इतिहास, अजमेरा बुक कम्पनी, जयपुर।
6. Fisher, H.A.L.- A history of Europe, Landon 1949.
7. Devish, H.A.- An outline history of the world, oxford university press, New yark 1968

## Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 605	Political Science (अन्तर्राष्ट्रीय सम्बन्ध)	Any Three CE	4	30	70	100

### उद्देश्य—

1. विद्यार्थियों को आत्मपरकता की शक्ति का विकास करना।
2. विश्व में विभिन्न प्रकार की घटित होने वाली घटनाओं की जानकारी देना।
3. बदलती नई विश्व व्यवस्था की जानकारी देना।
4. विभिन्न देशों की विदेश नीतियों की जानकारी देना।

### इकाई-1

अन्तर्राष्ट्रीय सम्बन्ध का अर्थ, प्रकृति व क्षेत्र, अन्तर्राष्ट्रीय सम्बन्धों के अध्ययन सम्बन्धी उपागम—आदर्शवादी एवं यथार्थवादी उपागम, राष्ट्रीय शक्ति—राष्ट्रीय शक्ति से अभिप्राय और तत्त्व

### इकाई-2

शीतयुद्ध : अर्थ, कारण एवं प्रभाव, गुट—निरपेक्ष आंदोलन, निःशस्त्रीकरण।

### इकाई-3

संयुक्त राज्य अमेरिका की विदेश नीति, साम्यवादी चीन की विदेशनीति, भारत की विदेशनीति एवं उसके पड़ोसी राज्य।

### इकाई-4

अन्तर्राष्ट्रीय राजनीति में उभरती नवीन प्रवृत्तियाँ : उत्तर—दक्षिण संवाद, दक्षिण—दक्षिण संवाद, नवीन अन्तर्राष्ट्रीय व्यवस्था, क्षेत्रीय सहयोग संगठन : दक्षेस (सार्क) और आसियान।

### उपलब्धियाँ—

1. विभिन्न राष्ट्रों के आपसी व्यवहार एवं आचरण के मूल कारणों को जान सकेंगे।
2. भूमण्डलीकरण, उदारीकरण, निजीकरण के युग में अन्तर्राष्ट्रीय राजनीति का तुलनात्मक अध्ययन कर सकेंगे।
3. अन्तर्राष्ट्रीय सम्बन्ध एवं अन्तर्राष्ट्रीय राजनीति पहले की अपेक्षा क्यों अधिक प्रासंगिक है? जान सकेंगे।
4. सोवियत खेमों के विघटन के पश्चात बदलते विश्व परिदृश्य को समझ सकेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रंथ:

1. S.N. Dhar : International Problems & World Politics since 1949.
2. Jordan Connel Smith : Patterns of the post world war, 1982
3. Black & Thomson : Foreign Political in a Changing World.
4. बी.एल. फडिया : अन्तर्राष्ट्रीय सम्बन्ध, साहित्य भवन, पब्लिकेशन्स, आगरा
5. बी.एम. जैन : अन्तर्राष्ट्रीय सम्बन्ध, राजस्थान हिन्दी ग्रंथ अकादमी, जयपुर
6. पी.के. चड्ढा : अन्तर्राष्ट्रीय संबंध, आदर्श प्रकाशन, जयपुर

### Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 606	Sociology (Social Anthropology)	Any Three CE	4	30	70	100

#### Learning outcomes:-

- ❖ To enable the students to understand the concept, nature and scope of social Anthropology.
- ❖ To enable the students to understand the social structure
- ❖ To enable the students to understand the primitive Economics and political system.
- ❖ To enable the students to understand the problem of Tribes.

#### Unit - I Concept of Anthropology

- ❖ Social Anthropology : Definition, Nature and Scope
- ❖ Approaches to the Study Social Anthropology
- ❖ Structural - Functional, Evolutionary and Comparative

#### Unit - II Social Structure

- ❖ Culture : Its meaning, theories of culture growth
- ❖ Religion : Theories of origin, Beliefs and Practices
- ❖ Magic : Meaning Types, its Relation to Religion

#### Unit - III Primitive Economics and Political Systems

- ❖ Primitive Economics System : Meaning, Characteristics and Functioning
- ❖ Primitive Political System : Meaning, Characteristics, Primitive Law and Customs

#### Unit - IV Tribes

- ❖ Problems of Tribes India, Tribal Development
- ❖ Tribes in Rajasthan : Bhil, Meena, Garasiya, Saharia

#### Reference :

- Bose, N.K. 1967, Culture and Society In India, Asia Publishing House
- Desai, A.R., 1979, Peasant Struggle in India, OUP, Bombay
- Dube, Sc 1977, Tribes of India, The struggle for survival, OUP, Bombay.
- Rao, M.S.A., 1979, Social Movements in India, Manohar Delhi
- Sharma, Suresh, 1994, Tribal Identity and Modern World.
- Singh K.S., 1984, Economics of the Tribes in and their Transformation, concept publishing, New Delhi
- Singh K.S., 1995, Tribal Movements in India, Manohar New Delhi
- Majumdar and Madan : Social Anthropology
- Mair, Lucky : An Introduction to Social Anthropology

**Semester VI**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 607	Geography (Gepgraphy Thought)	Any Three CE	4	30	70	100

**Objectivess-**

1. To give knowledge about teh concept of geographical thought.
2. To give knowledge about thoughts of various geographical thinkers as of British, German, American, Romans etc.
3. Trends of Moern Geography.

**Unit - I**

- a. Definition and aims of Geogrphahy.
- b. Evolution of Geograpical thought.
- c. Major branches of Geography.
- d. Beginning of classical Geography contribution of Greeks- Herodotus & Eratosthmes.

**Unit - II**

- a. Contribution of Romans - Strabo & Ptolemy.
- b. Early medieval Geography: contribution of Arabian Geographers (Al - Burini & Al-Idrisi)
- c. Concept of Cultural landscape: Meaning & elements of Cultural landscape
- d. Recent trends of modern geography.

**Unit - III**

- a. Contribution of German schools of Geography Humboldt & Carl Ritter,
- b. French Schools of Geography vidal de. la blache & Jean Brunhes
- c. British School of Geography : Halford J. Mackinder.
- d. American School of Geography : G. Taylor, Huntington.

**Unit - IV**

- a. Dichotomies in Geography: Physical V/s Human Geography systemetic V/s Regional Geography.
- b. Radicalism: Origin, salient features & Objectivess of Radical geography
- c. Behaviourdism in Geography
- d. Concepts of Cultural Ladnscape : Meaning & elements of cultural landscape.

**Outcomes-**

1. This paper will lead to the expansion of knowledge about various thoughts regarding geography.
2. Along with Indian thinkers, Student will touch the thinkings of world's thinkers.
3. Comparisions can be made about thinking of various thinkers.

**Practical-**

1. Aerial photographys : Introdudation & development of Aerial Photographs, Identifications of Aerial photographs,
2. Development of Remote sensing, Advantages of remote sensing.
3. Remote Sensing: - Introductions, Development and Advantages of remote Sensing.

**Suggested Readings:**

1. कौशिक, एस.डी. : भौगोलिक चिंतन के सिद्धांत, रस्तोगी पब्लिकेशन्स, मेरठ ।
2. एच.एम. सक्सेना, भौगोलिक चिंतन का इतिहास, हिन्दी ग्रन्थ अकादमी (2015) ।

## Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 608	Economics (Statistics in Economics)	Any Three CE	4	30	70	100

### Objectives:

- ❖ To enable the students teacher to acquire the basic understanding use statistics in the field of Economics.
- ❖ To enable the students teacher to understand the measures of central tendency.
- ❖ To enable the students teacher to understand the measures dispersion.
- ❖ To enable the students teacher to understand elementary Mathematics.

### Unit I: Meaning uses and limitations of statistics

- a) Collection of Statistics Data - Census and Sample Investigation.
- b) Classification and presentation of Data - Statistics Table, Graphs, Frequency, Distribution, Diagrams

### Unit II: Measures of Central Tendency

- a) Arithmetic mean, median, mode
- b) Geometric mean and Harmonic mean

### Unit III: Measures of Dispersion

- a) Range, Quartile Deviation, Mean Deviation
- b) Standard Deviation and Co-efficient of variation simple correlation : Karl Pearson's correlation co-efficient and Spearman's Rank correlation.

### Unit IV: Elementary Mathematics

- a) Simultaneous and Quadratic Equations
- b) Arithmetic and Geometric Progressions, Logarithms.

### Reference:

1. वी.एन. गुप्ता : सांख्यिकी
2. यादव, पोरवाल एवं शर्मा : सांख्यिकी
3. Elhance, D.N. : Fundamental of statistics
4. Singhal, M.L. : Elements of Statistics
5. Nagar, K.N. : Sankhyiki ke mool tatva
6. Croxton Cowden : Applied General Statistics
7. Mehta and Madhani : Elementary Mathematics in Economics (Hindi and English ed.)

## Semester VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 609	Home Science (Extension and Communication)	Any Three CE	4	30	70	100

### Objectives:

- ❖ Concept, determinants and factors of health
- ❖ Types of occupational health and related diseases related to workers
- ❖ Different types of pollution and their related remedies
- ❖ Objectives and Scope of population education
- ❖ Concept and principles of extension education and difference between formal and non formal education.
- ❖ Techniques related demonstration with the help of audio visual aids in society

### Unit I Health and Diseases

- a) Concept and of Health: Definitions, determinants and factors, Physical Health, Social Health, Mental Health, Emotional Health
- b) Occupational Health : Physical hazards, chemical hazards, biological hazards, mechanical hazards and Psycho social hazards.
- c) Occupational Diseases – Only classification, Measures for health protection of workers.

### Unit II Pollution & Population

- a) Pollution: Different types & remedies of pollutions.
- b) Population Education: Definition Objectives and scope
- c) Difference between population education and family planning education.
- d) Population & its rate of growth a) Population growth in India. b) Causes for rapid growth of population in India & its effect on health. c) Family planning.

### Unit III Community Development & Extension Education

- a) Extension Education: Meaning, scope and Objectives of extension education.
- b) Principles of extension education, Qualities of extension workers.
- c) Difference between formal and Non-formal education.
- d) Community Development Programme – Meaning, Definition, Elements and Principles of community development
- e) Origin of community Development Programme. Recent programmes for Rural Development.

### Unit IV Extension Services and Aids

- a) Audio Visual Aids : Definition, Classification use and idea of audio visual aids.
- b) Poster Puppet, Chart, Film slide, Flash Card, Overhead Projector,
- c) Computer and Internet
- d) Chalk Board, Radio Bulletin, Board Television, Model Photography
- e) Public Address System

### Practicals: Any two of the following:

- A detailed survey in your area on health problems and related awareness
- Prepare a chart or poster presentation – on any topic related to your subject.
- Prepare a list of on going welfare programme for children and women.
- Prepare a plan and execute to demonstrate any problem and related issue with audio visual aids

### Reference Books :

1. Yash Pal Bedi, Hygiene and Public Health.
2. Park, Social & Preventive Medicine.
3. Dr. Jaipal Singh, Extension Education & Rural Development.
4. A. Reddy, Extension Education.
5. Alan Rogers, Teaching Extension in Adults.



## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 701	Creating and Inclusive Education	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop the understanding of the concept and philosophy of inclusive education in the context of education for all.
- ❖ To identify and address diverse needs of all learners
- ❖ To familiarize with the trends and issues in inclusive education
- ❖ To develop an attitude to foster inclusive education
- ❖ To develop and understanding of the role of facilitators in inclusive education
- ❖ To Prepare teachers for inclusive schools

**Course Contents:**

### **Unit- I Introduction to Inclusive Education**

- a) Meaning, Objectives , Need and Types of Inclusive Education
- b) Principles of Inclusive Education
- c) Solution and challenge of Inclusive Education
- d) ICT Material of Inclusive Education

### **Unit- II Legislation, Emerging Issues and Role of Agencies in Inclusive Education**

- a) Legislation for inclusive education- National policy of disabilities 2006
- b) Sarva Shiksha Abhiyan (2002)
- c) NGO
- d) RTE-2009

### **Unit- III Exceptional Child and SpECial Educational**

- a) Exteptional Child : Meaning and Types
- b) Mentally Retared Child
- c) Physically Handicapped Child
- d) Hearing Impaired Child
- e) Visually Handicapped Child
- f) Emotionally Disturb Child

### **Unit- IV SpECial Educational Need (SEN) of learners in Inclusive School**

- a) Speech Defective Childern
- b) Language Handicapped Child

- c) Learning Disadvantage Child
- d) Parents of Exceptional Children
- e) Guidance of Exceptional Children
- f) Special School (Building Co-curricular Activities)

**Assignment & Practical Works : (Any Two)**

- One Assignment Work
- Write a One Article of Disabilities Child
  - Case study of disabilities child
  - Write a report of evaluation process in inclusive school

**References :**

1. Ahuja, A, Jangira, N.K. (2002) : "Effective Teacher Training, Co-operative Learning Based Approach", National Publishing House, 23 Daryaganj, New Delhi-02
2. Sharma, P.L. (1990), Teacher Handbook on IED, Helping Children with Special Needs NCERT, Publication Delhi
3. UNESCO (1989), UN Convention on the Right of the Child, UNESCO
4. UNESCO (2006), UN Convention on the Right of Persons with Disabilities.
5. UNESCO (2009), Policy Guideline on Inclusion in Education UNESCO
6. कुशवाहा, पुष्पलता, एवं सक्सैना, कनक (2006), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, आस्था प्रकाशन, जयपुर
7. परवीन, आबिदा (2013), शिक्षण एवं अधिगम के मनो-सामाजिक आधार, आस्था प्रकाशन, जयपुर
8. बघेला, एच.एस. (2007), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, राजस्थान प्रकाशन, जयपुर
9. बिन्दु आभारानी, सक्सैना, स्वाति (2008), विशिष्ट बालक, अग्रवाल पब्लिकेशन्स, आगरा
10. योगेन्द्रजीत, भाई (2008), शिक्षा में नवाचार और नवीन प्रवृत्तियाँ, विनोद पुस्तक मंदिर, आगरा
11. सुखिया, एस.पी. (2008), विद्यालय प्रशासन एवं संगठन, विनोद पुस्तक मंदिर, आगरा
12. हन्फी, एम.ए. एवं हन्फी एस.ए. (2009), अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, विनोद पुस्तक मंदिर, आगरा, जयपुर

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 702	Language Across the Curriculum	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the nature and use of language.
- ❖ To develop the idea of Multilingualism in class room teaching.
- ❖ To create the sense of language and its flavor.
- ❖ To inculcate language skills among trainees.
- ❖ To evaluate skills creative writing and expression.
- ❖ To acquire the idea of composition and art of writing i.e. letter, Paragraph, application etc.
- ❖ To develop ornamental use of vocabulary in different curriculum.

**Course Contents:**

### Unit -I Language acquisition and development

- a) Language : Concept, Meaning and Nature
- b) Language usages : Written, Oral, Role Playing with Communication
- c) 3 Language Policy : First (Mother tongue) Second (Foreign language) Third (Religious or classical language)
- d) Language development: From childhood to Adult stages.

### Unit -II Language Skills

- a) Reading : Silent reading vs Rapid reading, News Paper, Journal, Books
- b) Narrative Text vs. Expository text
- c) LSRW (Listening, Speaking, Reading, Writing)
- d) Note making and creative writing (Essay, Application, Letter, Paragraph)

### Unit -III Language & Classroom Interaction

- a) Expression : Public Speech, Lecture, Debating
- b) Multilingualism in classroom
- c) Summarizing and Reflection
- d) Errors and Correction of Language in class

### Unit-IV Vocabulary Building and Language Problems & its Remedies

- a) New Structure and building of vocabulary
- b) Learning new vocabulary and Diagnostic Language Errors
- c) Language Phonemes & Identification of Sound Errors
- d) Remedial Programme for Language Development

### Assignment & Practical Works: (Any Two)

- Write Any one Assignment Work
- Identify speech defect in classroom teaching
- Prepare a Report on Creative Writing
- Prepare a C.D. on communication (30 minutes)

### References:

1. Baruah, T.C. (1985), The English Teacher's Hndbook, New Delhi, Sterling Publication Pvt. Ltd.
2. Lado, Robert (1971), Language Teaching, New Delhi, Tata Mc. Graw Hill Pub. Co. Ltd.
3. Richards, J.C. and Rodgers, T.S. (2000), Approaches and Methods in Language Teaching, Cambridge, CUP.

**Semester VII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 701	Hindi	Pedagogy of a School Subject Any two CE	4	30	70	100

**अधिगम उपलब्धि :** इस पाठ्यक्रम के पूरा होने के बाद छात्र शिक्षक सक्षम होगा।

- ❖ भाषा संरचना में हिन्दी भाषा तत्त्वों का ज्ञान प्रदान करना।
- ❖ श्रवण, भाषण, वाचन एवं लेखन सम्बन्धी भाषायी कौशलों का ज्ञान देना।
- ❖ माध्यमिक स्तर के निर्धारित पाठ्यक्रम एवं पाठ्यपुस्तक का विश्लेषण समीक्षा एवं कुशलता का विकास कराना।
- ❖ इकाई, दैनिक व सूक्ष्म पाठ योजनाओं के महत्त्व से अवगत कराना व निर्माण का ज्ञान कराना।
- ❖ हिन्दी भाषा के वैज्ञानिक स्वरूपों और कौशलों का ज्ञान कराना।
- ❖ हिन्दी भाषा की विभिन्न विधाओं एवं उनके व्यावहारिक शिक्षण पाठ योजनाओं का ज्ञान कराना।
- ❖ प्रश्न पत्र के निर्माण का ज्ञान देना।
- ❖ निदानात्मक एवं उपचारात्मक परीक्षण स्वरूप, महत्त्व एवं उपयोग का ज्ञान देना।
- ❖ मातृभाषा एवं राष्ट्रभाषा के रूप में हिन्दी की स्थिति से अवगत कराना।

**विषय वस्तु :**

**इकाई : प्रथम – भाषा के विविध स्वरूप एवं सामान्य अवबोध**

- (अ) मातृभाषा, राष्ट्रभाषा के रूप में हिन्दी शिक्षण की स्थिति
- (ब) मातृभाषा शिक्षण के उद्देश्य एवं सिद्धान्त
- (स) हिन्दी शिक्षण में पुस्तकालय एवं वाचनालय का महत्त्व
- (द) पाठ्यपुस्तक का अर्थ, परिभाषा, अच्छी पाठ्यपुस्तक के गुण-दोष

**इकाई : द्वितीय – भाषा का वैज्ञानिक स्वरूप तथा भाषा कौशलों के विकास हेतु निम्नांकित पक्षों के स्वरूप का शिक्षण**

- (अ) वर्ण विचार, शब्द विचार, वाक्य विचार
- (ब) श्रवण, उच्चारण एवं वर्तनी
- (स) वाचन (सस्वर एवं मौन वाचन),
- (द) अभिव्यक्ति (लिखित एवं मौखिक)

**इकाई : तृतीय – हिन्दी शिक्षण में विभिन्न विधाओं का शिक्षण एवं मूल्यांकन**

- (अ) गद्य शिक्षण, पद्य शिक्षण, व्याकरण शिक्षण
- (ब) रचना शिक्षण (पत्र, निबन्ध, कहानी)
- (स) विभिन्न विधाओं पर पाठ योजना निर्माण
- (द) इकाई योजना एवं नील पत्र निर्माण
- (य) मूल्यांकन (सम्प्रत्यय, पाठान्तर्गत एवं पाठोपरान्त मूल्यांकन)

## इकाई : चतुर्थ – हिन्दी शिक्षण की विभिन्न विधियों का अध्ययन

- (अ) अभिक्रमिit अनुदेशन विधि
- (ब) आगमन-निगमन विधि
- (स) दल शिक्षण
- (द) हरबर्तीय पद्धति
- (य) प्रायोजना विधि
- (र) पर्यवेक्षित तथा निर्देशित स्वाध्याय विधि

### सत्रीय कार्य – (किसी दो विषय पर)

- भाषा शिक्षण सम्बन्धी समस्याओं का चयन तथा उसके समाधान का उपाय खोजना।
- हिन्दी शिक्षण में सत्रीय प्रपत्र अथवा प्रश्न पत्र हल करना।
- माध्यमिक स्तर की पाठ्यपुस्तक अथवा किन्हीं दो विशिष्ट लेखों की समीक्षा करना
  - किन्हीं पाँच विद्यार्थियों की लेखन सम्बन्धी अशुद्धियों का निदान एवं उपचार (कक्षा 8 से 10वीं)।
  - हिन्दी विषय की किसी भी विधा पर पी.पी.टी. पर पाठयोजना तैयार करवाना।

### सन्दर्भ ग्रन्थ सूची :

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2. ओड, एल.के (1982), हिन्दी शिक्षण में त्रुटि, निदान एवं उपचार, वनस्थली विद्यापीठ।
3. कक्षा 6 से 12 वीं तक की एन.सी.ई.आर.टी. की हिन्दी विषय की विभिन्न पाठ्य पुस्तकें।
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12. शर्मा, मन्जू, जैन, बनवारी लाल, (2007), हिन्दी शिक्षण, शिक्षा प्रकाशन, जयपुर।
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## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 702	English	Pedagogy of a School Subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know about various basic application of grammar
- ❖ To explain the place of English language in India.
- ❖ To describe English as a Second language in the multi -lingual country like India.
- ❖ To explain different methods of teaching English.
- ❖ To apply different teaching skills in the class room.
- ❖ To develop lesson plan, micro lesson plan, TLM (Teaching Learning Materials) for teaching English as a second Language.

**Course contents:**

### Unit- I Basic English Grammar & its Application

- a) Parts of speech
- b) sentence pattern, Types
- c) Tense and verb patterns
- d) Preposition
- e) Voice change

### Unit - II Place, importance and Objectivess of English as a second language:-

- a) Importance of English language: comprehension of English and mother tongue based learning.
- b) Position of English: Pre & post Independence in India.
- c) Status of English in Indian school curriculum
  - Second language
  - First language
- d) English language teaching: problems & issues
  - Library language
  - Window on the world
  - Medium of instruction
- e) Aims and Objectivess teaching English at different levels.

### **Unit- III Methods, Approaches and Strategies and Lesson Planning:**

- a) Grammar-cum-Translation method
- b) Direct method , Audio- lingual and Bilingual method
- c) Structural approach and Communicative approach
- d) Collaborative learning and Dramatization.
- e) Unit plan and Micro plan, Lesson planning , Blue print and Achievement test

### **Unit- IV Developing Language skill and Lesson Planning**

- a) Teaching Prose, Poetry, Story and Grammar.
- b) Strategies of Teaching Skill: Listening, Reading, Speaking and Writing.
- c) Supplementary skills: Reference Skill (e.g. using Dictionaries, Thesaurus, and Encyclopedias)
- d) Concept Mapping

### **Assignment & Practical Works : (Any Two)**

- List of structural items included in the text book at the secondary stage.
- Preparation of 5 word cards, 5 Picture cards and 5 puzzles.
- Enlist 50 innovative words with lexical interpretation.
- Prepare an audio/video recording for English Pronunciation

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**Semester VII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 703	Sanskrit	Pedagogy of a School Subject Any two CE	4	30	70	100

**अधिगम उपलब्धियाँ :**

- ❖ माध्यमिक स्तर के शिक्षकों में संस्कृत भाषा संबंधी व्याकरण की जानकारी एवं उनके प्रयोग की दक्षता का विकास करना।
- ❖ तृतीय भाषा शिक्षण के आधारभूत सिद्धान्तों का विकास करना।
- ❖ संस्कृत शिक्षण के उद्देश्यों का निर्धारण एवं व्यावहारिक परिवर्तन हेतु प्रयास करना।
- ❖ संस्कृत भाषा के विभिन्न कौशलों का पृथक् एवं समन्वित शिक्षण का विकास करना।
- ❖ विभिन्न विधाओं के सफल अध्यापन हेतु विभिन्न विधियों का प्रयोग करना।
- ❖ संस्कृत भाषा शिक्षण में दृश्य-श्रव्य सामग्री का निर्माण एवं शिक्षण में प्रयोग करना।
- ❖ संस्कृत शिक्षण के मूल्यांकन हेतु प्रश्नपत्र निर्माण करना एवं कौशलाधारित परीक्षण करना।
- ❖ संस्कृत भाषायी दक्षता में होने वाली अशुद्धियों का कौशलानुसार निदान करना।

**विषय वस्तु :****इकाई – प्रथम –संस्कृत शिक्षण के सिद्धान्त, कौशल व उद्देश्य।**

- (अ) संस्कृत भाषा शिक्षण का महत्त्व एवं उपयोगिता।
- (ब) संस्कृत शिक्षण के सिद्धान्त एवं सूत्र।
- (स) संस्कृत शिक्षण के उद्देश्य एवं अपेक्षित व्यवहारगत परिवर्तन।
- (द) भाषायी कौशल शिक्षण – श्रवण, कथन, पठन एवं लेखन।
- (य) संस्कृत शिक्षण में दृश्य-श्रव्य सामग्री।

**इकाई – द्वितीय – व्याकरण का सामान्य ज्ञान।**

- (अ) शब्द रूप – अकारान्त, इकारान्त, उकारान्त।
- (ब) धातु रूप – भू, पठ्, हस्, पा, गम्, सेव्, कथ्, लभ् (लट्, लोट्, लङ्, लृट्, विधिलिङ्, लकारों में)
- (स) संधि –
  - अच् सन्धि – इकोयणचि, एचोऽयवायाव ; अकः सवर्णे दीर्घः, आदगुणः वृद्धिरेचि।
  - हल् सन्धि – स्तोः श्चुर्नोश्चुः, झलां जशोऽन्ते, यरोऽनुनासिकेऽनुनासिको वा, तोर्लिः।
  - विसर्ग सन्धि – ससजुषोरुः, हशि च, रो रि, विसर्जनीयस्य सः।
- (द) समास – अव्ययीभाव समास, तत्पुरुष समास, कर्मधारय समास, द्विगु समास, द्वन्द्व समास, बहुव्रीहि समास, इनका सामान्य परिचय एवं समास विग्रह।



**इकाई – तृतीय – संस्कृत शिक्षण की विभिन्न विधाओं का अध्ययन एवं पाठयोजनाएँ।**

- (अ) गद्य शिक्षण
- (ब) पद्य शिक्षण
- (स) व्याकरण शिक्षण
- (द) रचना शिक्षण (पत्र, निबन्ध, कहानी)

**इकाई – चतुर्थ – संस्कृत शिक्षण की विधियों का अध्ययन एवं मूल्यांकन।**

- (अ) संस्कृत शिक्षण की विधियों का अध्ययन
  - प्रत्यक्ष विधि
  - संग्रन्थन विधि
  - आगमन निगमन विधि
  - विश्लेषणात्मक विधि
  - अनुवाद विधि/भण्डारकर विधि
- (ब) इकाई योजना
- (स) ब्लू प्रिंट एवं प्रश्न पत्र निर्माण

**सत्रीय कार्य : (किसी दो विषय पर )**

- माध्यमिक स्तर की संस्कृत पाठ्यपुस्तक की समीक्षा करना।
- किसी एक वर्ष का प्रश्नपत्र हल करना।
- किसी एक विधा पर शैक्षिक पाठ्यक्रम का आलेखन।
  - रचना पाठ के लिए पाँच चित्रों का निर्माण।
  - उच्चारण सुधार हेतु पाँच अभ्यास तालिकाओं का निर्माण।
  - संग्रन्थन विधि पर पाठयोजना तैयार करना।

**संदर्भ ग्रन्थ सूची :**

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### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 704	History	Pedagogy of a School Subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To enable the Student teacher to understand the nature, scope and importance of learning history at Econdary.
- ❖ To understand the aim and Objectivess of teaching history at different levels of the secondary stage.
- ❖ To develop knowledge about the basic principle governing the construction of history curriculum and develop the ability history curriculum and develop the ability to organize Co-curricular activities and community resources for promoting history learning.
- ❖ To develop classroom skills needs for applying different methods and approaches of teaching history at the secondary stage.
- ❖ To develop the skill to plan for instruction and the instructional support , materials.
- ❖ To develop the skill needed for diagnostic testing and remedial teaching.

**Course Contents:**

#### **Unit- I Meaning, Nature and Curriculum of Teaching History**

- a) Concept and Objectives of Teaching History of the Secondary Stage.
- b) Correlation of History with other school subject.
- c) Principle of Curriculum Teaching History.
- d) Different Approach to Organizing History Curriculum, Chronological, Biographical, Topical, Concentric.

#### **Unit- II Methods and planning in Teaching History**

- a) Lesson plan and Unit plan
- b) Story Telling, Biographical, Source, Time-line, Supervised, and Project Method
- c) History Teacher-professional growth in change's
- d) Teaching Aids- meaning, Type's and importance

#### **Unit- III Evaluation of Teaching History**

- a) Concept of Evaluation
- b) Purpose of Evaluation in Teaching History
- c) Types of Evaluation (Essay Types, short Answer Types and Objectives Types)
- d) Blue-Print & Construction of Achievement Test in History

#### Unit- IV Innovative Methods in Teaching History

- a) Programmed instruction method.
- b) Team-Teaching
- c) Panel discussion
- d) Field trip

#### Assignment & Practical Works : (Any Two)

- Historical study of a place of Local Important
- An Essay on any current Issue
- Critical Appraisal of any of the History Text books Prescribed for the Secondary level
- Preparing a Scrap-book on Any one aspEct of History and Culture
- Report writing of a freedom fighter/Social work and the Historical Personality of 20<sup>th</sup> Century at your locality based on interview
- One Assignment Work on any topic related with above Unit.

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5. Gunning, Dennisa (1978), The Teaching of HIstory, Goom Helm Ltd., London
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14. सिद्धाना, अशोक, पी.एन. मेहरोत्रा (2005), सामाजिक अध्ययन शिक्षण, शिक्षा प्रकाशन, जयपुर

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 705	Civics	Pedagogy of a School Subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the concept, nature & scope of civics.
- ❖ To understand the aims and Objectivess of teaching civics.
- ❖ To prepare unit plans and lesson plans for different classes.
- ❖ To apply appropriate methods and techniques of teaching civics.
- ❖ To develop competencies in teaching of civics.

**Course Contents:**

### Unit- I Theoretical PerspEctive of Civics Teaching

- a) Meaning & Development of Civics.
- b) Nature, Scope & Developing Critical Thinking about Civics.
- c) Role of Civics in Promoting International Understanding.
- d) Aims & Objectivess of Civics Teaching at Different Levels - Primary, Upper Primary. Secondary & High Secondary.

### Unit- II Planning of teaching & Evaluation

- a) Planning-annual Plan, Unit Plan, & Daily Lesson Plan.
- b) Audio Visual Aids.
- c) Inovation
- d) Evaluation (different types of test, setting, question paper, blue print, scoring key).

### Unit- III Methods of teaching Civics

- a) Lecture Method
- b) Project Method
- c) Problem Solving Method
- d) Programme Learning
- e) Team Teaching
- f) Discussion Method, Demonstration

### Unit- IV Curriculum Planning & Activities

- a) Selection & Organization Content at Various Levels
- b) Fundamental Principal of Formulation Curriculum in Civics

- c) Characteristics of a good Text Book
- d) Planning a Civics Studies Room

**Assignment & Practical Works : (Any Two)**

- Write an essay on any political problem.
- One Assignment Work solve.
- A critical study of Any one aspECT of the constitution or one of its amendments.
- Make five different teaching materials using different type of teaching aids.
- Make charts on fundamental rights & duties.
- Prepare a scrap book on any political issue

**References :**

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## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 706	Social Science	Pedagogy of a School Subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To enable the student teacher to appRECIate the need for learning social science .
- ❖ To help them to understand the place of social science in the secondary school curriculum.
- ❖ To develop the skills in student – teachers to selECT and apply appropriate methods and evaluate social science.
- ❖ To enable the student – teacher to critically examine the social science syllabus and text books.
- ❖ To develop the classroom skills needed for teaching of social science.
- ❖ To develop the ability to organize co-curriculum activity and utilize community resources for promoting social science learning.
- ❖ To acquire the ability to develop instructional support materials.
- ❖ To review the text –book of social science (secondary level).

**Course Contents:**

### Unit -I Meaning nature and scope of social science

- a) Historical Development of Social Science
- b) Modern Concept, Nature and Scope of Social Science
- c) Importance of Teaching Social Science at Different Levels of Secondary
- d) Correlation of Social Science with Other School Subject
- e) Aims and Objectiveness of Teaching Social Science at Different Level

### Unit -II Social Science Curriculum Principles of Designing a Good Curriculum and Planning in Social Science Teaching

- a) Different Approaches to Organizing Social Science
  - Chronological
  - Biographical
  - Concentric
- b) Characteristics of Good Text Book
- c) Planning a Social science Room
- d) Social Studies Teacher – Quality, Functions and Professional Growth of Social Science Teacher
- e) Planning for Teacher of Social science
  - Annual plan
  - Unit plan
  - Lesson plan

### Unit - III Methods of Teaching Social Science

- a) Story telling, Biographical, Socialized RECitation, Source method, Problem solving Method, Project method.

- b) Team Teaching
- c) Panel Discussion , Seminar and Workshop
- d) Field Trips
- e) Programmed Instruction

#### **Unit - IV Use of Instruction Material and Evaluation in the Social Science**

- a) Audio- Visual Equipment: - Use of Slide Projector OHP, Epidiascope, Television and Computer.
- b) Teaching Aids of Various kinds, their Effective Use in Class Room (Models, Black-board, Map, Graphs, Time Chart, Films, Coins and Puppet .
- c) Concept, Importance and Purpose of Evaluation in Social Studies.
- d) Construction of Blue Print and Achievement Test in Social Science

#### **Assignment & Practical Works: (Any Two)**

- Studying historical monuments available locally and writing report on it
- Prepare a scrape book on any social issue
- Studying any social problem and write a report of the same
- Two abstracts of articles published in news papers journal on current social issues
- Assignment Work any two topic
- Prepare a lesson plan using local/ community resources as teaching aids (fair, festival ,person, place etc.)
- Construction , administration and interpretation an achievement test of any ,standard of school
- Make 2 different teaching materials using different type of teaching ( e.i. Charts, at as model & power point etc) at school social science subject
- Write film script

#### **References :**

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2. Bining, A.C. and Brining, D.H., Teaching the Social study in Secondary School, Mc Graw Hill Company, New York, 1952
3. Bhattacharya and Daqi, D.R., Teaching of Social Study in Indian School, Acharya Book Depot, Baroda, 1966.
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5. Kaushik, Vijay kumar, Teaching of Social Studies in Elementary School, Anmol Publication, New Delhi.
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10. सिंह रामपाल, सामाजिक अध्ययन का शिक्षण, लक्ष्मी नारायण अग्रवाल, आगरा, 1998

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 707	Economics	Pedagogy of a School Subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To help the students to acquire the basic understanding in the field of Economics.
- ❖ To enable the student teachers to understand the aims and Objectivess of teaching Economics at the secondary school stage.
- ❖ To develop the ability, to evaluate the present curriculum in Economics at the secondary level.
- ❖ To develop the ability to organize group activities and Projects in the subject.
- ❖ To develop the ability to use of various methods of teaching Economics.
- ❖ To enable the student to acquire nECessary skills for the use and preparation of teaching aids and instructional material in Economics.
- ❖ To develop in the students appropriate attitudes towards the country's Economy.
- ❖ To develop in the student an adequate sense of awareness about Economic issues of the country and an out-look of problem solving through analysis and application of the Theory of Economics.
- ❖ To develop competence in framing Objectives based achievement and diagnostic test, their administration and their scoring and drawing conclusions there of. 10.To develop in the students an ability to conduct various surveys in Economics and organize field trips.
- ❖ To enable the student-teachers to prepare unit plan, lesson plan and related teaching learning strategies.
- ❖ To enable the student teachers to review the text book of Economics.

**Course Contents:**

### UNIT-I Concept of Economics

- a) The Place of Economics in School Curriculum.
- b) Aims and Objectivess of Teaching Economics at the Secondary Level
- c) Instructional Objectivess, Behavioural Objectivess, Measurable and Non-measurable Objectivess, Behavioural Statements of Objectivess for Various Learning Points and Lessons.

### UNIT-II Principle of Curriculum Planning

- a) Principles and Approaches to Framing Syllabus and its Critical Appraisal at Secondary Level.
- b) Curriculum Planning and Activities.
- c) Evaluation of Text-books in Economics at the School Level:
  - Criteria of Good Text-book
  - Assignments, Exercises, Glossary and Summary in the Text
- d) Maxims and Principles of Class-room Teaching.
- e) Class-room Observation.



### **UNIT-III Planning and Methods of Teaching Economics**

- a) Lecture Method.
- b) Project and Problem Solving Method.
- c) Discussion Method.
- d) Inductive and Deductive Method.
- e) Unit and Daily Lesson Plannings
- f) Teacher's Role and Attitude

### **UNIT-IV Instruction Material and Evaluation in Economics**

- a) Black-board, Maps, Graphs, Slides & Transparency, Audio-visual Aids, Slide Projector, Overhead Projector, LCD etc.
- b) Importance and Concept of Evaluations,
- c) Evaluation Devices- Essay type, Short answer Type and Objectivess Type Test.
- d) Blu Print
- e) Preparation, Administration and Scoring of Unit Test.

### **Assignment & Practical Works : (Any Two)**

- Preparation of two teaching aids related to subject. (PPT Transparency)
- Review of two published papers related to subject.
- Review of a text-book at school level.

### **References :**

1. Arora, P. N.; *Evaluation in Economics*, NCERT, New Delhi, 1985
2. Arora, P. N. & Shori, J. P.; *Open Book Examination Questions in Economics*, NCERT, New Delhi, 1986
3. Bining and Bining, *Teaching of Social studies in secondary schools*.
4. Chakravorty, S.; *Teaching of Economics in India*, Himalaya Publishing, 1987
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6. Husen Dr. N., *Teachers Manual in Economics*, Published by Regional college of Education, Ajmer
7. Kanwar, B. S.; *Teaching of Economics*, Prakash Brothers, Ludhiana, 1973
8. Lee, N. (ed); *Teaching Economics*, Heinemann Educational Books, Prentice Hall, London, 1975
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12. Siddiqui Mujibul Hasan, *Teaching of Economics*, Ashish Publishing House, 8/88 Punjabi Bagh, New Delhi- 110026
13. Whitehead, D. J. (ed.); *Handbook for Economics Teachers*, Heinemann Education Books, London, 1975

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 708	Geography	Pedagogy of a School Subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the modern concept of Geography.
- ❖ To understand the aims and Objectivess of teaching Geography.
- ❖ To prepare yearly plan, unit plan, lesson plan for different classes.
- ❖ To prepare maps and charts to illustrate the content of different classes and use them effEctively.
- ❖ To critically evaluate the existing school syllabus and review the text book of Geography.
- ❖ To apply appropriate method and techniques of teaching to particular topics at different levels.
- ❖ To arrange field trips and local surveys.
- ❖ To prepare achievement test and diagnostic test, administration of the test, analysis of results, make suggestion for remedial teaching.

**Course Contents:**

### Unit- I Concept and Objectivess

- a) Development of Geography, Modern concept and new trends of Geography.
  - Its place in schools curriculum.
  - Its importance in day to day life and International understanding
- b) Correlation of Geography with other school subjects.
- c) Teaching Objectivess of Geography at different levels- Primary, Upper Primary secondary and Higher Secondary.

### UNIT- II Curriculum planning in Geography

- a) Principles of curriculum construction in Geography and its critical appraisal
- b) Basic Principles for selEction and organization of content according to learners level.
- c) Co-curricular activities in Geography, study of home region, Organization of field trips and excursion, Geography museum and library.
- d) Evaluation of text book in Geography.

### UNIT- III Methods, Planning for teaching and role of teacher

- a) Annual plan,
- b) Unit plan ethods,
- c) Daily lesson plan
- d) Story telling, Regional Method, Demonstration method, laboratory, inductive and Deductive method. Descriptive and Comparative method (Problem Solving, Project and Supervised study method). Approaches- Field trips, visit labs, use of local resources in teaching of Geography.
- e) Qualities, Role and professional growth of Geography teacher

#### **UNIT-IV Use of Instructional Material and Evaluation in Geography**

- a) Audio-Visual Equipment:- use of Slide Projector, OHP, Epidiascope, Television and computer in Geography
- b) Teaching aids of Various kinds. Their effective use in class room (Models maps, pictures, sketches, diagrams, film, film strips. Atlas, Slides transparencies etc., Geography room/laboratory. Importance of lab work, equipment and apparatus.
- c) Evaluation of achievements in Geography.
- d) Construction of achievement test.
  - Different types of tests, their merits and limitations, (Essay type. short, answer and Objectives type.)
  - Blue- Print, preparation of question paper and item analysis.

#### **Assignment & Practical Works : (Any Two)**

- Prepare a scrap book on Geographical articles and news.
- Preparation of maps, charts and models for physical Geography
- Develop some lesson plan based on new methods and approaches.
- Write one or two article or abstract related to the current issues of Geography
- Critical appraisal of geography syllabus at secondary level.
- Construction of Objectives type test items.
  - Collection of news paper cuttings related to Geographical issues.
  - Prepare a bibliography of reference books on the topics prescribed in Geography syllabus.
  - Practical demonstration of the ability to use some weather instruments.
  - Prepare a report on visit to some place of Geographical interest.

#### **References :**

1. Arora, A. K. (1976), The Teaching of Geography, Prakash Brothers, Jalandhar
2. Bamard, Principles and Practical of Teaching Geography.
3. Broadman, David (1985), New Directions in Geography Education, Fehur Press, London
4. Fairgrieve, J. . (1937), Geography in school, London, University Tutorial Press
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7. Macnee, E.A. (1937), Suggestion for the Teaching of Geography in India- London, Oxford University Press
8. Morrey, D. C. . (1972), Basic Geography, Heinemann Education Books, London
9. Rao, M.S., Teaching of Geography.
10. Scarfe, N.V. . (1995), A Handbook for Geography Teachers, London Methurn & Co.
11. Source Book for the Teaching Geography- UNESCO Publication.
12. UNESCO; New Source Book for Teaching Geography
13. Verma, O. P. . (1984), Geography Teaching, Sterling Publications Ltd., New Delhi
14. Walford, Rex . (1981), Signposts for Geography Teaching, Longman, London

### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 709	Home Science	Pedagogy of a School Subject Any two CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the Concept, Nature and Scope of Home science.
- ❖ To provide knowledge related to pedagogical concept like as Aims, Objectiveness, Approaches, Methods, Blue print and Assessment.
- ❖ To stimulate curiosity and creativity for application of different methods according to learning situations.
- ❖ To develop attitude towards skill development, application of new trends and use of information technology to enhance productivity of teaching.
- ❖ To analyze school syllabus of the subject in relation to its applicability in local situations.

**Course Contents:**

#### **Unit- I Theoretical Perspective of Home Science**

- a) Concept, Nature and Scope of Home science
- b) Correlation of Home science with other school subjects in context of resolving problems related to family and community
- c) Vocational skill Development through Home science teaching
- d) Aims and Objectiveness of Home science teaching

#### **Unit- II Planning, Curriculum & Evaluation**

- a) Planning : Concept, Types and Significance
- b) Criteria of Curriculum Development : Individualized, Interdisciplinary and SpECial issue oriented
- c) E- resources in Home science : Fashion blog, Nutritional remedies, Blogs, SpECific institute related to textile, designing & health
- d) Co- curricular activities : Group Discussion, Exhibition, Excursion etc
- e) Blue print construction, Continuous & Comprehensive Evaluation in Home science

#### **Unit- III Approaches and methods : Concept, Process, Scope and limitations :**

- a) Constructivist approach
- b) Problem solving method
- c) Project method
- d) Experimental method
- e) Dalton method and Dramatization

#### **Unit- IV Measurement and Evaluation**

- a) Concept of Measurement and Evaluation
- b) Criteria of good Evaluation
- c) Preparation of Blue Print
- d) Diagnostic test and Remedial learning material
- e) Continuous and Comprehensive Evaluation

#### **Assignment & Practical Works : (Any Two)**

- Prepare a survey report for vocational skill development through Home science at college level
- Experimental works in food/clothing/textiles/household gadgets in context of teaching and learning
- Visit to Health centre/ Community service centre/ schools/ colleges/ NGO and prepare a file with report
- Construct a Project related to rECent problem in local area
- Develop a diagnostic test for students and plan remedial works for them
- Prepare two lesson plan based on Constructivist/ experimental approach for students

#### **References:**

1. Asthana S.R. (2007), Grih Vigyan Ka Adhyapan, Laxminarayan Agarwal Prakashan, Agra.
2. Dass, R.R. and Ray, Binita (1979), Teaching of Home Science, Sterling Publisher Pvt. Ltd., New Delhi.
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9. Sukhia, S.P. avum Mahrotra (2009) Grih Vigyan, Haryana Sahitya Academy, Chandigarh
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## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 710	Optional Course Environmental Education	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the problems Concerning Environment through multi disciplinary approach.
- ❖ To make the students in the schools environmentally conscious.
- ❖ To develop the skill of planning and organizing Ecological activities in the schools so the children can equipped to play their part in protection and enrichment of environment.
- ❖ To create Environment Consciousness among the adult learners.
- ❖ To use different Techniques and materials for the effective Dissemination of Environmental information.
- ❖ To conduct local surveys, arrange field trips Environmental games and hobbies.

**Course Contents:**

### UNIT- I Concept Of Environment

- a) Meaning , Scope, Importance
- b) Eco-System – Characteristic Qualities
- c) Inter- Dependence In Environment
- d) Natural Resources
- e) Bio-Diversity – Scope & Threats, Preservation

### UNIT- II Environmental Education

- a) Meaning, Importance and Objectives
- b) Scope of Environmental Education
- c) Need for Public Awareness as a subject
- d) Multi-disciplinary Nature of Environmental Studies Curriculum Development

### UNIT- III Environmental Hazards and Pollution

- a) Air Pollution
- b) Water Pollution
- c) Soil Pollution
- d) Noise Pollution

### UNIT- IV Global Issues and Environmental Conservation

- a) Global Issue (Global Warming, Climate Change, Depletion of Ozone Layer and Energy Crisis)
- b) Different Aspects Related To Environmental Conservation.
- c) Environmental Preservation & Improvement (At National & International Level)
- d) National Environment Policy

### Assignment & Practical Works : (Any Two)

- Study on Any one environmental problems. The report on the study must include efforts of the pupil / teacher in developing awareness among people about the environmental problems.
- Prepare a plan to teach environment at education to the adults.
- One Assignment Work solve.
- Prepare a scrap book of an environmental articles and news.
- Conduct environmental competition for local school student.

### संदर्भ ग्रन्थ सूची :

1. उपाध्याय, राधावल्लभ, (2008), पर्यावरण शिक्षा, विनोद पुस्तक मंदिर, आगरा
2. गुप्ता, चौदमल, शर्मा, रेनू (2008), पर्यावरण शिक्षा, आस्था प्रकाशन, जयपुर
3. गोयल, एम. के. (2008), पर्यावरण शिक्षा, विनोद पुस्तक मंदिर, आगरा
4. बरौलिया, ए. पराशर, राधिका एवं दुबे, श्री कृष्ण, पर्यावरण शिक्षा के नये आयाम, राधा प्रकाशन मंदिर, आगरा
5. राजस्थान पाठ्यपुस्तक मण्डल की कक्षा 11 से 12 तक की पुस्तकें
6. रावत, कमलेश, पर्यावरण शिक्षा, अलका पब्लिकेशन्स, अजमेर
7. श्री वास्तव, पंकज (2007), पर्यावरण शिक्षा, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी,

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 711	Health and Physical	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop the organic system of the body.
- ❖ Development of understanding and apprECiation of the techniques and strategies of sports
- ❖ To develop corrEct health habits.
- ❖ Attainment of knowledge of proper health procedure as related with physical exercise.
- ❖ The physical education program will allow the students to participate in developmentally appropriate activities.

**Course Contents:**

### Unit- I Concept of Health Education

- a) Meaning of Health education.
- b) Environmental factor which promote and affEct In Health.
- c) ImpoRTance and Objectives of Health education.
- d) General Exercises in school.

### Unit- II Environment and Science of Living and Yoga

- a) Importance of water to life and our environment.
- b) Science of Living and yoga.
- c) Role of Individual in improvement of sports environment.
- d) Physical and physiological benefits of exercise on children.

### Unit- III Physical Education, Balanced Diet and First Aid

- a) Meaning and Importance of physical Education
- b) Balanced Diet and Nutrition : Macro and Micro Nutrients

#### V History of Volleyball & Kabbadi

- a) Historical Development of Volleyball
- b) Measurement and Rule of Volleyball
- c) Historical Development of Kho-Kho
- d) Measurement and Rule of Kabbadi

### Assignment & Practical Works : (Any Two)

- Write a Assignment Work on a topic given in the course
- Skill of Any one Team Game of choice from the given List

### References:

1. Thorburn, M. (2000), Physical Education-Intermediate Course Notes, LECKie & LEChie Publisher.
2. कमलेश एवं संगरल, शारीरिक शिक्षा में शिक्षण विधियां, विनोद पब्लिकेशन, लुधियाना।
3. पाराशर, गीता एवं कुमार सुनील (2014), स्वास्थ्य शिक्षा तथा मनोरंजन।
4. सफ़ाया, आर. के. स्वास्थ्य एवं शारीरिक शिक्षा, विनोद पब्लिकेशन, लुधियाना।
5. सिंह, बलदेव, स्वास्थ्य एवं शारीरिक शिक्षा, विनोद पब्लिकेशन, लुधियाना।
6. सिंह, परमजीत, राठौड़, भूपेन्द्र सिंह, बार्थोनिया, माया, खान, एम. ए. (2007), शारीरिक एवं स्वास्थ्य शिक्षा, कक्षा-9 माध्यमिक शिक्षा बोर्ड, राजस्थान अजमेर।

### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 712	Guidance and Counseling	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the basic concept, Nature and scope of Educational and Vocational guidance.
- ❖ To understand the aims Objectives of educational and vocational guidance.
- ❖ To understand the importance of educational and vocational guidance.
- ❖ To understand the role and responsibilities of guidance workers in school.
- ❖ To understand the Nature and Types of guidance service & with reference to school education.
- ❖ To understand the concept, Nature and Types of counseling.

**Course Contents:**

#### Unit- I Basics of Guidance

- a) Meaning and Nature of Guidance.
- b) Aims and Principles of Guidance.
- c) Types of Guidance
- d) Importance of Guidance in schools for individual and for society.
- e) Process of Guidance.

#### Unit- II Basics of Counseling

- a) Meaning, Nature and Principles of counseling
- b) Types of Counseling.
- c) Distinction between Guidance and Counseling.
- d) Role and Responsibilities of Guidance workers in school.
- e) Qualities of a good guidance programme.

#### Unit- III Area of Guidance

- a) Educational guidance
- b) Vocational guidance
- c) Personal guidance
- d) Guidance Implication in the current Indian scenario.
- e) Problems of guidance in India.

#### Unit- IV Guidance Services

- a) Introduction to Guidance Services.



- b) Individual Inventory Service
- c) Information Service
- d) Cumulative REcord
- e) Placement Services
- f) Follow up Service

**Assignment & Practical Works : (Any Two)**

- Prepare a Assignment Work on any topic of Educational, Vocational or Personal guidance
- Write an article on current educational problems, providing the solution.
- Observe an educational or co-curricular activity in a school or college and provide guidance for the improvement.
- Case study of two special children.

**References:**

1. Bansal, Aarati (2007), Educational and Vocational Guidance, Sublime Publication, Jaipur
2. Chaturvedi, Ramesh, (2007), Educational and Vocational Guidance and Counseling, Crescent Publishing Corporation, New Delhi.
3. Nayak A. K., Rao V. K. (2007), Guidance and Career Counseling, APH Publishing Corporation, New Delhi.
4. Sharma, Shashi Prabha (2005), Career Guidance and Counseling (Principles and Technique), Kanishka Publishers, New Delhi.
5. Sharma, Sita Ram (2005), Evolution of Educational and Vocational Guidance, ABD Publishers, Jaipur.
6. Sharma, Yogendra K. (2005), Principles of Educational and Vocational Guidance. Kanishka Publishers, New Delhi.
7. Vashist, S. R. (2001), Methods of Guidance, Anmol Publication, Pvt. Ltd., N. Delhi
8. जायसवाल, सीताराम (2006), शिक्षा में निर्देशन एवं परामर्श, विनोद पुस्तक मंदिर, आगरा
9. भाटिया, के. के., (2006), मार्गदर्शन एवं परामर्श के सिद्धान्त, कल्याणी पब्लिशर्स, नई दिल्ली
10. शर्मा, आर. ए., चतुर्वेदी, शिखा (2009), शैक्षिक एवं व्यवसायिक निर्देशन एवं परामर्श, आर. लाल. बुक डिपो, मेरठ
11. सिंह, रामपाल, उपाध्याय, राधावल्लभ (2004), शैक्षिक एवं व्यवसायिक निर्देशन, विनोद पुस्तक मंदिर, आगरा

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 713	Distance Education	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To provide an effective alternative path to wider opportunities in education and especially in higher education.
- ❖ To provide an efficient and less expensive education.
- ❖ To provide education facilities to all qualified and willing persons.
- ❖ To provide opportunities of academic pursuits to educate citizens willing to improve their standard of knowledge.
- ❖ To provide education facilities to those individuals who look upon education as a life-long activity.

**Course Contents:**

### Unit-I Theoretical Prospective of Distance Education

- a) Meaning and Definition of Distance Education.
- b) Characteristics of Distance Education
- c) Distance education as a discipline.
- d) Need for establishing Distance Education as a discipline.

### Unit-II Scenario of Distance Education Institutes

- a) State wise situation of Distance Education Institutes in India.
- b) Objectiveness of Indira Gandhi National Open University.
- c) Main Theoretical Bases of Distance Education.
- d) Theory of Independent study by CHARLES WEDEMEYER.

### Unit-III Essential Elements of Developing in Distance Education

- a) Essential Elements of Developing curriculum in Distance education.
- b) Different services provided by Sanchar Kendra IGNOU.
- c) Non- Print Instructional media in Distance Education: Educational RADIO.
- d) Major educational Television Projects in Distance education.

### Unit-IV Counseling for Distance Learners

- a) Organizing counseling Services for Distance Learners.
- b) Various Types of Tele - Conferencing.
- c) Format of the Text in Distance Education.
- d) Distance Learners and Counseling

### Assignment & Practical Works : (Any Two)

- Write Any one Assignment Work on a topic with in the content.
- Make the list of Distance Education programme of various universities in India.

### References:

1. Datt, Ruddar (1985), Distance Education in India, Open School, New Delhi
2. Hillard, R. I., Writing for T.V. and Radio, N.Y. Hastings House
3. Parmaji, S. (1984), Distance Education, Sterling Publication, New Delhi
4. यादव, सियाराम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा

**Semester VII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5. Additional Course (Any one) 5.1 Hindi	Any one CE	4	30	70	100

**अधिगम उपलब्धि :** इस पाठ्यक्रम के पूरा होने के बाद छात्र शिक्षक सक्षम होगा।

**उद्देश्य :**

- ❖ काव्य के विभिन्न घटक तत्त्वों का ज्ञान देना।
- ❖ काव्य के घटक तत्त्व रस, छन्द, अलंकारों का ज्ञान प्रदान करना।
- ❖ काव्य के गुण : माधुर्य, ओज, प्रसाद का ज्ञान देना।
- ❖ हिन्दी की शिक्षण विधियों का ज्ञान देना।
- ❖ हिन्दी के विभिन्न व्याकरणীয় घटकों का ज्ञान देना।
- ❖ व्याकरण के घटक अनुवाद, संज्ञा, सर्वनाम, कारक, सन्धि, समास एवं विशेषण का ज्ञान देना।
- ❖ सूक्ष्म शिक्षण के विभिन्न कौशलों की जानकारी देना।
- ❖ हिन्दी के विभिन्न कवियों, लेखकों के उपन्यासों, कहानियों, रचनाओं का ज्ञान प्रदान करना।

**विषय वस्तु:**

**इकाई : प्रथम – काव्य के घटक तत्त्व**

- (अ) काव्य के गुण : माधुर्य, ओज एवं प्रसाद
- (ब) अलंकार – शब्दालंकार, अर्थालंकार, श्लेष, यमक, अनुप्रास, उपमा, रूपक, उत्प्रेक्षा, मानवीकरण, अतिशयोक्ति, विभावना, भ्रान्तिमान।
- (स) रस का स्वरूप, रस के अवयव, श्रृंगार रस, हास्य रस, करुण रस, रौद्र रस, वीर रस, भयानक रस, वीभत्स, अद्भुत रस, शान्त रस, वात्सल्य रस, भक्ति रस।
- (द) छन्द-दोहा, चौपाई, कवित्त, सोरठा एवं सवैया।

**इकाई : द्वितीय – शिक्षण विधियों का परिचय**

- (अ) सूक्ष्म शिक्षण – सम्प्रत्यय एवं प्रमुख कौशलों का परिचय।
- (ब) वाचन विधि
- (स) व्याख्या विधि
- (द) अनुवाद विधि

**इकाई : तृतीय – व्याकरणीय घटक**

- (अ) अनुवाद : अर्थ एवं प्रकार
- (ब) शब्द शक्तियों के भेद, उदाहरण
- (स) संज्ञा, सर्वनाम एवं कारक का अर्थ एवं प्रकार
- (द) सन्धि, समास एवं विशेषण का अर्थ एवं प्रकार

**इकाई – चतुर्थ – हिन्दी साहित्यकारों का संक्षिप्त परिचय एवं उनका विशिष्ट अवदान :-**

- (अ) तुलसीदास,सूरदास, कबीरदास एवं रसखान
- (ब) प्रेमचन्द, जयशंकर प्रसाद, हजारी प्रसाद द्विवेदी, मन्नू भंडारी
- (स) महादेवी वर्मा, सूर्यकान्त त्रिपाठी निराला
- (द) रामधारीसिंह दिनकर, हरिवंशराय बच्चन

**सत्रीय कार्य (निम्न में से कोई दो)**

- कक्षा सातवीं की पुस्तक 'बाल-महाभारत' अथवा कक्षा आठवीं की पाठ्य पुस्तक 'भारत की खोज' की समीक्षा करना।
- हिन्दी विषय की वर्तमान स्थिति की दशा एवं दिशा पर रिपोर्ट लिखना।
- अपनी पसन्द की कोई पांच-पांच कहानी अथवा कविताओं का संकलन करना एवं उनका प्रस्तुतिकरण।

- माध्यमिक या उच्च माध्यमिक की हिन्दी विषय की पाठ्य पुस्तक में विभिन्न कहानियों का नाट्य रूपान्तरण करना।
- 'हमारा संकलन' स्क्रेप बुक/पुस्तिका का निर्माण करना, जिसमें विभिन्न समाचारपत्रों, पत्रिकाओं, प्रमुख महापुरुषों, प्रसिद्ध लेखकों, कवियों, कवयित्रियों, प्रसिद्ध खिलाड़ियों व अन्य प्रसिद्ध व्यक्तियों के जीवन परिचय एवं विशेष उपलब्धि का सचित्र वर्णन।

**सन्दर्भ ग्रन्थ :**

1. अवधेश अरूण, (2001), हिन्दी भाषा का स्वरूप, बिहार हिन्दी ग्रन्थ अकादमी, पटना।
2. ओड, एल.के (1982), हिन्दी शिक्षण में त्रुटि, निदान एवं उपचार, वनस्थली विद्यापीठ।
3. कक्षा 6 से 12 वीं तक की एन.सी.ई.आर.टी. की हिन्दी विषय की विभिन्न पाठ्य पुस्तकें।
4. कुमार, योगेश, (2004), आधुनिक हिन्दी शिक्षण, ए.पी. एवं पब्लिशिंग कॉर्पोरेशन, नई दिल्ली।
5. कुशवाहा, पुष्पलता, सक्सैना, कनक (2009), हिन्दी शिक्षण, आस्था प्रकाशन, जयपुर।
6. दुग्गल एवं वर्मा, (1982), हिन्दी शिक्षण, आर्य बुक डिपो, दिल्ली।
7. नाथ, देवेन्द्र, राष्ट्र भाषा हिन्दी की समस्याएँ एवं समाधान।
8. पाण्डेय, रामशक्ल, (2008), हिन्दी शिक्षण, विनोद पुस्तक मंदिर, आगरा।
9. पारीक, सुधीर, टेलर लाल गोपाल (2008), पद्यान्जलि माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर।
10. भाई, योगेन्द्रजीत, (2007), हिन्दी भाषा शिक्षण, विनोद पुस्तक मंदिर, आगरा।
11. रमन, बिहारीलाल, (1990), हिन्दी शिक्षण, रस्तोगी एण्ड कम्पनी, मेरठ।
12. शर्मा, मन्जू, जैन, बनवारी लाल, (2007), हिन्दी शिक्षण, शिक्षा प्रकाशन, जयपुर।
13. शर्मा, लक्ष्मी नारायण, (2001), हिन्दी संरचना का अध्ययन—अध्यापन, केन्द्रीय हिन्दी संस्थान, आगरा।
14. शर्मा, लक्ष्मी नारायण, (2004), भाषा की शिक्षण विधियाँ एवं पाठ नियोजन, विनोद पुस्तक मंदिर, आगरा।
15. सत्तिगेरी, के. आय (2006), नूतन हिन्दी शिक्षण, विनोद पुस्तक मंदिर, आगरा।
16. सिंह, निरंजन कुमार (2008), माध्यमिक विद्यालयों में हिन्दी शिक्षण, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर।
17. सिंह, सावित्री (2001), हिन्दी शिक्षण, लायल बुक डिपो, मेरठ।

### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5.2 English	Any one- CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To acquire the knowledge of Phonetics and its uses through different organs of speECh
- ❖ To develop Understanding of English text
- ❖ To apply the Content knowledge through preparing lesson plan in English Language
- ❖ To explain the idea of assessment of English teaching
- ❖ To describe the Knowledge of diagnostic test and Remedial instruction in English teaching

**Course Contents:**

#### Unit- I Language production and phonology

- a) Language acquisition
- b) Organs of speech
- c) Elements of Speaking
- d) Phonology sound system: Vowel, Diphthongs and Consonants)

#### Unit -II Understanding Language Text

- a) Text book Vs Reference books
- b) Analysis of a Text book
- c) Quality of good text book

#### Unit-III Lesson plan and teaching learning materials (TLM)

- a) Strategies : Language games, Puzzles, role playing.
- b) Teaching Aids in English:(Audio ,Visual, Audio- Visual)
- c) Use of LCD ,OHP, Linguaphone , online Classes, Hand outs

#### Unit-IV Assessment of English Language

- a) Diagnostic Evaluation
- b) Remedial instruction
- c) Errors in English (Oral vs. Witten)
- d) Types of test in English teaching(Subjective Vs Objectives types)

#### Assignment & Practical Works : (Any Two)

- Review of a English Text book
- Prepare a PPT on any topic of English teaching for Secondary School.
- Prepare a PPT on any topic of English teaching for Secondary school.
- Prepare some Phonological words in each Sound in English.(Vowels (12), Diphthongs (8) and Consonants (24)

#### References:

1. Bansal, R.K. and Harrison, J.B. (1972), Spoken English for Indians, Madras: Orient Longman Ltd.
2. Baruah, T.C. (1985), The English Teachers' Handbook, New Delhi: Sterling Publishing Pvt. Ltd.
3. Bright and McGregor (2000), Teaching English as Second Language, Longman.
4. Brumfit, C.J. (1984), Communicative Methodology in Language Teaching, Cambridge: C.U.P.
5. CoUins cobuild English Grammar (2000), Harper Collins Publisher, India,
6. Gimson A.C. (1980), An Introduction to the Pronunciation of English, London: Edward Arnold.
7. Hornby, A.S. (1998), Guide to-Patterns and Usage in English O.U.P
8. Lado, Robert (1971), Language Teaching, New Delhi, Tata McGraw Hill Publishing House Co. Ltd.
9. LeECh, Geofferey and Svartvik, Jan (2000), Communicative Grammar of English Cambridge C.U.P.
10. Paliwal, A.K. (1998), English Language Teaching, Jaipur: Surbhi Publication.
11. Palmer, H.L. (1964-65), The Principles of Language study, London: O.U.P.
12. Quirk, Randolph and Greenbaum, (1973), A University Grammar of English, London.
13. Richards J. C. and Rodgers.TS (1985), Approaches and Methods in Language Teaching, Cambridge C.U.P.
14. Roach, Peter, (1991), English Phonetics and Phonology. Cambridge, C.U.P.
15. Thomson, A.J. and Martinet (1998), A Practical English Grammar, ELBS, O.U.P.
16. Venkateshwaran, S (1995), Principles of Teaching English, Vikas Publishing House Pvt. Ltd., Delhi
17. Willis, Jane (1997), Teaching English Through English, O.U.P.

**Semester VII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5.3 Sanskrit	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

**अधिगम उपलब्धियाँ :**

- ❖ विद्यालयी बालकों में व्याकरण की सामान्य जानकारी एवं उनके प्रयोग की दक्षता का विकास करना।
- ❖ संस्कृत भाषायी दक्षता में होने वाली अशुद्धियों का निदान करना।
- ❖ संस्कृत महाकाव्यों, गद्यकाव्यों, नाट्यकाव्यों का ज्ञान प्राप्त करना।
- ❖ हिन्दी वाक्यों का संस्कृत भाषा में अनुवाद कर सकने की योग्यता का विकास करना।
- ❖ संस्कृत विद्यालयों के पाठ्यक्रम का समीक्षात्मक मूल्यांकन करना।

**विषयवस्तु :**

**इकाई – प्रथम – संज्ञा, प्रत्यय, उपसर्ग एवं अवयवों का ज्ञान।**

- a) संज्ञा प्रकरण – उच्चारणस्थानानि प्रयत्नाः (आभ्यन्तर, बाह्य), अल्पप्राणः, महाप्राणः, घोषः।
- b) प्रत्यया – क्त, क्तवत्, शतृ, शानच्, तुमुन्, अनीयर, ण्वुल्, क्त्वा, ल्यप्, तरप्, तमप्।
- c) अव्ययानां प्रयोग – उच्चैः, पुनः, शनैः, नमः, खलु, धिक्, प्रातः, कदा, विना, श्व, ह्यः।
- d) उपसर्गा – प्र, परा, अप्, सम, दुर, आ, अति, प्रति, सु, परि, अधि।

**इकाई – द्वितीय – कारक, छन्द एवं अलंकारों का सामान्य ज्ञान।**

- a) कारक – प्रातिपादिकार्थ लिङ्ग-परिमाण-वचन मात्रे प्रथमा। कर्तृशीप्सिततमं कर्म, अभितः परितः। समयानिकषा हा प्रतियोगेऽपि। कर्तृकरणयोस्तृतीया, येनाङ्गविकार। कर्मणा यमभिप्रैति स संप्रदानम्, रुच्चर्थानां-प्रीयमाणः, क्रुधद्रुहेर्ष्यासूयार्थानां यं प्रति कोपः। ध्रुवमपायेऽपादानम्, भीत्रार्थानां भयहेतुः।, आधारेऽधिकरणम्, यतश्चनिर्धारणम्। षष्ठीशेषे, कर्तृकर्मणोः कृतिः।
- b) छन्द – अनुष्टुप्, आर्या, इन्द्रवजा, उपेन्द्रवजा, वसन्ततिलका, मन्दाक्रान्ता, शार्दूलविक्रीडितम्।
- c) अलंकार – अनुप्रास, यमकम्, उपमा, रूपकम्, सन्देह, दृष्टान्त, अतिशयोक्ति, वक्रोक्ति, उत्प्रेक्षा।

**इकाई – तृतीय – भारतीय संस्कृति एवं संस्कृत रचनाकारों का संक्षिप्त परिचय।**

- a) भारतीय संस्कृति – वर्ण व्यवस्था, आश्रम व्यवस्था एवं षोडश संस्कार।
- b) महाकाव्य कवि – भारवि, श्रीहर्ष एवं बाल्मीकि।
- c) गद्य काव्य कवि – दण्डी एवं बाणभट्ट।
- d) नाट्य कवि – कालिदास एवं भवभूति।

**इकाई – चतुर्थ – शिक्षण विधियाँ।**

- a) दण्डान्वय विधि
- b) खण्डान्वय विधि
- c) स्वाध्याय निर्देशित पद्धति
- d) स्पष्टीकरण विधि

### सत्रीय कार्य – (किसी दो विषय पर)

- कक्षा 10 की संस्कृत पाठ्यपुस्तक की समीक्षा करना।
- पाठ्यक्रम के किसी एक इकाई के एक प्रकरण को विस्तार से समझाइये।
- कक्षा 8 की पाठ्यसामग्री से कठिन शब्दों की सूची तैयार करना एवं उनका अर्थ ग्रहण (कम से कम 30 शब्द)।
- 20 श्लोकों का कंठस्थीकरण।
- संस्कृत में मानव शरीर के अंगों के नाम।
- किन्हीं 15 घरेलू सामग्रियों के संस्कृत में नाम।

### संदर्भ ग्रन्थ सूची :

1. उपाध्याय, बलदेव (2001), संस्कृत साहित्य का इतिहास, शारदा निकेतन, वाराणसी।
2. ओझा, श्रीकृष्ण (1990), संस्कृत व्याकरण, कॉलेज बुक डिपो, जयपुर।
3. गौतम, शैलजा एवं गौतम, रजनी (2006), संस्कृत शिक्षण, विनोद पुस्तक मंदिर, आगरा-2।
4. तिवारी, भोलानाथ (1992), भाषा विज्ञान, किताब महल, थार्नहिल रोड, अहमदाबाद।
5. जैन, बनवारी लाल, गोस्वामी, प्रभाकर, भारद्वाज रतन, सैनी, सत्येन्द्र (2007), संस्कृत शिक्षण, शिक्षा प्रकाशन, जयपुर।
6. मिध, इन्द्रभूषण (2004), संस्कृत व्याकरण, ऐवरग्रीन पब्लिकेशन्स (इंडिया)
7. पाण्डेय, रामशकल (2003), संस्कृत शिक्षण, विनोद पुस्तक मंदिर, आगरा-2।
8. योगमणि, निरंजनसिंह, प्राचीन भारत का साहित्यिक एवं सांस्कृतिक इतिहास, रिसर्च पब्लिकेशन्स, जयपुर।
9. सफाया, रघुनाथ (1997), संस्कृत शिक्षण, हरियाणा साहित्य अकादमी, चण्डीगढ़।
10. साम्ब शिवमूर्ति: कम्मभपाटि (2009), संस्कृत शिक्षणम्, दीपशिखा प्रकाशन, जयपुर।
11. शर्मा, रीटा, एवं जैन, अमिता (2005), संस्कृत शिक्षण, आविष्कार पब्लिशर्स एण्ड डिस्ट्रीब्यूटर्स, जयपुर
12. शर्मा, राममूर्ति, संस्कृत वाङ्मय का इतिहास।
13. शास्त्री, आचार्य राम (1998), संस्कृत शिक्षण, सरणी आचार्य रामशास्त्री ज्ञानपीठ, संस्कृतनगर, रोहिणी, दिल्ली।
14. शास्त्री, मंगलदेव, भारतीय संस्कृति का इतिहास।
15. शर्मा, प्रभा, (2006), संस्कृत शिक्षण, आस्था प्रकाशन, जयपुर।

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5.4 History	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand ancient history on the basis of political, social and Economic conditions.
- ❖ To develop the idea of Vedic Jainism, Buddhism & Shaivism religious.
- ❖ To acquire Knowledge of medieval periods in respEct of temple, forts and bhakti movement.
- ❖ To evaluate the historical perspEctive modern India i.e. 1857 movement, gandhian politics.

**Course Contents:**

### Unit- I Concept and Revolution of National Freedom

- a) Concept of History
- b) Main places of Sindhu-Ghati sabbhyata (Harappa, mohen- jodora , kalibanga, lothal)
- c) Revolution of National Freedom (Revolution of Asahayog Andolen, Bharat Chhodo Andolen, Savinay Avagya Andolen)
- d) The Russian Revolution of 1917

### Unit- II Historical perspEctives of ancient period.

- a) Political and Economic history from the mauryan to the gupta period.
- b) Issue in social history, Including caste and class.
- c) A history of Vedic & Jainism Religious. (A brief review).
- d) A history of Shaivism & Buddhism religious. (A brief review).

### Unit- III Historical perspEctives of medieval and modern India.

- a) Structure of agrarian relation in the 16<sup>th</sup> 17<sup>th</sup> centuries.
- b) ArchitEcture & political system during Vijay nagar period.
- c) Ideas and practices of the bhakti-sufi saints.
- d) Medieval society through travelers account's.(Alberuni & Ibn-batuta)

### Unit- IV Historical perspEctives of modern India.

- a) East India Company, Revenue Settlement's.
- b) Representations of 1857.
- c) The Nature of Gandhian politics.
- d) Industrial revolution.

### Assignment & Practical Works : (Any Two)

- Archaeological report on a main site.
- Historical story(Two)
- Planning, organization and report writing on seminar.
- Picture of 1857 (Scrab-Book)
- Prepare a Historical model/Historical Democracy

### Reference:

1. Jain, M.S. (2004), Concise History of Modern Rajasthan, Vishwa Prakashan, New Delhi.
2. Sareen Tilakra, Indian Revolutionary Movement (1905-1921) Sterling Publishers Pvt. Ltd., New Delhi.
3. www.syllabus - Class 12 Arts.html.
4. www.syllabus - Class 11 Arts.html.
5. कक्षा 6 से 12 तक इतिहास की पाठ्यपुस्तकें (2014), एन.सी.आर.टी., नई दिल्ली
6. गुप्ता, पार्थ सार्थी (2004), ब्रिटेन का इतिहास, दिल्ली विश्वविद्यालय
7. शर्मा, रामशरण (1993), प्रारम्भिक भारत का आर्थिक और सामाजिक इतिहास (हिन्दी माध्यम), कार्यान्वयन निदेशालय, दिल्ली विश्वविद्यालय



### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5.5 Civics	Any one - CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To identify political views among students.
- ❖ To acquaint the content knowledge of political science.
- ❖ To comprehend the dynamic political status and issues of our country.
- ❖ To develop reasoning ability among students for various competitive exam.
- ❖ To enable the pupil teacher to review the text-book of civics content (Secondary level).

**Course Contents:**

#### Unit- I Political Thought

- a) Socialism
- b) Marxism
- c) Gandhism
- d) Dr.Bheem Rao Ambedakar

#### Unit- II Indian Constitution & Political Involvement

- a) Indian Constitution
- b) Democracy
- c) Political Group
- d) Political socialization

#### Unit- III Political Problems and Organization

- a) Terrorism, political crime, corruption
- b) International organization (DAKSHE, SARK, U.N.O.)
- c) Election commission of India
- d) NCW (National commission for women)

#### Unit- IV Current Political Scenario

- a) Recent governing member and central, state level ministry
- b) Fundamental rights and duties
- c) Lok Sabha, Rajya Sabha, Vidhan Sabha, Vidhan Parishad
- d) President, Prime Minister, Governor, Chief Minister

#### Assignment & Practical Works : (Any Two)

- One Assignment Work solve class 11 & 12
- Write an essay on any political problem.
- Study the causes of political problem and write a report of the same.
- Write an essay, story, poem can be created to tell moral values to litigants.
- Prepare scrap book of political news.
- Write any two abstracts related to political issues.

#### References:

1. आर. सी. अग्रवाल, राजनीति शास्त्र के मूल आधार, एस. चाँद एण्ड कम्पनी, नई दिल्ली
2. ऐ. सी कपूर, राजनीतिक विज्ञान के मूल सिद्धान्त, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
3. कुबेर, डब्ल्यू. एन. भीमराव अम्बेडकर, सूचना और प्रसारण मंत्रालय, भारत सरकार
4. चौहान, लाल बहादुर सिंह (1998), हमारे राष्ट्र—रत्न, आत्माराम एण्ड संस, दिल्ली लखनऊ
5. जैन, पुखराज, राजनीति शास्त्र के मूल आधार, साहित्य भवन पब्लिकेशन, आगरा
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7. मिश्रा, महेन्द्र (2008), नागरिक शास्त्र शिक्षण, यूनिवर्सिटी बुक हाउस, जयपुर
8. राजस्थान पाठ्यपुस्तक मण्डल की कक्षा 11 व 12 की पुस्तकें
9. सफाया, शुक्ला, भाटिया (2006), शिक्षार्थी का विकास एवं शिक्षण अधिगम प्रक्रिया, धनपतराय पब्लिशिंग
10. सिंह, रामपाल (2004), शिक्षा एवं उदीयमान भारतीय समाज, विनोद पुस्तक मंदिर, आगरा
11. सिंह, योगेश कुमार (2010), नागरिक शास्त्र शिक्षण, एस. एन. नागिया प्रकाशन

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5. 6 Social Science	Any one- CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand Social Science on the basis of political, social and Economic conditions.
- ❖ To develop the idea of Society, Social group, Community Marriage.
- ❖ To acquire Knowledge of Indian Social Problems (Culture, Castiesm, Communalism, Poverty, Corruption)
- ❖ To evaluate the Indian Social Issue.

**Course Contents:**

### Unit-1 Meaning and Concept of Sociology

- a) Development of Sociology
- b) The meaning of Sociology
- c) Subject matter of Sociology
- d) Sociology and Social Science

### Unit -II Society

- a) Society - Meaning and Need
- b) Social group- Meaning and Types [Primary and Secondary]
- c) Community- Meaning, Characteristics Concept of community
- d) Marriage- Aims and Types of Hindu marriage

### Unit -III Social Change in Indian Society

- a) Social change
- b) Family
- c) Cast and class- meaning and Changes in Caste and Class
- d) Regionalism

### Unit -IV Indian Social Problems

- a) Culture-definition, Characteristics, Lack of Culture
- b) Communalism
- c) Poverty
- d) Corruption

### Assignment & Practical Works : (Any Two)

- Write an article on current Social issue.
- Prepare Assignment Work any two subject topic.
- Prepare a case study of Any one local problem.

### References:

1. Devi, Shakuntala (1999), Caste System in India, Pointer Publishers, Jaipur
2. Kooiman, Dick (1989), Conversion and Social Equality in India, Manohar Publication, New Delhi
3. Robinson, W. Peter (1996), Social Group and Identities, Butter worth-Heinemann Linacre House, Jordan Hill, Oxford.
4. Sharma, K. L. (1994), Social Stratification and Mobility, Rawat Publication, Jaipur
5. Sharma, K. L. (1995), Social One Quality in India.
6. Sharma, K. L. (1995), Caste and Class in India., Rawat Publication, Jaipur
7. Srinivas, M. N. (1998), Caste in Modern India, Printed in India, Bombay
8. वर्मा, ज्योति, (2007), सामाजिक समस्याएँ, डिस्कवरी पब्लिशिंग हाऊस, दरियागंज, नई दिल्ली
9. सिंह, जे. पी. (2003), सामाजिक परिवर्तन : स्वरूप एवं सिद्धान्त, प्रेंटिस हॉल ऑफ इंडिया प्रा. लि., नई दिल्ली
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12. सिंह, शिव बहाल (2010), विकास का समाज शास्त्र, रावत पब्लिकेशन, जवाहरनगर, जयपुर

### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5.7 Economics	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To help the students to acquire the basic understanding in the field of Economics.
- ❖ To enable the student teachers to understand the aims and Objectivess of teaching Economics at the secondary school stage.
- ❖ To develop the ability, to evaluate the present curriculum in Economics at the Econdary level.
- ❖ To develop the ability to organize group activities and Projects in the subject.
- ❖ To develop the ability to use of various methods of teaching Economics.
- ❖ To enable the student to acquire necessary skills for the use and preparation of teaching aids and instructional material in Economics.
- ❖ To develop in the students appropriate attitudes towards the country's Economy.
- ❖ To develop in the student an adequate sense of awareness about Economic issues of the country and an out-look of problem solving through analysis and application of the Theory of Economics.
- ❖ To develop competence in framing Objectives based achievement and diagnostic test, their administration and their scoring and drawing conclusions there of. 10. To develop in the students an ability to conduct various surveys in Economics and organize field trips.
- ❖ To enable the student-teachers to prepare unit plan, lesson plan and related teaching learning strategies.
- ❖ To enable the student teachers to review the text book of Economics.

**Course Contents:**

#### **Unit- I Meaning and Concept of Micro and Macro Economics**

- a) Micro Economics
- b) Macro Economics
- c) Concept of National Income

#### **Unit- II Demand and Supply and Money**

- a) Basic concept of Demand and supply
- b) Consumer Equilibrium
- c) Definition of Money, Its Function
- d) Functions of Commercial Bank
- e) Functions of Central Bank

#### **Unit- III Indian, Foreign Trade and Economics Planning**

- a) Indian Foreign Trade - DirEction and Trends
- b) Concept of Globalization, Privatization and Liberalization
- c) Economic Planning in India

- d) Poverty in India
- e) Unemployment in India

**Unit- IV Method and Evaluation in Economics**

- a) Programmed Instruction Methods
- b) Team Teaching
- c) Computer assisted Instruction (CAI)
- d) LECTure cum Demonstration Method
- e) Evaluation in Economics

**Assignment & Practical Works : (Any Two)**

- Preparation a Assignment Works Any one subject topic.
- Review of two published papers related to subject

**References:**

1. Datt. Ruddar, Sundharam, K. M. (2006), Indian Economy, S. Chand & Company Ltd., New Delhi
2. Lawson, Tony (1997), Economics and Reality, Rout Ledge, London and New York
3. Rasure, K. A. (2009), Economics and Business Environment, Avinash Paper Backs, Delhi
4. Samuelson & Nordhaus (2006), Economics, Tata Mc Grow-Hill Publishing Company Ltd, New Delhi
5. Swami, Gupta, Vashnav (2006-07), Economics and Business Environment, Ramesh Book Depot, Jaipur
6. V. Shanmuga Sundaram (2011), The New Institutional Economics, Deep & Deep Publication Pvt. Ltd., New Delhi
7. कुमार, राजीव (2009), आधुनिक अर्थशास्त्र विश्व कोष भाग 1-10, अर्जुन पब्लि. हाऊस, जयपुर
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11. माधुर, बी. एल. (2009), आर्थिक नीति एवं विकास, अर्जुन पब्लिशिंग हाऊस, नई दिल्ली

## Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5.8 Geography	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the modern concept of Geography.
- ❖ To understand the aims and Objectivess of teaching Geography.
- ❖ To prepare yearly plan, unit plan, lesson plan for different classes.
- ❖ To prepare maps and charts to illustrate the content of different classes and use them effectively.
- ❖ To critically evaluate the existing school syllabus and review the text book of Geography.
- ❖ To apply appropriate method and techniques of teaching to particular topics at different levels.
- ❖ To arrange field trips and local surveys.
- ❖ To prepare achievement test and diagnostic test, administration of the test, analysis of results, make suggestion for remedial teaching.

### Course Contents:

#### Unit- I Motion of the Earth

- a) Latitudes, Longitudes
- b) Interior of the Earth
- c) Origin of continents and oceans, sudden movements
- d) Atmosphere, Composition, Insulation, Pressure belts, winds
- e) Ocean Currents and Tides

#### Unit- II Indian Geography

- a) Physical features
- b) Climate
- c) Natural vegetation
- d) Drainage
- e) Agriculture

#### Unit-III Rajasthan Geography

- a) Physical features
- b) Climate
- c) Natural vegetation
- d) Drainage
- e) Agriculture

#### **Unit- IV Practical Work in Geography**

- a) Definition, Scope and Development of Cartography
- b) Technique, Materials, Tools of Map Making
- c) Map
- d) Scale
- e) Representation of Statistical Data

#### **Assignment & Practical Works :**

- Assignment Work any two topic subject related
- Any two map making

#### **References:**

1. Barry & Chroley, Atmosphere, Weather & Climate.
2. Bradshaw, M.J. Abbott., A.J. and Gelstrophe, A.P. "The Earth" Shnanging Surface.
3. Cotter, C.H., The Physical Geography of the Oceans.
4. Easter book, D.J., Principles of Geomorphology.
5. Savindra Singh, Physical Geography English, Pragya Pustak Bhawan, Allahabad.
6. उपाध्याय, डी. पी., सिंह समाश्रय, जलवायु, विज्ञान और समुद्र विज्ञान, वसुन्धरा प्रकाशन, गोरखपुर
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10. शर्मा, जे.पी. (2014), प्रयोगात्मक भूगोल की रूपरेखा, रस्तोगी पब्लिकेशनन्स, मेरठ
11. सिंह, सविन्द्र, भू-आकृति विज्ञान, वसुन्धरा प्रकाशन, गोरखपुर
12. सिंह सविन्द्र, पर्यावरण भूगोल, प्रयाग पुस्तक भवन, इलाहाबाद
13. सिंह, जगदीश, सिंह कामेश्वर नाथ, पटेल, राम्बस (1989), भारत एवं समीपवर्ती देश, ज्ञानोदय प्रकाशन, गोरखपुर

### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BAE 714	5.9 Home Science	Any one CE	4	30	70	100

**Learning Outcomes:** After completion of this course the students-teacher will able:

- ❖ To understand the Concept, Nature and scope of Home Science.
- ❖ To explore different ways of creating learning situations for different concepts of Home Science.
- ❖ To facilitate the development of scientific attitude in learner.
- ❖ To provide the knowledge related to Home management, Budgeting, Textile and Fashion as well as common health problems etc.
- ❖ To ensure the application of knowledge to resolve nutritional, health and resources related problems through Home Science
- ❖ To stimulate curiosity, skills and creativity in Home Science.

**Course Contents:**

#### **Unit- I Development and Childhood Care**

- a) Home Science Education : Meaning, Definition & Scope, History and Objectivess
- b) Concept of Human Development & Growth
- c) Life span stages and Types of Development
- d) Reproductive health and Child Care

#### **Unit- II Nutrients and Dietary Management**

- a) Food : Definition, functions and classification
- b) Nutrients and their composition, sources and functions
- c) Balanced diet with nutrition for pregnancy and different stages of development
- d) Methods of cooking for healthy food
- e) Dietary management during different diseases

#### **Unit- III Resource Management and Clothing**

- a) Resource Management, Budgeting, Saving and Investment in family
- b) Fibers - types and properties, Yarn construction, Marketing, Principles of clothing construction
- c) Preparation of fabrics Cutting-Layout, Pinning, Marking and Cutting
- d) Fashion Terminology and Fashion cycle

#### **Unit- IV Housing and Women**

- a) House planning and furnishing

- b) Financial and legal consideration for housing
- c) Consumer Aids and consumer protection
- d) Women Empowerment : Guidance and Counseling ; Welfare Organizations

**Assignment & Practical Works : (Any Two)**

- Data collection for various problems in local community like as nutritional, health issues, consumer awareness and Women Empowerment etc
- Prepare and implement a Project related to various community problems
- Plan and organize an exhibition related to Handicrafts, latest fashionable costumes
- Make and demonstrate dye samples/block printing samples/knitting and embroidery
- Prepare and perform a drama (group) related to local issues and awareness

**References:**

1. Choudhary, M. & Mogra R. (1999), A Manual on Human Nutrition, Department of Food and Nutrition, College of Home Science, Udaipur
2. Deulkar, D. & Tara Bai (1967), Household Textiles and Laundry work, Atma Ram & Son's, Delhi
3. Jelliffe D. B. (1966), The assessment of the Nutritional Status of the Community, WHO Monograph Service No. 53, WHO Geneva.
4. NIN (1998), Dietary Guidelines for Indians & A Manual National Institute of Nutrition, Hyderabad.
5. Nickell, P. & Darsey, J. M. (1967), Management in Family Living, John Wiley and Son's, Inc.
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9. शैरी, जी. पी. (1995), पोषण एवं आहार विज्ञान, विनोद पुस्तक मंदिर, आगरा
10. सिरोही, सरिता (1997), आधुनिक गृह विज्ञान भाग – 2, कक्षा 12वीं, फ्रैंकी पब्लिशिंग हाउस, नई दिल्ली



## Semester VIII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU-801	1. Knowledge and Curriculum (Part-A)	Any one- CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know the concept Objectives and principles of curriculum.
- ❖ To develop the idea and bases of curriculum.
- ❖ To understand various types of curriculum.
- ❖ To evaluate the relevancy of curriculum.
- ❖ To describe various approaches to curriculum construction.

**Course Contents:**

### Unit- I Knowledge and Curriculum Concept

- a) Knowledge : Concepts, Characteristics, Sources of Acquiring, Methods of Acquiring
- b) Curriculum: Meaning, Definition, Characteristics, Aims Importance
- c) Difference between old and new concepts of curriculum
- d) Principle of curriculum construction and Knowledge

### Unit- II Bases of curriculum

- a) Sociological bases
- b) Scientific bases
- c) Philosophical bases
- d) Psychological bases

### Unit- III Types of curriculum

- a) Activity centred and life centred curriculum
- b) Subject centred and core centred
- c) Experience centred and work based curriculum
- d) Hidden Curriculum

### Unit- IV National curriculum

- a) Concept and Characteristics of National curriculum
- b) Curriculum reform in India
- c) NCF-2005 (School education)
- d) NCFTE-2009(Teacher education)

### Assignment & Practical Works : (Any Two)

- One Assignment Work on the topic related with the unit.
- Preparation of Any one Assignment Work on curriculum .
- Review of present curriculum (Optional subject related)
- Curriculum framework for 10th class.

### Referances :

1. अग्निहोत्री, रवीन्द्र , आधुनिक भारतीय शिक्षा
2. अग्निहोत्री, रवीन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, रिसर्च पब्लिकेशन
3. अग्निहोत्री, रवीन्द्र (2007), आधुनिक भारतीय शिक्षा और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
4. ओड, एल. के., शिक्षा के नूतन आयाम, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
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6. पाण्डेय, बुजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा,
7. पाठक, पी. डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ
8. यादव, सियाराम संगीता, सिन्धू पूनम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा
9. यादव, संगीता, सिन्धू पूनम (2014), पाठ्यक्रम विकास और अनुदेशन, अर्जुन पब्लिशिंग हाऊस, 4837/24, प्रहलाद गली, अंसारी रोड़, दरियागंज, नई दिल्ली-2
10. रावत, प्यारेलाल, प्राचीन एवं आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन, आगरा
11. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर
12. National Curriculum Frame work NCFTE (2009), for Teacher Education, NCTE, New Delhi
13. National Curriculum Frame work NCF (2005), for Scholl Education, NCTE, New Delhi

### Semester VIII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU-802	Knowledge and Curriculum (Part-B)	Any one- CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop various philosophical bases of curriculum
- ❖ To develop various Sociological bases of curriculum
- ❖ To develop various psychological bases of curriculum
- ❖ To develop Educational New Trends of curriculum

**Course Contents:**

**Unit- I Philosophical bases of curriculum development**

- a) Idealism, Naturalism, Pragmatism and curriculum
- b) Jain philosophy , Geeta Philosophy , Buddhism Philosophy and curriculum
- c) M. K. Gandhi, Vivekanand , R. N. Tagore and curriculum

**Unit- II Sociological basis of curriculum development**

- a) Social change and curriculum
- b) Social Mobility and curriculum
- c) Social development and curriculum
- d) Culture and curriculum

**Unit- III Psychological bases of curriculum development**

- a) Structuralism and curriculum
- b) Behaviourism and curriculum
- c) Associationism and curriculum
- d) Gestaltism and curriculum

**Unit- IV Educational New Trends of curriculum**

- a) Skill and curriculum
- b) Values and curriculum
- c) NCF-2005(School Education)
- d) NCFTE-2009( teacher Education)

**Assignment & Practical Works : (Any Two)**

- Preparation of One Assignment Work.
- One abstracts of Educational New trends article published in some standard Journals
- Preparation of curriculum Design (any subject related)
- Curriculum frame work for B.Ed. programme.

**References :**

1. अग्निहोत्री, रवीन्द्र (2007), आधुनिक भारतीय शिक्षा और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
2. गुप्ता, एस. पी. (2005), भारतीय शिक्षा का इतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड, इलाहाबाद
3. पाण्डेय, बृजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा,
4. पाठक, पी. डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ
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6. यादव, संगीता, सिन्धू पूनम (2014), पाठ्यक्रम विकास और अनुदेशन, अर्जुन पब्लिशिंग हाऊस, 4837/24, प्रहलाद गली, अंसारी रोड, दरियागंज, नई दिल्ली-2
7. रावत, प्यारेलाल, प्राचीन एवं आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन, आगरा
8. सक्सैना, एन. आर. स्वरूप, शिक्षा सिद्धान्त, सूर्या पब्लिकेशन, आर. एल. कुक डिपो, मेरठ
9. सिंघल, महेशचन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
10. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर
11. National Curriculum Frame work NCFTE (2009), for Teacher Education, NCTE, New Delhi
12. National Curriculum Frame work NCF (2005), for Scholl Education, NCTE, New Delhi

**Semester VIII**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>EDU-803</b>	<b>Post Internship Internship</b>	<b>CC</b>	<b>16</b>	<b>160 Internship+ 120+120=240 Practical (Two Subjects final lesson)</b>		<b>400</b>

**Post Internship distribution (16 Weeks)**

- | <b>Sr. No.</b> | <b>Contents</b>  |
|----------------|--|
| 1.             | Regular Practice Teaching including - Unit Plan and Blue Print<br>(Atleast Each Subject of 25 lessons)   |
| 2.             | Observation  |
| 3.             | <p><b>Block Teaching</b></p> <ul style="list-style-type: none"> <li>○ School Admission</li> <li>○ Time Table</li> <li>○ Morning Assembly</li> <li>○ Classroom Management</li> <li>○ Organization of Various Activities</li> <li>○ Physical Activities</li> <li>○ Cultural Activities</li> <li>○ Literary Activities</li> <li>○ Yoga Exercies</li> <li>○ Field Trips/Picnic</li> <li>○ Counducting of Meeting</li> <li>○ Maintenance of Garden/School</li> <li>○ Action Research</li> <li>○ Preparation of Register</li> <li>○ Libenary Management</li> <li>○ Other Work of School</li> <li>○ Swachhata Abhiyan</li> <li>○ S. U. P. W.</li> <li>○ Education Tour</li> </ul> |
| 4.             | Final Lesson (Two teaching subject)  |

# SYLLABUS

## DEPARTMENT OF EDUCATION

**Bachelor of Science-Bachelor of Education (B.Sc- B.Ed.)**

**Four Years Integrated Regular Programme**



*'A' Grade by NAAC & 'A' Category by MHRD*

**JAIN VISHVA BHARATI INSTITUTE**

(Deemed to be University under section 3 of UGC Act, 1956)

**Ladnun-341306 (Raj.)**

**2017**

**Price : Rs. 100/-**

## **JAIN VISHVA BHARATI INSTITUTE, LADNUN**

### **Bachelor of Science-Bachelor of Education (B.Sc- B. Ed.)**

#### **Four Years Integrated Regular Programme**

Jain Vishva Bharati Institute has launched a Bachelor of Education programme recognized by NCTE. The first session started from July 2005 and B.Sc-B.Ed programme has started from October 2016. The programme places specific emphasis on meditation as a tool to enhance learning skills and I.Q. This programme is also the first national teachers training programme to offer study in Education for Sustainable Development. Innovative syllabus and enthusiastic faculty work towards not only training the teachers but also assisting them with campus recruitment. Jain Vishva Bharati Institute is looking forward to train a new class of future generation teachers.

#### **1. Introduction:**

Enlightened, emancipated and empowered teachers lead communities and nation towards better and higher quality of life. Teachers are expected to create social cohesion, national integration and learning society. They disseminate knowledge and also generate new knowledge therefore, it becomes essential for any nation to give necessary professional inputs to its teachers. Jain Vishva Bharti Institute pursues the curriculum for its pre-service teacher training programme for women candidates who are far behind but can lead the whole nation. This will be a special programme focussed with a strong foundation in Science of Living. The candidates are encouraged to flourish an environment that promotes value and technology based society.

**Duration:** The B.Sc -B.Ed programme is full time four years integrated programme.

**Eligibility:** A candidate who has passed senior secondary from any recognized Board and qualified entrance test conducted as per guideline of State Government.

#### **Objectives:**

- ❖ To give the subject knowledge of graduation level.
- ❖ To develop professionalism in teacher Education Programme.
- ❖ To motivate creative thinking and work among teacher trainees.
- ❖ To foster moral, social character and spiritual values of trainees.
- ❖ To develop Inter-relationship among Department, School and Society.
- ❖ To develop cognitive, Affective and Psycho-motor domain of the teacher trainees
- ❖ To promote for future Prospective, Employability and Skill based Teacher Training
- ❖ To develop Self Evaluation, Positive Attitude and self confidence
- ❖ To apply educational innovation and new strategies of the Teacher Education and trainees.

#### **Scheme of Examination**

1. Hindi/English shall be medium of instruction of examination.
2. Examination shall be conducted at the end of each semester as per the academic/examination calendar notified by the Institute.
3. Each theory paper will be valued as per marks division given in the prospectus which will include semester end theory exam. Practical (wherever applicable) and continuous internal assessment (CIA).
4. CIA will include the following components : (Education Subject)

▪ Attendance regularity	10 marks
▪ Class Tests	05 marks
▪ Assignments	10 marks
▪ Class Presentation/Seminar	05 marks
<b>Total</b>	<b>30 marks</b>

**CIA will include the following components - (Only Science Subject)**

The CIA comprises of attendance, participation in co-curriculum activities and group discussion etc.

The marks distribution will be as follows-

(1) Attendance	- 5 marks
(2) Participation in co-curriculum activities, Prayer, Behavior of candidate, etc.)	- 5 marks
(3) Group discussion/Presentation/desk work	- 5 marks
<b>Total</b>	<b>- 15 Marks</b>

**5. Distribution of Marks- (Only Science Subject)**

A. Theory	- 60 Marks
B. Practical	- 25 Marks
C. Continuous Internal Assessment	- 15 Marks

**Total = 100 Marks**

**Paper Pattern Only Science Subject :**

Type of Questions	Number of Questions	Marks of Each Question	Maximum Marks
Objective type questions	10	½ mark for each question	05
Short answer type questions	4	2 marks for each question	08
Essay type questions	2	3½ marks	07
Total Marks			20
Total sum			20X3 = 60

**Evaluation Panel:**

CIA Concerned Two Subject teacher nominated by the HOD of the Department.

❖ **Internship Evaluation Panel: Pre-Internship and Post Internship**

- HOD of the concerned Department
- Departmental Supervisor/School Head Master/Principal of the School/Nominated School Teacher

**Final Lesson Panel: (Two Teaching Subject)**

- ❖ HOD of the concerned Department \* Internal/External Subject Expert
- ❖ **EPC Evaluation Panel: Theory/Practical and viva-voce Examination Panel** will be :
- ❖ HOD of the concerned Department. \* Internal Subject Expert

**(B.Sc.-B.Ed)**  
**Semester-I**  
**Distribution of Papers, Marks and Credit**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 101	Childhood and Growing Up	CC	4	30	70	100
BSE 101	Chemistry-I	Any Three CC	4	15	20	100
	Chemistry-II				20	
	Chemistry-III				20	
	Chemistry Practical				25 Practical	
BSE 102	Physics-I	CE*	4	15	20	100
	Physics-II				20	
	Physics-III				20	
	Physics Practical				25 Practical	
BSE 103	Mathematics-I	CE*	4	15	20	100
	Mathematics-II				20	
	Mathematics-III				20	
	Mathematics Practical				25 Practical	
BSE 104	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	
BSE 105	Zoology-I	CE*		15	20	100
	Zoology-II				20	
	Zoology-III				20	
	Zoology Practical		4	25 Practical		
JVB 101	Introduction to Jainism	FC	4	30	70	100
		<b>Total</b>	<b>20</b>	<b>105</b>	<b>395</b>	<b>500</b>

\*Either BSE 102 & 103 Or BSE 104 & 105

**Semester-II**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>EDU 201</b>	Assessment for Learning	<b>CC</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>
<b>EDU 202</b>	Learning and Teaching	<b>CC</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>
<b>BSE 201</b>	Chemistry-I	<b>Any Three CC</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Chemistry-II				<b>20</b>	
	Chemistry-III				<b>20</b>	
	Chemistry Practical				<b>25</b> Practical	
<b>BSE 202</b>	<b>Physics-I</b>	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Physics-II				<b>20</b>	
	Physics-III				<b>20</b>	
	Physics Practical				<b>25</b> Practical	
<b>BSE 203</b>	Mathematics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Mathematics-II				<b>20</b>	
	Mathematics-III				<b>20</b>	
	Mathematics Practical				<b>25</b> Practical	
<b>BSE 204</b>	Botany-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Botany-II				<b>20</b>	
	Botany-III				<b>20</b>	
	Botany Practical				<b>25</b> Practical	
<b>BSE 205</b>	Zoology-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Zoology-II				<b>20</b>	
	Zoology-III				<b>20</b>	
	Zoology Practical				<b>25</b> Practical	
		<b>Total</b>	<b>20</b>	<b>105</b>	<b>395</b>	<b>500</b>

\*Either BSE 202 & 203 Or BSE 204 & 205



**Semester-III**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 301</b>	Chemistry-I	<b>Any Three CC</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Chemistry-II				<b>20</b>	
	Chemistry-III				<b>20</b>	
	Chemistry Practical				<b>25</b> Practical	
<b>BSE 302</b>	<b>Physics-I</b>	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Physics-II				<b>20</b>	
	Physics-III				<b>20</b>	
	Physics Practical				<b>25</b> Practical	
<b>BSE 303</b>	Mathematics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Mathematics-II				<b>20</b>	
	Mathematics-III				<b>20</b>	
	Mathematics Practical				<b>25</b> Practical	
<b>BSE 304</b>	Botany-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Botany-II				<b>20</b>	
	Botany-III				<b>20</b>	
	Botany Practical				<b>25</b> Practical	
<b>BSE 305</b>	Zoology-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Zoology-II				<b>20</b>	
	Zoology-III				<b>20</b>	
	Zoology Practical				<b>25</b> Practical	
<b>EDU 301</b>	Understanding a Discipline and Subject	<b>Any one CE</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>
<b>EDU 302</b>	Innovative Methods					
<b>JVB 301</b>	Critical Understanding of ICT	<b>FC</b>	<b>2</b>	<b>15 Practical</b>	<b>35</b>	<b>50</b>
<b>JVB 302</b>	Yoga and Preksha Meditation	<b>FC</b>	<b>2</b>	<b>15 Practical</b>	<b>35</b>	<b>50</b>
		<b>Total</b>	<b>20</b>	<b>105</b>	<b>395</b>	<b>500</b>

\*Either BSE 302 & 303 Or BSE 304 & 305

**Semester-IV**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>EDU 401</b>	Gender , School and Society	<b>CC</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>
<b>EDU 402</b>	Reading and Reflecting on texts (EPC)	<b>CC</b>	<b>2</b>	<b>15</b>	<b>35 Practical and Viva-Voce</b>	<b>50</b>
<b>EDU 403</b>	Drama and Arts in Education (EPC)	<b>CC</b>	<b>2</b>	<b>15</b>	<b>35 Practical and Viva-Voce</b>	<b>50</b>
<b>BSE 401</b>	Chemistry-I	<b>Any Three CC</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Chemistry-II				<b>20</b>	
	Chemistry-III				<b>20</b>	
	Chemistry Practical				<b>25 Practical</b>	
<b>BSE 402</b>	Physics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Physics-II				<b>20</b>	
	Physics-III				<b>20</b>	
	Physics Practical				<b>25 Practical</b>	
<b>BSE 403</b>	Mathematics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Mathematics-II				<b>20</b>	
	Mathematics-III				<b>20</b>	
	Mathematics Practical				<b>25 Practical</b>	
<b>BSE 404</b>	Botany-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Botany-II				<b>20</b>	
	Botany-III				<b>20</b>	
	Botany Practical				<b>25 Practical</b>	
<b>BSE 405</b>	Zoology-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Zoology-II				<b>20</b>	
	Zoology-III				<b>20</b>	
	Zoology Practical				<b>25 Practical</b>	
		<b>Total</b>	<b>20</b>	<b>105</b>	<b>395</b>	<b>500</b>

\*Either BSE 402 & 403 Or BSE 404 & 405

**Semester-V**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>EDU 501</b>	General English	<b>CC</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>
<b>EDU 502</b>	Contemporary India and Education	<b>CC</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>
<b>BSE 501</b>	Chemistry-I	<b>Any Three CC</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Chemistry-II				<b>20</b>	
	Chemistry-III				<b>20</b>	
	Chemistry Practical				<b>25</b> Practical	
<b>BSE 502</b>	Physics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Physics-II				<b>20</b>	
	Physics-III				<b>20</b>	
	Physics Practical				<b>25</b> Practical	
<b>BSE 503</b>	Mathematics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Mathematics-II				<b>20</b>	
	Mathematics-III				<b>20</b>	
	Mathematics Practical				<b>25</b> Practical	
<b>BSE 504</b>	Botany-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Botany-II				<b>20</b>	
	Botany-III				<b>20</b>	
	Botany Practical				<b>25</b> Practical	
<b>BSE 505</b>	Zoology-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Zoology-II				<b>20</b>	
	Zoology-III				<b>20</b>	
	Zoology Practical				<b>25</b> Practical	
		<b>Total</b>	<b>20</b>	<b>105</b>	<b>395</b>	<b>500</b>

\*Either BSE 502 & 503 Or BSE 504 & 505

**Semester-VI**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>EDU 601</b>	General Hindi	CC	4	30	70	100
<b>EDU 602</b>	Pre. Internship	CC	4	<b>100</b> Pre. Internship		100
<b>BSE 601</b>	Chemistry-I	Any Three CC	4	15	20	100
	Chemistry-II				20	
	Chemistry-III				20	
	Chemistry Practical				25 Practical	
<b>BSE 602</b>	Physics-I	CE*	4	15	20	100
	Physics-II				20	
	Physics-III				20	
	Physics Practical				25 Practical	
<b>BSE 603</b>	Mathematics-I	CE*	4	15	20	100
	Mathematics-II				20	
	Mathematics-III				20	
	Mathematics Practical				25 Practical	
<b>BSE 604</b>	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	
<b>BSE 605</b>	Zoology-I	CE*	4	15	20	100
	Zoology-II				20	
	Zoology-III				20	
	Zoology Practical				25 Practical	
		<b>Total</b>	<b>20</b>	<b>75</b>	<b>425</b>	<b>500</b>

\*Either BSE 602 & 603 Or BSE 604 & 605

**Semester VII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 701	Creating and Inclusive Education	CC	4	30	70	100
EDU 702	Language Across the Curriculum	CC	4	30	70	100
BSE 701	Chemistry	Pedagogy of a School Subject Any two CE	4	30	70	100
BSE 702	Physics					
BSE 703	Mathematics					
BSE 704	General Science					
BSE 705	Biology					
BSE 706	Optional Course Environmental Education	Any one EC	4	30	70	100
BSE 707	Health and Physical Education					
BSE 708	Guidance and Counseling					
BSE 709	Distance Education					
BSE 710	Additional Course (Any one)					
	5.1 Chemistry					
	5.2 Physics					
	5.3 Mathematics					
	5.4 General Science					
	5.5 Biology					
		<b>Total</b>	<b>20</b>	<b>150</b>	<b>350</b>	<b>500</b>

**Semester VIII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU-801	Knowledge and Curriculum (Part-A)	CC Any one	4	30	70	100
EDU-802	Knowledge and Curriculum (Part-B)					
EDU-803	Post Internship	CC	16	160 Internship+ 120+120=240 Practical (Two Subjects final lesson)		400
		<b>Total</b>	<b>20</b>	<b>30</b>	<b>470</b>	<b>500</b>

## Semester I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU101	Childhood and Growing Up	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know the concept, methods & applications of Educational Psychology.
- ❖ To know the implication of Educational Psychology for school education.
- ❖ To know the concept of Growth & Development.
- ❖ To know the concept and developmental dimensions of childhood.
- ❖ To plan various activities to fostering imagination, creativity & interests at school level.
- ❖ To know about various aspect related to Cognitive, Emotional & Social development of learner.
- ❖ To aware about various activities for personality development & balanced mental health of a learner.
- ❖ To know the related problems of Adolescence & remedies through Guidance & Counselling services.

### Course Contents:

#### UNIT-I Educational Psychology and Development

- a) Educational Psychology : Concept, Methods & Applications
- b) Implications of Educational Psychology: Teachers, Curriculum, Class-room Situations
- c) Indian Psychology : Concept and its implication
- d) Growth & Development
- e) Cognitive development:- Piaget & Bruner

#### UNIT-II Childhood and Its Development

- a) Childhood : Its concept & characteristics
- b) Childhood : Physical, Mental, Emotional, Social & Moral Development
- c) Childhood : Dimensions to fostering Imagination, Memory & Creativity
- d) Childhood : Activities for Personality Development
- e) Childhood : Language Development

#### UNIT-III Adolescence and Its Development

- a) Adolescence : Its Meaning & Characteristics
- b) Adolescence : Physical, Emotional, Social, Spiritual & Moral Development
- c) Adolescence : Fostering Thinking, Reasoning & Problem- solving abilities
- d) Adolescence : Activities for Personality Development
- e) Adolescence : Related Problems & Remedies
- f) Guidance & Counselling services in schools

#### **UNIT-IV Learner : Psychological Dimensions & New Trends**

- a) Personality : Concept, Types & Measurement
- b) Intelligence & Multiple Intelligence : Meaning, Theories & Measurement
- c) Creativity : Meaning, Development & Measurement
- d) Adjustment : Concept, Process & Mechanism
- e) Mental Health : Concept, Components & Scope

#### **Assignment & Practical Works: (Any Two)**

- Prepare a short term project to enhance Imagination, Creativity and Memory for school level students
- Prepare, administer and interpret a Case study/ Questionnaire related to problems of adolescence
- One term paper related to topics in above unit
- Organize various Guidance and Counseling campaign for secondary level students
- Administer, Score and interpret a standardized psychological test related to personality/Intelligence/ Creativity/ Mental Health/Adjustment
- Prepare a Survey report related to various psychological dimension, problems and related remedies for school students

#### **Suggested Readings:**

1. Backett Chris (2004), Human Growth & Development, Sage Publication
2. Das, J. P. (1998), The Working Mind : An Introduction to Psychology, Sage Publication.
3. Chomsky, N. (1968), Language and Mind, Harcourt Brace, Jovanovich.
4. Singh Indramani & Parasuraman, Raja (1998) Human Cognition - A Multi Disciplinary Perspective, Sage Publication.
5. Baddeley, A. D. (1996) Human Memory : Theory and Practice, Washington, DC : Psychology Press.
6. Gruneberg, M. M.; Marris, P.E. & Skyes, R.N. (1998) (Eds) Practical aspects of memory; Current research and issues (Vol.2) John Wiley, New York.
7. Brown J. (1976), Recall and recognition, London.
8. Piaget, J. (1970), Science of Education and The Psychology of child, New York : Orion Press.
9. Hurlock, Elizabeth B. (2007), Child Development, Tata Mc Grow-Hill Publishing Company Ltd. New Delhi
10. गुप्ता, एस.पी., गुप्ता, अलका, (2007), उच्चतर शिक्षा मनोविज्ञान, शारदा पुस्तक भवन, इलाहाबाद
11. पाठक, पी.डी., (2007), शिक्षा मनोविज्ञान, विनोद पुस्तक मंदिर, आगरा
12. मंगल, एस.के.,(2008),शिक्षा मनोविज्ञान, प्रिंटिस हॉल ऑफ इण्डिया प्राइवेट लिमिटेड,नई दिल्ली
13. मूरजानी जानकी, नारंग, दर्शन कौर एवं मणिका मोहन, बाल विकास का मनोविज्ञान, अपोलो प्रकाशन, जयपुर
14. यादव, सियाराम, (2008),अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, शारदा पुस्तक भवन, इलाहाबाद
15. शर्मा, जे.डी., (2008), मनोविज्ञान की पद्धतियाँ एवं सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
16. श्रीवास्तव, प्रमिला, (2008), बाल विकास एवं शिक्षा संदर्शिका, कनिष्क पब्लिशर्स, नई दिल्ली

## Semester-I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 101	Chemistry-I	Any Three CC	4	15	20	100
	Chemistry-II				20	
	Chemistry-III				20	
	Chemistry Practical				25 Practical	

### Chemistry-Paper-I : Inorganic chemistry

#### Unit 1 : Atomic structure

Idea of de Broglie matter waves, Heisenberg uncertainty principle, atomic orbitals, Schrodinger wave equation, quantum number, radial and angular wave functions and probability distribution curves, shapes of s, p, d orbitals, Aufbau and Pauli exclusion principles, Hund's multiplicity rule. Electronic configuration of the elements, effective nuclear charge.

#### Unit2 : Periodicity of p- block elements & Chemistry of noble gases

Comparative study of p-block elements: group trends, electronic configuration, atomic and ionic radii, ionization energy, electron affinity, electronegativity, oxidation states, inert pair effect.

Introduction of noble gases, Chemical properties of the noble gases, compounds of noble gases, chemistry of xenon, structure and bonding of xenon compounds.

#### Unit 3 : Chemical Bonding Part I

Introduction of chemical bonding, properties of covalent bond, valence bond theory and its limitations, directional characteristics of covalent bond, hybridization, energetics of hybridisation and shapes of different molecules and ions, Valence shell electron pair repulsion (VSEPR) theory to  $\text{SnCl}_2$ ,  $\text{H}_3\text{O}^+$ ,  $\text{NH}_3$ ,  $\text{H}_2\text{O}$ ,  $\text{TeCl}_4$ ,  $\text{ClF}_3$ ,  $\text{ICl}_2^-$

#### Unit 4 : Chemical Bonding Part II

Linear combination of atomic orbitals, types of molecular orbitals, MO theory for homonuclear molecules and ions ( $\text{H}_2^+$  to  $\text{Ne}_2$ ), molecular orbital theory for heteronuclear molecules (CO, NO) multicentre bonding in electron deficient molecules, bond strength and bond energy, dipole moment, percentage ionic character from dipole moment and electronegativity difference.

### Chemistry-Paper-II : Organic chemistry

#### Unit-I : Mechanism of organic reaction

Homolytic and heterolytic bond breaking, Types of reagents, electrophiles and nucleophiles. Types of organic reactions, energy considerations, reactive intermediates-Carbocations, carbanions, free radicals, carbenes, arynes and nitrenes with examples. Assigning formal charges on intermediates and other ionic species. Method of determination of reaction mechanism (product analysis, intermediates, isotope effect, kinetic and stereo chemical studies)

#### Unit-II : Alkanes & Cycloalkanes

IUPAC nomenclature of branched and unbranched alkanes. The alkyl group. Isomerism in alkanes sources, methods of formation (with special reference of Wurtz reaction, Kolbe reaction, Corey House



reaction and decarboxylation of carboxylic acids.) Physical properties and chemical reactions of alkanes, Mechanism of free radical halogenations of alkanes, orientation, reactivity and selectivity.

Nomenclature, method of formation, chemical reactions, Baeyer strain theory and its limitations. Ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rings.

### **Unit-III : Alkenes & Cycloalkenes**

Nomenclature of alkenes, methods of formation, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halides, regioselectivity in alcohol dehydrations. The Saytzeff rule, Hofmann elimination. Physical properties and relative stabilities of alkenes. Chemical reactions of alkenes—mechanism involved in hydrogenations, Markownikoffs rule, hydroboration –oxidation, oxymercuration-reduction. Epoxidation, ozonolysis, hydration, hydroxylation and oxidation with  $\text{KMnO}_4$ , polymerization of alkenes. Substitution at the allylic and vinylic position of alkenes. Industrial applications of ethylene and propene.

Method of formation, conformation and chemical reactions of cycloalkenes.

### **Unit-IV Dienes & Alkynes**

Nomenclature and classification of dienes, isolated, conjugated and cumulated dienes, Structure of allenes and butadiene, methods of formation, polymerization, chemical reactions, 1,2 and 1,4- additions, Diels-Alder reaction.

Nomenclature, structure and bonding in alkynes, methods of formation. Chemical reactions of alkynes, acidity of alkynes. Mechanism of electrophilic and nucleophilic addition reactions, Hydroboration-oxidation, metal – ammonia reduction, oxidation and polymerisation.

## **Chemistry-Paper-III : Physical chemistry**

### **Unit I : Mathematical Concepts and Computer**

Logarithmic relations, curve sketching, linear graphs and slopes, Differentiations of functions like  $k^x$ ,  $e^x$ ,  $x^n$ ,  $\sin x$ ,  $\log x$ : maxima and minima, Integration of some useful relevant functions: Permutations and combinations, Factorials and Probability, Application of computers in physical chemistry

### **Unit II : Gaseous States 1**

Gaseous laws and their derivations, postulate of kinetic theory of gases and its derivation, deviation from ideal behavior, (with respect to pressure and volume), Vander Waals equation of state

### **Unit-III : Gaseous States 2**

Critical phenomenon : PV isotherm of real gases, continuity of state, the isotherms of Vander Waals equation, relationship between critical constant and Vander- Waals constant, the law of corresponding states, reduced equation of state.

Root mean square, average and most probable velocity. Qualitative discussion of the Maxwell's distribution of molecular velocities, collision number, mean free path and collision diameter. Liquification of gases.

### **Unit-IV : Liquid state**

Intermolecular forces, structure of liquids (a qualitative description). Structural differences between solid, liquid and gases. Liquid crystals: difference between liquid crystal, solid and liquid. Classification, structure and application of liquid crystal

## PRACTICALS

### Inorganic chemistry

Qualitative Analysis: Semi microanalysis; separation and identification of three cations and three anions in the given inorganic mixture, specific tests for some typical combination of acid radicals.

### Physical chemistry

#### Viscosity, Surface Tension

1. To determine the percentage composition of a given mixture (non-interacting systems) by viscosity method.
2. To determine the relative viscosity of given unknown organic liquid by viscometer.
3. To determine the relative surface tension of given unknown organic liquid by stalagmometer.
4. To determine the percentage composition of a given binary mixture by surface tension method.

#### Viva-Voce and Record

#### Suggested Reading:

1. कार्बनिक रसायन, सुरेश आमेटा, एच.के. पाण्डे, एच.एस. शर्मा, पीकी बी. पंजाबी एवं भूपेन्द्र शर्मा हिमांशु पब्लिकेशन्स, उदयपुर
2. अकार्बनिक रसायन, ओझा, भोजक, कोठारी, चतुर्वेदी, एवं वी.के. स्वामी, रमेश बुक डिपो, जयपुर
3. प्रायोगिक रसायन, भार्गव, लवानिया, ओझा, रमेश बुक डिपो, जयपुर
4. भौतिक रसायन, शर्मा, भार्गव, गुप्ता, रमेश बुक डिपो, जयपुर
5. कार्बनिक रसायन, विजयश्री मनोज छंगाणी, अल्का पब्लिकेशन, अजमेर
6. अकार्बनिक रसायन, विजयश्री कोठारी छंगाणी, अल्का पब्लिकेशन, अजमेर
7. प्रायोगिक रसायन, छंगाणी, विजयश्री, खण्डेलवाल, अल्का पब्लिकेशन, अजमेर
8. अकार्बनिक रसायन, जी.के. रस्तोगी, यशपाल सिंह, कॉलेज बुक हाऊस, जयपुर
9. भौतिक रसायन, वी.के. गोयल, आर.एस. पीतलिया, कॉलेज बुक हाऊस, जयपुर
10. प्रायोगिक रसायन, वी.के. गोयल, आर.एस. पीतलिया, कॉलेज बुक हाऊस, जयपुर
11. अकार्बनिक रसायन, लवानिया, गुप्ता, ओझा, बंसल, रमेश बुक डिपो, जयपुर

## Semester-I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 102	Physics-I	CE*	4	15	20	100
	Physics-II				20	
	Physics-III				20	
	Physics Practical				25 Practical	

### Physics-Paper-I : MECHANICS – I

#### UNIT-I Physical Laws and Frames of Reference:

Inertial and non-inertial frames, examples. Transformation of displacement, velocity and acceleration between different frames of reference involving translation. Galilean transformation and invariance of Newton's law. Noninertial frames, fictitious or pseudo forces, Transformation of displacement, velocity and acceleration between rotating co-ordinate systems, centrifugal acceleration, Coriolis force and its applications, Motion relative to earth. Foucault's pendulum

#### UNIT-II Special Theory of Relativity:

Postulates of special theory of relativity. Lorentz transformations, Addition of velocities and acceleration, Time dilation and length contraction. Variation of mass with velocity, Relativistic energy and mass energy relation.

#### UNIT-III Conservation Laws:

Conservative forces. Potential energy. Potential energy in gravitational and electrostatic field. Rectilinear motion under conservation forces. Discussion of potential energy curves and motion of a particle. Conservation of angular momentum about an arbitrary point, Precessional motion of spinning top, Spin precession in constant magnetic field.

#### UNIT-IV Rigid Body Dynamics:

Equation of motion of a rotating body, inertial coefficients, case of  $J$  not parallel to  $w$ , kinetic energy of rotation and idea of principle axis. Calculation of moment of inertia of a disc, spherical shell, hollow and solid spheres and cylindrical objects (cylindrical shell, solid cylinder) about their symmetric axis through centre of mass.

#### Suggested Readings :

1. Berkeley Physics Course Vol. 1, Mechanics (Mc Graw-Hill)
2. The Feynman Lectures on Physics, Vol. 1, R.P. Feynman R.B. Ligton and M.Sands (Narosa Publishing House)
3. P.Khandelwal - Oscillation and Waves, (Himalaya Publishing House, Mumbai)
4. R.S. Gambhir - Mechanics (CBS Publishers and Distributors, New Delhi)
5. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, 2015-16, यांत्रिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली

## Physics-Paper-II : MECHANICS – II

### UNIT-I Centre of mass frame:

Centre of mass, Two particle System, motion of centre of mass and concept of reduced mass, Conservation of energy and linear momentum, Collision of two particles in one and two dimensions (elastic and inelastic), Analysis of collision in centre of mass frame. Slowing down of neutrons in moderator. System with varying mass. Angular momentum and charged particle scattering by a nucleus as an example.

### UNIT-II Motion under central forces:

Motion under central force, Gravitational interaction, Inertial and gravitational mass. General solution undern gravitational interaction. Rutherford scattering. Discussion of trajectories. Cases of elliptical and circular orbits. Kepler's laws,

### UNIT-III Elasticity-I:

Elasticity, Small deformations, Young's modulus, Bulk modulus and Modulus of rigidity for an isotropic solid, Poisson's ratio, relation between elastic constants. Elastic theorems.

### UNIT-IV Elasticity-II:

Theory of bending of beams and Cantilever, Torsion of a cylinder, Bending moments and Shearing forces. Experimental determination of elastic constants by bending of beam.

### Suggested Readings :

1. Berkeley Physics Course Vol. 1, Mechanics (Mc Graw-Hill)
2. The Feynman Lecures on Physics, Vol. 1, R.P. Feynman R.B. Ligton and M.Sands (Narosa Publishing House)
3. P.Khandelwal - Oscillation and Waves, (Himalaya Publishing House, Mumbai)
4. R.S. Gambhir - Mechanics (CBS Publishers and Distributors, New Delhi)
5. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, 2015-16, यांत्रिकी, आर.बी.जे. पब्लिशिंग हाउस, जयपुर, नई दिल्ली

## Physics-Paper-III: ELECTROMAGNETISM – I

### UNIT -I Vector Fields:

Partial derivative. Gradient of a scalar function. Line integral of a vector field. Divergence of a vector field. Divergence in the Cartesian coordinates, Concept of solid angle. Gauss divergence theorem, Gauss law in differential form, Gauss law from inverse square law, physical meaning of divergence of a vector, The Laplacian operator. Possion's and Laplace equations.

### UNIT -II Curl and the Field of Stationary Charge:

Curl of a vector field, curl in Cartesian coordinates, Stoke's theorem, physical meaning of curl. Potential difference and potential function. Potential energy of a system. Application: energy required to build a uniformly charged sphere. Classical radius of the electron, potential and field due to a short dipole, torque and force on a dipole in a Z external field.

### **UNIT -III The Field of Moving Charge:**

Magnetic force, Measurement of charge in motion, Invariance of charge. Electric field measured in different frames of reference, Field of a point charge moving with constant velocity, Force on a moving charge, Interaction between a moving charge and other moving charges.

### **UNIT – IV The Magnetic Field:**

The definition of magnetic field, properties of the magnetic field. Ampere's circuital law with applications. Ampere's Law in the differential form. Vector potential. Poissons equation for vector potential. Field of any current carrying wire and deduction of Bio-Savart law.

#### **Suggested Readings :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, 2015–16, विद्युत चुम्बकत्व, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली

### **Physics Practical: I**

1. To study the variation of power transfer to different loads by a D.C. source and to verify maximum power transfer theorem.
2. To study the variation of charge and current in a RC Circuits with different time constant (using a DC source).
3. To study the behaviour of an RC Circuits with varying resistance and capacitance using AC mains as a Power source and also to determine the impedance and phase relations.
4. To study the rise the decay of current in an LR circuit with a source of constant emf.
5. To study the voltage and current behavior of an LR circuit with an AC power source. Also, determine power factor, impedance and phase relations.
6. To study the characteristics of a semiconductor junction diode and determine forward and reverse resistances.
7. To study the magnetic field along the axis of a current carrying circular coil. Plot the necessary graph and hence find the radius of the circular coil.
8. To determine the specific resistance of a materials and determine difference between two small resistance using Carey Foster's bridge.
9. To convert galvanometer into an ammeter of a given range.
10. To convert galvanometer into a voltmeter of a given range.
11. Any experiment according to theory paper.

#### **Suggested Readings :**

1. प्रभा दशोरा, 2015, प्रथम वर्ष प्रायोगिक भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली

### Semester-I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 103	Mathematics-I	CE*	4	15	20	100
	Mathematics-II				20	
	Mathematics-III				20	
	Mathematics Practical				25 Practical	

#### Mathematics -Paper-I : Discrete Mathematics-I

**Unit 1 :** Sets, Cardinality, Principal of inclusion and exclusion, Mathematical induction. Relations and Functions- Binary relations, Equivalence relations and Partitions, Partial ordered relations and Lattices, Chains and Antichains, Pigeon Hole principle.

**Unit 2:** Boolean Algebras- Lattices and Algebraic structure, Duality, Distributive and Complemented Lattices. Boolean Lattices, Boolean functions and expressions.

**Unit 3 :** Fundamental theorem of arithmetic, divisibility in  $Z$ , Congruences, Chinese Remainder Theorem, Euler's function, primitive roots.

**Unit 4:** Logic and Propositional Calculus, Propositions, Simple and compound, Basic Logical  $\setminus$ ,  $\cup$ -operations, Truth tables, Tautologies and contradictions Propositional Functions. quantifiers.

#### Suggested Reading :

1. V.K.Balakrishnan, Introductory Discrete Mathematics, Prentice-Hall, 1996.
2. J.P. Tremblay and R. Manohar, Discrete Mathematical Structures with Applications to Computer Science, McGraw-Hill Book Co., 1995.
3. C.L. Liu, Elements of Discrete Mathematics, (Second Edition), McGraw Hill, International Edition, 1986.
4. Kenneth H. Roson, Discrete Mathematics and Its Applications, Tata Mc-Graw Hiils, New Delhi, 2003.
5. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड़, जितेन्द्र सैनी, विविक्त गणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
6. जी.सी. गौखरू सैनी, विविक्त गणित, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Mathematics -Paper-II : Differential Calculus

**Unit I:** Series — Infinite series and Convergent series. Tests for convergence of a series — Comparison test, D'Alembert's ratio test, Cauchy's n-th root test, Raabe's test, De-Morgan-Bertrand's test, Cauchy's condensation test, Gauss's test, (Derivation of tests is not required). Alternating series. Absolute convergence. Taylor's theorem. Maclaurin's theorem.

**Unit 2:** Derivative of the length of an arc. Pedal equations. Curvature — Various formulae, Centre of curvature and Chord of curvature.

**Unit 3 :** Partial differentiation. Euler's theorem for homogeneous functions. Chain rule of partial differentiation. Total differentiation, Differentiation of implicit functions.

**Unit 4:** Envelopes and evolutes, Maxima and Minima of functions of two variables. Lagrange's method of undetermined 'multipliers. Asymptotes. Multiple points. Curve tracing of standard curves (Cartesian and Polar curves).

### Suggested Reading:

1. Chandrika Prasad and Gorakh Prasad, A Text Book on Differential Calculus, Pothishala Pvt. Ltd., Allahabad, 1992.
2. Situiti Narayan and P.K. Mittal, Differential Calculus, S. Chand & Co., N. D., 2013.
3. H.S.Dhami, Differential Calculus, Age Int. Ltd., New Delhi, 2012.
4. M. J. Strauss, G. L. Bradley and K. J. Smith, Calculus (3rd Edition), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education), Delhi, 2007.
5. H. Anton, I. Bivens and S. Davis, Calculus (7th Edition), John Wiley and sons (Asia), Pt Ltd., Singapore, 2002.
6. G.B. Thomas, R. L. Finney, M. D. Weir, Calculus and Analytic Geometry, Pearson Education Ltd, 2003.
7. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड़, जितेन्द्र सैनी, अवकलन गणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
8. जी. सी. गौखरू सैनी, अवकलन गणित, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Mathematics -Paper-III : Analytic Geometry I

**Unit I :** Polar equation of conics, Polar equation of tangent, normal and asymptotes,

**Unit 2** chord of contact, auxiliary circle, director circle of conics

**Unit 3:** Sphere, Cone,

**Unit 4 ;** Cylinder

### Suggested Reading :

1. N.Saran and R.S.Gupta, Analytical geometry of Three Dimensions, Pothishala Pvt. Ltd., Allahabad, 1992.
2. P.K. Jain and Khalil Ahmed, A Text Book of Analytical geometry of Three Dimensions, Wiley-Eastern Ltd., 2000.
3. बी.एल. चौरसिया, संजीव त्यागी, अनिल शर्मा, बी. एल. जांगीड़, जितेन्द्र सैनी, एनालिटिक ज्यामिती, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
4. जी.सी. गौखरू सैनी,, एनालिटिक ज्यामिती, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Semester-I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 104	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	

### Botany -Paper-I : MICROBIOLOGY

#### UNIT I: History and development of Microbiology

History and development of Microbiology; contribution of eminent scientists (Antony Van Leeuwenhoek, Louis Pasteur, Robert Koch, Elie Metchnikoff, Paul Ehrlich, Alexander Flemming, Selman A. Waksman, Edward Jenner), spontaneous generation, biogenesis, germ theory of disease, vaccination and discovery of antibiotics, concept of quorum sensing and biofilms, microbial nutrition and scope of microbiology

#### UNIT II: Bacteria

General characteristics, occurrence, classification, ultra structure of Bacterial cell: morphology (structure and shapes), flagella, capsule, nutritional types, chromatin material. Reproduction-vegetative, asexual and sexual (transformation, conjugation and transduction), Comparison of Archaeobacteria and Eubacteria, Gram positive and Gram negative Bacteria, Cyanobacteria: Cell structure, reproduction and life history of *Nostoc*.

#### UNIT III: Viruse and Mycoplasma

Discovery, classification and structural component of Viruses, replication, lytic and lysogenic cycle, Bacteriophages, Structure and reproductive cycle of TMV and Pox virus, Transmission of viruses, Mycoplasma: Occurrence, morphology, reproduction and importance.

#### UNIT IV: Economic importance of bacteria and Viruses

Economic importance of bacteria with special reference to their role in agriculture, industry, waste management and biocontrol. Economic importance of viruses with special reference to vaccine production, role in research and medicine. Probiotics. Basic concept of food spoilage and food preservation.

#### Suggested Readings:

- Agrawal, K. and Sharma, J. 2014. A Text book of Mycology, Microbiology and Plant Pathology. CBH publisher, Jaipur.
- Aneja, K. R. 2003. Experiment in Microbiology, Plant Pathology and Biotechnology. New age international (P) Ltd. Publishers, New Delhi.
- Biswas, S. B. and Biswas, A. 2000. An introduction of Viruses. Vikas publications, New Delhi.
- Dubey, R. C. and Maheshwari, D. K., 2002. A Text Book of Microbiology. S. Chand and Co., New Delhi.
- Kumar, H. D. and Kumar, S. 1998. Modern Concepts of Microbiology. Vikas publishing house Pvt. Ltd., New Delhi.
- Madahar, C. L. 2001. Introduction of Bacteria. Mc Graw Hill Edu. Pvt. Ltd., London.
- Mckane, L. and Judy, K. 1996. Microbiology: Essentials and Applications. McGraw Hill, New York.
- Pandey, S. N. and Trivedi, P. C. 2005. A text book of Fungi, Bacteria and Virus. Vikas Publishing House, New Delhi.
- Pelczar, M.J. Microbiology. 5<sup>th</sup> edition, Tata Mc Graw-Hill Co., New Delhi.
- Prescott, L., Harley, J. and Klein, D. 2005. Microbiology. 6<sup>th</sup> edition, Tata Mc Graw-Hill Co., New Delhi.
- Purohit, S. S. 2002. Microbiology. Agro. Bot. Publication, Jodhpur.
- Sharma, P. D. 2003. Microbiology and Pathology. Rastogi Publication, Meerut.
- Singh, V. and Srivastava, V. 1998. Introduction of Bacteria. Vikas Publication, New Delhi.
- Singh, R. P. 2010. Microbiology. Kalyani Publishers, New Delhi.



## Botany -Paper-II : ALGAE AND LICHENS

### UNIT I: Basics of algae

General characters, classification of algae (Fritsch, Smith), diversity in habitat, range of vegetative thallus organization, cell structure photosynthetic pigments and reserve food material, Reproduction: vegetative, asexual and sexual, evolution of sex in algae, types of life cycles.

### UNIT II: Chlorophyceae and Xanthophyceae

Chlorophyceae: General characteristics, thallus organization, cell structure, reproduction and life cycle of *Chlamydomonas*, *Volvox*, *Chara*.

Xanthophyceae: General characteristics, *Vaucheria*: Thallus organization, cell structure, reproduction and life cycle.

### UNIT III: Phaeophyceae and Rhodophyceae:

Phaeophyceae: General characteristics, *Ectocarpus*: Thallus organisation, cell structure, reproduction and life cycle.

Rhodophyceae: General characteristics, *Polysiphonia*: Thallus organisation, cell structure, reproduction and life cycle.

### UNIT IV: Lichens

Economic importance of algae, isolation and culture of algae. Lichens: General characters, types, structure, multiplication, reproduction and economic importance, its importance as colonizers and indicators of environment.

### Suggested Readings:

1. Bold, H. C. and Wayne, M. J. 1996. Introduction to Algae. 2nd Edition. Prentice Hall, Inc. Englewood Cliffs, New Jersey.
2. Ghemawat, M. S., Kapoor, J. N. and Narayan, H. S. 1976. A Text book of Algae. Ramesh Book Depot., Jaipur.
3. Gilbert, M. S. 1985. Cryptogamic Botany. Vol. I and II second edition. Tata McGra Hill Publishing Co. Ltd., New Delhi.
4. Kumar, H. D. 1998. Introductory Phycology. Affiliated East-West Press Ltd., New York.
5. Lee, R.E. 2008. Phycology. Fourth Edition, Cambridge University Press, USA.
6. Sambamurthy, A.V.S.S. 2006. A Textbook of Algae. I. K. International Pvt. Ltd., New Delhi.
7. Singh V., Pandey, P. C. and Jain, D. K. 2001. A Text book of Botany. Rastogi Publication, Meerut.
8. Thakur, A. and Bassi, S., 2007. Diversity of microbes and Cryptogams. S. Chand and Co., New Delhi.
9. Van den Hoek, C., Mann, D.J. and Jahns, H.M. 1995. Algae: An introduction to Phycology. Cambridge Univ. Press., England.
10. Vashitha, B. R. 2002. Botany for degree students (Algae and Bryophytes). S. Chand and Co. Ltd., New Delhi.

## Botany -Paper-III: Mycology and Plant Pathology

### UNIT I:

**Fungi** : General characteristics, classification (Alexopoulos and Mims's), thallus, cell structure, nutrition, asexual, sexual reproduction, homothallism, heterothallism and heterokaryosis.

**Plant disease:** Biotic and abiotic diseases, important symptoms caused by fungi, bacteria, virus and MLOs (Blight, mildew, Downy mildew and green ear, rust, smut, canker, mosaic, little leaf, gall) etc.

### UNIT II:

General account of class chytridiomycetes, general characteristics, structure and life cycles/disease cycles of members of oomycetes and zygomycetes with special reference to the genera: *Albugo* (white rust disease), *Sclerospora* (Downy mildew/Green ear disease).

### UNIT III:

General characteristics, structure and life history/disease cycle of class Ascomycetes Basidiomycetes and Deuteromycetes with special reference to the genera: *Aspergillus*, *Claviceps* (ergot disease), *Peziza*, *Puccinia* (rust disease) and *Agaricus*.

### UNIT IV:

General characteristics and structure and life cycle of class Deuteromycetes with special references to *Alternaria* (early blight of potato disease), sex degeneration in fungi and economic importance of fungi.

### Suggested Readings:

- Alexopoulos, C.J. and Mims, C.V. 1988. Introductory Mycology. John Wiley and Sons, New York.
- Dubey, H.C. 1989. Fungi. Rastogi publication, Meerut.
- Pandey, S. N. and Trivedi, P. S. 1994. A text book of Fungi, Bacteria and Virus. Vikas Publishing House, New Delhi.
- Sarabhai, R.C. and Saxena, R.C. 1990. A textbook of Botany. Rastogi publication, Meerut.
- Vashishta, B. R. 2001. Botany for degree student's Fungi. S. Chand and company, New Delhi.
- Webster, J. and Weber, R. 2007. Introduction to Fungi. 3<sup>rd</sup> edition, Cambridge University Press, Cambridge.

## PRACTICAL I

1. Introduction of handling and maintenance of laboratory equipments.
2. The components, use and care of compound microscope.
3. Study of the types of bacteria from temporary/permanent slides.
4. Introduction of techniques of slide preparation, stain preparation and staining.
5. Gram's staining of bacteria from curd.
6. Preparation of microbiological culture media (potato dextrose agar, nutrient agar).
7. Isolation of bacteria from soil.
8. Study of vegetative and reproductive structures of: *Nostoc*, *Chlamydomonas*, *Volvox*, *Chara*, *Voucharia*, *Ectocapus*, *Polysiphonia*.
9. Study of different types of lichens.
10. Nuclear staining of filamentous fungi.
11. Preparation of slides and study of following genera through temporary mounts and permanent slides:  
12. *Albugo*, *Aspergillus*, *Claviceps*, *Peziza*, *Puccinia*, *Agaricus*, *Alternaria*.
13. Study of plant diseased specimens caused by fungi, viruses, bacteria and mycoplasma.
14. Measurement of fungal extracellular enzymes.
15. Collection, identification and submission of minimum 3 diseased specimens.

## Semester-I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 105	Zoology-I	CE*	4	15	20	100
	Zoology-II				20	
	Zoology-III				20	
	Zoology Practical				25 Practical	

### Zoology- Paper-I: Life and Diversity of animals - Nonchordata-I

#### Unit I: Principles of Taxonomy:

- 1.1 Nomenclature system, Binomial nomenclature, Trinomial nomenclature, Rules of nomenclature
- 1.2 Concept of five kingdoms, Levels of Organisation, Basis of classification (Number of Cells, Symmetry, Coelom, Embryogeny, Segmentation)

#### Unit II:

##### 2.1 Phylum Protozoa

Salient features and classification of Protozoa up to Class

Type study – Paramecium (Salient Features, Locomotion, Nutrition and Reproduction)

##### 2.2 Phylum Porifera

Salient features and classification of Porifera up to Class

Type study- Sycon Canal system of Sponges Skeletal System

#### Unit III

##### 3.1 Phylum Coelenterata

Salient features and classification of Coelenterata up to Class

Type study – Obelia (External Features, Nutrition, Excretion, Reproduction)

Polymorphism in Coelenterates

#### UNIT IV

##### 4.1 Phylum Platyhelminthes

Salient features and classification of Platyhelminthes up to Class Type study- Taenia (External features and life cycle)

Type study- Fasciola (External Features and Life Cycle)

### Zoology- Paper-II: Life & Diversity of Animals Nonchordata- II

#### Unit I:

##### 1.1 Annelida:

General characters and outline classification up to classes with examples.

Type-study: Morphology, Digestive, Excretory, & Reproductive systems of leech

##### 1.2 Arthropoda:

General characters and outline classification up to classes with examples.

Type Study: Palemon: - Morphology, Digestive, Excretory, & Reproductive systems.

## **Unit II:**

### **2.2 Mollusca:**

General characters and outline classification up to classes with examples.

Type Study: Pila: External characters, Skeletal, Digestive, Respiration, & Reproductive systems.

## **Unit III:**

### **3.1 Echinodermata:**

General characters and outline classification up to classes with examples.

Type Study: Asterias (External characters, Skeletal, Digestive, Respiration, & Reproductive systems)

## **Unit IV:**

### **4.1 Hemichordata:**

General characters and outline classification up to classes with examples.

### **4.2 Salient features of Balanoglossus**

## **Zoology- Paper-III: Cell Biology**

### **Unit – I**

1.1 Introduction to cell: Size, shape, ultra structure and characteristics of prokaryotic and eukaryotic cell

1.2 Endoplasmic reticulum: Types, Ultra structure and functions

1.3 Golgi complex: Ultra structure and functions

### **Unit – II**

2.1 Structure and Function of mitochondria;

2.2 Lysosome: Structure, polymorphism and functions

### **Unit – III**

3.1 Cytoskeleton: Organization and functions of Centrosome, Cilia and Flagella

3.2 Cell- communication: types of Cell Junctions

3.3. Cell proliferation: Events in different phases of cell cycle

### **Unit – IV**

4.1 Ribosome: Structure, Types, Lake's model and functions

4.2 Mitosis (Different Phases and Significance)

4.3 Meiosis (different phases and significance)

## Practical

### Zoology: PRACTICAL Based on paper I, II and III

#### Notes:

1. With reference to whole mounts and museum specimens, in case of unavailability of certain animal types, diagrams, photographs, models and digital techniques etc. should be substituted. Study will include classification (up to orders) with diagnostic characters and comments.
2. Candidates will keep a record of all work done in the practical class.

### Paper-I: Life and Diversity of Animals- Nonchordata – I (Protozoa to Aschelminthes)

#### I. Microscopic Techniques : Organisation and working of optical microscopes: Dissecting and Compound Microscope:

#### II. Study of museum specimens (Classification of animals up to orders)

- I. Protozoa: Euglena, Volvox, Elphidium (Polystomella), Foraminiferous shell, Monocystis, Opalina, Paramoecium, Paramoecium showing Binary fission, Paramecium Conjugation, Balantidium, Nyctotherus, Vorticella
- II. Porifera: Sycon, Leucosolenia, Hyalonema, Euplectella, Spongilla
- III. Coelenterata : Obelia Colony & Medusa, Millepora, Physalia, Vellela, Aurelia, Alcyonium, Gorgonia, Pennatula, Metridium, Stone Corals
- V. Aschelminthes : Ascaris, Drancunculus, Ancylostoma, Wuchereria

#### 2. Study of Permanent Slides

- I. Porifera: Sponge gemmules, Sponge spicules, V.S. Sycon, T.S. Sycon,
- II. Coelenterata: Obelia medusa, Obelia Colony
- III. Platyhelminthes: Miracidium, Sporocyst, Redia and Cercaria, Metacercaria larvae of Fasciola, Hexacanth and Onchosphere larva of Taenia solium, Scolex of Taenia, Mature and gravid proglottids of Taenia solium.

#### 3. External features and Anatomy through audio visual presentation

- I. Cockroach: External features, Mouth parts, Digestive, nervous and reproductive system
- II. Earthworm: External Features, Digestive, nervous and reproductive system

### Paper-II : Life and Diversity of Animals – (Annelida to Hemichordata)

#### 1. Study of museum specimens (Classification of animals up to orders)

- I. Annelida: Nereis, Heteronereis, Aphrodite, Chaetopterus, Arenicola,
- I. Arthropoda: Peripatus, Lepus, Palemon, Eupagurus (hermit Crab), Carcinus (Crab), Scolopendra, Julus, Scorpion, Spider, Limulus, Cysticerca/Locust, Dragonfly, Queen Termite, Cymax, Moth/ Butterfly,
- II. Mollusca : Chiton, Dentalium, Cyprea, Pila, Aplysia, Mytilus, Pincteda, Loligo, Sepia, Octopus, Nautilus
- III. Echinodermata: Antedon, Asterias, Ophiothrix, Echinus, Holothuria
- IV. Hemichordata: Balanoglossus

#### 2. Study of permanent slides

- I. Annelida: Parapodia of Nereis, T.S. of Leech through Buccal Cavity and Crop
- II. Arthropoda: Crustacean Larvae- Nauplius, Zoea, Metazoea, Megalopa, Mysis
- III. Mollusca: Veliger and Glochidium larvae, T.S. of Unio Shell
- IV. Echinodermata: T.S. of arm of star fish
- V. Hemichordata: Balanoglossus through collar and proboscis

### 3. Audiovisual demonstration

- i. Prawn: Appendages, digestive, Nervous and Reproductive system, Statocyst, Hastate Plate
- ii. Pila: Nervous system, Osphradium, Gills, Radula

### Paper III: Cell Biology

1. Study of pictures of ultra structure of prokaryotic cell & eukaryotic cell
2. Demonstration of mitosis cell division in onion root tips by squash method
3. Demonstration of meiosis through audio visual Presentation
4. Study of mitochondria in Buccal Epitheli

### Suggested Reading:

#### Life and Diversity of Animals – Non Chordates-I & II

1. Barnes, R. (1981). Invertebrate zoology. *W. B. Saunders Co*
2. Barrington, E. W. J. (1969). Invertebrate structure and function. *ELBS*
3. Barradaile L.A. & Potts F.A. The Invertebrate
4. Jordan, E. L. & Verma, P. S. Invertebrate Zoology. *S. Chand & Co.*
5. Kotpal, Agrawal & Khetrapal. Modern Text Book of Zoology - Invertebrates,
6. Puranik P.G. & Thakur R.S. Invertebrate Zoology
7. Majupuria T.C. Invertebrate Zoology
8. Dhami & Dhami. Invertebrate Zoology
9. Parker & Hashwell, Textbook of Zoology Vol. I (Invertebrates) A.Z.T.B.S. Publishers
10. R.L. Kotpal, 2007, Phylum Protozoa to Echinodermata (series), Rastogi and Publication, Meerut
11. Vidarthi – Text Book of Zoology, Agrasia Publishers, Agra
12. Marshal & Williams. Text book of zoology.
13. Boolotin & Stiles. College zoology. MacMillan
14. Kohli, Triguranayati, 2007, Invertebrate, R.B.D. Publishing House, Jaipur

### Practical Books

15. A manual of Practical Zoology Invertebrates – P. S. Verma
16. Dr. S.S. Lal Practical Zoology Invertebrates 9th edition, Rastogi Publication Meerut & Distributors, New Delhi

### Suggested Reading : Cell Biology:

1. Alberts et al (2001). Molecular biology of the cell. Garland publications.
2. De Robertis, E. D. P. & De Robertis, E. M. F. (1987). Cell and molecular biology. Lea & Febiger Intl. ed.
3. Powar, C. B. (1986). Cell biology. Himalaya Publ.
4. Burke, J. D. C. (1970). Cell biology. *William & Wilkins Co*
5. Dr. S.P. Singh, Dr. B.S. Tomar., Cell Biology 9th revised edition, Rastogi Publication, Meerut
6. Gupta P.K., Cell and Molecular Biology, Rastogi Publication, Meerut
7. Veer Bala Rastogi. Introduction to Cell Biology, Rastogi Publication, Meerut
8. Verma and Agrawal .Concepts of Cell Biology
9. Narendra Jain, Maya Singh, Shikha Patni, S.K. Singh, 2016, Cell Biology and Genetices, College Book Center, Jaipur
10. K.C. Soni, 2008, Cell Biology and Genetices, College Book Center, Jaipur

## Semester-I

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 101	Introduction to Jainism	FC	4	30	70	100

### Unit I: Jain History

1. Antiquity of Jainism (*Risabha and Mahavira*)
2. Time cycle
3. Jain religious Schools, Orders, and Sects
4. Jain Festival
5. Jain Literature

### Unit II: Jain Metaphysics

6. Concept of Reality
7. Cosmology: Jain Perspective
8. The Nine Truths of Classical Jainism
9. Jain life style
10. Salvation and way of it

### Unit III: Jain Principal

11. Non-violence
12. Non-possession
13. Non-absolutism

### Unit IV: Jain Principal

14. Syadvada
15. Karmavada
16. Jain Meditation

### Suggested Reading

- Acharya Mahaprajna. *Jaina Darsana: Manana Aura Mimamsa*, Adarsh Sahitya Sangh, Churu,
- *Jain Dharma*, By Pt. Kailash Chand Jain
- *Jain Darshan*, By Pt. Kailash Chand Jain
- Shastri Nemichandra, *Tirthankara Mahaveer aura Unki Acharya Parampara*, Vol.-I., Prachya Shramana Bharati, Mujaffar Nagar, U.P.
- *Jain itihasa aura sanskriti*, By Dr Samani Riju Prajna, JVBU, Ladnun
- *Jain Tattva mimansa aura Achara Mimansa*, By Dr Samani Riju Prajna, JVBU, Ladnun

## Semester-II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 201	Assessment for Learning	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To describe the role of assessment in education.
- ❖ To distinguish measurement, assessment and evaluation.
- ❖ To explain different forms of assessment that aid student learning.
- ❖ To use wide range of assessment tools, techniques and construct these appropriately.
- ❖ To evolve realistic, comprehensive and dynamic assessment procedures.
- ❖ To calculate item difficulty and discrimination power of a test item.
- ❖ To prepare a good achievement test on any school subject.
- ❖ To realize the importance of continuous and comprehensive evaluation in the process of students learning.

**Course contents :**

### Unit I - Assessment and Evaluation in Education

- a) Concept of measurement, assessment and evaluation
- b) Types, Need, scope and relevance of evaluation
- c) Principles of assessment and evaluation
- d) Test, scale and measurement
- e) Types of scale : nominal, ordinal, interval and ratio

### Unit II - Tools and Techniques of Assessment and Evaluation

- a) Characteristics of a good measuring instrument
- b) Achievement test: steps of construction of achievement test – Teacher made and Standardized test
- c) Types of test items and its construction : subjective test items and objectives test item
- d) Diagnostic test construction and preparation of remedial materials
- e) Analysis of test items – item difficulty level and item discrimination power

### Unit III - Trends in Assessment

- a) Continuous and Comprehensive Evaluation
- b) Marking system vs Grading system
- c) Semester system (C B C S) Choice Based Credit System
- d) Open book examination and question bank

### Unit IV - Basic Statistics in Evaluation

- a) Measure of Central Tendency:
  - Mean
  - Median
  - Mode
- b) Measure of variability
  - Range
  - Quartile Deviation
  - Average Deviation
  - Standard Deviation



### **Assignment & Practical Works: (Any Two)**

- Prepare an achievement test of any school subject of secondary school.
- Write one term paper with in the content
- Construct a remedial material for school students in any content problems.
- Select, analyses and try- out a sample tool/test with item discrimination power.

### **Suggested Readings:**

1. Agrawal, J.C. (1997), *Essential of Examination System, Evaluation, Test and Measurement*. New Delhi: Vikas Publishing House Pvt. Lt..
2. Banks, S.R. (2005), *Classroom Assessment: Issues and Practices*. Boston: Allyn & Bacon.
3. Blooms, B.S. (1956), *Taxonomy of Educational Objective*. New York: Longman Green and Company.
4. Cooper, D. (2007), *Talk About Assessment, Strategy and Tools to Improve Learning*. Toronto: Thomson Nelson.
5. Earl, L.M. (2006), *Assessment of Learning: Using Classroom Assessment to Maximize Student Learning*. Thousand Oaks, Clifornia: Corwin Press.
6. Gronlund, N.E. (2003), *Assessment of Student Achievement*. Boston: Allyn & Bacon.
7. Kaplan, R.M. & Saccuzzo D.P. (2000), *Psychological Testing, Principles, Application & Issues*. California: Wordsworth.
8. Linn, R.L. & Gronlund, N.E. (2000), *Measurement and Assessment in Teaching*. London: Merrill Prentice Hall.
9. Noll, N.H. S cannell, D.P. & Craig, R.C. (1979), *Introduction to Educational Measurement*. Boston: Houghton Mifflin.
10. Macmillan, J.H. (1997), *Classroom Assessment, Principles and Practice for Effective Instruction*. Boston: Allyn and Bacon.
11. Hopkins, K.D. (1998). *Educational and Psychological Measurement and Evolution*. Boston: Allyn and Bacon.
12. Chohen, R.J., Swerdlik, M.E., & Phillips, S.M. (1996), *Psychological testing and Assessment. An Introduction to the Test and Measurement*. California: Mayfield Publishing Co.
13. National Council of Educational Research and Training (2005), *National Curriculum Framework*, New Delhi: NCERT
14. National Council of Educational Research and Training (2006). *Position paper: Examination Reform*. New Delhi: NCERT
15. National Council of Educational Research and Training (2008). *Source Book on Assessment for class I-V: Social Science*. New Delhi: NCERT

## Semester-II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 202	Learning and Teaching	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To acquire knowledge and understanding of learning and Teaching.
- ❖ To understand the theories of learning.
- ❖ To develop the skill of active engagement of students in teaching learning activity.
- ❖ To investigate differences and connections between learning in school and learning outside school.
- ❖ To inculcate the knowledge of teaching and its process.
- ❖ To understand learners, learning process and school.

**Course Contents:**

### Unit -I Basics of Learning

- a) Learning : concept, Nature and characteristics.
- b) Factors Affecting Learning.
- c) Laws and Types of Learning.
- d) cognitive Learning- Peaget, Bruner.
- e) Transfer of Learning

### Unit-II : Theories of Learning and their Educational Implications.

- a) Trial and Error theory.
- b) Classical conditioning theory.
- c) Operant conditioning theory.
- d) Insight theory of Learning.
- e) Social Learning theory (Bandura)

### Unit-III Concept variables and models of Teaching

- a) Teaching : concept, Nature and characteristics.
- b) Variables of Teaching and their functions.
- c) Factors Affecting Teaching and Teaching process.
- d) Relationship between teaching and Learning.
- e) Teaching model- concept, functions, sources and elements.

### Unit-IV Theories and Application of Teaching

- a) Levels of Teaching - memory, understanding and Reflective.
- b) Teaching theories-concept, need, types and utility.
- c) Analyzing Teaching in Diverse classrooms.
- d) Teaching as a complex activity.
- e) Teaching as a profession.

### Assignment & Practical Works:

- One term paper on any topic related with above Unit.
- One Practical on any topic related with above Unit.

### Suggested Readings:

1. Baron, R.A., and Byrne D., (2002), Social Psychology, (10th Ed.), Prentice Hall of India Private Limited, New Delhi.
2. Beckett Chris (2004) Human Growth & Development, Sage Publications.
3. Browne, J.D. (1970), Development of Educational Technology in college of Education, councils in Education Press.
4. Cooper, I.M. (1960), Classroom Teaching Skills, D.C. Heathco, Toronto, 1960.
5. Coulson, J. E. (1962), Programme Learning and Computer Based Instruction, Wiley, New York.
6. Domain Book - I (1956), McKay, New York.
7. Gross, Richard (2003), Key studies in Psychology (IV Ed.), Hedder & Stoughton.
8. Khanna, S.D. and etal. (1984), Technology of Teaching and Teacher Behaviour, Vth edition, Doaba house, Delhi.
9. Kulkarni, S.S. (1986), Introduction to Educational Technology, Oxford and IBH publishing co.
10. Kumar, K.L. (1997), Educational Technology, New Age International, Pub., New Delhi.
11. Lindzey, G. & Aronson, E. (Eds.) (1969). Handbook of Social psychology, Addison Wesley, New York.
12. Mohanthy Jagannath; Educational Technology, Deep and Deep Pub., New Delhi.
13. Rai and Rai, Effective Communication, Himalaya Pub., Delhi 2001.
14. Rajaraman, V, Computer programming in pascal, Prentice Hall of India, New Delhi.
15. Rajaraman, V; Computer programming in Fortran, Prentice Hall of India, New Delhi.
16. Rao, Usha, Educational Technology, Himalaya Pub. House, Bombay, 1994.
17. Sarafino Edward P., (1994), Health Psychology, Biopsychosocial Interactions
18. Saraswathi, T. (2003) –Cross-cultural Perspective in Human Development, Sage Publication
19. गुप्ता, एस.पी. गुप्ता अलका, (2007), उच्चतर शिक्षा मनोविज्ञान, शारदा पुस्तक भवन, इलाहाबाद
20. पाठक, पी.डी., (2007), शिक्षा मनोविज्ञान, विनोद पुस्तक मंदिर, आगरा
21. मंगल, एस.के., (2008), शिक्षा मनोविज्ञान, प्रिटिर्स हॉल ऑफ इण्डिया प्राइवेट, नई दिल्ली.
22. वर्मा, प्रीति, श्रीवास्तव डी.एन., (2008), आधुनिक सामान्य मनोविज्ञान, अग्रवाल पब्लिकेशन, आगरा.
23. यादव, सियाराम, (2008), अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, शारदा पुस्तक भवन, इलाहाबाद
24. शर्मा गणपतराम, व्यास हरिश्चन्द्र, (2007), अधिगम-शिक्षण और मनोसामाजिक आधार, राजस्थान ग्रन्थ अकादमी, जयपुर.
25. शर्मा, जे.डी. (2008), मनोविज्ञान की पद्धतियां एवं सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
26. सुरेश भटनागर, (2008), शिक्षा मनोविज्ञान तथा शिक्षण शास्त्र, विनोद पुस्तक मन्दिर, आगरा,

## Semester-II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 201</b>	Chemistry-I	Any Three CC	4	15	20	100
	Chemistry-II				20	
	Chemistry-III				20	
	Chemistry Practical				25 Practical	

### Chemistry-Paper-I : Inorganic chemistry

#### Unit-I : Ionic Solids

Ionic structures (AB and AB<sub>2</sub> type), packing of ions, Radius ratio and coordination number, calculation of limiting radius ratio for tetrahedral, octahedral and cubic crystal structure, limitations of radius ratio rules, Polarizing power and polarisability of ions, Fajans rule, lattice energy and born lande equation, Born Haber cycle and its applications, solvation energy and solubility of ionic solids.

#### Unit-II : Metallic Bond & Weak interactions

Introduction of metallic bond, properties of metals, theories of Metallic bond- old electron free theory, valance bond theory, limitations of valence bond theory, molecular orbital or band theory, lattice defects in ionic solids, semiconductors.

Hydrogen bonding and Vander Waals forces.

#### Unit-III : s-Block Elements

Comparative study, diagonal relationships, salient features of hydrides, solvation and complexation tendencies including their function in biosystems and introduction to alkyls and aryls.

#### Unit-IV : Some important compounds of p- block elements

Hydrides of boron, diborane and higher boranes, borazines, borohydrides, fullerenes, carbides, fluorocarbons, silicates (structural principle), tetrasulphur tetranitride, basic properties of halogens, interhalogens and polyhalides.

### Chemistry-Paper-II : Organic chemistry

#### Unit I : Stereochemistry of organic compounds

Concept of isomerism, type of isomerism. Optical isomerism; elements of symmetry, molecular chirality- allenes and biphenyl, Enantiomers, stereogenic centre, optical activity, properties of enantiomers. Chiral and achiral molecules with two stereogenic centres, distereomers Threo, and erythro diastereomers, meso compounds. Resolution of enantiomers, inversion, retention and racemisation. Relative and absolute configuration, sequence rule, D&L and R&S system of nomenclature.

#### Unit-II : Geometrical, Conformational isomerism & Arenes

Determination of configuration of geometric isomers, E&Z- system of nomenclature, geometric isomerism in oximes and in cyclic compounds.

Conformational analysis of ethane and n-butane. Newman projection and Sawhorse formulae. Fischer and flying wedge formula. Difference between configuration and conformation  
Nomenclature of benzene derivatives. The aryl group, aromatic nucleus and side chain. Structure of benzene, molecular formula and Kekule structure. Stability and carbon-carbon bond length of benzene, resonance structure, MO picture.

### **Unit-III : Aromaticity & Aromatic electrophilic substitution**

The Huckel's rule, aromatic ions.

General pattern of the mechanism, role of sigma and pi complexes. Mechanism of nitration, halogenations, sulphonation, mercuration and Friedel Craft reaction with energy profile diagrams. Activating and deactivating substituents, orientation and ortho/para ratio. Side chain reactions of benzene derivatives. Birch reduction.

### **Unit-IV : Alkyl and aryl halides & Poly halogen compounds**

Nomenclature and classes of alkyl halides, methods of formation, chemical reactions. Mechanism of nucleophilic substitution, reaction of alkyl halides,  $SN^1$  and  $SN^2$  reaction with energy profile diagram.

Chloroform, carbon tetra chloride. Methods of formation of aryl halides, nuclear and side chain reaction. The addition-elimination and the elimination addition mechanism of nucleophilic aromatic substitution reaction. Relative reactivities of alkyl halides v/s allyl, vinyl and aryl halides. Synthesis and uses of DDT and BHC.

## **Chemistry-Paper-III : Physical chemistry**

### **Unit I :Solid state**

Definition of space lattice, Unit cell. Law of crystallography (i)law of constancy of interfacial angles (ii) law of rationality of indices (iii)law of symmetry. Symmetry elements in crystals. X ray diffraction by crystals. Derivation of Braggs equation, Determination of crystal structure of NaCl, KCl and CsCl ( Laue's method and powder method).

### **Unit II : Colloidal state**

Definition of colloids, classification of colloids. Solids in liquids (sols): properties- kinetics, optical and electrical. Stability of colloids, protective action, Hardy Schulze law. Gold number. Liquids in solids (gels): classification, preparation and properties, inhibition, general application of collides. Liquid in liquid (emulsions): types of emulsions, preparation, Emulsifiers.

### **Unit-III : Chemical Kinetics**

Chemical kinetics and its scope, rate of a reaction, factors influencing the rate of a reaction, Concentration dependence of rates, mathematical characteristics of simple chemical reaction- zero order, first order, second order, pseudo order, half life and mean life.

Determinations of the order of reaction- differential method, method of integration, method of half-life period and isolation method. Theories of chemical kinetics, Effect of temperature on the rate reaction, Arrhenius concept of activation energy. Simple collision theory based on hard sphere model, transition state theory (equilibrium hypothesis). Expression for the rate constant based on equilibrium constant and thermodynamic aspects.

#### Unit-IV : Solutions, Dilute solutions & Colligative properties

ideal and non ideal solutions, methods of expressing concentrations of solutions, activity and activity coefficient.

Raoult's law, relative lowering of vapour pressure, molecular weight determination. Osmosis law of osmotic pressure and its measurement, determination of molecular weight from osmotic pressure, Elevation of boiling point and depression of freezing point. Thermodynamic derivation of relation between molecular weight and elevation of boiling point and depression in freezing point. Experimental methods for determining various colligative properties. Abnormal molar mass degree of dissociation and association of solutes.

#### Practical's

##### Inorganic chemistry:

##### Quantitative analysis: Volumetric analysis

- Determination of acetic acid in commercial vinegar using NaOH.
- Determination of alkali content ant acid tablet using HCl.
- Estimation of calcium content in chalk as calcium oxalate by permanganometry.
- Estimation of hardness of water by EDTA.
- Estimation of ferrous and ferric by dichromate method.
- Estimation of copper using thiosulphate.

##### Organic chemistry:

##### (A) Laboratory techniques

- Determination of m. p. of naphthalene, benzoic acid, urea etc. OR
- Determination of b. p. of ethanol, methanol, cyclohexane, etc

##### (B) Qualitative analysis

- Detection of extra elements (N, S. and halogens) and functional groups e.g. (phenolic, alcoholic, carboxylic, carbonyl, ester, carbohydrate, amine, amide and nitro) in simple organic compounds

#### Viva voce and record

#### Suggested Reading:

- कार्बनिक रसायन, सुरेश आमेटा, एच.के. पाण्डे, एच.एस. शर्मा, हिमांशु पब्लिकेशन्स, उदयपुर
- अकार्बनिक रसायन, ओझा, भोजक, कोठारी, चतुर्वेदी, रमेश बुक डिपो, जयपुर
- प्रायोगिक रसायन, भार्गव, लवानिया, ओझा, रमेश बुक डिपो, जयपुर
- भौतिक रसायन, शर्मा, भार्गव, गुप्ता, रमेश बुक डिपो, जयपुर
- कार्बनिक रसायन, विजयश्री मनोज छंगाणी, अल्का पब्लिकेशन, अजमेर
- अकार्बनिक रसायन, विजयश्री कोठारी छंगाणी, अल्का पब्लिकेशन, अजमेर
- प्रायोगिक रसायन, छंगाणी, विजयश्री, खण्डेलवाल, अल्का पब्लिकेशन, अजमेर
- भौतिक रसायन, वी.के. गोयल, आर.एस. पीतलिया, कॉलेज बुक हाउस, जयपुर
- अकार्बनिक रसायन, जी.के. रस्तोगी, यशपाल सिंह, कॉलेज बुक हाउस, जयपुर
- प्रायोगिक रसायन, वी.के. गोयल, आर.एस. पीतलिया, कॉलेज बुक हाउस, जयपुर

## Semester-II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 202	Physics-I	CE*	4	15	20	100
	Physics-II				20	
	Physics-III				20	
	Physics Practical				25 Practical	

### Physics-Paper-I : ELECTROMAGNETISM – II

#### UNIT – I Magnetic Fields in Matter:

Electric current due to orbital electron, the field of current loop, Bohr magneton. Orbital gyro magnetic ratio. Electron spin and magnetic moment. Magnetic susceptibility, magnetic field caused by magnetized matter. Magnetization current. Free current and the field H.

#### UNIT –II Electric Field in Matter:

The moment of a charge distribution. Atomic and molecular dipoles. Atomic polarizability. Permanent dipole moment, dielectrics. The Capacitor filled with a dielectric. The potential and field due to a polarized sphere.

#### UNIT –III Dielectric:

Dielectric. Dielectric sphere placed in a uniform field. The field of charge in dielectric medium and Gauss's law. The connection between electric susceptibility and atomic polarizability. Polarization in changing field. The bound charge (polarization) current.

#### UNIT -IV Transient behavior and Maxwell's Equations:

Transient behaviour of an R-C circuit. Electromagnetic Induction and Maxwell's Equations, Faraday's law in differential form. Mutual inductance, Self inductance Transient behaviour of an L-R circuit, the displacement current, Maxwell's equations in differential and integral forms.

#### Suggested Readings :

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना,, विद्युत चुम्बकत्व, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

### Physics-Paper-II: OSCILLATIONS AND WAVES –I

#### UNIT -I Oscillations:

Oscillations in an arbitrary potential well, Simple harmonic motion, examples-spring mass system, mass on a spring, torsional oscillator, LC circuit, energy of the oscillator,

#### UNIT -II Damped Oscillator:

Damping of oscillator, viscous and solid friction damping. Power dissipation. Anharmonic oscillator, simple pendulum as an example.

**UNIT -III Driven Oscillator:**

Driven harmonic oscillator with viscous damping. Frequency response, phase relations. Quality factor, Resonance. Introduction of  $j$  operator concept in Electrical oscillations, series and parallel LCR circuit. Electro-mechanical system-Ballistic Galvanometer Effect of damping.

**UNIT – IV Coupled Oscillator:**

Equation of motion of two coupled S.H Oscillators. Normal modes, motion in mixed modes. Transient behaviour. Effect of coupling in mechanical systems. Electrically coupled circuits, frequency response. Reflected impedance. Effect of coupling and resistive load.

**Suggested Readings :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, दोलन तथा तरंग, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

**Physics-Paper-III: OSCILLATIONS AND WAVES –II****UNIT -I Lattice dynamics:**

Dynamics of a number of oscillators with near-neighbour interactions. Equation of motion for one dimensional mono-atomic and diatomic lattice, acoustic and optical modes, dispersion relations. Concept of group and phase velocities.

**UNIT – II Electrical Transmission Line:**

Electrical transmission line, propagation velocity, losses, characteristic impedance, standing waves, effect of termination.

**UNIT –III Wave Motion:**

Wave motion – Elastic waves in a solid rod. Pressure waves in a gas column. Transverse waves in a string, waves in three dimensions, spherical waves, Fourier series and Fourier analysis.

**UNIT – IV Electromagnetic Wave:**

Plane electromagnetic (EM) wave. Energy and momentum of EM wave. Radiation pressure. Radiation resistance of free space. EM waves in dispersive media (normal case). Spectrum of electromagnetic radiations.

**Suggested Readings :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, दोलन तथा तरंग, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16



## Physics Practical : II

1. To study the random decay and determine the decay constant using the statistical board.
2. Using compound pendulum study the variation of time period with amplitude in large angle oscillations.
3. To Study damping using Compound pendulum study the damping.
4. To study the excitation of normal modes and measure frequency splitting using two coupled oscillator.
5. To study the frequency of energy transfer as a function of coupling strength using coupled oscillators.
6. (a) To study the viscous fluid damping of a compound pendulum and  
Determining damping coefficient and Q of the oscillator.  
(b) To study the electromagnetic damping of a compound pendulum and to find the variation of damping coefficient with the assistance of the conducting lamina.
7. To find J by Callender and Barne's Method.
8. To determine Young's modulus by bending of beam.
9. To determine  $Y$ ,  $\sigma$  and  $\eta$  Searle's method.
10. To measure Curie temperature of Monel alloy.
11. To determine modulus of rigidity of a wire using Maxwell's needle.
12. Study of normal modes of a Coupled pendulum system. Study of oscillations in mixed modes and find the period of energy exchange between the two oscillators.
13. To study Variation of surface tension with temperature using Jaegger's method.
14. Any experiment according to theory paper.

### Suggested Readings :

1. प्रभा दशोरा, प्रायोगिक भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015

## Semester-II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 203</b>	Mathematics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Mathematics-II				<b>20</b>	
	Mathematics-III				<b>20</b>	
	Mathematics Practical				<b>25</b> Practical	

### Mathematics-Paper-I : Discrete Mathematics II

#### Unit 1

Discrete numeric unctions and Generating functions. Recurrence relations and Recursive Algorithms — Linear Recurrence relations with constant coefficients.

#### Unit 2

Homogeneous solutions. Particular solution. Total solution. Solution by the method of generating functions.

**Unit 3: Graphs** — Basic terminology, Multigraphs, Weighted graphs, Paths and circuits, Shortest paths, Introduction to Eulerian and Hamiltonian Graphs. Travelling SalesMan problem. Union, Join, Product and composition of graphs. Planar graphs and Geometric dual graphs.

**Unit 4: Trees** — Properties, Spanning tree, Binary and Rooted tree. Digraphs — Simple digraph, Asymmetric digraphs, Symmetric digraphs and complete digraphs. Digraph and Binary relations. Matrix representation of graphs and digraphs.

#### Suggested Reading :

1. V.K.Balakrishnan, Introductory Discrete Mathematics, Prentice-Hall, 1996.
2. J.P. Tremblay and R. Manohar, Discrete Mathematical Structures with Applications to Computer Science, McGraw-Hill Book Co., 1995.
3. C.L. Liu, Elements of Discrete Mathematics, (Second Edition), McGraw Hill, International Edition, 1986.
4. Kenneth H. Roson, Discrete Mathematics and Its Applications, Tata Mc-Graw Hiils, New Delhi, 2003.
5. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड़, जितेन्द्र सैनी, विविक्त गणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
6. जी.सी. गौखरू सैनी, विविक्त गणित, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Mathematics-Paper-II : Integral Calculus

Unit 1 Beta and Gamma functions, Reduction formulae (simple standard formulae),

Unit 2 Double integrals in Cartesian and Polar Coordinates, Change of order of integration. Triple integrals. Dirichlet's integral.

Unit 3 Areas, Rectification,

Unit 4 Volumes and Surfaces of solids of revolution.

### Suggested Reading :

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी,, समाकलन गणित, आर. बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सैनी, समाकलन गणित, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Mathematics-Paper-III : Analytic Geometry II

Unit 1 ; Central Conicoids — Ellipsoid, Hyperboloid of one and two sheets,

Unit 2 ; tangent lines and tangent planes, Direct sphere, Normals.

Unit 3 : Generating lines of hyperboloid of one sheet and its properties.

Unit 4 ; Reduction of a general equation of second degree in three-dimensions to standard forms.

### Suggested Reading:

1. N.Saran and R.S.Gupta, Analytical geometry of Three Dimenssions, Pothishala Pvt. Ltd., Allahabad, 1992.
2. P.K. Jain and Khalil Ahmed, A Text Book of Analytical geometry of Three Dimenssions, Wiley-Eastern Ltd., 2000.
3. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी, एनालिटिक ज्यामिती, आर. बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
4. जी.सी. गौखरू सैनी,, एनालिटिक ज्यामिती, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Semester-II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 204	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	

### Botany-Paper-I : CELL BIOLOGY

#### UNIT I: Structure of Cell, Cell wall and Plasma membrane

History of cell and cell theory, microscopy, elementary idea on micrometry and cell fractionation, characteristics of prokaryotic and eukaryotic cell, chemistry, structure and function of cell wall and plasma membrane.

#### UNIT II: Structure of Cell Organelles

Ultra structure and function of Mitochondria, Chloroplast, Endoplasmic reticulum, Golgi complex, Peroxisome, Glyoxysome, Ribosome, Vacuoles.

#### UNIT III: Structure of Nucleus and chromosome

Detailed structure and function of Nucleus, nuclear envelope, nuclear pore complex and nucleolus. Chromatin Structure, morphology and organization of chromosomes. Special types of chromosomes - Sex chromosomes, polytene and lampbrush chromosomes.

#### UNIT IV: Cell cycle and Cell division

Cell cycle and Cell division: Amitosis, Mitosis: different stages, mitotic spindle and chromosome movement in detail, Meiosis I and II: different stages and its significance, cytokinesis, General account of chiasmata formation, crossing over, linkage and synaptonemal complex.

#### Suggested Readings:

- Alberts, B., Johnson, A., Lewis, J., Roff, M., Roberts, K. and Walter, P., 2008. Molecular Biology of the Cell. Garland Publishers, New York.
- De Robertis, E.D.P. and De Robertis, E.M.F. 2006. Cell and Molecular Biology. 8<sup>th</sup> edition. Lippincott Williams and Wilkins, Philadelphia.
- Gupta, P.K. 2009. Cytology, Genetics, Evolution and Plant breeding, Rastogi publication, Meerut.
- Karp, G. 2010. Cell and Molecular Biology: Concepts and Experiments. 6<sup>th</sup> Edition. John Wiley and Sons. Inc. New Jersey, USA.
- Lodish, H., Berk, A., Matsudaira, P., Kaiser, C. A., Krieger, M., Scott, P.M., Zipursky, L. and Darnell, J. 2008. Molecular Cell Biology. W. H. Freeman and company, Macmillan publishers, London.
- Roy, S.C. and De, K.K. 1999. Cell biology. New central Book Agency (P) Ltd., Calcutta.
- Verma, P.S. and Agrawal, V.K. 2012. Cell Biology, Genetics, Molecular Biology, Evolution and Ecology. S. Chand and Co. Ltd., New Delhi.

## Botany-Paper-II : GENETICS AND PLANT BREEDING

### UNIT I: Genetic inheritance

Mendel's laws of inheritance- Dominancy, law of segregation, law of independent assortment, deviations from Mendel's laws; interaction of genes, incomplete dominance, codominance, lethal alleles, epistasis, pleiotropy, polygenic inheritance (grain color in wheat, corolla length in *Nicotiana tabacum*) and multiple allelism: ABO blood groups in human.

### UNIT II: Chromosomal inheritance

Linkage, crossing over and chromosome mapping- interrelationships and importance. Linkage maps, chromosome theory of inheritance, sex determination and sex linked inheritance. Chromosomal aberrations: deletion, duplication, inversion, translocation, aneuploidy and polyploidy. Extra nuclear genome: mitochondrial and chloroplast.

### UNIT III: Genes and Mutations

Concept of gene: *Neurospora* genetics- one gene one enzyme hypothesis. Brief account on fine structure of gene in eukaryotes and prokaryotes. Mutations- types of mutations, point mutation-transition, transversion and frame shift mutation. Physical and chemical mutagens.

Cytoplasmic inheritance: Maternal influence, shell coiling in snail, Kappa particles in *Paramecium*.

### UNIT IV: Plant breeding

Introduction and objectives of plant breeding , general methods of breeding in-self-pollinated, cross pollinated and vegetative propagated crop plants : Introduction and acclimatization, selections and hybridizations, hybrid vigour and inbreeding depression, green revolution, Role of mutation and polyploidy in plant breeding, national and international agriculture research institute, famous plant breeders and their contribution (Indian and international), Plant breeding work done on wheat and rice in India.

### Suggested Readings:

- Brooker, R. J. 1999. Genetics: Analysis and Principles. Addison-Wesley, Boston.
- Choudhary, H. K. 1989. Elementary Principle of Plant Breeding. Oxford and IBM Publishing Co., New Delhi.
- De Robertis, E. D. P. and De Robertis, E. M. F. 2006. Cell and Molecular Biology. 8<sup>th</sup> edition. Lippincott Williams and Wilkins, Philadelphia.
- Dnyansagar, V. R. 1986. Cytology and Genetics, Tata Mc Graw - Hill Pub Co. Ltd., New Delhi.
- Gardner, E. J., Simmons, M. J. and Snustad, D. P. 2008. Principles of Genetics. 8<sup>th</sup> Edition, Wiley India.
- Gupta, P. K. 2009. Cytology, Genetics, Evolution and Plant Breeding, Rastogi Publication, Meerut.
- Miglani, G. S. 2000. Advanced genetics. Narosa Publishing House, New Delhi.
- Shukla, R. S. and Chandel, P. S. 2000. Cyto genetics, Evolution and Plant Breeding, S. Chand and Co. Ltd., New Delhi.
- Singh, R. B. 1999. Text Book of Plant Breeding. Kalyani publishers, Ludhiana.
- Snustad, D. P., Simmons, M. J. 2011. Principles of Genetics. V Edition. John Wiley and Sons Inc. New Jersey USA.

## Botany-Paper-III : BRYOPHYTA

### UNIT I:

Bryophytes: General characteristic, origin, evolution, classification (Eichler and Proskauer), habitat range, thallus structure, reproduction, alternation of generation and economic importance.

### UNIT II:

Habitat, structure, reproduction and life cycle of the following: Hepaticopsida; *Riccia* and *Marchantia*.

### UNIT III:

Habitat, structure, reproduction and life cycle of the following: Anthoceropsida; *Anthoceros*. Phylogenetic relationship with hepaticopsida and Bryopsida.

### UNIT IV:

*Bryopsida*: Habitat, structure, reproduction and life cycle of *Funaria*. Sterilisation of sporogenous tissues in Bryophytes.

### Suggested Readings:

- Chopra, R.N. and Kumar, P.K. 1988. Biology of Bryophytes. Wiley Eastern Ltd. New Delhi.
- Pandey, S.N., Mishra, S.P. and Trivedi, P.S. 1981. A text book of Botany vol. II, Vikas publishing House Pvt. Ltd, New Delhi.
- Parihar, N.S. 1965. An Introduction to Bryophyta. Central Book Depot, Allhabad.
- Puri, P. 1985. Bryophytes. Atmaram and Sons, Delhi.
- Smith, G.M. 1938. Cryptogamic Botany Vol. II. Bryophytes and Pteridophytes. Mc Graw Hill Book Company, London.
- Sporne, K.R. 1967. The Morphology of Bryophytes. Hutchinson University Library, London.
- Tyagi, A. and Saxena, M. 2014. Algae, Lichens and Bryophyta, CBH, Jaipur
- Vashishta, B. R., Sinha, A. K. and Kumar, A. 2011. Botany for degree students, Bryophyta. S. Chand and Co. New Delhi.
- Watson E.V. 1971. The structure and life of Bryophytes. Hutchinson University Library, London.

## BOTANY PRACTICAL II

1. Demonstration of the phenomenon of protoplasmic streaming in leaf.
2. To study chloroplast, chromoplast and leucoplast in plant material.
3. Study of Mitosis in root tip and Meiosis in flower bud from temporary and permanent slides.
4. Study the prokaryotic, eukaryotic cell and cell organelles by electron micro photographs.
5. To study the effect of organic solvent on membrane permeability.
6. Genetic problems on monohybrid, dihybrid cross, test cross and back cross.
7. Karyotype preparation.
8. Identification of chromosomes on the basis of their size and centomere position.
9. Pedigree analysis for dormant and recessive autosomal and sex linked traits.
10. Study of Barr body in epithelial cells of females.
11. Study of habit, habitat, vegetative thallus organization and structure, reproductive structures of the following taxa through temporary mounts and permanent slides:
12. *Riccia*, *Marchantia*, *Anthocero* and *Funaria*.

## Semester-II

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 205	Zoology-I	CE*	4	15	20	100
	Zoology-II				20	
	Zoology-III				20	
	Zoology Practical				25 Practical	

### Zoology-Paper-I : Developmental Biology

#### UNIT-I

- 1.1 History of embryology and Types
- 1.2 Gametogenesis: Spermatogenesis, Structure of sperm, Oogenesis, Structure of egg, Types of eggs

#### UNIT-II

- 2.1 Fertilization-Type of Fertilization, Process of Fertilization
- 2.2 Parthenogenesis
- 2.3 Planes and Patterns of cleavage, Blastulation, Gastrulation,

#### UNIT-III

- 3.1 Concept of embryonic induction; Primary organizers differentiation and competence.
- 3.2 Extra embryonic membranes, Type and physiology of Placenta
- 3.3 Structure of hen's egg, Development of chick up to 96 hrs stage.

#### UNIT-IV

- 4.1 Stem cells: Sources, types and their use in human welfare; Cloning
- 4.2 Elementary Idea of Teratogenesis
- 4.3 Ageing and Senescence, IVF, Embryo transfer-Test tube babies, GIFT, ZIFT and Bioethics

### Zoology-Paper-II : Genetics

#### Unit – I

- 1.1 Mendelism: Brief history of Genetics and Mendel's work, Mendelian Laws, their significance and current status
- 1.2 Genetic Interactions- Epistasis-dominant and recessive, codominance, incomplete dominance, complementary, supplementary, inhibitory, duplicate and Lethal genes
- 1.3 Multiple Allelic interactions: Inheritance of blood group and Rh factor

#### Unit – II

- 2.1 Linkage and crossing over: Basic concept, types and theories, elementary idea of Chromosome mapping
- 2.2 Sex determination – ZZ, XY, XO, ZW pattern, Sex determination in Human,

#### Unit – III

- 3.1 Chromosomes Number, size, shape, type structure, Lampbrush chromosomes,
- 3.2 Cytoplasm inheritance: Kappa particles in Paramecium, Chloroplast Genetics, Cytoplasmic Inheritance in chlamydomonas

#### Unit – IV

- 4.1 Disorders related to chromosomal number- Turner syndrome, Klinefelter's syndrome and Down's syndrome
- 4.2 Elementary idea of Thalassemia, Sickle Cell Anaemia, Diabetes mellitus

## **Zoology-Paper-III : Molecular Biology**

### **Unit – I**

- 1.1 Interphase Nucleus: Organization, Ultrastructure and functions of Nucleus, Pore Complex, Nuclear Membrane
- 1.2 Nucleolus: Structure and functions
- 1.3 Chromosome: Ultrastructure and types, Chromosomal Organisation: Nucleosome Model, Solenoid Model,
- 1.4 Giant chromosomes: Lamp-brush and Polytene chromosome

### **Unit - II**

- 2.1 DNA: Structure of DNA, Polymorphism of DNA (A, B, C, D and Z)
- 2.2 RNA: Structure of RNA, types of RNA, RNA as a genetic material

### **Unit - III**

- 3.1 DNA replication: Meselson and Stahl experiments, Mechanism of replication –origin of replication, concept of replication, directionality of replication, Role of enzymes in replication
- 3.2 Bacterial DNA Structure
- 3.3 Replication in Bacterial DNA

### **Unit IV**

- 4.1 Genetic code: Characteristics of genetic code, Wobble hypothesis
- 4.2 Protein synthesis: Central Dogma; Transcription Mechanism in Prokaryotes, Transcription in Eukaryotes, Enzymes and factors of transcription;
- 4.3 Protein Synthesis: Elementary idea of the mechanism of translation

## **Zoology --Practical Based on paper I, II and III**

### **Paper-I: Developmental Biology**

#### **1. Study of development of chick with the help of**

- a. Whole mounts: 18 Hours (Primitive streak stage), 21 hrs, 24 hours, 33 hrs, 48 hours 72 hours and 96 hours.
- b. Study of the embryo at various stages of incubation in vivo by making a window in egg shell.

### **Paper-II: Genetics**

1. Life cycle of *Drosophila*; Identification of male and female *drosophila*;. Study of mutants in *Drosophila* (Bar eye, white eye, yellow body, sepia eye, curled wing, vestigial wing)
2. Identification of blood groups & Rh. Factor

### **Paper-III: Molecular Biology**

1. Demonstration of salivary gland chromosome in Chironomous larva
2. Use of colchicine in arresting anaphase movement (onion root tips)
3. Study of cell permeability using mammalian RBCs.



### Suggested Readings:

1. Genetics; Winchester, A. M.; Oxford and IBH Publishing Co.
2. Cell and Molecular Biology; De Robertis and De Robertis; Saunders College.
3. Genetics; Strickberger W. M.; Prentice Hall of India.
4. Cell Biology; Powar, C.B; Himalayan Publishing House.
5. Principles of Genetics; Gardener, E. J.;Wiley eastern, New Delhi.
6. A Textbook of Genetics; Rastogi, V.B.; Ramnath and Kedarnath
7. Molecular Biology of the gene; Watson, J.D; Benzamin/ Cummings.
8. Biochemistry; Voet &Voet; John Wiley & Sons.
9. Cytology and Genetics. Dyansagar, C.R. Tata McGraw Hill Publ. Co. New Delhi.
10. Cell Biology : Dyson, R.D. Allen and Bacon, New York.
11. Cell Biology. Rastogi S.C. : Tata McGraw Hill Publ. Co. New Delhi.
12. Cell Biology and Genetics. Kohli, S. jain, S. and Ramesh Book Depot. Jaipur.
13. Cytology : Verma, P.S. and Agrawal V.K : S.Chand and Co. New Delhi.
14. Genetics. Verma, P.S. and Agrawal V.K. S.Chand and Co., New Delhi.
15. Cell Biology and Genetics; Kohli, K.S;Ramesh Book Depot
16. Genetics; Winchester, A.M; Oxford and IBH Publishing Co.
17. Cell and Molecular Biology; De Robertis and De Robertis; Saunders College.
18. Genetics; Strickberger; Macmillan, Prentice Hall of India.
19. Cell Biology; Powar, C.B; Himalayan publishing House.
20. Principles of Genetics; Gardener, E,J; Wiley eastern, New Delhi.
21. A Textbook of Genetics; Rastogi, V.B.; Ramnath & Kedarnath.
22. Cell and Molecular Biology; Gerald Karp; John Wiley and Sons,inc
23. Molecular Biology of the cell; Bruce Alberts, Julian Lewis, James D.Watson; Garland Publishings
24. Textbook of Zoology; Shivapuri, Jacob, D. and Vyas, D.K.; Ramesh Book Depot.
25. Zoology: Storer, T.I. and Using, K.L.: Tata McGraw Hill Publishing Co., New Delhi.
26. D. Reinhold, New York (Indian reprinting : Affiliated East West Press, New Delhi.)
27. Student Text Book of Zoology. Vol.I.II and III. Sedgwick.A.
28. Text book of Zoology. Parker, T.J., Haswell. W.A.Macmillan Co., London.
29. Gilbert, S. T. (2000). Developmental biology, 6<sup>th</sup> ed. *Sinauer, Sunderland.*
30. Hoar, W. S. (1983). General and comparative physiology. *Prentice Hall.*
31. Prosser, C. L. Comparative animal physiology.
32. Saunders, J. W. Developmental biology: Patterns/Principles/Problems. MacMillan Publ.
33. Wilson, J. A. Principles of animal physiology. Collins MacMillan Publ.
34. Sandhu. T. B. of Embryology
35. Armugam. T. B. of Embryology
36. Pattern. Early Embryology of Chick
37. Verma & Agrawal. Chordate Embryology
38. Tomar. Chordate Embryology
39. Asha Sharma, Chetan K. Sharma, Development Biology, R.B.D. Publishing House, Jaipur
40. K.V. Shastri, Vinita Sukhla, 2014, Development Biology, Rastogi Publication, Meerut, Delhi
41. S.K. Sharma, 2015, Micro Biology & Bio-technology, College Book Center, Jaipur

### Semester-III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 301	Chemistry-I	Any Three CC	4	15	20	100
	Chemistry-II				20	
	Chemistry-III				20	
	Chemistry Practical				25 Practical	

#### Chemistry-Paper-I : inorganic chemistry

##### Unit I : Acids and Bases

Arrhenius (Water- ion system), Bronsted- Lowry (The proton donor acceptor system), The Lux-Flood (oxide ion concept), Lewis concepts of acids and bases (The electron donor acceptor concept) and solvent system and solvolysis, ionic product of solvent, limitations of solvent system.

##### Unit II : Hard and soft acids and bases (HSAB)

Classification of acids and bases as hard and soft. Pearson's HSAB concept, acid- base strength and hardness and softness, symbiosis, theoretical basis of hardness and softness, electronegativity and hardness and softness, limitations of HSAB.

##### Unit III : Non-aqueous solvents

Physical properties of solvent, types of solvent and their general characteristics, reactions in non-aqueous solvents with reference to liq. NH<sub>3</sub> and liq. SO<sub>2</sub>

##### Unit IV : Separation methods and Analysis Process

Principles and process of solvent extraction, the distribution law and partition coefficient, batch extraction, continuous extraction and counter current distribution, Gravimetric methods, theory of precipitation, co-precipitation, post precipitation, theory of purifying the precipitates.

#### Chemistry-Paper-II : Organic chemistry

##### Unit I : Alcohols

Classification and nomenclature. Monohydric alcohols- Methods of formation by reduction of aldehyde, ketones, carboxylic acids and esters. Hydrogen bonding, acidic nature, reaction of alcohols. Dihydric alcohols- methods of formation, chemical reactions of vicinal glycols, oxidation cleavage [Pb(OAc)<sub>4</sub> and HIO<sub>4</sub>] and pinacol- pinacolone rearrangement. Trihydric alcohols- methods of formation, chemical reactions of glycerol.

##### Unit II : Phenol

Nomenclature, structure and bonding, preparation of phenols, physical properties and acidic character. Comparative acidic strength of alcohols and phenols, resonance stabilization of phenoxide ion, reaction of phenols, electrophilic aromatic substitutions, acylations and carboxylation. Mechanisms of Fries rearrangement, Claisen rearrangement. Gattermann synthesis, Hauben- Hoesch reaction, Lederer Manasse reaction and Reimer Tiemann reaction.

### **Unit III : Aldehyde and ketones**

Nomenclature and structure of the carbonyl group. Synthesis of aldehyde and ketones with particular reference to the synthesis of aldehydes from acid chlorides, synthesis of aldehyde and ketones using 1, 3 dithianes, synthesis of ketones from nitriles and from carboxylic acids. Physical properties. Mechanism of nucleophilic additions to carbonyl group with particular emphasis on benzoin, aldol, perkin and Knoevenagel condensations, condensation with ammonia and its derivatives. Wittig reaction, Mannich reaction, use of acetals as protecting group, oxidation of aldehyde and ketones, Cannizzaro reaction, Bayer Villiger oxidation of ketones, MPV, Clemmensen's reduction, Wolf Kishner reduction,  $\text{LiAlH}_4$  and  $\text{NaBH}_4$  reduction, Halogenation of enolizable ketones.

### **Unit IV : Ethers and epoxides & Organic synthesis via Enolates**

Nomenclature of ethers and methods of their formation, physical properties, chemical reactions- cleavage and auto oxidation, Ziesel 's method. Synthesis of epoxides. Acid and base- catalyzed ring opening of epoxides, orientation of epoxide ring opening; reactions of Grignard and organolithium reagents with epoxides.

Acidity of  $\alpha$  hydrogens, alkylation of diethyl malonate and ethyl acetoacetate. Synthesis of ethylacetoacetate; The Claisen condensation. Keto-enol tautomerism of ethyl acetoacetate. Alkylation of 1,3- dithianes, alkylation and acylation of enamines.

## **Chemistry-Paper-III : Physical chemistry**

### **Unit I : Thermodynamics-I & First law of thermodynamics**

Definition of thermodynamics terms: systems, surroundings etc. Types of systems, intensive and extensive properties. State and path functions and their differentials. Thermodynamics process. Concept of heat and work.

Statement, definition of internal energy and enthalpy. Heat capacity. Heat capacities at constant volume and pressure and their relationship. Joule law-Joule Thomson co-efficient and inversion temperature. Calculation of  $w, q, dU$  &  $dH$  for the expansion of ideal gases under isothermal and adiabatic condition for reversible process.

### **Unit II : Thermochemistry**

Standard state, standard enthalpy of formation- Hess's Law of heat summations and its applications, Heat of reaction at constant pressure and constant volume. Enthalpy of neutralization. Bond dissociation energy and its calculation from thermo-chemical data, temperature dependence of enthalpy. Kirchhoff 's equation.

### **Unit III : Electrochemistry I**

Electrical transport- conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of equivalent and specific conductance with dilution. Migration of ions and Kohlrausch law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes. Ostwald dilution law its uses and limitations.

Debye Huckel- Onsager's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf method and moving boundary method. Application of conductivity

measurements; determination of degree of dissociation, determination of  $K_a$  of acids, determination of solubility product of a sparingly soluble salt, conductometric titrations.

#### Unit IV : Chemical equilibrium

Equilibrium constant and free energy. Thermodynamic derivation of law of mass action. Le- Chatelier's principle. Reaction isotherm and reaction isochore – Clapeyron equation and Clausius- Clapeyron equation, application

### Practicals

#### Inorganic Chemistry

Preparation of standard solutions

Dilution 0.1M to 0.001M solutions

#### Gravimetric analysis:( Any One)

- i) Analysis of Cu as  $\text{CuSCN}$ ,
- ii) Analysis of Ni as Ni (dimethylglyoxime) and
- iii) Analysis of Zn as  $\text{Zn}_3(\text{PO}_4)_2$

#### Organic Chemistry

**Qualitative Analysis :** Identification of two organic compound through the functional group analysis, determination of melting point/boiling point and preparation of suitable derivatives of any one.

#### Suggested Reading:

1. कार्बनिक रसायन, सुरेश आमेटा, एच.के. पाण्डे, एच.एस. शर्मा, हिमांशु पब्लिकेशन्स, उदयपुर
2. अकार्बनिक रसायन, ओझा, भोजक, कोठारी, चतुर्वेदी, रमेश बुक डिपो, जयपुर
3. प्रायोगिक रसायन, भार्गव, लवानिया, ओझा, रमेश बुक डिपो, जयपुर
4. भौतिक रसायन, शर्मा, भार्गव, गुप्ता, रमेश बुक डिपो, जयपुर
5. कार्बनिक रसायन, विजयश्री मनोज छंगाणी, अल्का पब्लिकेशन, अजमेर
6. अकार्बनिक रसायन, विजयश्री कोठारी छंगाणी, अल्का पब्लिकेशन, अजमेर
7. प्रायोगिक रसायन, छंगाणी, विजयश्री, खण्डेलवाल, अल्का पब्लिकेशन, अजमेर
8. अकार्बनिक रसायन, सुरेश आमेटा, उमा शर्मा, पी.के. शर्मा, मुकेश मेहता, हिमांशु पब्लिकेशन्स, उदयपुर
9. अकार्बनिक रसायन, जी.के. रस्तोगी, यशपाल सिंह, कॉलेज बुक हाऊस, जयपुर
10. प्रायोगिक रसायन, वी.के. गोयल, आर.एस. पीतलिया, कॉलेज बुक हाऊस, जयपुर

### Semester-III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 302	Physics-I	CE*	4	15	20	100
	Physics-II				20	
	Physics-III				20	
	Physics Practical				25 Practical	

#### Physics-Paper-I: Statistical And Thermodynamical Physics-I

##### UNIT I General Thermo-dynamical Interaction:

Thermal interaction; Zeroth law of thermodynamics Helmholtz free energy; Adiabatic interaction and enthalpy; General interaction and first law of thermodynamics; Infinitesimal general interaction; Gibb's free energy and Phase transitions. Clausius-Clapeyron equation; Vapour pressure curve.

##### UNIT II Carnot's Engine and Maxwell Relation:

Heat engine and efficiency of engine, Carnot's Cycle; Thermodynamic scale as an absolute scale; Maxwell relations and their applications.

##### UNIT III Production of Low Temperature:

Joule Thomson expansion and J.T. coefficients for ideal as well as Vander Waal's gas. Porous plug experiment, Temperature inversions. Regenerative cooling and cooling by adiabatic expansion and demagnetization.

##### UNIT IV Application of Low Temperature:

Liquid Helium, He I and He II, super fluidity, quest for absolute zero. Nernst heat theorem. Qualitative Discussion of Superconductivity.

##### Suggested Reading :

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, उष्मा गतिकी एवं सांख्यिकीय भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

#### Physics-Paper-II: Optics -I

##### UNIT-I Geometrical Optics:

Fermat's principle, Laws of reflection and refraction from Fermat's principle, refraction at a spherical surface. Axial, lateral, angular magnification and their interrelationship; Abbe's Sine condition for spherical surfaces;

##### UNIT-II Lenses:

Refraction through a thick and thin lenses and its Focal length , Focal length of two thin lenses separated by a distance, Cardinal points of a co-axial lens system, properties of cardinal points; construction of image using cardinal points.

**UNIT-III Interference:**

Young's double slit experiment, temporal and spatial coherence, coherence length, Division of amplitude, Interference in thin films, colour in thin films. Wedge shaped film, Newton rings and determination of wavelength and refractive index by Newton ring. Michelson Interferometer, Measurement of wavelength and refractive index by Michelson Interferometer.

**Unit-IV Polarization:**

Polarization states of electromagnetic (EM) waves, reflection and refraction of plane EM wave at plane dielectric surface, boundary conditions, derivation of Fresnel's relations. Huygen's theory, Theory of double refraction using Fresnel's ellipsoidal surface (no mathematical derivation). Production and analysis of plane, circularly and elliptically polarized light, quarter and half wave plates.

**Suggested Reading :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, प्रकाशिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

**Physics-Paper-III: Electronics & Solid State Devices –I****UNIT-I Circuit Analysis:**

Network-some important definitions, loop and nodal equation based on DC and AC circuits (Kirchhoff's Laws), Four terminal network parameters; Current volt conventions, Open circuit, short circuit and hybrid parameters of any four terminals network. Input, Output and mutual impedance for an active four terminal network.

**UNIT – II Network Theorems:**

Superposition, Thevenin, Norton, Reciprocity, Compensation and maximum power transfer and miller theorems.

**UNIT – III Semiconductors:**

Intrinsic and extrinsic semiconductors, charge densities in N and P materials, conduction by drift and diffusion of charge carriers. PN diode equation, capacitance effects. Nature of charge carriers by Hall effect and Hall coefficient. Zener Diode, tunnel diode, photovoltaic effect.

**UNIT – IV Rectifiers and Voltage Regulation:**

Half-wave, full wave and Bridge rectifiers, Calculation of ripple factor, efficiency and regulation. Filters: shunt inductors, shunt capacitor, L sections and  $\pi$  sections filters. Voltage regulation and voltage stabilization by Zener diode, Voltage multiplier circuits.

**Suggested Reading :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, इलेक्ट्रॉनिकी एवं ठोस प्रावस्था युक्तियां, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

### Physics Practical: III

1. Study of dependence of velocity of wave propagation on line parameter using torsional wave apparatus.
2. Study of variation of reflection coefficient on nature of termination using torsional wave apparatus.
3. Using Platinum resistance thermometers find the melting point of a given substance.
4. Using Newton's rings method find out the wave length of a monochromatic source and find the refractive index of liquid.
5. Using Michelson's interferometers find out the wavelength of given monochromatic source (Sodium light).
6. To determine dispersive power of prism.
7. To determine wave length by grating.
8. To determine wave length by Biprism.
9. Determine the thermodynamic constant using Clements & Desorme's method.
10. To determine thermal conductivity of a bad conductor by Lee's method.
11. Determination of ballistic constant of a ballistic galvanometer.
12. Study of variation of total thermal radiation with temperature
13. To study the Specific rotation of sugar solution by polarimeter.
14. Any experiment according to theory paper.

#### Suggested Reading :

1. प्रभा दशोरा, द्वितीय वर्ष, प्रायोगिक भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

### Semester-III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 303</b>	Mathematics-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Mathematics-II				<b>20</b>	
	Mathematics-III				<b>20</b>	
	Mathematics Practical				<b>25</b> Practical	

### Mathematics-Paper-I : Real Analysis

**Unit 1:** Real numbers as complete ordered field, Limit point, Bolzano-Weierstrass theorem, Closed and Open sets, Union and Intersection of such sets. Concept of compactness. Heine-Borel theorem. Connected sets. Real sequences- Limit and Convergence of a sequence, Monotonic sequences.

**Unit 2:** Cauchy's sequences, Subsequences, Cauchy's general principle of convergence.

**Unit 3 ;** Properties of continuous functions on closed intervals. Properties of derivable functions, Darboux's and Rolle's theorem.

**Unit 4:** Notion of limit and continuity for functions of two variables. Riemann integration — Lower and Upper Riemann integrals, Riemann integrability, Mean value theorem of integral calculus, Fundamental theorem of integral calculus,

**Suggested Reading :**

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड़, जितेन्द्र सैनी, रियल एनालिसिस, आर. बी.डी. पब्लिशिंग हाउस, जयपुर—दिल्ली, 2015—16
2. जी.सी. गौखरू सैनी, रियल एनालिसिस, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

**Mathematics-Paper-II : Differential Equations I**

**Unit 1:** Degree and order of a differential equation. Equations of first order and first degree. Equations in which the variables are separable. Homogeneous equations and equations reducible to homogeneous form.

**Unit 2;** Linear equations and equations reducible to linear form. Exact differential equations and equations which can be made exact.

**Unit 3:** First order but higher degree differential equations solvable for  $x, y$  and  $p$ . Clairaut's form and singular Solutions with Extraneous Loci. Linear differential equationS with constant coefficients, Complimentary function and Particular integral.

**Unit 4 :** Homogeneous linear differential equations, Simultaneous differential equations.

**Suggested Reading :**

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड़, जितेन्द्र सैनी, अवकलन समीकरण, आर.बी.डी. पब्लिशिंग हाउस, जयपुर—दिल्ली, 2015—16
2. जी.सी. गौखरू सैनी, अवकलन समीकरण, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

**Mathematics-Paper-III : Numerical Analysis**

**Unit 1:** Differences. Relation between differences and derivatives. Differences of a polynomial. Newton's formulae for forward and backward interpolation.

**Unit 2 ;** Divided differences. Newton's divided difference, Lagrange's interpolation formula.

**Unit 3:** Central differences. Gauss's, Stirling's and Bessel's interpolation formulae. Numerical Differentiation. Derivatives from interpolation formulae.

**Unit 4 ;** Numerical integration, Derivations of general quadrature formulas, Trapezoidal rule. Simpson's one-/ third, Simpson's three-eighth and Gauss's quadrature formulae.

**Suggested Reading :**

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड़, जितेन्द्र सैनी, संख्यात्मक विश्लेषण, आर.बी.डी. पब्लिशिंग हाउस, जयपुर—दिल्ली, 2015—16
2. जी.सी. गौखरू सैनी, संख्यात्मक विश्लेषण, जयपुर पब्लिशिंग हाउस, जयपुर, 2015



### Semester-III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 304	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	

### Botany-Paper-I : Molecular Biology

#### UNIT I: Genetic Material

- Biological, Chemical and physical Nature of Heredity material.
- Structure of DNA, WATSON & Crick model of DNA, Nuclosome model.
- Structure and types of RNAs (mRNA, tRNA and rRNA)

#### UNIT –II DNA Replication

- Concept, Types and process of DNA Replication.
- Meselson experiment of semiconservative replication of DNA
- Okazaki fragments, DNA Polymerases, DNA protein interaction.
- Preliminary account of DNA damage and repair.

#### UNIT-III Transcription and Translation

- Transcription in Eukaryotes, role of promoters, RNA Polymerases, Pre RNA synthesis, pre RNA Processing, capping, splicing and polyadenylation.
- Translation in Eukaryotes, Genetic code (Initiation, Elongation and Termination.)

#### UNIT-IV Regulation of Gene Expression

- Regulation in Gene expression in prokaryotes and Eukaryotes,
- Negative and Positive control.
- Attenuation and Antitermination.
- Reverse Transcription and its application.

#### Suggested Readings:

1. Becker, W.M., Kleinsmith, L.J., Hardin, J. and Bertoni, G. P. 2009. The World of the Cell. 7<sup>th</sup> Edition. Pearson Benjamin Cummings Publishing, San Francisco.
2. Brown, T. A. 2010. Gene cloning and DNA analysis: An Introduction. Blackwell Publication, USA.
3. Buchanan, B., Gruissem, W. and Jones, R. 2000. Biochemistry and Molecular Biology of Plants. American Society of Plant Biologists., USA.
4. Chrispeel, M.J. and Sadava, D.E. 1994. Plants, Genes and Agriculture. Jones and Barlett Publishers, USA.
5. Cooper, G.M. and Hausman, R.E. 2009. The Cell: A Molecular Approach. 5<sup>th</sup> edition. ASM Press and Sunderland, Washington, D.C. Sinauer Associates, MA.

6. De Robertis, E.D.P. and De Robertis, E.M.F. 2006. Cell and Molecular Biology 8th edition. Lippincott Williams and Wilkins, Philadelphia.
7. Glick, B.R. and Pasternak, J.J. 2003. Molecular Biotechnology: Principles and Applications of recombinant DNA. ASM Press, Washington.
8. Karp, G. 2010. Cell and Molecular Biology: Concepts and Experiments. 6<sup>th</sup> edition. John Wiley and Sons. Inc. New jersey, USA.
9. Mascarenhas, A.F. 1988. Hand book of Plant tissue culture. Publication and information. Div., ICAR, New Delhi.
10. Purohit, S.S. and Mathur, S.K. 1996. Biotechnology Fundamental and Application. Agro Botanical Publisher, Bikaner.
11. Razdan, M.K., 1993. An introduction to Plant tissue culture. Publication and Information Div., ICAR, New Delhi.
12. Rana, S.V.S. 2012. Biotechnology theory and practice. (Third Ed.) Rastogi Publication, Meerut.
13. Rastogi, V.B. 2008. Fundamentals of Molecular Biology. Ane Books, Meerut, India.
14. Smith, R. H. 2000. Plant Tissue Culture: Techniques and Experiments. 2<sup>nd</sup> edition, Academic Press, USA.
15. Upadhyaya, A. and Upadhyaya, K. 2005. Basic Molecular Biology. Himalaya Publishers. New Delhi.

### **Botany-Paper-II : Biotechnology**

#### **UNIT I: Biotechnology and Plant tissue culture**

Biotechnology: Functional definition. Basic aspects of Plant tissue culture, Basal medium, Media preparation and aseptic culture technique. Concept of cellular totipotency, Differentiation and morphogenesis and Micropropagation.

#### **UNIT II: Protoplast, Anther and Embryo culture**

Protoplast isolation, culture and Somatic cell hybridization, Anther culture , Embryo culture and their Applications, Applications of Plant tissue culture,

#### **UNIT III: Recombinant DNA technology**

Techniques used in rDNA technology. Restriction enzymes. Vectors for gene transfer. Plasmids and Cosmids. Genomic and c-DNA library, Polymerase Chain Reaction (PCR), Applications of PCR technique, DNA Finger Printing.

#### **UNIT IV: , Transgenic plants**

Introduction , Process of production of transgenic plants, types of transgenic plants , Application of transgenic plants and Biotechnology

#### **Suggested Readings:**

1. Becker, W.M., Kleinsmith, L.J., Hardin, J. and Bertoni, G. P. 2009. The World of the Cell. 7<sup>th</sup> Edition. Pearson Benjamin Cummings Publishing, San Francisco.
2. Brown, T. A. 2010. Gene cloning and DNA analysis: An Introduction. Blackwell Publication, USA.
3. Buchanan, B., Gruissem, W. and Jones, R. 2000. Biochemistry and Molecular Biology of Plants. American Society of Plant Biologists., USA.

4. Chrispeel, M.J. and Sadava, D.E. 1994. *Plants, Genes and Agriculture*. Jones and Barlett Publishers, USA.
5. Cooper, G.M. and Hausman, R.E. 2009. *The Cell: A Molecular Approach*. 5<sup>th</sup> edition. ASM Press and Sunderland, Washington, D.C. Sinauer Associates, MA.
6. De Robertis, E.D.P. and De Robertis, E.M.F. 2006. *Cell and Molecular Biology* 8th edition. Lippincott Williams and Wilkins, Philadelphia.
7. Glick, B.R. and Pasternak, J.J. 2003. *Molecular Biotechnology: Principles and Applications of recombinant DNA*. ASM Press, Washington.
8. Karp, G. 2010. *Cell and Molecular Biology: Concepts and Experiments*. 6<sup>th</sup> edition. John Wiley and Sons. Inc. New jersey, USA.
9. Mascarenhas, A.F. 1988. *Hand book of Plant tissue culture*. Publication and information. Div., ICAR, New Delhi.
10. Purohit, S.S. and Mathur, S.K. 1996. *Biotechnology Fundamental and Application*. Agro Botanical Publisher, Bikaner. Razdan, M.K., 1993. *An introduction to Plant tissue culture*. Publication and Information Div., ICAR, New Delhi.
11. Rana, S.V.S. 2012. *Biotechnology theory and practice*. (Third Ed.) Rastogi Publication, Meerut.
12. Rastogi, V.B. 2008. *Fundamentals of Molecular Biology*. Ane Books, Meerut, India.
13. Smith, R. H. 2000. *Plant Tissue Culture: Techniques and Experiments*. 2<sup>nd</sup> edition, Academic Press, USA.
14. Upadhyaya, A. and Upadhyaya, K. 2005. *Basic Molecular Biology*. Himalaya Publishers. New Delhi.

### **Botany-Paper-III : Plant Physiology I**

#### **UNIT I: Water**

Structure and properties of water, osmosis, water potential and its components, absorption of water, root pressure, pathway of water movement; concepts of symplast and apoplast. Ascent of sap, mechanism of stomatal movements, factor affecting transpiration, it's theories, mechanism and significance, antitranspirants and guttation.

#### **UNIT II: Mineral Nutrition**

Transport of ions across cell, mechanism of active and passive transport, translocation of, macro and micro nutrients; role of essential nutrients in plant metabolism and their deficiency symptoms. Outline of Nitrogen and phosphorus cycle. Transamination and deamination.

#### **UNIT III: Photosynthesis**

Photosynthesis, discovery and structure of pigments (chlorophyll and accessory pigment) ,light harvesting units, law of limiting factors. Light reaction- photophosphorylation- (cyclic and non cyclic), dark Reaction- Calvin and Benson cycle, Hatch and Slack pathway, Crassulacean acid metabolism and photorespiration.

#### **UNIT IV: Respiration**

Respiration: Aerobic and anaerobic, glycolysis, tricarboxylic acid cycle, oxidative phosphorylation, and factors affecting oxidative processes, pentose phosphate pathway, fermentation.

### **Suggested Readings:**

1. Hopkins, W.G. and Huner, P. A. 2008. Introduction to Plant Physiology. John Wiley and Sons, USA.
2. Jain, V.K. 2013. Fundamental of Plant Physiology. S. Chand and Company Ltd., New Delhi.
3. Malik, C. P. and Srivastava A.K. 1982. Text book of Plant Physiology. Kalyani publication, New Delhi.
4. Mukherjee S., Ghosh A. K. 2006. Plant Physiology. New Central Book Agency, Calcutta.
5. Parashar, A. N. and Bhatia, K. N. 1985. Plant Physiology. Trueman Book Company, New Delhi.
6. Sinha, R. K. 2007. Modern Plant Physiology. 2<sup>nd</sup> Edition Tata McGraw, New Delhi.
7. Taiz, L. and Zeiger, E. 2006. Plant Physiology. 4<sup>th</sup> Edition, Sinauer Associates Inc. Publishers, Massachusetts, USA.
8. Verma, S. K. and Verma, M. 2000. A Text book of Plant Physiology, Biochemistry and Biotechnology. S. Chand and co. Ltd., New Delhi.
9. Verma, V. 2007. Text Book of Plant Physiology. ANE Books, India.

### **BOTANY PRACTICAL III**

1. To determine the water potential of given plant material.
2. Demonstration of phenomenon of osmosis using potato osmometer.
3. Demonstration of phenomenon of plasmolysis.
4. To study the permeability of plasma membrane using different concentration of organic solvents.
5. To study the effect of temperature on permeability of plasma membrane.
6. To demonstrate root pressure.
7. Study of effect of temperature on rate of transpiration.
8. Study of transpiration rate in dorsiventral and isobilateral leaves by use of potometer.
9. Study of the mechanism of stomatal opening and closing.
10. Rate of photosynthesis under varying  $\text{HCO}_3^-$  concentration in an aquatic plant using bicarbonate (Wilmott and Bubbler).
11. Demonstration of  $\text{O}_2$  evolution during photosynthesis by inverted funnel method.
12. To study that light is necessary for photosynthesis by using ganong screen.
13. To demonstrate of anaerobic and aerobic respiration.
14. To study that  $\text{CO}_2$ , light and chlorophyll is essential for photosynthesis (Moll's half experiment).
15. Study  $\text{C}_3$  and  $\text{C}_4$  plant with the kranz anatomy.
16. To study the R.Q. by Ganong's respirometer.

### Semester-III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 305</b>	Zoology-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Zoology-II				<b>20</b>	
	Zoology-III				<b>20</b>	
	Zoology Practical				<b>25 Practical</b>	

#### Zoology-Paper-I : Life and Diversity of animals – Chordata- I

##### Unit I: Protochordates

- 1.1 **Protochordata:** General characters and classification up to class Type Study:
- 1.2 ***Herdmania*** : Morphology, digestive system, Nervous System and sense organs, Excretory System, Reproductive system, Ascidian tadpole larva
- 1.3 ***Amphioxus*:** Structure, digestive system, respiratory system, circulatory system, sense Organs, excretory system

##### Unit – II Agnatha and Pisces

- 2.1 **Agnatha:** General Features of Agnatha and classification up to classes Type study: General Features of Petromyzon, Ammocete Larva
- 2.2 **Pisces:** Classification of Pisces upto class; Difference between Chondrichthyes and Osteichthyes Type Study: General Morphology and anatomy of Scoliodon

##### Unit-III Tetrapoda

- 3.1 Amphibia: Classification and characters with suitable examples, adaptations for amphibious life
- 3.2 Reptilia: Classification and characters with suitable examples,
- 3.3 Aves: General classification and characters with important examples;
- 3.4 Mammalia-I: Classification and characters with suitable examples

##### Unit – IV Miscellaneous

- 4.1 Protochordates: General features and phylogeny of Urochordates & cephalochordates; Retrogressive metamorphosis
- 4.2 Pisces: Fins (structure and origin); Types of scales; Migration; Parental Care

#### Zoology-Paper-II: Microbiology & Parasitology

##### Unit –I: Microbiology

- 1.1 The scope of Microbiology: Characterization, Classification and identification of Microorganisms.
- 1.2 History and landmark events in Microbiology: Working of A.V. Leeuwenhock, Louis Pasteur, Robert Koch, Germ Theory of diseases.
- 1.3 World of Microbes: General Morphology of Protozoa, fungi – Molds and Yeasts

## **Unit-II: Bacteria**

- 2.1 The World of Bacteria – Morphology of Bacteria; Difference between Gram-positive and Gram-negative Bacteria
- 2.2 Basic idea of Culture: Types of culture media, Maintenance of pure cultures
- 2.3 Growth & Reproduction: Bacterial division, growth curve, generation time, measurement of growth. Asepsis, sterilization with physical and chemical agents; Reproduction- Asexual and sexual

## **Unit-III: Other Microbes**

- 3.1 Virus: Structure, Classification; Life Cycle- Lytic and Lysogeny; A Bacteriophage
- 3.2 Hepatitis: Structure and types of causative agent, Precaution, Prevention and Control
- 3.3 HIV and AIDS: Epidemiology, prevention, control and treatment

## **Unit-IV: Parasitology**

- 4.1 Parasitic Protozoans: life cycle, pathogenesis and disease caused by Entamoebae; Plasmodium, Trypanosoma, Leishmania
- 4.2 Epidemiology of infectious diseases with reference of Human:
  - Bacterial [Tuberculosis, Leprosy, Meningitis ]
  - Fungal[any one]diseases

## **Zoology-Paper-III: Physiology- I**

### **Unit I Respiration**

- 1.1 Mechanism and regulation of Respiration
- 1.2 Transport of oxygen and carbon dioxide, Respiratory Pigments
- 1.3 Respiratory quotient, Respiratory volumes and capacities
- 1.4 Respiratory Disorders and effect of smoking

### **Unit II Circulation**

- 2.1 Body Fluid: Composition and functions of blood; Lymph composition & function; Blood Pressure, Regulation of Blood Pressure
- 2.2 Blood clotting – Intrinsic and extrinsic factors, Blood groups and Rh factor
- 2.3 Physiology of cardiac muscles, structure & function of heart; Human Cardiac Cycle; Cardiac Rhythm; Origin of Heart Beat; Regulation of Heart Beat
- 2.4 Elementary idea of Haemostasis, ECG, factors contributing to heart problems; Angioplasty; Angiography

### **Unit III Nutrition and Digestion**

- 3.1 Balanced diet
- 3.2 Digestion and absorption of carbohydrates, proteins and fats
- 3.3 Hormonal regulation of gastrointestinal function
- 3.4 Vitamins- Fat soluble and water soluble vitamins; Sources, deficiency and diseases

### **Unit IV Excretion**

- 4.1 Types of Nitrogenous waste products (ammonotelic, uricotelic, ureotelic)
- 4.2 Structure and function of kidney; Nephron; Renal blood supply

- 4.3 Mechanism of Urine formation in mammals; Counter Current Principle
- 4.4 Hormonal control of renal function; Rennin- Angiotensin System, Micturition, Regulation of Body Fluids & Acid Base balance

### Zoology -----Practical Based on paper I, II and III

#### Paper-I: Study of Chordates:

##### A. Study of Specimen.

- a) **Protochordata:** Herdmania, Ciona, Salpa, Doliolum, Amphioxus
- b) **Lower Chordates:** Petromyzon, Myxine/Bdellostoma, Ammocete larva,
- c) **Pisces:** Sphyrna, Trygon (Sting ray), Pristis (Saw Fish), Raja (Skate), Torpedo, Chimaera (Rat Fish), Acipensor, Amia, Lepidosteus, Notopterus, Labeo, Clarius, Anguilla (eel), Exocoetus, Hippocampus, Echenesis Sucker Fish), Protopterus,
- d) **Amphibia:** Ichthyophis, Cryptobranchus, Ambyostoma (Tiger Salamander), Axolotl Larva, Salamandra, Proteus, Siren, Alytes, Pipa, Hyla, Rhacophorous (Flying Frog)

##### B. Study of Slides.

- a) Tadpole larva of Herdmania, Herdmania Spicules, T.S. of Amphioxus (Through Oral hood, Pharyngeal, Intestinal and Caudal regions)
- b) V.S. of Skin of Scoliodon, Amphibia

##### C. Mounting.

- a) Herdmania Spicules, Placiod Scale

##### D. Dissection: [Through demonstration by chart/ CAL/ Video]

- a) **Major:** Afferent branchial vessels; Efferent branchial vessels; Cranial nerves of Scoliodon.
- b) **Minor:** Internal Ear; Eye Muscles; Ampulla of Lorenzini

#### Paper-II : Microbiology and Parasitology

1. Preparation and use of culture media for microbes
2. Study of microbes in food material (milk, Curd etc.)
3. Staining procedure for parasites
4. Identification of Protozoan parasites from permanent slides.
  - Trypanosoma( epimastigote or trypomastigote form); Leishmania (promastigote and amastigote form); Plasmodium (sporozoites and signet ring); Giardia; Entamoeba (trophozoites);;
5. Identification and characterization of helminth parasites from permanent slides
  - Cercaria of Fasciola; Eggs of Schistosoma; Cyst of Echinococcus granulosus; Microfilarie of Wuchereria

#### Paper: III Physiology:

1. Demonstration of ptyalin enzyme activity
2. Estimation of haemoglobin content; RBC Counting, WBC Counting; Haematocrit value and ESR of given blood sample
3. Histological Slides of mammalian T.S. of spinal Cord, stomach, duodenum, ileum, liver, lung, kidney

### **Suggested Readings:**

#### **Chordates:**

1. Colbert's evolution of the vertebrates; Colbert, E.H; John Wiley & Sons
2. Text book of Chordate Zoology vol. II ; Sandhu, G.S. and Sandhu, G.S; Campus Books.
3. Modern text book of Zoology-Vertebrates; Kotpal, Rastogi Publication.
4. Vertebrate Zoology; Rastogi, V.B.; Ramnath & Kedarnath.
5. Young, O.Z.: The Life of Vertebrates, Oxford University Press, Oxford.
6. Young, J.Z.: The life of vertebrates. Oxford University Press London 1962(Low Priced Text Reprint English Language Book Society London, 1962).
7. Barrington, E.J.W.: The Biology Hemichordata & Protochordata Oliver & Boyd, London, 1965
8. Young J. Z : The life of mammals Oxford University Press London 1963
9. R.L Kotpal, 2015, Chordata, Rastogi Publishing, Meerut, Delhi

#### **Parasitology:**

1. Burton J Bogitsh Human Parasitology 3rd edition Elsevier.
2. Roberts, L. S. and J. Janovy, Jr. 2004. Foundations of Parasitology. 7th Edition. McGraw Hill, Boston.
3. Smith. Animal Parasitology 1996. Cambridge University Press.
4. Marr et al. Molecular Medical Parasitology 2003, Elsevier.
5. Lawrence R. Ash and Thomas C. Orihel. Atlas of Human Parasitology. American Society for clinical pathology press 5th edition, 2007.
6. Janet Amundson Romich. Understanding Zoonotic Diseases. 2007
7. Paul Schmid-Hempel. The Integrated Study of Infections, Immunology, Ecology, and Genetics (Oxford Biology), 2011
8. H.S Singh & P. Rastogi, 2016, Parasitology, Himalaya Publishing House, Pvt. Ltd. Delhi

#### **Microbiology**

1. Mani, A., Selvaraj, A.M., Narayanan, L.M. & Arumugam, N. 1996 : Microbiology – saras publications – Nagercoil-India.
2. Sharma, P.D. 1998: Microbiology – Rastogi Publ. Meerut, India
3. Subba Rao, N.S., 1999: Soil Microbiology, Oxford IBH Co. New Delhi, India.
4. Sullia, S.B. & Santharam, S. 2004-General Microbiology, Oxford IBH, India.
5. Meenakumari, S. Microbial Physiology, MJP-Publ.-Chennai, India.
6. Purushotam Kaushik, 2005: Microbiology – S.Chand & Co. New Delhi, India
7. Vijaya Ramesh, 2005: Environmental Microbiology, MJP.Publ., Chennai, India
8. Vijaya Ramesh, 2007: Food Microbiology, MJP.Publ. Chennai, India.
9. Rajan, S. 2007: Medical Microbiology – MJP.Publ. Chennai, India.
10. Purohit, S.S. 2007: Microbiology - Agrobios Publ. India
11. Trivedi, P.C. 2008: Applied Microbiology - Agrobios Publ. India
12. Prescott, 2009: Industrial Microbiology - Agrobios Publ. India
13. Parihar, L. 2008: Advances in Applied Microbiology - Agrobios Publ. India
14. Agarwal, A.K. 2008: Industrial Microbiology, Agrobios Publ. India.
15. Bohra, A. 2006: Food Microbiology, Agrobios Publ. India
16. Bhastiyaa&Jain, 2015, Immunology, microbiology, & Biotechnology, Himalaya Publishing House Pvt. Ltd. Delhi

#### **Physiology:**

1. Ganong: Review of Medical Physiology (22nd ed. 2005, Lange Medical)
2. Guyton and Hall: A text book of Medical Physiology (11th ed. 2006, Saunders).
3. Keele & Neil: Samson Wright's Applied Physiology (13th ed. 1989, Oxford)
4. Hall of India Pvt. Ltd., New Delhi - 110 001.
5. Wood, D.W., 1983. Principles of Animal Physiology 3rd Ed.,
6. Prosser, C.L. Brown 1985. Comparative Animal Physiology, Satish Book Enterprise, Agra - 282 003.
7. Wilson, J. A. Principles of animal physiology. Collins MacMillan Publ.
8. Chordate zoology and animal physiology. S. Chand and Co
9. K.V. Shastri, 2015, Animal Physiology and Biotechnology, Rastogi Publication, Meerut, Delhi



### Semester-III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 301	Understanding a Discipline and Subject	Any one CE	4	30	70	100
EDU 302	Innovative Methods					

#### EDU 301 : Understanding a Discipline and Subject

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand language of various discipline.
- ❖ To develop expression of various language areas.
- ❖ To acquire scientific study of language phonetics.
- ❖ To know the scientific idea of science education.
- ❖ To apply the thought of social science language in their day today life.
- ❖ To develop interdisciplinary approach of language (Hindi/Sanskrit/English).

#### Course Contents:

##### Unit- I Language and Disciplines

- a) Meaning of discipline
- b) Characteristics of a discipline
- c) Inter- disciplinary approach

##### Unit- II Language and Disciplines

- a) History of language development (Hindi, Sanskrit and English)
- b) Language technology
- c) Language lab
- d) Phonetics science
- e) Introduction of Kalidas, Tulsidas and Shakespeare

##### Unit- III Social Science and Discipline

- a) History and game cricket
- b) History of woman empowerment
- c) New trends cultural in society
- d) Political socialization
- e) Article of democratic problems (Terrorism, corruption &kola-Brokers)

##### Unit- IV Science and Disciplines

- a) Life sketch of scientists (Dalton, Rutherford, Newton, Mendal and Homi Jahangir Bhabha)
- b) Science and sound
- c) Nutrition and balanced diet
- d) Human diseases
- e) Electricity and light

#### Assignment & Practical Work (Any Two)

- a) Write Any one term paper.
- b) Write a short note on Importance of Language in teacher.
- c) Read and review an article.
- d) Prepare a report on creative writing.

## References :

1. Lado, Robert (1971), Language Teaching, New Delhi, Tata Mc Graw Hill Publising House co. Ltd.
2. Richards, J.C. of Rodgers, T.S. (2009), Approchas and Methods in Language Teaching, Cambrige, C.U.P.
3. अंग्रेजी पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
4. विज्ञान पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
5. संस्कृत पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
6. सामाजिक अध्ययन पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)
7. हिन्दी पाठ्य पुस्तक कक्षा 9 से 12 तक, माध्यमिक शिक्षा बोर्ड राजस्थान, अजमेर (2014)

## EDU 302 : Innovative Methods

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop knowledge of vatious innovative methods.
- ❖ To understand the idea of methods.

### Course Contents:

#### Unit- I Concept of Innovation.

- a) Innovation : Meaning, Definition
- b) Characteristics of Innovation
- c) Methods : concept, Objective
- d) Meathods Characteristics and Utility

#### Unit- II Methods of Social science

- a) Time line method
- b) Source method
- c) Biographical method
- d) Socialized Recitation method

#### Unit- III Methods of Science

- a) Demonstration method
- b) Experimental/ Laboratoury method
- c) Heuristic method
- d) Project method

#### Unit- IV Methods of Language

- a) Lecture method
- b) Inductive and Deductive
- c) Supervised study method
- d) Brain Storming

#### Assignment & Practical Work (Any Two)

- Write any one term paper
- Write a short note on Importance of Language in teacher

- Read and review an article
- Prepare a report on creative writing

**Suggested Readings:**

1. सिंह, कर्ण, (2008), शैक्षिक तकनीकी एवं प्रबन्ध, लखीमपुर – खीरी, गोविन्द प्रकाशन
2. शर्मा, संदीप एवं पारीक, अलका (2007), शैक्षिक तकनीकी एवं कक्षा-कक्ष प्रबन्ध, शिक्षा प्रकाशन, जयपुर
3. कुलश्रेष्ठ, एस.पी. (2005), शैक्षिक तकनीकी के मूल आधार, विनोद पुस्तक मंदिर, आगरा
4. Hillard R.I. (1973), Writing for T.V. and Radio N.Y. Hastings House
5. Philips, Lewis (1971), Educational Television Guide Book N.Y. : Mc.Graw
6. Cassire. Henry R. (1962), Television Teaching Today Paris, UNESCO

**Semester-III**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 301	Critical Understanding of ICT	FC	2	15 Practical	35	50

**Learning Outcomes:** After completion of this course the students will able:

- ❖ To explain the concept of ICT in education.
- ❖ To develop skills in using MS Office applications for education.
- ❖ To use internet efficiently to access information and communicate with others.
- ❖ To understand the applications of E-learning in education.

**Course Contents:**

**Unit - I MS Office**

- a) MS- word (Text management)
- b) Power Point (Preparation of Slide)
- c) Smart Class
- d) E - Learning

**Unit - II Internet and Multimedia**

- a) E-mail, Chat
- b) Searching, Downloading and Uploading
- c) Multimedia and its Education Uses.
- d) Mobile Banking

**Assignment & Practical Work (Any Two)**

- Prepare one term paper on any topic related to above units.
- Prepare power point presentation on any one topics related to School content/ B.Ed. Syallbus.

### Semester-III

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
JVB 302	Yoga and Preksha Meditation	FC	2	15 Practical	35	50

#### अधिगम की उपलब्धि

- ❖ जीवन विज्ञान, प्रेक्षाध्यान एवं योग विद्या की जानकारी प्राप्त कर सकेंगे।
- ❖ संतुलित व्यक्तित्व का निर्माण।
- ❖ विद्यालयस्तरीय ध्यान एवं योग के प्रशिक्षक तैयार करना।

#### विषयवस्तु :

##### इकाई-1 योग के प्रयोग

- योग : अर्थ, परिभाषा, अष्टांग योग की उपयोगिता
- आसन : सूर्यनमस्कार, (अर्थ, प्रक्रिया एवं लाभ) ताड़ासन, पादहस्तासन, गरुडासन, जानुशिरासन, वक्रासन, वज्रासन, पद्मासन, उत्तानपादासन, पवनमुक्तासन, भुजंगासन, शलभासन, (स्थिति, विधि, लाभ)
- प्राणायाम : सूर्यभेदी, चन्द्रभेदी, व अनुलोम विलोम
- मुद्रा : ज्ञान मुद्रा, वीतराग मुद्रा
- बन्ध : मूलबन्ध, उड्डियानबन्ध व जालधर बन्ध

##### इकाई-2 प्रेक्षाध्यान

- प्रेक्षाध्यान का इतिहास, अर्थ एवं उद्देश्य
- प्रेक्षाध्यान के सहायक अंगों का संक्षिप्त परिचय एवं महत्त्व
- कायोत्सर्ग, अन्तर्यात्रा, श्वास प्रेक्षा एवं ज्योतिकेन्द्र प्रेक्षा (प्रयोग, अभिव्यक्ति एवं प्रस्तुति)
- प्रेक्षाध्यान के मुख्य चरणों का संक्षिप्त परिचय

#### सत्रीय कार्य :(कोई एक)

- विषय से सम्बन्धित कोई एक टर्म पेपर तैयार करना।
- सूर्य नमस्कार की विभिन्न स्थितियों का प्रदर्शन।

#### सन्दर्भ ग्रन्थ सूची :

- अमूर्त चिन्तन : आचार्य महाप्रज्ञ
- जीवन विज्ञान की रूपरेखा, लेखक : मुनि धर्मेश कुमार
- जीवन विज्ञान शिक्षक निर्देशिका – मुनि किशनलाल
- जीवन विज्ञान : मूल्यपरक शिक्षा का एवं अभिनव प्रयोग – मुनि धर्मेश
- जीवन विज्ञान प्रेक्षाध्यान एवं योग : समणी मल्लि प्रज्ञा
- जीवन विज्ञान : शिक्षा का नया आयाम, लेखक : आचार्य महाप्रज्ञ
- जीवन विज्ञान : शिक्षक प्रशिक्षक मार्गदर्शिका– मुनि किशनलाल
- जीवन विज्ञान : स्वस्थ समाज रचना का संकल्प, लेखक : आचार्य महाप्रज्ञ
- नया मानव : नया विश्व – आचार्य महाप्रज्ञ
- परिवार के साथ कैसे रहें ? – आचार्य महाप्रज्ञ
- प्रेक्षाध्यान प्रयोग पद्धति – लेखक : आचार्य महाप्रज्ञ
- प्रेक्षाध्यान : आसन प्राणायाम, मुनि किशनलाल
- प्रेक्षाध्यान : सिद्धान्त और प्रयोग, लेखक : आचार्य महाप्रज्ञ, सम्पादक : मुनि किशन लाल, शुभकरण सुराना
- प्रेक्षाध्यान : यौगिक क्रियाएं, मुनि किशनलाल
- प्रेक्षाध्यान : शरीर विज्ञान, श्री जेटालाल जवेरी, मुनि महेन्द्र कुमार
- प्रेक्षाध्यान : स्वास्थ्य विज्ञान (भाग 1,2), श्री जेटालाल जवेरी, मुनि महेन्द्र कुमार 'तुम स्वस्थ रह सकते हो, लेखक – आचार्य महाप्रज्ञ
- प्रेक्षाध्यान : व्यक्तित्व विकास, लेखक : मुनि धर्मेश कुमार
- प्रेक्षा संदर्शिका – मुनि धर्मेशकुमार
- Preksha Meditation : Therapeutic Thinking by Arun Zaveri
- Science of Living, Ed. Muni Mahendra Kumar

## Semester-IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 401	Gender , School and Society	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the modern concept of Society & organization Gender sensitivity.
- ❖ To understand the Dimension of Development of School Administration.
- ❖ To develop basic understanding & familiarity with Key concept, society, social problem, social relationship, new Trends
- ❖ To develop Knowledge of the role of different NGO & Organization.

**Course Contents:**

**Unit- I Role of Society & Organization in Gender sensitivity.**

- a) Gender Equity : Concept, Needs, Problem and solution
- b) Nature of Society
- c) Women Commission
- d) Right to Education

**Unit- II Dimensions of Development of School**

- a) Administration – Structure of Centre and State education.
- b) Head-Master – Merits, work, Duties and Leadership.
- c) Ideal Teacher – Personality and Qualification
- d) Modern school , Library, Laboratory, and Hostel
- e) Outline of Co-Curricular Activities in School.

**Unit- III Present Education & Society**

- a) Role of education in different Areas (Family, school, and society).
- b) Present Social Problems (unemployment, Students indiscipline, Poverty, Illiteracy, Health & Nutrition)Concept, cause, and Solution
- c) Education and Society Relationship

**Unit- IV Role of organization in Gender sensitivity, society, and school**

- a) NGO – (meaning and Role)
- b) Role of present Social – worker
- c) Govt. Planning
- d) Role of Religious Organization

**Assignment & Practical Work (Any Two)**

- Study of any one significant Problems of a secondary school. Prepare report detail – it's possible Causes and Solutions
- One Term paper solve.
- Critically Evaluate of the different Activities of any one school.
- Case study of any N.G.O working locally.

### Suggested Readings:

1. कुशवाहा, पुष्पलता एवं सक्सैना, कनक, (2006), शैक्षिक प्रबंधन एवं संगठन, आस्था प्रकाशन, जयपुर
2. चौबे, सरयू प्रसाद, (1990), शिक्षा के समाजशास्त्रीय आधार, विनोद पुस्तक मंदिर, आगरा
3. पाण्डेय, रामशक्ल (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
4. बघेला, एच. एस. सिंह, (2007), शैक्षिक प्रबंधन एवं संगठन, राजस्थान प्रकाशन, जयपुर
5. भटनागर, सुरेश (1996), शैक्षिक प्रबंध व शिक्षा की समस्याएं, सूर्या पब्लिकेशन, मेरठ
6. वशिष्ठ, के. के. (1985), विद्यालय संगठन एवं भारतीय समाज की शिक्षा की समस्याएं, लायक बुक डिपो, मेरठ
7. शर्मा, आर. ए. (1995), विद्यालय संगठन एवं शिक्षा प्रशासन, सूर्या पब्लिकेशन, मेरठ
8. शर्मा, ओ. पी., गुप्ता, शोभा (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
9. सुखिया, एस. पी., (2008), विद्यालय प्रशासन एवं संगठन, विनोद पुस्तक मंदिर, आगरा
10. [www.gender.com.ac.uk](http://www.gender.com.ac.uk).
11. [www.genderstudies.org](http://www.genderstudies.org).
12. [www.gendeparddigm.com/publication/html](http://www.gendeparddigm.com/publication/html)

### Semester-IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 402	Reading and Reflecting on texts (EPC)	CC	2	15	35 Practical and Viva-voce	50

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop basic Communication Skills.
- ❖ To promote Creative Writing among students.
- ❖ To acquire the knowledge of art of Speaking.

### Course Contents:

#### Unit- I Reading Comprehension

- a) Explain with stage of any self expression of any one guest.
- b) Enlist errors in reading among school students.
- c) Review of any one books with reading.
- d) Write the educational essence of any five stories and morale thought with reading.

#### Unit- II Writing composition & Action Plan

- a) Recite 10 poem / verse/ stanza and write it.
- b) Prepare an action plan and organize accordingly.
- c) Proof reading.
- d) Prepare list of innovative vocabulary for speaking. (50 words).

#### Assignment & Practical Work (Any Two)

- One term paper on any topic related to above units.
- Prepare a plan and organize any two activities related to above units.
- Demonstrate different type of speaking.
- To identify the causes of ineffective speech and remedies for it.

**Semester-IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 403	Drama and Arts in Education (EPC)	CC	2	15	35 Practical and Viva-voce	50

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop skills of role playing and acting.
- ❖ To acquire the knowledge and develop skill of arts, painting and playing musical Instruments.

**Course Contents:**

**Unit- I Write a Drama Script**

- a) Prepare a Drama for any Social issues (Class VI to XI)
- b) Role playing for different scene of Drama
- c) To know different types of Drama

**Unit- II Fine Arts, materials and its relevancy (Any two works)**

- a) Mehendi, Drawing
- b) Rangoli/Model Preparation
- c) Poster Painting

**Assignment & Practical Work (Any Two)**

- Prepare any one term paper related to above units.
- Plan and organize any two activities related to above units.
- Prepare Arts and crafts with un usual material
- Prepare Fine Arts with paper
- Hand made Architecture
- Soft toys (Teddy bear)
- Dance Art
- Fine Arts/ Painting
- Skill of Playing musical instrument
- Food Shef
- Handicraft

**Semester-IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 401	Chemistry-I	Any Three CC	4	15	20	100
	Chemistry-II				20	
	Chemistry-III				20	
	Chemistry Practical				25 Practical	

## **Chemistry-Paper -I : Inorganic chemistry**

### **Unit I : Chromatography**

Types of chromatographic methods and their applications, principle of differential migration, Adsorption phenomenon, nature of the adsorbent, solvent systems, Rf values.

### **Unit II : Oxidation and Reduction**

Use of redox potential data, analysis of redox cycle, redox stability in water, disproportionation, Frost, the diagrammatic representation of potential data, Latimer and Pourbaix diagrams, principles involved in the extraction of the elements.

### **Unit III : Polymer chemistry of Silicones & Phosphazenes**

Classification, Preparation and Structure of silicones, silicon resin, silicon rubber, silicon fluid, industrial application of silicones.

Preparation, properties, substitution reaction and structure of Phosphazenes

### **Unit IV : Bioinorganic chemistry**

Essential and trace elements in biological processes, metalloporphyrins with special reference to haemoglobin and myoglobin. Biological role of alkali and alkaline earth metal ions with reference to Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>+2</sup> and Mg<sup>+2</sup>, nitrogen fixation.

## **Chemistry-Paper -II : Organic chemistry**

### **Unit I : Carboxylic acids & Dicarboxylic acids**

Nomenclature, structure and bonding, physical properties, acidity of carboxylic acids, effects of substituents on acid strength, preparation of carboxylic acids, reactions of carboxylic acids – Hell Volhard Zelinisky reaction, synthesis of acid chlorides, esters and amides, reduction of carboxylic acids, mechanism of decarboxylation. Method of formation and chemical reaction of haloacids, hydroxyl acids, malic tartaric and citric acids. Methods of formation and chemical reactions of  $\alpha$ ,  $\beta$ - unsaturated monocarboxylic acids. methods of formation and effect of heat and dehydrating agents (succinic, glutaric and adipic acids).

### **Unit II : Carboxylic acids derivatives & Synthetic polymers**

Structure and nomenclature of acid chlorides, esters, amides (urea) and acid anhydrides, relative stability of acyl derivatives. Physical properties, inter conversion of acid derivatives by nucleophilic acyl substitution. Preparation of carboxylic acid derivatives, chemical reactions, mechanism of esterification and hydrolysis (acidic and basic).

Addition or chain growth polymerization. Free radical vinyl polymerization, ionic vinyl polymerization, Ziegler Natta polymerization and vinyl polymers. Condensation or step growth polymerization. Polyesters, polyamides, phenol-formaldehyde resin, urea-formaldehyde resin, epoxy resins and polyurethanes. Natural and synthetic rubbers.

### **Unit III : Alkyl nitrates, Nitroarenes & Halonitroarenes**

Preparation of nitroalkanes and nitroarenes. chemical reactions of nitro alkanes, mechanism of nucleophilic substitution in nitro arenes and their reduction in acidic, neutral and alkaline medium, picric acid.



Reactivity, structure and nomenclature of amines, physical properties, stereochemistry of amines. Separation of mixture of primary, secondary and tertiary amines, structural features effecting basicity of amines.

#### **Unit IV Amines**

Amines salts as phase transfer catalyst, preparation of alkyls and aryl amines (reduction of nitro compounds, nitriles), reductive amination of aldehydic and ketonic compounds. Gabriel- Pthalamide reaction, Hofmann bromamide reaction.

Reaction of amines, electrophilic aromatic substitution in aryl amines, reaction of amines with nitrous acids. Diazotization, mechanism, synthetic transformation of aryl diazonium salts, azocoupling.

### **Chemistry-Paper -III: Physical Chemistry**

#### **Unit I : Second and Third law of thermodynamics & Concept of entropy**

Need for the law, different statements of the law, Carnot cycle and its efficiency. Carnot theorem. Thermodynamic scale of temperature.

Entropy as a state function, entropy as a function of Volume and temperature, entropy as a function of pressure and temperature, entropy change in physical change, Clausius inequality, entropy as a criteria of spontaneity and equilibrium, Entropy change in ideal gases and mixing of gases

Nernst heat theorem, statement and concept of residual entropy, evaluation of absolute entropy from heat capacity data. Gibbs and Helmholtz functions: Gibbs function (G) and Helmholtz function (A) as thermodynamic quantities, A & G as criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change. Variation of G and A with P, V and T.

#### **Unit II : Electrochemistry II**

Types of reversible electrodes, gas metal ion, metal-metal ion, metal insoluble salt-anion and redox electrodes. Electrode reactions, Nernst equation, derivation of cell E.M.F. and single electrode potential, standard hydrogen electrode, reference electrodes, standard electrode potential, sign convention, electrochemical series and its significance.

Electrolytic and Galvanic cells-reversible and irreversible cells, conventional representation of electrochemical cells. EMF of a cell and its measurements, computation of cell EMF, calculation of thermodynamic quantities of cell reactions ( $\Delta G$ ,  $\Delta H$  and K), polarization, over potential and overvoltage.

Concentration cell with and without transport, liquid junction potential, application of concentration cells, solubility product and activity coefficient, potentiometric titrations.

#### **Unit III : pH & Corrosion**

Definition of pH and pKa determination of pH using hydrogen, quinhydrone and glass electrodes, by potentiometric methods. Buffers- mechanism of buffer action. Henderson- Hazel equation. Hydrolysis of salts.

Fundamental of electrolytic corrosion: theories and kinetics, corrosion prevention. Batteries, fuel cells

#### **Unit IV : Physical properties and molecular structure**

Optical activity, polarization (Clausius-Mosotti equation) orientation of dipoles in an electric field, dipole moment, induced dipole moment, measurement of dipole moment temperature method and refractivity method, dipole moment and structure of molecular magnetic properties- paramagnetism, diamagnetism and ferromagnetics.

## Practicals

### Organic Chemistry

#### TLC/ Paper chromatography

- Separation of fluorescein and methylene blue
- Separation of leaf pigments from spinach leaves

#### Synthesis of organic compounds (Any Four)

- Acetylation of salicylic acid aniline glucose and hydroquinone
- Aliphatic electrophilic substitution - Preparation of iodoform from ethanol and acetone
- Aromatic electrophilic substitution
  - Nitration
  - Preparation of m-dinitrobenzene Preparation of p-nitroacetanilide Halogenations
  - Preparation of p-bromoacetanilide
  - Preparation of 2,4,6-tribromophenol
- Diazotization/Coupling
  - Preparation of methyl orange and methyl red
- Oxidation
  - Preparation of benzoic acid from toluene
- Reduction
  - Preparation of aniline from nitrobenzene
  - Preparation of m-nitroaniline from m-dinitrobenzene
  - Physical Chemistry

#### Phase Equilibrium :

- To study the effect of a solute (e.g. NaCl,succinic acid ) on the critical solution temperature of two partially
- miscible liquids (e.g. Phenol-Water system ) and to determine the concentration of that solute in the given phenol-water system.
- To construct the phase diagram of two component (e.g. diphenylamine-benzophenone) system by cooling curve method.

#### Transition Temperature:

- Determination of the transition temperature of the given substance by thermometric/dilatometric method (e.g.  $MnCl_2 \cdot 4H_2O/SrCl_2 \cdot 2H_2O$ ).

#### Thermochemistry :

- To determine the solubility of benzoic acid at different temperature and to determine H of the dissolution process.
- To determine the enthalpy of neutralization of a weak acid/weak base versus strong base/strong acid and determine the enthalpy of ionization of the weak acid /weak base.
- To determine the enthalpy of solution of solid calcium chloride and calculate the lattice energy of calcium chloride from its enthalpy data using Born Haber cycle.

#### Viva-Voce and Record

**Suggested Reading:**

1. कार्बनिक रसायन, सुरेश आमेटा, एच.के. पाण्डे, एच.एस. शर्मा, हिमांशु पब्लिकेशन्स, उदयपुर
2. अकार्बनिक रसायन, ओझा, भोजक, कोठारी, चतुर्वेदी, रमेश बुक डिपो, जयपुर
3. प्रायोगिक रसायन, भार्गव, लवानिया, ओझा, रमेश बुक डिपो, जयपुर
4. भौतिक रसायन, शर्मा, भार्गव, गुप्ता, रमेश बुक डिपो, जयपुर
5. कार्बनिक रसायन, विजयश्री मनोज छंगाणी, अल्का पब्लिकेशन, अजमेर
6. अकार्बनिक रसायन, विजयश्री कोठारी छंगाणी, अल्का पब्लिकेशन, अजमेर
7. प्रायोगिक रसायन, छंगाणी, विजयश्री, खण्डेलवाल, अल्का पब्लिकेशन, अजमेर
8. भौतिक रसायन, वी.के. गोयल, आर.एस. पीतलिया, कॉलेज बुक हाउस, जयपुर

**Semester-IV**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 402</b>	<b>Physics-I</b>	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	<b>Physics-II</b>				<b>20</b>	
	<b>Physics-III</b>				<b>20</b>	
	<b>Physics Practical</b>				<b>25</b> <b>Practical</b>	

**Physics-Paper -I : Statistical And Thermodynamical Physics-II****UNIT I Kinetic Theory of Gases:**

Distribution law of molecular velocities, most probable, average and RMS velocities, Energy distribution function; Experimental verification of the Maxwell velocity distribution the principle of equipartition of energy.

**UNIT II Transport Phenomenon of Gases:**

Transport Phenomenon: Mean free path, distribution of free paths, coefficients of viscosity, thermal conductivity, diffusion and their interrelation.

**UNIT III Classical Statistics:**

Validity of classical approximation, Phase space, micro and macro states; Thermodynamical probability, entropy and thermodynamic probability; Monoatomic ideal gas; Barometric equation ; Specific heat capacity of diatomic gas; Heat capacity of solids.

**UNIT IV Quantum Statistics:**

Black body radiation and failure of classical statistics, Postulates of quantum statistics, indistinguishability , wave function and exchange degeneracy, a priori-probability; Bose Einstein statistics and its distribution function ; Plank distribution function and radiation formula ;Fermi Dirac statistics and its distribution function ,contact potential ,thermionic emission ;Specific heat anomaly of metals ;Nuclear spin statistics (para and ortho hydrogen)

**Suggested Reading :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना,, उष्मा गतिकी एवं सांख्यकीय भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

## Physics-Paper -II : Optics –II

### UNIT-I Fraunhofer Diffraction:

Fraunhofer diffraction at single slit and a circular aperture, intensity distribution and width of central maxima, and determination of slit size, two slit diffraction and its intensity distribution with missing orders. Diffraction due to N slits with intensity distributions. Plane transmission grating its formation and intensity distribution.

### UNIT-II Fresnel class of Diffraction & Resolving Power:

Fresnel class of diffraction, half period zones, zone plate, diffraction due to circular aperture. Diffraction at straight edge, thin and thick wire, rectangular slit. Rayleigh's criterion, resolving power of prism, telescope, microscope and plane transmission grating.

### Unit-III Optical Activity and Holography:

Optical activity, Specific rotation, biquartz and half shade polarimeters. Basic concepts of holography, construction of a hologram and reconstruction of the image, important features of hologram and uses of holography.

### Unit-IV Lasers:

Difference between ordinary and laser source, stimulated and spontaneous emission, stimulated absorption. Einstein's A and B coefficients, population inversion, conditions for laser action, meta-stable states, pumping. Types of lasers, construction, working and energy level schemes of He-Ne and Ruby laser. Properties and uses of lasers.

### Suggested Reading :

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, प्रकाशिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

## Physics-Paper -III: Electronics & Solid State Devices –II

### UNIT-I Transistor:

Notations and volt -ampere characteristics for bipolar junction transistor, concept of load line and operating point, hybrid parameters. Transistor as Amplifiers: CB, CE, CC configurations, its characteristic curves and their equivalent circuits. Analysis of transistor amplifiers using hybrid parameters and its frequency response. Fixed and emitter biasing, bias stability in transistor circuits.

### UNIT-II Amplifiers with Feedback:

Concept of feedback, positive and negative feedback, voltage and current feedback circuits, Advantages of negative feedback- stabilization of gain by negative feedback, Effect of feedback on output and input resistance. Reduction of nonlinear distortion by negative feedback. Effect on gain- frequency response.

### UNIT-III Operational Amplifier & Oscillators:

Differential amplifier, DC levels shifter, operational amplifier, input and Output impedances, input offset current. Application: Unity gain buffer, Adder, Subtractor, Integrator and Differentiator. Feedback

requirements for oscillations, circuit requirement for oscillation, basic oscillator analysis. Colpitt and Hartley oscillators. R-C oscillators, piezoelectric frequency control.

#### **UNIT-IV Field Effect Transistor and Digital Circuits:**

Field Effect Transistor (FET) and its characteristic biasing JFET, ac operation of JFET and MOSFET. Binary, Hexadecimal and Octal number systems. Binary arithmetic. Logic fundamentals AND, OR, NOT, NOR, NAND, XOR gates, Boolean theorems, transistor as a switch, logic gates: circuit realization of logic functions. Analog to digital and digital to analog analysis. DDL, RTL, TTL circuits.

#### **Suggested Reading :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, इलेक्ट्रॉनिकी एवं ठोस प्रावस्था युक्तियां, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

#### **Physics Practical: IV**

1. Plot thermo emf versus temperature graph and find the neutral temperature (Use sand bath)
2. Study of power supply using two diodes/bridge rectifiers with various filter circuits.
3. Study of half wave rectifier using single diode and application of L and  $\pi$  section filters.
4. To study characteristics of a given transistor PNP/NPN (Common emitter, common base and common collector configurations)
5. Determination of band gap using a junction diode.
6. Determination of power factor ( $\cos \phi$ ) of a given coil using CRO.
7. Study of single stage transistor audio amplifier (Variation of gain with frequency).
8. To determine  $e/m$  by Thomson's method.
9. Determination of velocity of sound in air by standing wave method using speaker, microphone and CRO
10. Measurement of inductance of a coil by Anderson's bridge.
11. Measurement of capacitance and dielectric constant of a liquid and gang condenser by de- Sauty Bridge.
12. Any experiment according to theory paper.

#### **Suggested Reading :**

1. प्रभा दशोरा,, द्वितीय वर्ष प्रायोगिक भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

Semester-IV						
Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 403	Mathematics-I	CE*	4	15	20	100
	Mathematics-II				20	
	Mathematics-III				20	
	Mathematics Practical				25 Practical	

### Mathematics-Paper-I : Real analysis and matric space

#### Unit 1 . Sequence and series of functions —

Pointwise and Uniform convergence, Cauchy's criterion, Weierstrass M-test, Abel's test, Dirichlet's test for uniform convergence of series of functions, Uniform convergence and Continuity of series of functions,

#### Unit 2; Term by term differentiation and integration. Metric space —

Definition and examples, Open and Closed sets, Interior and Closure of a set, Limit point of a set.

#### Unit 3:

Subspace of a metric space, Product space, Continuous mappings, Sequence in a metric space, Cauchy sequence. Complete metric space,

Unit 4 : Baire's theorem, Compact sets and Compact spaces, Connected metric spaces.

#### Suggested Reading :

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड, जांगीड़, जितेन्द्र सैनी रियल एनालिसिस एण्ड मैट्रिक स्पेस, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सैनी, रियल एनालिसिस एण्ड मैट्रिक स्पेस, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

### Mathematics-Paper-II : Differential Equations II

Unit 1 ; Exact linear differntial equations, of nth order. Existence and uniqueness theorem.

Unit 2: Linear differential equations of second order. Linear independence of solutions. Solution by transformation of the equation by changing the dependent variable/the independent variable, Factorization of operators, Method of variation of parameters, Method of undetermined coefficients.

Unit 3: Partial differential equations of the first order. Lagrange's linear equation. Charpit's general method of solution.

Unit 4 ; Homogeneous and non-homogeneous linear partial differential equations with constant coefficients. Equations reducible to equations with constant coefficients.

#### Suggested Reading :

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड, जांगीड़, जितेन्द्र सैनी रियल एनालिसिस एण्ड मैट्रिक स्पेस, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सैनी, रियल एनालिसिस एण्ड मैट्रिक स्पेस, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

### Mathematics- Paper-III: Optimization Theory vector calculus

Unit 1: The linear programming problem. Basic solution. Some basic properties and theorems on convex sets.. Fundamental theorem of L.P.P.

Unit 2 ; Theory of simplex method only Duality. Fundamental theorem of duality, properties and elementary theorems on duality only.

Unit 3: Scalar and Vector point functions. Differentiation and integration of vector point functions. Directional derivative. Differential operators.

Unit 4 ; Gradient, Divergence and Curl. Theorems of Gauss, Green, Stokes (without proof) and problems based on these theorems.

#### Suggested Reading :

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी रियल एनालिसिस एण्ड मैट्रिक स्पेस, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सैनी, रियल एनालिसिस एण्ड मैट्रिक स्पेस, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

#### Semester-IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 404	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	

#### Botany-Paper-I : Pteridophytes

##### UNIT I:

Pteridophytes: General account of Pteridophytes, origin, classification (G.M. Smith), evolution of stele, development of sporangia (eusporangiate and leptosporangiate) and life cycle patterns of homosporous and heterosporous pteridophytes.

##### UNIT -II:

Heterospory and seed habit, Apospory and Apogamy. General characteristics of Psilotophyta: Morphology, anatomy and reproduction of *Psilotum*

##### UNIT-III:

General characteristic of Lycophyta and Sphenophyta: Morphology, anatomy and reproduction of *Seleginella* and *Equisetum*

#### UNIT-IV:

General characteristics of Filicophyta: Morphology, anatomy and reproduction of *Pteridium* and *Marsilea*. Economic importance of Pteridophytes.

#### Suggested Readings:

1. Bierhorst, D.W. 1971. Morphology of Vascular Plants. MacMillan Co., N.Y. and Collier-MacMillan Ltd., London.
2. Parihar, N.S. 1996. The Biology and Morphology of Pteridophytes. Central Book Depot, Allahabad.
3. Singh, V., Pandey, P. C. and Jain, D. K. 2013. A text book of Botany. IV edition, Rastogi publication, Meerut.
4. Sharma, O. P. 1990. Textbook of Pteridophyta, MacMillan India Ltd., Delhi.
5. Vashishta, P.C. 1997. Botany for Degree Students- Pteridophyta. S. Chand and Company, New Delhi.
6. Wilson, N. S. and Rothewall, G. W. 1993. Paleobotany and Evolution of Plants. (2<sup>nd</sup> Edition), Cambridge University Press, U. K.

### Botany- Paper-II : Gymnosperms And Paleobotany

#### UNIT I:

Gymnosperm: General characteristics, distribution, classification (K. R. Sporne, 1965) and economic importance. Brief account of Progymnosperm, affinities of Gymnosperms with Pteridophytes and Angiosperms.

#### UNIT: II

General characteristics of Cycadales, Coniferales: Morphology, anatomy, reproduction and life cycle with special reference to the genera *Cycas* and *Pinus*.

#### UNIT: III

General characteristics of Ephedrales: Morphology, anatomy, reproduction and life cycle of *Ephedra*. Palaeobotany: Geological time scale, fossil types and their formation, technique of study of fossils.

#### UNIT IV:

General account of dominant fossils flora of different ages, palaeobotany in relation to exploration of fossil fuels. Primitive land plant: *Rhynia*, Fossil pteridophytes: reconstructed plant-*Lepidodendron* and *Calamites*, Fossil gymnosperm-*Williamsonia*.

#### Suggested Readings:

1. Bhatnagar, S. P. and Moitra, A. 1997. Gymnosperms. New Age International (P) Ltd., Publisher, New Delhi.
2. Clark, D. L. 1976. Fossils, Palaeobotany and Evolution. W.M.C. Brown Company, New York.
3. Meyen, S. V. 1978. Fundamentals of Palaeobotany. Chapman and Hall, London.
4. Sharma, O. P. 1997. Gymnosperms. Pragati Prakashan, Meerut, India.
5. Sporne, K. R. 2002. The Morphology of Gymnosperms. B. I. Pub. Pvt. Ltd. Mumbai, Kolkata, Delhi.
6. Thomas, B. A. and Spice, R. A. 1986. The Evolution and Palaeobotany of land Plants. Publ. Crom. Helm London and Sydney.
7. Vasishta P.C. 1980. Gymnosperms. S. Chand and Co. Ltd., New Delhi.



## Botany- Paper-III : Plant Physiology Ii And Biochemistry

### UNIT I:

Seed dormancy and germination, phases of growth and development; plant movement and biological clock and their regulatory factor. Growth hormones: Structure, biosynthesis, and physiological role of auxins, gibberellins.

### UNIT II:

Structure, biosynthesis and physiological role of Cytokinin and Ethylene. Growth inhibitors: Abscisic acid. Physiology of Flowering: Photoperiodism, flowering stimulus, florigen concept, vernalization. Discovery, chemical nature and role of phytochrome in photomorphogenesis and senescence.

### UNIT III:

**Carbohydrates:** Introduction, Importance, Nomenclature and Classification of Carbohydrates, Molecular Structure and Function of monosaccharides, oligosaccharides and polysaccharides. Glycosidic linkage and Glycoprotein.

**Lipids**—Structure and classification of lipids, fatty acids- saturated and unsaturated, Alpha Oxidation, Beta oxidation and Glyoxalate Cycle, oxidation of fatty acids.

### UNIT IV:

**Proteins**- Amino acids as basic units, structure and classification of proteins (primary, secondary, tertiary and quaternary), Physical and Chemical Properties.

**Enzymes** :Structure, Nomenclature and classification of enzymes, Characteristics of Enzymes, mechanism of action, Multi Enzyme System, Regulation of Enzyme Activity.

### Suggested Readings:

1. Berg, J.M., Tymoczko, J.L., Stryer, L. 2006. Biochemistry. 6th Edition, W.H. Freeman and Company, New York.
2. Buchanan, B., Gruissem, W. and Jones, R. 2000. Biochemistry and Molecular Biology of Plants. American Society of Plant Biologists, USA.
3. Conn, E.E., Stumpf, P.K. and Bruening, G. 2006. Outlines of Biochemistry. 4<sup>th</sup> Edition, John Wiley and Sons Inc. New Jersey, USA.
4. Elliot, W.H. and Elliot, D.C. 2009. Biochemistry and Molecular Biology. Oxford Publishers, India.
5. Hopkins, W.G. and Huner, P.A. 2008. Introduction to Plant Physiology. John Wiley and Sons, USA.
6. Mukherjee, S., Ghosh, A.K. 2006. Plant Physiology. New Central Book Agency, Calcutta.
7. Nelson, D.L. and Cox, M.M. 2004. Lehninger Principles of Biochemistry, 4<sup>th</sup> edition, W.H. Freeman and Company, New York, USA.
8. Ranjit, K. 2008. Research methodology: A step by step guide for beginners. Pearson, India.
9. Sinha R. K., 2007. Modern Plant Physiology. 2<sup>nd</sup> Edition Tata McGraw, New Delhi.
10. Taiz, L. and Zeiger, E. 2006. Plant Physiology. 4<sup>th</sup> Edition Sinauer Associates Inc. Publishers, Massachusetts, USA.
11. Voet, D. and Voet, J.G. 2000. Biochemistry, John Wiley, New York.
12. Wilson, K. and Walker, J. 2008. Principles and techniques of Biochemistry and Molecular Biology, Cambridge University Press.

## BOTANY PRACTICAL IV

1. Double staining technique and technique for preparation of permanent slides.
2. Study of following with the temporary slide preparation and specimens:  
**Pteridophytes:** *Psilotum*, *Selaginella*, *Equisetum*, *Pteridium* and *Marselia* (Vegetative and reproductive).
3. **Gymnosperm:** *Cycas* (coralloid root, T.S. of coralloid root, T.S. of leaflet, petiole, male cone and L.S. of male cone, microsporophyll, megasporophyll, T.S. of microsporophyll, ovule, L.S. of ovule and seed).
4. *Pinus* (T.S. of stem and needle, male cone and female cone, L.S. of male cone and female cone, seed).
5. *Ephedra* (Stem T.S., leaf T.S., male and female cones, L.S. of ovule, seed).
6. Study of fossil specimens.
7. Principle, working and use of colorimeter and spectrophotometer.
8. Principle, types and application of centrifuges.
9. Principle and types of Chromatography.
10. Separation of amino acids by paper chromatography and thin layer chromatography.
11. Microchemical tests for carbohydrates (Fehling's test, Benedicts test) and proteins (Ninhydrin test, Xanthoproteic test).
12. Separation of chlorophyll and carotenoid pigments by solvent method
13. Separation of chlorophyll and carotenoid pigments by paper chromatography .
14. Estimate chlorophyll and carotenoid content in C3 and C4 plant.
15. To test the presence of ascorbic acid in different plant juices.
16. Bioassay of plant growth hormone(auxin,gibberellins and cytokinin).
17. Measurement of growth using auxanometer.

### Semester-IV

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 405</b>	Zoology-I	<b>CE*</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Zoology-II				<b>20</b>	
	Zoology-III				<b>20</b>	
	Zoology Practical				<b>25</b> <b>Practical</b>	

### Zoology-Paper-I : Life and Diversity of animals – Chordata II

#### UNIT-I: Comparative Anatomy of Vertebrates-I

Comparative anatomy of the following organ systems of Scoliodon, Rana,

- 1.1 Integument and its derivatives.
- 1.2 Alimentary canal and accessory digestive glands.
- 1.3 Respiratory organs.

## **UNIT-II Comparative Anatomy of Vertebrates-II**

Comparative anatomy of the organ systems of Scoliodon, Rana,

- 2.1 Heart, aortic arches and their evolution.
- 2.2 Brain and cranial nerves,
- 2.3 Comparative structure and evolution of urinogenital system (pro, meso and metanephric kidney and genital ducts in males and females).

## **Unit III: Comparative Anatomy of Vertebrates-III**

Comparative anatomy of the organ systems of Scoliodon, Rana,

- 3.1 Osteology: Girdles, limb bones, Vertebrae, ribs and sternum; jaw suspension, Structure and types of vertebrae
- 3.2 Sense Organ: Comparative anatomy of eye
- 3.3 Sense Organ: Membranous labyrinth; sound production

## **Unit IV: Miscellaneous**

- 4.1 Reptila: Poisonous and Non Poisonous Snakes of India.
- 4.2 Aves: Flight Adaptation; Flight Muscles; Perching Mechanism
- 4.3 Mammals-I: Dentition; Adaptive radiation

## **Zoology-Paper-II: Biochemistry and Endocrinology**

### **Unit I: Carbohydrates and their metabolism**

- 1.1 Biomolecule: Structure, types, function and properties of Carbohydrate
- 1.2 Metabolism: Glycolysis; fermentation; citric acid cycle; gluconeogenesis;
- 1.3 Glycogen metabolism (glycogenesis and glycogenolysis).

### **Unit II: Lipids and their metabolism**

- 2.1 Biomolecule: Structure, types, function and properties of Lipid
- 2.2 Fatty acid; Triglycerides and Steroids
- 2.3 Metabolism: Biosynthesis and  $\beta$ -oxidation of saturated fatty acids, ketogenesis
- 2.4 Lipid Disorders: Ketosis, Lipidosis

### **Unit III: Proteins and their metabolism**

- 3.1 Biomolecule: Amino acids; essential and non-essential amino acids
- 3.2 Biomolecule: Structure, types, function and general properties of Proteins; four levels of structures in proteins
- 3.3 Enzymes: Major classes, Basic mechanism of action, kinetics and factors affecting enzyme activities

### **Unit IV: Endocrine Glands and Disorders**

Structure, biological actions and regulation of following endocrine glands:

- 4.1 Pituitary
- 4.2 Thyroid; Thymus
- 4.3 Adrenal; Pineal; Pancreas
- 4.4 Testes and Ovary

## Zoology-Paper-III: Physiology- II

### Unit –I: Nerve and Muscle Physiology

- 1.1 Nerves: Types of neurons, E.M. structure of neuron; Myelinated and non-myelinated nerve fibres
- 1.2 Muscles: Ultra structure of striated muscle, Physiology of Muscle Contraction; sliding filament theory of muscle contraction; Neuromuscular Junction

### Unit II: [Sensory Physiology]

- 2.1 Structure of human eye; image formation and colour vision
- 2.2 Structure of human ear, mechanism of hearing
- 2.3 Elementary idea of EEG, MRI, CT-scan, mental health (epilepsy, neurosis, psychosis)

### Unit III [Reproduction]

- 3.1 Oestrous and menstrual cycle
- 3.2 Male and female sex hormones
- 3.3 Causes of infertility in male and female

### Unit IV [Hormones]

- 4.1. General mechanism of hormone action: Peptide hormone; Steroid hormone
- 4.2 Neurohypophysial hormones – Oxytocin and Vasopressin
- 4.3 Hormones of the Adenohypophysis; Hypothalamic control of Adenohypophysis; Dwarfism; Acromegali

## Zoology Practical- IV

### Paper-I: Study of Chordates:

#### A. Study of Specimen.

- a) **Reptilia:** Chelone, Trionyx, Testudo, Sphenodon, Hemidactylus, Draco, Phrynosoma, Chamaeleon, Typhlops, Python, Eryx (Sand Boa), Bungarus, Naja, Vipera, Hydrophis, Crocodylus, Alligator, Gavials
- b) **Aves:** Archeopteryx, Pavo cristatus, Psittacula (parrot), Great Indian Bustard, Saras crane
- c) **Mammals:** Echidna (Tachyglossus/ Spiny Anteater), Ornithorhynchus (Duck-billed Platypus), Macropus (Kangaroo), Bat, Loris, Manis, Herpestes (Mongoose)

#### B. Study of Permanent Slides.

- a. V.S. of Skin of Reptiles, Aves and Mammals.

#### C. Osteology (Comparative study of amphibia to mammals articulated and disarticulated)

- a) Vertebrae.
- b) Limb bones.
- c) Girdles.
- d) Ribs.

#### D. Dissection:

- a) A Rat: External Feature, General anatomy, General Viscera [ through chart/ video/ CAL]

### Paper-II: Biochemistry

1. Biochemical detection of carbohydrates, proteins and lipids in a given sample
2. Calorimetric estimation of glucose / Protein in a given solution

### **Paper-III: Physiology II**

#### **I. Study of Permanent Slides**

- a. Histological Slides: Bone, Cartilage, Striated Muscle Fibre
- b. Endocrine Glands: Pituitary, Thyroid, Parathyroid, Thymus, Adrenal cortex, Adrenal Medulla, ovary, testis
- c. To study the knee jerk reflex in man

#### **Suggested Readings:**

##### **Biochemistry:**

1. Stryer, I. (1988). Biochemistry II. Freeman and Co.
2. Plummer, L. (1989). Practical biochemistry. Tata McGraw.
3. Murray, R. K. et al (1995). Harper's biochemistry, 24<sup>th</sup> ed. Prentice Hall.
4. Lewin, B. (2000). Gene. John Wiley & sons.
5. Strikburger, M. W. (1994). Genetics. Macmillan Publ. Co.
6. Russel, P. J. (1998). Genetics. The Benjamin Cummins Publishing Co.
7. Lehninger (2004). Principles of biochemistry 4<sup>th</sup> ed.
8. Gilbert, F. (2000). Basic concepts in biochemistry: A student's survival guide. 2<sup>nd</sup> ed. McGrawHill
9. Price, N. E. & Stevens, L. (1982). Fundamentals of enzymology. OUP
10. K.V. Shastri, 2015, Animal Physiology and Biochemistry, Rastogi Publication, Meerut, Delhi

##### **Physiology:**

1. Ganong: Review of Medical Physiology (22<sup>nd</sup> ed. 2005, Lange Medical)
2. Guyton and Hall: A text book of Medical Physiology (11<sup>th</sup> ed. 2006, Saunders).
3. Keele & Neil: Samson Wright's Applied Physiology (13<sup>th</sup> ed. 1989, Oxford)
4. K.V. Shastri : Physiology
5. William S. Hoar, 1976. General and Comparative Physiology, Prentice
6. K.V. Shastri, 2015, Animal Physiology and Biochemistry, Rastogi Publication, Meerut, Delhi

##### **Endocrinology**

1. Hadley: Endocrinology (5<sup>th</sup> ed. 2000, Prentice Hall)
2. Turner and Bagnara: General Endocrinology (6<sup>th</sup> ed. 1984, Saunders)
3. Norris: Vertebrate Endocrinology, Fourth Edition, 2007, Academic Press

#### **Semester-V**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 501	General English	CC	4	30	70	100

#### **Objective:**

1. Students will be able to recognize and understand the meaning of targeted grammatical structures in written and spoken form.
2. Students will practice the grammar skills involved in writing sentences and short paragraphs.

#### **Unite -I Grammar and Usage:**

1. Parts of Speech
2. Basic Sentence Patterns
3. Sentences beginning with 'It' and 'There'
4. Tenses
5. Phrasal Verbs
6. Articles and other Determiners
7. Direct & Indirect Speech
8. Active and Passive Voice



## **Course Contents:**

### **Unit-I Concept and Nature of Education**

- a) Education : Concept, Nature, Objectives and Functions
- b) Role and problems of education in nation building
- c) Current educational provisions of education in India (One year)
- d) Educational thoughts of Indians thinkers (Vivekanand and Mahatma Gandhi)

### **Unit-II Social Aspects of Education**

- a) Sociology in education : Concept, Functions and Contribution
- b) Social change : Meaning, Definition, Factors and Effects of Education
- c) Social mobility
- d) Education and culture
- e) Role of education in development of social skills.

### **Unit-III Progressive Development of Education in Terms of Commissions and Committees**

- a) Characteristics of ancient, medieval and british period of education.
- b) Radhakrishna Commission of Education (1948)
- c) Mudaliyer Commission of Education (1952)
- d) Kothari Commission of Education(1964)
- e) National education policy (1968 and 1986)
- f) Revised national education policy (1992)

### **Unit : IV Programmes for Education**

- a) Issues and problems in prevailing education system at National and State level
- b) Right to Education Act 2009
- c) Sarva Shiksha Abhiyan and Mid day Meal Programme
- d) Rashtriya Madhyamik Shiksha Abhiyan
- e) Education as related to social equity and equality of educational opportunities

### **Assignment & Practical Work (Any Two)**

- Write the educational contribution of any one Indian Thinker.
- Prepare a term paper on how we can inculcate values in the present system of education.
- Prepare a structure of education since ancient period to present time.

### **Practical Works : (Any one)**

- Concept of education in Emerging Indian Society as relevant to school children's
- Development of moral attitude through self management.

### **Suggested Readings:**

1. Crown, R.G. (1965), A Society of Education, Engineering patterns of class, status and power in the public school, New York : Appleton-century crofts.
2. Durkhem, S. (1956), Education and Sociology of Education, New York : The Free Press of Glenoce.
3. Gore, M.S., et. al. (1967), Papers in the sociology of Education in India, New Delhi, NCERT.

4. Hanseu, D.A. et. al (1965), *On Education : Sociological Perspective*. New York :John Wiley and Sons.
5. चौबे, सरयूप्रसाद, (2005), शिक्षा के समाजशास्त्रीय आधार, विनोद पुस्तक मंदिर, आगरा
6. त्रिपाठी, शालिग्राम, (2008), शिक्षा सिद्धान्त, कनिष्क पब्लिशर्स डिस्ट्रीब्यूटर्स, अंसारी रोड, नई दिल्ली
7. पाण्डेय, रामशक्ल, (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
8. पाठक, पी. डी., (2008), भारतीय शिक्षा और उसकी समस्याएँ, विनोद पुस्तक मंदिर, आगरा
9. पाठक एवं त्यागी, (2008), शिक्षा के सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
10. पाण्डेय, रामशक्ल, (2007), शिक्षा के मूल सिद्धान्त, विनोद पुस्तक मंदिर, आगरा
11. शर्मा, ओ. पी., गुप्ता शोभा, (2008), उभरते हुए भारतीय समाज में शिक्षा, विनोद पुस्तक मंदिर, आगरा
12. सिन्हा, मंजरी, सिन्धु, आई. एस., (2007), विकासोन्मुख भारतीय समाज में शिक्षा तथा शिक्षक की भूमिका, विनोद पुस्तक मंदिर, आगरा

#### Semester-V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 501</b>	Chemistry-I	<b>Any Three CC</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Chemistry-II				<b>20</b>	
	Chemistry-III				<b>20</b>	
	Chemistry Practical				<b>25</b> Practical	

#### Chemistry-Paper-I : Inorganic Chemistry

##### Unit I: Coordination Compounds

Werner's coordination theory and its experimental verification, effective atomic number concept, chelates, nomenclature of coordination compounds, isomerism in coordination compounds, Valence bond theory of transition metal complexes with reference to tetrahedral, octahedral and cubic complexes, back bonding, Limitations of valence bond theory.

##### Unit II: Chemistry of elements of first transition series

Characteristic properties of d block elements, properties of the elements of the first transition series, complexes illustrating relative stability of their oxidation states, coordination number and geometry, Types of magnetic behaviour, magnetic and molar susceptibility, determination of magnetic susceptibility, orbital contribution of magnetic moments, spin-only formula, correlation of  $\mu_S$  and  $\mu_{eff}$  values, applications of magnetic moment.

##### Unit III: Chemistry of lanthanide elements

Position in periodic table, occurrence and isolation, Electronic structure, oxidation states and ionic radii, lanthanide contraction and its consequences, complex formation, spectral properties, magnetic properties, Separation of lanthanides Application of lanthanides.



#### **Unit IV: Chemistry of actinides**

Occurrence, electronic configuration, General features and chemistry of actinides, oxidation states and stereochemistry, spectral properties, magnetic properties, chemistry of separation of Np, Pu and Am from U, comparison of lanthanide and actinide.

### **Chemistry- Paper-II : Organic Chemistry**

#### **Unit I Electromagnetic spectrum: Absorption spectra ( UV ) & Infrared IR absorption spectroscopy**

Ultraviolet absorption spectroscopy- absorption laws (Beer- Lambert Law) molar absorptivity, presentation and analysis of UV spectra, types of electronic transitions, effect of solvents on transitions, effect of conjugation, concept of chromophore and auxochrome. Bathochromic, hypsochromic and hyperchromic and hypochromic shifts, UV spectra of conjugated enes and enones.

Molecular vibrations, Hooke's law, selection rules, intensity and position of IR bands, measurement of IR spectrum, finger print region, characteristic absorptions of various functional groups and interpretation of IR spectra of simple organic compounds

#### **Unit II : Organometallic compounds**

The Grignard reagent- formation, structure and chemical reaction, organozinc compound: formation and chemical reactions. Organolithium compounds- Formation and chemical reactions.

Nomenclature, structural features, methods of formation and chemical reactions of thiols, thioethers, sulphonic acids, sulphonamide and sulpha guanidine.

#### **Unit III : Heterocyclic compounds- I**

Introduction, molecular orbital picture and aromatic characteristic of pyrrole, furane, thiophene and pyridine. Methods of synthesis and chemical reactions with particular emphasis on the mechanism of electrophilic substitution. Mechanism of nucleophilic substitution reaction in pyridine derivatives. Comparison of basicity of pyridine, piperidine and pyrrole

#### **Unit IV : Heterocyclic compounds- II:**

Introduction to condensed five and six membered hetrocycles. Preparation and reaction of indole, quinoline and isoquinoline with special reference to Fischer indole synthesis, Skraup synthesis and Bischler-Napieralski synthesis, mechanism of electrophilic substitution reaction of indole, quinoline and isoquinoline.

### **Chemistry- Paper-III : Physical Chemistry**

#### **Unit I: Phase Equilibrium I**

Statement and meaning of the terms-phase, component and degree of freedom, thermodynamic derivation of Gibbs phase rule, phase equilibria of one component system-water, CO<sub>2</sub> and S systems.

Phase equilibria of two component system: Solid-liquid equilibria, simple eutectic Bi-Cd, Pb-Ag systems, desilverisation of lead.

Solid solutions: Compound formation with congruent melting point (Mg-Zn) and incongruent melting point, (NaCl-H<sub>2</sub>O), (FeCl<sub>3</sub>-H<sub>2</sub>O) and CuSO<sub>4</sub>-H<sub>2</sub>O system. Freezing mixtures, acetone-dry ice.

## Unit II : Phase Equilibrium II

Liquid –Liquid mixtures- Ideal liquid mixtures. Raoult's and Henry's law. Non ideal system-azeotropes-HCl –H<sub>2</sub>O and ethanol-water systems.

Partially miscible liquids- Phenol-water, trimethylamine-water, nicotine-water systems. Lower and upper consolute temperature. Effect of impurity on consolute temperature.

Immiscible liquids, steam distillation. Nernst distribution law- Thermodynamic derivation, applications.

## Unit III : Quantum Mechanics I

Black-body radiation, Planck's radiation law, photoelectric effect, heat capacity of solids, Bohr's model of hydrogen atom (no derivation) and its defects. Compton Effect. De Broglie hypothesis, Heisenberg's uncertainty principle, Sinusoidal wave equation, Hamiltonian operator, Schrodinger wave equation and its importance, physical interpretation of the wave function, postulates of quantum mechanics, particle in a one dimensional box.

Schrodinger wave equation for H-atom, separation into three equations (without derivation), quantum numbers and their importance, hydrogen like wave functions, radial wave functions, angular wave functions.

## Unit IV : Adsorption

Difference between adsorption, absorption and sorption, Chemisorption, adsorbent and adsorbate, reversible and irreversible adsorption, Characteristics of adsorption, adsorption of gases by solids, factors affecting adsorption, types of adsorption, types of adsorption isotherms, Freundlich and Langmuir adsorption isotherms.

## Term paper/ practicals

### Inorganic chemistry:

#### Preparation:

1. Preparation of sodium trioxalato ferrate (III), Na<sub>3</sub> [Fe(C<sub>2</sub>O<sub>4</sub>)<sub>3</sub>] ( b ) preparation of Ni-DMG complex [ Ni(DMG)<sub>2</sub>]
2. Preparation of copper tetraammine complex [Cu(NH<sub>3</sub>)<sub>4</sub>]SO<sub>4</sub>
3. Preparation of cis- and trans- bisoxalato diaqua chromates (III) ion
4. Preparation of sodium tetrathionate

## Organic Chemistry

**Qualitative analysis:** Analysis of an organic mixture containing two solid components using water, NaHCO<sub>3</sub>, and NaOH for separation and preparation of suitable derivatives.

### Suggested Reading:

1. A New Concise Inorganic Chemistry; Fifth Edition; J.D. Lee; Blackwell Science, London, 1989.
2. Inorganic Chemistry; Third Edition; D.F. Shriver and P.W. Atkins; Oxford University Press, New York, 1999.
3. Inorganic Chemistry; Third Edition; Gary L. Miessler and Donald A. Tarr; Pearson Education Inc. Singapore, 2005.
4. Organic Chemistry; Seventh Edition; T.W. Graham Solomons & Craig B. Fryhle; John Wiley and Sons, 1998.
5. Organic Chemistry; Sixth Edition; Robert Thornton Morrison & Robert Neilson Boyd; PHI Pvt. Ltd, 2004.
6. Organic Chemistry Vol. I ; Fifth Edition; I.L. Finar; Longman Scientific and Technical, Singapore, 1975.
7. Organic Chemistry: Vol I, Mukerjee and Singh

8. Organic Chemistry: Vol 2, Mukerjee and Singh
9. Organic Chemistry: Vol 3, Mukerjee and Singh
10. A Text Book of Physical Chemistry; A.S. Negi, S.C. Anand; New Age International (P) Limited, New Delhi, 2002.
11. The Elements of Physical Chemistry; P.W. Atkins; Oxford University Press, 1996.
12. University General Chemistry; C.N.R. Rao; Macmillan India Ltd., New Delhi, 1998.
13. Physical Chemistry: Puri Sharma and Pathania
14. Physical Chemistry: J. Moore
15. कार्बनिक रसायन, सुरेश आमेटा, एच.के. पाण्डे, एच.एस. शर्मा, हिमांशु पब्लिकेशन्स, उदयपुर
16. अकार्बनिक रसायन, ओझा, भोजक, कोठारी, चतुर्वेदी, रमेश बुक डिपो, जयपुर
17. प्रायोगिक रसायन, भार्गव, लवानिया, ओझा, रमेश बुक डिपो, जयपुर
18. भौतिक रसायन, शर्मा, भार्गव, गुप्ता, रमेश बुक डिपो, जयपुर
19. कार्बनिक रसायन, विजयश्री मनोज छंगाणी, अल्का पब्लिकेशन, अजमेर
20. अकार्बनिक रसायन, विजयश्री कोठारी छंगाणी, अल्का पब्लिकेशन, अजमेर
21. प्रायोगिक रसायन, छंगाणी, विजयश्री, खण्डेलवाल, अल्का पब्लिकेशन, अजमेर
22. प्रायोगिक रसायन, वी.के. गोयल, आर.एस. पीतलिया, कॉलेज बुक हाऊस, जयपुर
23. कार्बनिक रसायन, वी.के. रस्तोगी, यसपाल सिंह, कॉलेज बुक हाउस, जयपुर

#### Semester-V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 502	Physics-I	CE*	4	15	20	100
	Physics-II				20	
	Physics-III				20	
	Physics Practical				25 Practical	

#### Physics-Paper-I : Mathematical Physics and Special Theory of Relativity – I

##### UNIT I Coordinate Transformation:

Orthogonal curvilinear coordinate system, scale factors, expression for gradient, divergence, curl and their application to Cartesian, circular cylindrical and spherical polar coordinate. Coordinate transformation and Jacobian.

##### UNIT II Tensor analysis & Dirac Delta function:

Transformation of covariant, contravariant and mixed tensor; Addition, multiplication and contraction of tensors; Metric tensor and its use in transformation of tensors. Dirac delta function and its properties.

##### UNIT III Special functions:

The second order linear differential equation with variable coefficient and singular points, series solution method and its application to the Hermite, Lagendre and Laguerre differential equations: basic properties like orthogonality, recurrence relation, graphical representation and generating function of Hermite, Lagendre, Leguerre functions (simple applications)

#### **UNIT IV Boundary Value Problems:**

Techniques of separation of variables and its application to following boundary value problems

- (i) Laplace equation in three dimensional Cartesian coordinate system- line charge between two earthed parallel plates (ii) Helmholtz equation in circular cylindrical coordinates – cylindrical resonant cavity, (iii) Wave equation in spherical polar coordinates – the vibrations of a circular membrane, (iv) Diffusion equation in two dimensional Cartesian coordinate system – heat conduction in a thin rectangular plate, (v) Laplace equation in spherical coordinate system – electric potential around a spherical surface.

#### **Suggested Reading :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, गणितीय भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

### **Physics- Paper-II : Quantum Mechanics – I**

#### **UNIT I Origin and Experimental Evidence of Quantum Theory:**

Development of quantum theory –Historical development and experimental evidence for quantum theory  
Electromagnetic Radiation: Black Body Radiation, qualitative discussion of spectral distribution of energy, limitation of classical theory, Planck's radiation law, photoelectric effect, Compton effect, Matter Waves: De Broglie hypothesis, Davison Germer experiment.

#### **UNIT–II Uncertainty Principles and Schrodinger's Wave Mechanics :**

Uncertainty principle and its consequences gamma ray microscope, diffraction at a single slit, its application such as (i) Non existence of electron in nucleus, (ii) Ground state energy of H-atom, (iii) Ground state energy of harmonic oscillator (iv) Natural width of spectral lines. Schrodinger's equation : Its need and justification, time dependent and time independent forms, physical significance of the wave function and its interpretation, probability current density.

#### **UNIT–III Postulate's and Operators of Quantum Mechanics :**

Operators in quantum mechanics, definition of an linear operator. Linear and Hermitian operator, state function. Expectation value of dynamical variable-position, momentum and energy, Fundamental postulates of quantum mechanics, Eigen function and eigen values, Degeneracy. Orthogonality of eigen function, Commutation relations, Ehrenfest's theorem and complementarily wave packet, group and phase velocities, Principle of superposition, Gaussian wave packet.

#### **UNIT IV Simple Solutions of Schrodinger equation :**

Time independent Schrodinger equation and stationary state solution, Boundary and continuity conditions on the wave function, particle in one dimensional box, eigen function and eigen values , discrete energy levels, extension of results for three dimensional case and degeneracy of levels.

#### **Suggested Reading:**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, क्वांटम यांत्रिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

## Physics- Paper-III: Solid State Physics

### UNIT-I Crystal Binding and Crystal Structure:

Various types of Bindings: Cohesive energy and compressibility of ionic crystals, Space Lattice and Crystal Structure, Bravais Lattice, Miller Indices and Crystal Structure, Spacing of Planes in Crystal Lattice, Determination of different crystal properties for SC, FCC, BCC, HCP and perovskite structure, X-ray Diffraction and Bragg's Law, Laue equation of X-ray diffraction, Debye Scherer and Laue Camera.

### UNIT-II Thermal and Electrical Properties of the Solids:

Concepts of Thermal Energy and Phonons, Internal Energy and Specific Heat, the Various Theories of Lattice Specific Heat of Solids: The Einstein Model, Debye Model, Electronic Contribution of the internal Energy hence to the Specific Heat of Metals, Thermal Conductivity of the lattice. Electrical Conductivity: Drude-Lorentz Theory of Electrical Conductivity, Boltzmann Transport Equation, Sommerfeld Theory of Electrical Conductivity, Mathiessen's Rule, Thermal Conductivity and Wildemann-Franz's Law, The Hall Effect.

### UNIT-III Band Theory of Solids:

Formation of Bands, Periodic Potential of a Solid, Wave Function in a Periodic Lattice and Bloch Theorem, Density of states, Kronig Penny Model, Velocity of the Bloch electrons and Dynamical Effective Mass, Momentum, Crystal Momentum and Physical Origin of the Effective Mass, Negative Effective Mass and concept of Holes, The distinction between metals, insulators, and semiconductors.

### UNIT-IV Magnetic Properties:

Classification of Magnetic Materials, Origin of Atomic Magnetism, Dynamics of Classical Dipole In Magnetic Field, Magnetic Susceptibility, phenomenon of Diamagnetic, Para magnetic susceptibility of Ionic Crystal, Ferromagnetism, Temperature Dependence of Saturation of Spontaneous Magnetization, The Paramagnetic Region, the Nature of Ferromagnetism, Nature and Origin of Weiss Molecular Field, Heisenberg's Exchange Interaction, (Quantum Theory of Ferromagnetism), Relation between Exchange Integral and Weiss Constant, Ferromagnetism Domains, Magnetostriction

### Suggested Reading :

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, ठोस अवस्था भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

### Physics Practical: V

1. Study of a RC transmission line at 50 Hz
2. Study of a RC transmission line
  - at fixed frequency
  - at variable frequency
3. Study of resonance in a LCR circuit 9 (Using air core inductance and damping by metal plate)
  - At fixed frequency by varying C, and
  - by varying frequency
4. Study of characteristics of junction diode and zener diode
5. Study of
  - Recovery time of junction diode and point contact diode

- Recovery time as function of frequency of operation and switching current
- 6. To design zener regulated power supply and study the regulation with various loads.
- 7. To study the characteristics of a field effect transistor (FET) and design/study amplifier of finite gain
- 8. To study the frequency response of a transistor amplifier and obtain the input and output impedance of the amplifier.
- 9. To Design and study of an R-C phase shift oscillator and measure output impedance (frequency response with change of component of R and C).
- 10. To study a voltage multiplier circuit to generate high voltage D.C. from A.C.
- 11. Using discrete components, study OR, AND, NOT logic gates, compare with TTL integrated circuits (I.C.'s).
- 12. Application of operational amplifier (OP-AMP) as : Minimum two of the following exercises-  
(a) Buffer (for accurate voltage measurement) (b) Inverting amplifier (c) Non inverting amplifier  
(d) Summing amplifier.

**Suggested Reading :**

1. प्रो. प्रभा दशोरा, तृतीय वर्ष प्रायोगिकी भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, नई दिल्ली, 2015

Semester-V						
Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 503	Mathematics-I	CE*	4	15	20	100
	Mathematics-II				20	
	Mathematics-III				20	
	Mathematics Practical				25 Practical	

**Mathematics-Paper-I: Algebra - I**

**Unit 1:** Definition and simple properties of Groups and Subgroups. Permutation group, Cyclic group. Cosets,

**Unit 2 ;** Lagrange's theorem on the order of subgroups of a finite order group.

**Unit 3:** Morphism of groups, Cayley's theorem. Normal, subgroups and Quotient groups. Fundamental theorems of Isomorphism.

**Unit 4:** Definition and simple properties of Rings and Subrings. Morphism of rings. Embedding of a ring

**Suggested Reading :**

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी, बीजगणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सैनी, बीजगणित, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

### **Mathematics- Paper-II: Complex Analysis -I**

**Unit 1:** Complex plane. Connected and Compact sets. Curves and Regions in complex plane. Jordan curve Theorem (statement only). Extended complex plane. Stereographic projection.

**Unit 2 ;** Complex valued function — Limits, Continuity and Differentiability. Analytic functions, Cauchy-Riemann equations (Cartesian and polar form). Harmonic functions, construction of an analytic function.

**Unit 3 :** Complex integration, Complex line integrals, Cauchy integral theorem, Indefinite integral, Fundamental theorem of integral calculus for complex functions. Cauchy integral formula, Analyticity of the derivative of an analytic function, Morera's theorem, Poisson integral formula, Liouville' theorem.

**Unit 4 :** Taylor's theorem. Laurent's theorem. Maximum modulus theorem

#### **Suggested Reading :**

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी, बीजगणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सैनी, बीजगणित, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

### **Mathematics- Paper-III: Dynamics**

**Unit 1:** Velocity and acceleration — along radial and transverse directions, along tangential and normal directions.

**Unit 2 :** S.H.M., Hooke's law, motion along horizontal and vertical elastic strings.

**Unit 3:** Motion in resisting medium - Resistance varies as velocity and square of velocity.

**Unit 4:** Work and Energy. Motion on a smooth curve in a vertical plane. Motion on the inside and outside of a smooth vertical circle.

#### **Suggested Reading :**

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी, बीजगणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सैनी, बीजगणित, जयपुर पब्लिशिंग हाउस, जयपुर, 2015

### Semester-V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 504	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	

#### Botany-Paper-I: Morphology Of Angiosperms

##### UNIT 1: Plant habit

The basic plan of flowering plants, modular types of growth, diversity of plant form in annuals, biennials and perennials, evolution of tree habit in gymnosperm, monocotyledons and dicotyledons, trees largest and longest lived plants.

##### UNIT II Morphology of Root System

**Root:** Structure of root, types and structural modification for storage, physiological and mechanical, interaction of root with other microorganisms.

**Stem:** Structure, types and modification (storage and mechanical), branching pattern, monopodial and sympodial growth, canopy architecture.

##### UNIT III: II Morphology of Leaves

**Leaves:** Origin, development, types, phyllotaxy, venation, lamina parts, shapes, size and modifications, leaf surface features and appendages, leaf surface area, stomata and trichome structure.

##### UNIT IV: II Morphology of Flower and Seed

**Flower:** Flower as a modified shoot, detailed structure of flower, types of inflorescence and specialized inflorescence, **fruit** Structure, types and classification,

**Seed:** detail structure of seed and seed coat (monocot and dicot), significance of seed, suspended animation, dispersal strategies.

##### Suggested Readings:

1. Eames, A. J. 1981. Morphology of Angiosperms .McGraw Hill, New York.
2. Gifford, E.M. and Foster, A.S. 1989. Morphology and Evolution of Vascular Plants. W.H. Freeman, New York.
3. Sporne, K.R. 1974. Morphology of Angiosperms. Hutchinson University Press, London.
4. Singh, V.P., Pandey, P.C. and Jain, D.K. 2011. A Text book of Botany- Angiosperms. Rastogi Publication, Merrut.
5. Trivedi, P.C., Sharma, N. and Dhankad, R. S. 2009. Plant Morphology and Anatomy. Ramesh Book Depot. Jaipur.



## **Botany- Paper-II : Anatomy Of Flowering Plants**

### **UNIT I: Classification and structure of tissues**

Simple tissue: Structure occurrence and function (parenchyma, collenchyma, sclerenchyma), Complex tissues: Structure, origin and function (xylem and phloem), tissue systems, Secretory tissues: Glands, glandular hairs, nectaries, hydathodes, schizogenous and lysigenous ducts, resin ducts, mucilage ducts and laticifers. Vascular bundle: Types (conjoint, collateral, bi-collateral, open closed, radial, concentric: amphicribal and amphivasal).

### **UNIT II: Meristem**

Meristem definition, classification, types and function, Shoot apical meristem theories: Apical cell theory, histogen theory, tunica-corpora theory, continuing meristematic residue, cytohistological zonation. Root apical meristem theories: Apical cell theories, histogen theory, korper-kappe theory, quiescent cell theory,

### **UNIT III: Analogy of Stem, Root and Leaf**

Stem: Primary structure in dicotyledonous and monocotyledonous, primary anomalous structures. Root: Primary structure in dicotyledonous and monocotyledonous, development of lateral roots and adventitious root. Leaf- Internal structure of dorsiventral, isobilateral and centric leaves.

### **UNIT IV: Secondary growth**

Secondary growth in dicot and monocot stem. Secondary structures: Wood structure, types and formation of wood, annual rings, tyloses, dendrochronology, periderm, bark and lenticels. Anomalous secondary growth in dicot stem, in monocot stem in dicot roots.

### **Suggested Readings:**

1. Cuttler, E.G. 1971. Plant Anatomy. Part III Organs, Edward Arnold Ltd., London.
2. Cuttler, E.G. 1969. Plant Anatomy. Part I Cells and Tissue. Edward Arnold Ltd., London.
3. Eames, A.J. and MacDaniels, L.H. 1987. An Introduction to Plant Anatomy. Tata MacGraw-Hill Publishing Company Ltd., New Delhi.
4. Esau, k. 1985. Plant Anatomy. 2<sup>nd</sup> Edition Wiley Eastern, New Delhi.
5. Fahn, A. 1997. Plant Anatomy. Aditya Books (P) Ltd., New Delhi.
6. Fahn, A. 2000. Plant Anatomy. Permagon Press.
7. Gifford, E.M. And Foster, A.S. 1989. Morphology and Evolution of Vascular Plants. W.H. Freeman, New York.
8. Pandey, S.N. and Chadha, A. 2014. A text book of Botany- Plant anatomy and Economic Botany. Vikas publishing house Pvt. Ltd, New Delhi.
9. Vashishta, P.C. 1974. Plant Anatomy. Pradeep Publication, Jalandhar.
10. Singh, V.P., Pandey, P.C. and Jain, D.K. 2011. A Text book of Botany- plant Morphology and anatomy. Rastogi Publication, Merrut.
11. Trivedi, P.C., Sharma, N. and Dhankad, R. S. 2009. Plant Morphology and Anatomy. Ramesh Book Depot. Jaipur.

## **Botany- Paper-III : Anatomy Of Flowering Plants Plant Systematics**

### **UNIT I:**

Scope and importance of taxonomy, history and classification of angiosperm (Linnaeus, Bentham and Hooker and Engler and Prantl), concept of species, genus and family. Taxonomic tools: Herbarium, E-Flora, botanical garden, monograph, library index, journals, key and icons.

### **UNIT II:**

Principle and rules of botanical nomenclature: Ranks, names, type method, principle of priority and its limitations, Rules of Validity, Rules of Effectivity, Terms and concepts (primitive and advanced, homology and analogy, parallelism and convergence, monophyly, paraphyly and polyphyly)

### **UNIT III:**

Taxonomic studies of the following families (Bentham and Hooker), Dicots: Ranunculaceae, Brassicaceae, Malvaceae, Rubiaceae, Fabaceae, Apiaceae, Asteraceae, Apocynaceae and Asclepidaceae.

### **UNIT IV:**

Taxonomic studies of the following families (Bentham and Hooker): Solanaceae, Convolvulaceae, Acanthaceae, Lamiaceae, Amaranthaceae, Euphorbiaceae, Liliaceae, Orchidaceae and Poaceae.

### **Suggested Readings:**

1. Naik, V.N. 2011. Taxonomy of Angiosperms. TATA McGraw Hill, New Delhi.
2. Pandey, S.N. and Misra, S.P. 2008. Taxonomy of Angiosperms. Ane Books India, New Delhi.
3. Saxena, N.B. and Saxena, S. 2011. Plant Taxonomy. Pragati Prakashan, New Delhi.
4. Sharma, B.D. 1984. Flora of India vol. I. Botanical Survey of India, Calcutta.
5. Sharma, O.P. 1996. Plant Taxonomy. TATA McGraw Hill, New Delhi
6. Simpson, M.C. 2006. Plant Systematics. Elsevier, Amsterdam.
7. Singh, G. 2001. Plant systematics. Oxford and IBH, New Delhi.
8. Sivarajan, V.V. 1991. Introduction to Principles of Plant Taxonomy. Oxford and IBH, New Delhi.

## **BOTANY PRACTICAL V**

1. Study of different modifications of root, stem, leaf by using specimens.
2. Study of different epidermal appendages (trichome etc.) by making slides.
3. Study of floral apex.
4. Survey and study of dispersal mechanism of seeds.
5. Microscopic studies on types and anatomy of stomata (monocotyledons and dicotyledons).
6. Study of apical and lateral meristem using plant material and slides
7. Anatomical study of root, stem and leaf (dicotyledons and monocotyledons) by making double stained temporary and permanent slides.
8. Anatomical studies of anomalous secondary structure in stem by making temporary and permanent slides.
9. Anatomical study of dicot and monocot seed (Cicer, Maize and cotton)
10. Study of vegetative and floral characters of species of the families studied in theory.
11. Identification of selected taxa up to genus using taxonomic keys.
12. Herbarium technique.
13. Familiarity with local flora and preparation of herbarium sheet.

## Semester-V

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 505	Zoology-I	CE*	4	15	20	100
	Zoology-II				20	
	Zoology-III				20	
	Zoology Practical				25 Practical	

### Zoology-Paper-I : Ethology

#### Unit I: Concept of Ethology

- 1.1 Introduction and history of Ethology
- 1.2 Concepts and patterns of behaviour: FAP, Sign Stimulus, Innate Releasing Mechanism, Action Specific Energy, Concept of motivation
- 1.3 Learned behaviour and types of learning

#### Unit II: Study of Behaviour

- 2.1. Methods of studying Brain Behaviour: Neurotransmitter, Physiological and Neurochemical Technique
- 2.2 Genetic basis of behaviour
- 2.3 Control of behaviour: Neural control, Hormonal control
- 2.4 Elementary idea of role of Pheromones

#### Unit III: Social Organisation

- 3.1 Elements of Social Behaviour
- 3.2 Living in groups: Characteristics and advantages with respect to Honey bee, Deer, monkey
- 3.3 Migration in Birds; Causes of migration and Navigation

#### Unit IV Biological Rhythms

- 4.1 Faunal diversity in India and World; Endangered Mammals and Birds of India
- 4.2 Wild life Conservation with reference to India & Rajasthan
- 4.3 National Parks, Sanctuaries and Biosphere Reserves of India

### Zoology-Paper-II : Biotechniques, Instrumentation and Bioinformatics

#### Unit –I: Biotechniques

- 1.1 Concepts of sterilization: Filtration, autoclaving, dry heat sterilization, wet sterilization and radiation
- 1.2 Separation of biomolecules: Centrifugation (Sedimentation, density gradient); Chromatography (Elementary idea of Paper – ascending and Circular, thin layer, gel filtration and ion exchange- Principles and applications)
- 1.3 Electrophoresis: Agarose Gel Electrophoresis, SDS-PAGE

## **Unit-II: Micro Technique**

- 2.1 Fixation, dehydration, clearing, embedding & section cutting
- 2.2 Difficulties encountered during section cutting (causes and remedies)
- 2.3 Double staining with Haematoxylin and Eosin
- 2.4 Histochemical staining techniques for carbohydrates (Periodic acid schiff), proteins (Mercury-bromophenol blue) and lipids (Sudan black-B)

## **Unit-III: Instrumentation**

- 3.1 Microscope: Principle of Microscopy and types
- 3.2 Principles of colorimeter
- 3.3 Principles of spectrophotometers

## **Unit-IV: Bioinformatics**

- 4.1 Bioinformatics: Definition, Scope, Basic concepts in bioinformatics, importance and role of bioinformatics in life sciences
- 4.2 Bioinformatics databases- introduction, types of databases
- 4.3 Nucleotide sequence databases, Elementary idea of protein databases
- 4.4 BLASTA, FASTA, PHYLOGENY TREE Analysis

## **Zoology-Paper-III: Immunology & Biotechnology**

### **Unit –I: (Basics of Immunology)**

- 1.1 Characteristics of Immune System; Types of immunity: Active, passive, innate and acquired immunity
- 1.2 Types of antibodies and their structure and function.
- 1.3 Mechanism of Antigen Antibody reactions: Precipitation, agglutination, Neutralisation, Opsonization, Complement

### **Unit –II: (Cells and Organs in Immunity)**

- 2.1 Immune Cells & Organs: B and T Lymphocytes, Plasma Cell, Null Cell, Primary and Secondary Lymphoid Organs; tonsils, adenoids, thymus, bone marrow, bursa fabricus, macrophages
- 2.2 Mechanism: Humoral and Cell- Mediated Immunity.
- 2.3 Complement System, Interferons, Vaccines

### **Unit –III: (Biotechnology)**

- 3.1 History, Scope and application of recombinant DNA technology; Genetic Engineering
- 3.2 Basic concepts in recombinant DNA technology, cDNA Library; DNA manipulation enzymes (Nucleases, Ligases, Polymerases)
- 3.3 Vectors for Gene Transfer (Plasmids and Phages)

### **Unit –IV: (Applications of Biotechnology)**

- 4.1 Monoclonal antibodies and their production and applications
- 4.2 Protoplast Fusion and their Application
- 4.3 Environmental Biotechnology: Metal recovery; Petroleum recovery; Pest Control; Waste Water Treatment

## **Zoology Practical**

### **Paper-I: Ethology**

1. Locomotory behaviour of (Tribolium):
  - Effects of light intensity and light quality on the rate of locomotion
2. Study of individual and social behavioural patterns of a troop of monkey through visual aids
3. Antenal Grooming in Cockroach

### **Paper-II: Biotechniques, Instrumentation & Bioinformatics**

1. Separation of amino acids by paper chromatography and TLC
2. Separation of proteins by electrophoresis technique
3. Double staining method
4. Demonstration of carbohydrates, proteins and lipids by histochemical methods
5. Introduction to basic laboratory instruments and equipments- Autoclave, Centrifuge, pH meter, Micropipettes, Digital balance, Homogenizer, Electrophoresis apparatus; Molar and normal solutions calculations
6. Use of internet for survey of literature using protein and nucleotide databases(NCBI)
7. Use of softwares like Microsoft offices, BLASTA, FASTA

### **Paper-III: Immunology & Biotechnology**

1. Antigen – Antibody interaction by double diffusion method (Ouchterlony)
2. Study of histological slides of organs of immune system – Thymus, Lymph nodes and Spleen
3. Isolation of DNA/ Plasmid (Genomic DNA from any available source) by phenol extraction method.

### **Suggested Reading:**

#### **Biotechnology**

1. Elements of Biotechnology – Gupta
2. T. B. of Biotechnology – Dubey
3. Modern Concept of Biotechnology – Kumar H. D
4. Advances in Biotechnology – Jogdand
5. T. B. of Biotechnology – Chatwal
6. Bhatiya and Jain, 2015, Immunology, Microbiology and Biotechnology, Himalaya Publishing House Pvt. Ltd. Delhi

#### **Biotechnique and Microtechnique**

1. Animal Tissue Technique – Humason
2. Histological Technique – Devaenport
3. Microtechnique – Jiwaji&Patki
4. Microtechnique – Wankhede
5. Biophysical Chemistry – Upadhyay, Upadhyay and Nath
6. Techniques in Life Sciences – D. B. Tembhare

## Bioinformatics

1. Mount W. 2004. Bioinformatics and Sequence Genome Analysis 2nd Edition CBS Pub. New Delhi.
2. Bergman, N. H. Comparative Genomics. Humana Press Inc. Part of Springer Science+BusinessMedia, 2007.
3. Baxevanis, A. D. Ouellette, B. F. F. 2009. Bioinformatics: A Practical Guide to the
4. Analysis of Genes and Proteins. John-Wiley and Sons Publications, New York.
5. Campbell A. M. and Heyer, L. J. 2007. Discovering Genomics, Proteomics and Bioinformatics, 2nd Edition. Benjamin Cummings.
6. Des Higgins and Willie Taylor 2000. Bioinformatics: Sequence, Structure and Databanks. Oxford University Press.
7. Rashidi H. H. and Buehler 2002. Bioinformatics Basics: Applications in Biological Science and Medicine, CRC Press, London.
8. Gibas Cynthia and Jambeck P. 2001. Developing Bioinformatics Computer Skills:
9. Shroff Publishers and Distributors Pvt. Ltd. (O'Reilly), Mumbai.
10. Bhatiya and Jain, 2015, Immunology, Microbiology and Biotechnology, Himalaya Publishing House Pvt. Ltd. Delhi

### Semester-VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 601	General Hindi	CC	4	30	70	100

#### उद्देश्य—

1. हिन्दी व्याकरण— संज्ञा, सर्वनाम, कारक, पर्यायवाची, विलोमशब्द, समुच्चारित भिन्नार्थक शब्द, मुहावरें, लोकोक्तियाँ आदि का सामान्य ज्ञान करवाना।
2. देवनागरी लिपि का परिचय देना।
3. व्यावहारिक पत्रों की जानकारी देना।

#### इकाई—I

1. वर्ण—विचार, स्वर एवं व्यंजन—प्रयत्न और उच्चारण स्थान की दृष्टि से
2. हिन्दी का शब्द भण्डार —तत्सम, तद्भव, देशज और विदेशी शब्द
3. विकारी शब्द—संज्ञा, सर्वनाम, विशेषण, क्रिया ( अकर्मक,सकर्मक ) परिभाषा, भेद एवं उदाहरण
4. वर्तनी एवं वाक्य शुद्धि

#### इकाई—II

1. अविकारी शब्द— क्रिया विशेषण, समुच्चयबोधक, सम्बन्ध बोधक, विस्मयादि बोधक, निपात
2. संधि, समास, उपसर्ग, प्रत्यय
3. देवनागरी लिपि गुण एवं दोष
4. पत्राचार—सरकारी एवं अर्द्ध सरकारी

#### इकाई—III

1. अनेकार्थी शब्द, युग्म शब्द, वाक्यांश के लिए एक शब्द, पर्यायवाची शब्द, विलोम शब्द, लोकोक्ति एवं मुहावरे
2. पारिभाषिक शब्दावली (कार्यालयी)
3. निबन्ध लेखन

### इकाई-IV

पाठ्यपुस्तक गद्य प्रवाह/गद्य संग्रह/काव्य संचय में से निम्न लिखित लेखकों की चयनित रचनायें—

1. जयशंकर प्रसाद भारत महिमा, प्रयाण गीत
2. महादेवी वर्मा बहिन सुभद्रा (रेखाचित्र)
3. जैनेन्द्र कुमार साधना के कवि (संस्मरण)
4. हरिशंकर परसाई मूल्यों का उलटफेर (व्यंग्य)

### उपलब्धियाँ—

1. विद्यार्थियों के व्याकरण ज्ञान में वृद्धि होगी।
2. विद्यार्थी कार्यालय पत्र लिखने में समर्थ हो सकेंगे।
3. विद्यार्थी देवनागरी लिपि के महत्त्व, उसकी विशेषता आदि से अपने ज्ञान में वृद्धि करेंगे।

### पाठ्यपुस्तक/संदर्भ ग्रंथ—

1. काव्य संचय, संपादक— डॉ शम्भुनाथ पाण्डेय, अनुराग प्रकाशन, अजमेर
2. गद्य संग्रह, संपादक— डॉ विजय कुलश्रेष्ठ, अल्का पब्लिकेशन, अजमेर
3. हिन्दी व्याकरण एवं रचना, डॉ राधव प्रकाश, पिकसिंटी पब्लिकेशन, जयपुर
4. हिन्दी व्याकरण तथा रचना, डॉ भोलानाथ तिवारी, नेशनल पब्लिशिंग हाउस, नई दिल्ली
5. सुबोध हिन्दी व्याकरण एवं रचना, डॉ नरेन्द्र भानावत, डॉ भंवरलाल जोशी, अलका पब्लिकेशन, अजमेर

### Semester-VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 602	Pre. Internship	CC	4		100 Pre. Internship	100

### Pre-internship distribution (4 Weeks)

- | Sr. No. | Contents  |
|---------|---|
| 1.      | <b>Skills Focused Teaching</b> <ul style="list-style-type: none"><li>➤ Introduction</li><li>➤ Questioning</li><li>➤ Black Board</li><li>➤ Reinforcement</li><li>➤ Stimulus Variation</li><li>➤ Communication</li><li>➤ Personality Development etc.</li></ul>   |
| 2.      | <b>Comprehensive School Teaching</b> <ul style="list-style-type: none"><li>➤ Demonstration Lesson Plan</li><li>➤ Lesson based on Various Approaches Method, such as --<ul style="list-style-type: none"><li>○ Co-operative Learning</li><li>○ Activities Based Approach</li><li>○ Team Teaching</li><li>○ Project Method</li><li>○ Brain Storming</li><li>○ Task Based</li><li>○ Programme Instruction etc.</li></ul></li></ul> |

3. Unit Plan, Blue Print, Achivement Test and Use of Teaching Aids
4. School Activities
  - Physical
  - Cultural
  - Leteraty
  - Yoga Exceress

#### Semester-VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
<b>BSE 601</b>	Chemistry-I	<b>Any Three CC</b>	<b>4</b>	<b>15</b>	<b>20</b>	<b>100</b>
	Chemistry-II				<b>20</b>	
	Chemistry-III				<b>20</b>	
	Chemistry Practical				<b>25 Practical</b>	

#### Chemistry-Paper-I : Inorganic chemistry

##### Unit I : Metal – ligand bonding in transition metal complexes

An elementary idea of crystal-field theory, crystal field splitting in octahedral, tetrahedral and square planar complexes, factors affecting the crystal – field parameters, colour of transition metal ions, limitations of crystal field theory.

##### Unit II : Spectral properties of transition metal complexes

Types of electronic transitions, selection rules for d-d transitions, spectroscopic ground states and Spectoscopic terms (L-S Coupling) , spectrochemical series, Orgel- energy level diagram for  $d^1$  and  $d^9$  states, the electronic spectrum of  $[Ti(H_2O)_6]^{+3}$  complex ion.

##### Unit III : Thermodynamic and kinetic aspects of metal complexes

Thermodynamic and kinetic stability, thermodynamic stability and factors affecting the stability, substitution reactions of square planar complexes, types of substitution reactions and trans effect.

##### Unit IV : Organometallic chemistry

Definition, nomenclature and classification of organometallic compounds, preparation, properties, bonding nad applications of alkyls and aryls of Li, Al, Hg, Sn and Ti, a brief account of metal – ethylenic complexes and homogenous hydrogenation, mononuclear carbonyls and the nature of bonding in metal carbonyls.



## Chemistry-Paper-II : Organic Chemistry

### Unit I : Nuclear magnetic resonance(NMR) spectroscopy

Proton magnetic resonance  $^1\text{H}$ -NMR spectroscopy, nuclear shielding and deshielding, chemical shift and molecular structure, spin spin splitting and coupling constant, areas of signals, interpretation of PMR spectra of simple organic molecules such as ethyl bromide, ethanol, acetaldehyde, 1,1,2 tri bromo ethane, ethyl acetate, toluene and acetophenone. Problems pertaining to the structure elucidation of simple organic compounds using UV, IR and PMR spectroscopic techniques.

### Unit II : Carbohydrates :

Classification and nomenclature, monosaccharides, mechanism of osazone formation, inter conversion of glucose and fructose, chain lengthening and chain shortening of aldose. Configuration of monosaccharide. erythro and threo diastereomers. Conversion of glucose into mannose. Formation of glucosides, ethers and esters. Determination of ring size of monosaccharides. Cyclic structure of D (+)-glucose. Mechanism of mutarotation. Structure of ribose and deoxy ribose. An introduction to disaccharides ( maltose, sucrose and lactose) and polysaccharides (starch and cellulose) without involving structure determination.

### Unit III : Amino acids, peptides, proteins and nucleic acid

Classification, structure and stereochemistry of amino acids. Acid base behaviour of isoelectric point and electrophoresis. Preparation and reaction of  $\alpha$  amino acid. Structure and nomenclature of peptides and proteins. Classification of proteins, peptide structure determination, end group analysis, selective hydrolysis of peptides. Classical peptides synthesis, solid phase peptide synthesis. Structure of peptides and proteins, levels of protein structure. Protein denaturation / renaturation.

introduction. Constituents of nucleic acid ribo and ribonucleosides, nucleotides. The double helical structure of DNA/RNA

### Unit IV : Fats, oils and detergents

Natural fats edible and industrial oils of vegetable resin common fatty acids, glycerides, hydrogenation of unsaturated oils. saponification value, iodine value, acid value, soaps, synthetic detergents, alkyl and aryl sulphonates.

## Chemistry-Paper-III: Physical chemistry

### Unit I: Photochemistry:

Interaction of radiation with matter, difference between thermal and photochemical processes. Laws of photochemistry: Grothus-Drapper law, Stark-Einstien law, Jablonski diagram depicting various processes occurring in the excited state., qualitative description of fluorescence, phosphorescence, non radiative process (internal conversion, inter system crossing) quantum yield, photosensitized reaction-energy transfer process (simple examples)

### Unit II: Spectroscopy I

Introduction: Electromagnetic radiation of the spectrum, basic features of different spectrometers, statement of the Born Oppenheimer approximation, degree of freedom.

Rotational spectrum: Diatomic molecules, Energy levels of rigid rotator, (semiclassical principles) selection rules, spectral intensity, distribution using population distribution (Maxwell Boltzmann distribution), determination of bond length, qualitative description of non rigid rotator, isotope effect.

Electronic spectrum: Concept of potential energy curves for bonding and anti bonding molecular orbitals, qualitative description of selection rules and Frank –Condon principle.

### Unit III: Spectroscopy II

Vibrational spectrum: Infrared spectrum: Energy levels of simple harmonic oscillator, selection rules, pure vibrational spectrum, intensity, determination of force constant, qualitative relations of force constants and bond energy, effect of anharmonic motion and isotopes on the spectrum, idea of vibrational frequencies of different functional groups.

Raman spectrum: Concept of polarizability, pure rotational and pure vibrational Raman spectra of diatomic molecules, selection rules.

### Unit IV: Quantum Mechanics II:

Molecular orbital theory: Basic ideas criteria for forming M.O. from A.O. construction of M.O. s by LCAO- $H_2^+$  ion, calculation of energy levels from wave functions, physical picture of bonding and antibonding wave functions, concept of  $\sigma$ ,  $\sigma^*$  and  $\pi$ ,  $\pi^*$  orbitals and their characteristics. Hybrid orbitals  $sp$ ,  $sp^2$ ,  $sp^3$ , calculation of coefficients of atomic orbitals used in these hybrid orbitals.

### Term paper / Practicals

#### Inorganic chemistry

##### Calorimetry

- Jobs
- Mole ratio method
  - Adulteration –food stuffs
  - Effluent analysis water analysis.

#### Physical Chemistry

##### Electrochemistry

- To determine the strength of the given acid conductometrically using standard alkali solution
- To determine the solubility and solubility product of a sparingly soluble electrolyte conductometrically
- To study the saponification of ethyl acetate acetate conductometrically
- To determine the ionization constant of a weak acid conductometrically
- To titrate potentiometrically the given ferrous ammonium sulphate solution using  $KMnO_4/K_2Cr_2O_7$  as titrant and calculate the redox potential of  $Fe^{++}/Fe^{+++}$  system on the hydrogen scale.

##### Molecular weight determination :

- Determination of molecular weight of a non volatile solute by Rast method/Beckmann freezing point method.
- Determination of the apparent degree of dissociation of an electrolyte (e.g. NaCl) in aqueous solution at different concentrations by ebullioscopy.

##### Colorimetry:

To verify Beer- Lambert law  $KMnO_4/K_2Cr_2O_7$  and determine the concentration of the given solution of the substance.

## Viva-Voce & Record

### Suggested Reading:

1. A New Concise Inorganic Chemistry; Fifth Edition; J.D. Lee; Blackwell Science, London, 1989.
2. Inorganic Chemistry; Third Edition; D.F. Shriver and P.W. Atkins; Oxford University Press, New York, 1999.
3. Inorganic Chemistry; Third Edition; Gary L. Miessler and Donald A. Tarr; Pearson Education Inc. Singapore, 2005.
4. Organic Chemistry; Seventh Edition; T.W. Graham Solomons & Craig B. Fryhle; John Wiley and Sons, 1998.
5. Organic Chemistry; Sixth Edition; Robert Thornton Morrison & Robert Neilson Boyd; PHI Pvt. Ltd, 2004.
6. Organic Chemistry Vol. I; Fifth Edition; I.L. Finar; Longman Scientific and Technical, Singapore, 1975.
7. Organic Chemistry: Vol 1, Mukerjee and Singh
8. Organic Chemistry: Vol 2, Mukerjee and Singh
9. Organic Chemistry: Vol 3, Mukerjee and Singh
10. A Text Book of Physical Chemistry; A.S. Negi, S.C. Anand; New Age International (P) Limited, New Delhi, 2002.
11. The Elements of Physical Chemistry; P.W. Atkins; Oxford University Press, 1996.
12. University General Chemistry; C.N.R. Rao; Macmillan India Ltd., New Delhi, 1998.
13. Physical Chemistry: Puri Sharma and Pathania
14. Physical Chemistry: J. Moore
15. कार्बनिक रसायन, सुरेश आमेटा, एच.के. पाण्डे, एच.एस. शर्मा, हिमांशु पब्लिकेशन्स, उदयपुर
16. अकार्बनिक रसायन, ओझा, भोजक, कोठारी, चतुर्वेदी, रमेश बुक डिपो, जयपुर
17. प्रायोगिक रसायन, भार्गव, लवानिया, ओझा, रमेश बुक डिपो, जयपुर
18. भौतिक रसायन, शर्मा, भार्गव, गुप्ता, रमेश बुक डिपो, जयपुर
19. कार्बनिक रसायन, विजयश्री मनोज छंगाणी, अल्का पब्लिकेशन, अजमेर
20. अकार्बनिक रसायन, विजयश्री कोठारी छंगाणी, अल्का पब्लिकेशन, अजमेर
21. प्रायोगिक रसायन, छंगाणी, विजयश्री, खण्डेलवाल, अल्का पब्लिकेशन, अजमेर

### Semester-VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 602	Physics-I	CE*	4	15	20	100
	Physics-II				20	
	Physics-III				20	
	Physics Practical				25 Practical	

### Physics- Paper-I: Mathematical Physics and Special Theory of Relativity – II

#### UNIT – I Lorentz Transformation:

Lorentz transformation and rotation in space-time, time like and space like vector, world line, macro-causality.

#### UNIT – II Four vector Formulation:

Four vector formulation, energy momentum four vector, relativistic equation of motion, invariance of rest mass, orthogonality of four force and four velocity, Lorentz force as an example of four force, transformation of four frequency vector, longitudinal and transverse Doppler's effect.

### **UNIT – III Transformation between Lab and CM:**

Transformation between laboratory and center of mass system. Four momentum conservation, kinematics of decay products of unstable particles and reaction thresholds: Pair production, inelastic collision of two particles, Compton effect.

### **UNIT – IV Transformation electric and Magnetic field:**

Transformation electric and Magnetic fields between two inertial frames.

#### **Suggested Reading :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, गणितीय भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

## **Physics- Paper-II: Quantum Mechanics – II**

### **UNIT I Bound State Problems - I:**

Potential step and rectangular potential barrier, calculation of reflection and transmission coefficient, Qualitative discussion of the application to alpha decay (tunnel effect), square well potential problem, calculation of transmission coefficient.

### **UNIT II Bound State Problems- II:**

Particle in one dimensional infinite potential well and finite depth potential well, energy value and eigen functions. Simple harmonic oscillator (one dimensional) eigen function, energy eigen values, zero point energy.

### **UNIT – III Applications of Quantum Theory to Atomic Spectroscopy:**

Quantum features of spectra of one electron atoms. Frank–Hertz experiment and discrete energy states. Schrodinger equation for a spherically symmetric potential, Schrodinger equation for a one electron atom in spherically coordinates, separation of variables, Orbital angular momentum and quantization spherical harmonics, energy levels of H-atom, Shapes of  $n = 1$  and  $n = 2$  wave functions, Average value of radius of H-atom, Comparison with Bohr Model and Bohr Correspondence Principle. Stern and Gerlach experiment, spin and magnetic moment. Spin orbit coupling and qualitative explanation of fine structure. Atoms in magnetic field Zeeman splitting.

### **UNIT – IV Molecular Spectroscopy:**

Qualitative features of molecular spectra: Rigid rotator discussion of energy, eigen values and eigen function, rotational energy levels of diatomic molecules, Rotational spectra, vibrational energy levels of diatomic molecules, vibrational spectra, vibrational rotational spectra.

#### **Suggested Reading :**

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना,, क्वांटम यांत्रिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015–16

## Physics- Paper-III: Nuclear Physics

### UNIT-I Nuclear Properties:

Rutherford's theory of a particle scattering, Properties of Nuclei: Quadrupole Moment and Nuclear Ellipticity, Quadrupole Moment and Nuclear spin, Parity and Orbital angular momentum, Parity and its conservation, Nuclear Mass and Mass Spectroscopy, Nuclear Energy, Discovery of neutron and proton-neutron hypothesis, Neutron to proton Ratio ( $n/z$ ), The nuclear potential, Nuclear mass, Mass Defect and Binding energy, Theory of Nuclear forces.

### UNIT-II Nuclear Fission:

The Discovery of Nuclear Fission, The Energy Release in Fission, The Fission products mass distribution of fission products, Charge distribution of fission products, ionic charge of fission products, Fission cross Section and threshold, Neutron emission in fission, The prompt neutron and delayed neutrons, Mechanism for the emission of delayed neutrons. Energy of fission Neutrons, Theory of nuclear fission and Liquid Drop Model, Barrier Penetration-Theory of Spontaneous fission, Nuclear Energy Sources, Nuclear Fission as a source of Energy, The Nuclear Chain Reaction, condition of controlled chain Reaction, Nuclear Reactors.

### UNIT-III Elementary particles:

Classification of Elementary Particles, Fundamental Interactions, Unified approach (Basic ideas), The conservation Laws, Quarks (Basic ideas), Charmed and color Quarks. Nuclear Fusion: The sources of stellar Energy.

### UNIT-IV Detector and Accelerators:

Particle and Radiation Detectors: Ionization Chamber, Region of Multiplicative Operation, Proportional Counter, Geiger-Muller Counter, Cloud Chamber, BF<sub>3</sub> and Scintillation detector. Ion sources, Cock-Craft-Walten High Voltage Generators, Van De-Graff Generators, Drift Tube Linear Accelerators, Wave Guide Accelerator, Magnetic Focussing In cyclotron, Synchrocyclotron, Betatron, The Electromagnetic Induction Accelerator, Electron Synchrotron, Proton Synchrotron.

### Suggested Reading :

1. प्रभा दशोरा, नीलम गुप्ता, उषा परनामी, मीनल बाफना, नाभिकीय भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015-16

### Physics Practical: VI

1. Determination of Planck's constant by photo cell (retarding potential method using optical filters, preferably five wave length)
2. Determination of Planck's constant using solar cell.
3. Determination of Stefan's constant (Black body method)
4. Study of the temperature dependence of resistance of a semiconductor (four probe method).
5. Study of Iodine spectrum with the help of grating and spectrometer and ordinary bulb light.
6. Study of characteristics of a GM counter and verification of inverse square law for the same strength of a radioactive source.
7. Study of  $\beta$ -absorption in Al foil using GM counter.

8. To find the magnetic susceptibility of a paramagnetic solution using Qninck's method. Also find the ionic molecular susceptibility of the ion and magnetic moment of the ion in and magnetic moment of the ion in terms of both magnetons.
9. Determination of coefficient of rigidity as a function of temperature using torsional oscillator (resonance method).
10. Study of polarization by reflection from a glass plate with the help of Nichol's prism and photo cell and verification of Brewster law and law of Malus.
11.  $e/m$  measurement of magnetic field using ballistic galvanometers and search coil study of variation of magnetic field of an electromagnet with current.
12. Measurement of electric charge by Millikan's oil drop method.

**Suggested Reading :**

1. प्रो. प्रभा दशोरा, तृतीय वर्ष प्रायोगिकी भौतिकी, आर.बी.डी. पब्लिशिंग हाउस, जयपुर, नई दिल्ली, 2015

**Semester-VI**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 603	Mathematics-I	CE*	4	15	20	100
	Mathematics-II				20	
	Mathematics-III				20	
	Mathematics Practical				25 Practical	

**Mathematics- Paper-I : Algebra - II**

Unit 1 ; Integral domain and field. Characteristics of a Ring and Field.

Unit 2 : Ideals and Quotient Ring. Maximal ideal and Prime ideal. Principal Ideal domain. Field of quotients of an integral domain. Prime fields. Definition, Examples and Simple properties of Vector spaces and Subspaces.

Unit 3 : Linear combination, Linear dependence and Linear independence of vectors. Basis and Dimension.

Unit 4 ; Generation of subspaces. Sum of subspaces. Direct sum and Complement of subspaces. Quotient space and its dimension.

**Suggested Reading :**

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड़, जितेन्द्र सेनी, बीजगणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर-दिल्ली, 2015-16
2. जी.सी. गौखरू सेनी, बीजगणित जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Mathematics- Paper-II : Complex Analysis -II

**Unit 1 ; Power series** — Absolute convergence, Able' s theorem, Cauchy-Hadamard theorem, Circle and Radius of convergence, Analyticity of the sum function of a power series.

**Unit 2:** Singularities of an analytic function, Branch point, Meromorphic and Entire functions, Rouché's theorem, Casorati - Weierstrass theorem.

**Unit 3;** Residue at a singularity, Cauchy's residue theorem. Argument principle. Rouché's theorem. Fundamental theorem of Algebra.

**Unit 4:** Conformal mapping. Bilinear transformation and its properties. Elementary mappings:  $w(z) = \frac{1}{z}$ ,  $w(z) = z^2$ ,  $w(z) = e^z$ ,  $w(z) = \sin z$ ,  $w(z) = \cos z$ , and  $w(z) = \log z$ .

Evaluation of a real definite integral by contour integration. Analytic continuation. Power series method of analytic continuation.

### Suggested Reading :

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी, बीजगणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर—दिल्ली, 2015–16
2. जी.सी. गौखरू सैनी, बीजगणित जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Mathematics- Paper-III: Statics

**Unit 1 Resultant and equilibrium coplanar force acting on a rigid body.**

**Unit 2 Friction**

**Unit 3 Virtual work,**

**Unit 4 common catenary force in the three dimensions.**

### Suggested Reading :

1. बी.एल. चौरसिया, संजीव त्यागी अनिल शर्मा, बी. एल. जांगीड. जांगीड, जितेन्द्र सैनी, बीजगणित, आर.बी.डी. पब्लिशिंग हाउस, जयपुर—दिल्ली, 2015–16
2. जी.सी. गौखरू सैनी, बीजगणित जयपुर पब्लिशिंग हाउस, जयपुर, 2015

## Semester-VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 604	Botany-I	CE*	4	15	20	100
	Botany-II				20	
	Botany-III				20	
	Botany Practical				25 Practical	

### Botany- Paper-I : Reproductive Biology Of Angiosperms

#### UNIT I: Structure of Flower and Male Gametophyte

Ontogeny of Flower parts- development and variations, structure of anther, microsporogenesis, microgametogenesis, Teptum Types and Functions, Development of Male Gametophyte, Structure of Pollen Grains.

#### UNIT II: Structure of Pistil and Female Gametophyte

Structure and types of ovule, special structures- aril, oburator etc., megasporogenesis, megagametogenesis (monosporic, bisporic and tetrasporic types), structure of typical embryo sac, (Polygonum, Allium and Adoxa type).

#### UNIT III: Pollination and Fertilization

Pollination types, significance adaptations; compatibility and incompatibility; basic concepts. Pollen tube entry, syngamy and triple fusion, double fertilization, development, type and function of endosperm.

#### UNIT IV: Development Of Embryo and Endosperm

Six types of Embryogeny; General pattern of development of dicot and monocot embryo suspensor structure and function, embryo-endosperm relationship; nutrition of embryo, apomixis, polyembryony, fruit-development and maturation.

#### Suggested Readings:

1. Bhojwani, S.S. and Bhatnagar, S.P. 2004. The Embryology of Angiosperms. Vikas Publishing House, New Delhi.
2. Davis, C.L. 1965. Systematic Embryology of Angiosperms. John Wiley, New York.
3. Johri, B. D. 1984. Embryology of Angiosperms. Springer Verlag, Berlin.
4. Johri, B. M. 1984. Embryology of Angiosperms. Springer-Verlag, Netherlands.
5. Maheswari, P. 1985. Introduction to Embryology of Angiosperms. Mac Graw Hill House (P) Ltd., New York.
6. Raghavan, V. 2000. Developmental Biology of Flowering plants. Springer, Netherlands.
7. Trivedi, P.C. Sharma, N. and Sharma, J. L. 2003. Structure, Development and reproduction in Flowering Plants. Ramesh Book Depot., Jaipur.



## Botany- Paper-II : Economic Botany And Ethnobotany

### UNIT I: Food Plants, Vegetables and Fruits

Centre of origin of cultivated plants , **Food plants** : rice, wheate , maize, potato, **Vegetables** : General account with a note on radish, garlic, cabbage, spinach, cauliflower, cucumber and pea. **Fruits** : General account with a note on apple, banana, mango, watermelon and orange.

### UNIT II: Spices ,Oil yeilding Plants, and Beverages

**Spices** : General account with an emphasis on those cultivated in Rajasthan(Cumin,Capsicum, Coriender). **Beverages** : Characteristics and uses Beverages( Tea and Coffee) , Oil yielding plants (*Brassica* and *Cocus*).

### UNIT III: Medional Plants, Fibers and Woods

**Medional Plants** : General account with an emphasis on those cultivated in Rajasthan(Senna, Isabgol, SAfed musli)

**Fibers** : General account with a note on Cotten and Jute. **Woods** : General account of sources of fire wood : timbers and bamboos.

### UNIT IV: Ethnobotany

Ethnobotany and its concepts and relevance. Ethnobotanical areas of Rajasthan, ethnic groups in India and ethnobotanical study of any tribal area of Rajasthan. Ethical aspect of ethnobotany.

### Suggested Readings:

1. Gupta, S.K. and Kaushik, M.P. 1973. An Introduction to Economic Botany. K. Nath and Co., Meerut.
2. Hill, A.W. 1952. Economic Botany. McGraw Hill Book Co., New York.
3. Jain, S.K. 1981. Glimpses of Indian Ethnobotany. Oxford and IBH, New Delhi.
4. Jain, S.K. 1987. A Manual on Ethnobotany. Scientific Publisher, Jodhpur.
5. Prakash, G., Sharma, S. K. 1975. Introductory Economic Botany. Jai Prakash Nath and Cosec, Meerut.
6. Sambamurthy, A.V.V.S. and Subrahmanyam, N.S. 1989. A Text Book of Economic Botany. Wiley Eastern Ltd., New Delhi.
7. Sen, S. 1992. Economic botany. New Central Book Agency, Calcutta.
8. Singh, V., Pandey, P.C. and Jain, D.K. 1998-99. Economic Botany. Rastogi Publications, Meerut.
9. Verma, V. 1974. A Text Book of Economic Botany. Emkay Publications, New Delhi.

## Botany- Paper-III : ECOLOGY

### UNIT I: Ecological factors and Population ecology

Environment and plant: Ecological factors; Atmosphere (four distinct zone), light (photosynthetically active radiation, zonation in water bodies, photoperiodism, heliophytes and sciophytes), temperature (Raunkier's classification of plant: megatherm, mesotherm, microtherm, heikistotherm, thermoperiodicity and vernalisation), soil (development, soil profile, properties). Ecological adaptations of hydrophytes, xerophytes, epiphytes and halophytes. Population ecology: growth curve, ecotypes, ecads. Population interaction among organisms (neutralism, amensalism, alleliopathy), competition, predation, parasitism and mutulism.

## **UNIT II: Community, Ecosystem and phytogeography**

Community characteristics, frequency, density, cover, life forms, biological spectrum, ecological succession. Ecosystem: Structure, components, food chain, food web, energy flow, trophic levels and ecological pyramids, primary and secondary productivity, biogeochemical cycle of carbon and phosphorus.

## **UNIT III: vegetation and Environmental pollution**

Biogeographic regions of India, vegetation types of India; forest grassland with special reference to Rajasthan. Environmental pollution- air, water and soil, WWF, chipko movement, green house effect, ozone depletion loss of biodiversity and extinction of species, red data book.

## **UNIT IV: Environmental management**

Concept and principles of environmental management, principle of optimized use and sustainable development, threats to sustainable development, National Environmental Policy, management of forest and degraded lands, concepts and principles of environmental management, efforts to control these effects (Vienna Convention, Montreal Protocol, Earth summit, Kyoto Protocol, World Summit on sustainable development, 2002 Carbon trade); IPCC.

### **Suggested Readings:**

1. Banerjee, P.K. 2006. **Introduction to Biostatistics**. S. Chand and Co., New Delhi.
2. Koromondy, E.J. 1996. **Concepts of Ecology**. 4<sup>th</sup> Edition Prentice-Hall of India Pvt. Ltd., New Delhi.
3. Misra, K.C. 1988. **Manuals of Plant Ecology**. (3<sup>rd</sup> Edition) Oxford and IBH Publishing Co., New Delhi.
4. Odum, E.P. 1983. **Basic Ecology**. 5<sup>th</sup> Edition Thomson Business International Waldis Pvt. Ltd., Baricahd.
5. Odum, E.P. 2008. **Ecology**. Oxford and IBH Publisher.
6. Sharma, P.D. 2010. **Ecology and Environment**, (8<sup>th</sup> Edition) Rastogi Publications, Meerut.
7. Singh, J.S., Singh, S.P. and Gupta, S. 2006. **Ecology Environment and Resource Conservation**. Anamaya Publications, New Delhi.

## **BOTANY PRACTICAL VI**

1. Study different types of placentation, ovules and special structures of ovule through permanent slides, specimens or photographs.
2. Study of female gametophyte through permanent slides/ photographs: types and ultra structure of mature embryo sac.
3. Study of pollen grains: fresh and acetolyzed showing ornamentation and aperture, pseudomonads, pollinia (slides/photographs/ fresh materials).
4. Study of the different stages of anther development.
5. Study of pollen morphology of available plants.
6. Study of monocotyledons and dicotyledons embryo of angiosperms through slides/photographs..
7. Submission of economically important plants and plant products (cereals, pulses, spices, fibers, condiments, fat and oils, tea, coffee, wood, dyes, tobacco).
8. Study following specimens with special reference to :
  - Botany of the economically important part.
  - Processing if any involved.

- Specimens of cereals, pulses, fibres, spices, beverage (tea, coffee), sugar, oil yielding plants and medicinal plants (mentioned in theory).
9. Microchemical test for starch, sugar, oils, proteins, fat, carbohydrate, lignin using wheat, maize, soyabean. Chana, sweet potato, clove, ground nut, mustard and match sticks.
  10. Study of starch grains in potato .
  11. Field trip to economically important place.
  12. Collection, description and submission of at least 5 plants of ethnobotanical importance.
  13. Study of adaptive anatomical and morphological features of Hydrophytes, Epiphytes and Xerophytes using plant material.
  14. To study different statistical methods: mean, median and mode, standard error, standard deviation.
  15. Regression analysis and application of statistical tests in environmental problems.
  16. Determine the dissolved oxygen content in polluted and unpolluted water samples.
  17. Field trip to a National Park/Biosphere reserve/Wild life Sanctuary (Student should submit a detailed project report based on the field trip. Evaluation of the project will be based on the detailed report and presentation).
  18. Project work on a particular ecosystem/Polluted Site/ Level of Pollution in the City or Town/Land use site.

#### Semester-VI

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 605	Zoology-I	CE*	4	15	20	100
	Zoology-II				20	
	Zoology-III				20	
	Zoology Practical				25 Practical	

#### Zoology-Paper-I: Evolution and Biostatistics

##### Unit –I: Evolution

- 1.1 Basics and origin of life: Definition, pre-darwinian theories of evolution; Oparin-Haldane concept of origin of life; Miller- Urey experiment
- 1.2 Micro-evolution: Lamarkism; Darwinism; Neo-Darwinism
- 1.3 Evidences of evolution: Various evidences favouring evolution: Homology, analogy, vestigial organs; palaeontological, embryological, biogeographical and biochemical evidences

##### UNIT II: Evolution II

- 2.1 Macro-evolution: Geological time scale,
- 2.2 Genetic basis of evolution: Hardy-Weinberg law, genetic drift, , Sewall -Wright effect;
- 2.3 Variation, Adaptations and Isolation, Mimicry
- 2.4 Formation of fossils and Important

##### UNIT III: Biostatistics Concept

- 3.1 Biostatistics: Definition and Scope
- 3.2 Census and sampling methods

- 3.3 Collection and Tabular Presentation of Data: Tabulation of data; Frequency
- 3.4 Distribution Table; Continuous and Discontinuous Series
- 3.5 Graphical Presentation of Data: Bar, Histogram, Line graph, Polygon, Pie Diagrams Ogives

#### **UNIT IV: Biostatistical Tools**

- 4.1 Measures of Central tendency: mean, median mode
- 4.2 Measures of Dispersion, Mean deviation & Standard deviation, and Standard error.
- 4.3 Probability

### **Zoology-Paper-II : Economic Zoology**

#### **Unit I: Economic Entomology- Insects of economic importance**

- 1.1 Sericulture: Types of Silkworm. Life cycle and rearing of *Bombyx mori*, Production of silk , chemical Composition of Silk,
- 1.2 Apiculture –Habits and Habitat, species of Honey Bees, Types of cates, method of Bee-keeping Honey Bee Product.
- 1.3 Lac culture – Lac insect, *Laccifer lacca* - Life cycle, Cultivation of Lac , Lac products and Economic Importance

#### **Unit-II: Economic Entomology**

- 2.1 Chemical control of Insecticides: Pyrethroids, Carbomate and HCN (mode of action, merits and demerits)
- 2.2 Biological control of Pests: Biological agents (predators and parasites; merits and demerits)
- 2.3 Animal pest: Life cycle, damage and control of
  - I. House fly – *Musca nebulo*
  - II. Stable fly – *Stomoxys calcitrans*

#### **Unit III: Economics of aquaculture**

- 3.1 Pisciculture – Steps of Fish culture, Fish Product,
- 3.2 Prawn culture -Culture techniques of fresh water Prawn,
- 3.3 Pearl culture: Habit, Habitat, General characters, mentle & Shell,Formation&culture.

#### **Unit IV: Economic importance of other animals**

- 4.1 Vector borne diseases. A brief account of insect vectors affecting the health of man and domestic animals
- 4.2 Animalhusbandry: Introduction to common dairy animals; Techniques of dairy management
- 4.3 Vermiculture: Vermitechnology, Bio-Fertilizers

### **Zoology-Paper-III: Ecology and Environmental Biology**

#### **Unit I: Atmosphere**

- 1.1 Atmosphere: Major zones and its importance, Composition of air
- 1.2 Hydrosphere: Global distribution of water, Physico-chemical characteristics of water
- 1.3 Lithosphere: Soil Layer; formation of soil
- 1.4 Light: As Abiotic factor; Physico- chemical characteristics of Light, Photoperiodism

## **Unit II: Ecosystem**

- 2.1 Ecosystem: Definition, Structure and functions; Types of Ecosystem; Food chain, Food web and ecological pyramids
- 2.2 Ecosystem: Biogeochemical Cycle (O<sub>2</sub>, CO<sub>2</sub>, N, P, S); Energy flow in an ecosystem,
- 2.3 Population Introduction: Population characteristics, Population growth patterns: (exponential/ Malthusian and sigmoid growth patterns)
- 2.4 Community Characteristics, Structure and method (Quadrat method Transect method, plotless method).

## **Unit III: Biodiversity & Conservation**

- 3.1 Various Aspects of Biodiversity, Degree of Diversity,
- 3.2 Ex situ and In situ Conservation; Alpha, Beta and Gamma Diversity, Causes of reduction of Biodiversity
- 3.3 Conservation measures of Animals.

## **Unit IV: Pollution**

- 4.1 Sources, effect and control measures of air pollution, Acid rain, green house effect, Ozone depletion and global warming
- 4.2 Sources, effect and control measures of water pollution
- 4.3 Sources effect and control measures of noise pollution

## **Semester VI Zoology Practical**

### **Paper-I: Evolution and Biostatistics**

1. Construction of frequency table, histograms, Polygons, Pie Charts
2. Exercise on Mean, Mode, Median, Std. Deviation, Std. error, Probability

### **Paper-II: Economic Zoology**

1. Study of the following prepared slides/specimens: Honey Bee, Silk Worm, Termite, Earthworm types (any two) -(Drawida modesta, Pheretima posthuma ; Fish parasites, Larvivorous fishes (Guppy, Gambusia)
2. Economic importance of commonly occurring insect pests and preparation of life cycle of these pests.
3. Study of Beneficial insects and their life stages.

### **Paper-III: Ecology & Environmental Biology**

1. Determination of population density in a terrestrial community or hypothetical community by quadrat method.
2. Study of life table and fecundity table, plotting of the three types of survivorship curves from the hypothetical data.
3. Estimation of pH, chlorides and water vapour quantity in soil
4. Estimation of Dissolved oxygen, Salinity, pH, free CO<sub>2</sub> in water samples
5. Plankton study in Fresh water
6. Study of natural ecosystem and field report; Visit to a National park and Sanctuary ( candidates are required to submit the report of the visit)

### **Suggested readings:**

#### **Evolution**

1. Gupta, P.K., A Text Book of Cytology, Genetics and Evolution, Rastogi Publication, Meerut
2. Ridley, M. (2004) Evolution. III Editio. Blackwell Publishing
3. Strickberger, M.W. Evolution. Jones & Bartlett, USA 1996
4. Hall and Hallgrímsson: Strickberger's Evolution (2008, Jones and Bartlett)

5. Moody: Introduction to Evolution (1978, Kalyani).
6. Rastogi: Organic Evolution (2007, Kedarnath & Ramnath)
7. Kohli, Ranga, Lori, Bhatia, Animal Diversity and Evolution, RBD Publishing House, Jaipur.

#### **Statistics:**

1. Probability and Statistics for Engineers and Scientists by Walpole, Myers, Myers and Ye, 7th Edition, Pearson Education.
2. Mathematical Statistics by Freund, Prentice Hall, India
3. Introduction to Statistical Quality Control by Montgomery, John Wiley and Sons.
4. Principles of Biostatistics by M. Pagano and K. Gauvreau: Thompson learning (2nd edition)
5. Biostatistics: A Foundation for Analysis in the Health Sciences by W. W. Daniel: John Wiley and Sons Inc (7th edition); Indian Reprint 2006.
6. Biostatistics by Satguru Prasad: Emkay Publication
7. G.S. Shukhla, Upadhyay, Reena Mathur, S.G. Prasad, 2011, Economic Animal Science, Biostatics and Animal Behaviour, Rastogi Publication, Meerut, Delhi

#### **Economic Zoology:**

1. Shukla and Upadhyaya : Economic Zoology (Rastogi Publishers, 1999-2000)
2. Shrivastava: Test book of Applied Entomology, Vol. I &II (Kalyani Publishers, 1991)
3. Mani: Insects, NBT, India, 2006.
4. Jabde: Text Book of Applied Zoology: Vermiculture, Apiculture, Sericulture, Lac culture, Agricultural Pests and their Control, 2005 Publisher Vedams eBooks (P) Ltd. New Delhi
5. G.S. Shukhla, Upadhyay, 2015, Economic Animal Science, Rastogi Publication, Meerut, Delhi

#### **Ecology & Environmental Biology**

1. Odum, E. P. (1996). Ecology: A bridge between science and society. *Sinauer Associates Inc.*
2. Chapman, J. L. And Reiss, M. J. (1992). Ecology, principles and applications. *Cambridge University Press.*
3. Verma, P. S. & Agarwal, V. K. (1983). Environmental biology (principles of ecology). *S.Chand & Co.*
4. Singh, J. H. *et al* (2006). Ecology, environment and resource conservation. *Anamaya Publ.N. Delhi*
5. Kendeigh, S. C. Animal ecology. *Prentice Hall*
6. Kormondy, E. T. Concept of ecology. *Prentice Hal*
7. *Dhirendra, Devershi, Ecology and Environmental Biology, College Book House. Pvt. Ltd., Jaipur*

**Semester VII**

<b>Course Code</b>	<b>Course Title</b>	<b>Course Category</b>	<b>Credit</b>	<b>C.I.A.</b>	<b>Theory</b>	<b>Total</b>
<b>EDU 701</b>	Creating and Inclusive Education	<b>CC</b>	<b>4</b>	<b>30</b>	<b>70</b>	<b>100</b>

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop the understanding of the concept and philosophy of inclusive education in the context of education for all.
- ❖ To identify and address diverse needs of all learners
- ❖ To familiarize with the trends and issues in inclusive education
- ❖ To develop an attitude to foster inclusive education
- ❖ To develop and understanding of the role of facilitators in inclusive education
- ❖ To Prepare teachers for inclusive schools

**Course Contents:**

**Unit- I Introduction to Inclusive Education**

- a) Meaning, Objective , Need and Types of Inclusive Education
- b) Principles of Inclusive Education
- c) Solution and challenge of Inclusive Education
- d) ICT Material of Inclusive Education

**Unit- II Legislation, Emerging Issues and Role of Agencies in Inclusive Education**

- a) Legislation for inclusive education- National policy of disabilities 2006
- b) Sarva Shiksha Abhiyan (2002)
- c) NGO
- d) RTE-2009

**Unit- III Exceptional Child and Special Educational**

- a) Exteptional Child : Meaning and Types
- b) Mentally Retared Child
- c) Physically Handicapped Child
- d) Hearing Impaired Child
- e) Visually Handicapped Child
- f) Emotionally Disturb Child

**Unit- IV Special Educational Need (SEN) of learners in Inclusive School**

- a) Speech Defective Childern
- b) Language Handicapped Child
- c) Learning Disadvantage Child
- d) Parents of Exceptional Childern
- e) Guidance of Exceptional Childern
- f) Special School (Building Co-curricular Activities)

### Assignment & Practical Work (Any Two)

- One term paper
- Write a One Article of Disabilities Child
- Case study of disabilities child
- Write a report of evaluation process in inclusive school

### Suggested Readings:

1. Ahuja, A., Jangira, N.K. (2002) : "Effective Teacher Training, Co-operative Learning Based approach", National Publishing House, 23 Daryaganj, New delhi-02
2. Sharma, P.L. (1990), Teacher Handbook on IED, Helping Children with Special Needs NCERT, Publication Delhi
3. UNESCO (1989), UN Convention on the Right of the Child, UNESCO
4. UNESCO (2006), UN Convention on the Right of Persons with Disabilities.
5. UNESCO (2009), Policy Guideline on Inclusion in Education UNESCO
6. कुशवाहा, पुष्पलता, एवं सक्सैना, कनक (2006)., शैक्षिक प्रबन्धन एवं विद्यालय संगठन, आस्था प्रकाशन, जयपुर
7. परवीन, आबिदा (2013), शिक्षण एवं अधिगम के मनो-सामाजिक आधार, आस्था प्रकाशन, जयपुर
8. बघेला, एच.एस. (2007), शैक्षिक प्रबन्धन एवं विद्यालय संगठन, राजस्थान प्रकाशन, जयपुर
9. बिन्दु आभारानी, सक्सैना, स्वाति (2008), विशिष्ट बालक, अग्रवाल पब्लिकेशन्स, आगरा
10. योगेन्द्रजीत, भाई (2008), शिक्षा में नवाचार और नवीन प्रवृत्तियाँ, विनोद पुस्तक मंदिर, आगरा
11. सुखिया, एस.पी. (2008), विद्यालय प्रशासन एवं संगठन, विनोद पुस्तक मंदिर, आगरा
12. हन्फी, एम.ए. एवं हन्फी एस.ए. (2009), अधिगमकर्ता का विकास एवं शिक्षण अधिगम प्रक्रिया, विनोद पुस्तक मंदिर, आगरा, जयपुर

### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU 702	Language Across the Curriculum	CC	4	30	70	100

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the nature and use of language.
- ❖ To develop the idea of Multilingualism in class room teaching.
- ❖ To create the sense of language and its flavor.
- ❖ To inculcate language skills among trainees.
- ❖ To evaluate skills creative writing and expression.
- ❖ To acquire the idea of composition and art of writing i.e. letter, Paragraph, application etc.
- ❖ To develop ornamental use of vocabulary in different curriculum.

### Course Contents:

#### Unit -I Language acquisition and development

- a) Language : Concept, Meaning and Nature
- b) Language usages : Written, Oral, Role Playing with Communication



- c) 3 Language Policy : First (Mother tongue)
  - : Second (Foreign language)
  - : Third (Religious or classical language)
- d) Language development : From childhood to Adult stages.

#### **Unit -II Language Skills**

- a) Reading : Silent reading vs Rapid reading, News Paper, Journal, Books
- b) Narrative Text vs. Expository text
- c) LSRW (Listening, Speaking, Reading, Writing)
- d) Note making and creative writing (Essay, Application, Letter, Paragraph)

#### **Unit -III Language & Classroom Interaction**

- a) Expression : Public Speech, Lecture, Debating
- b) Multilingualism in classroom
- c) Summarizing and Reflection
- d) Errors and Correction of Language in class

#### **Unit-IV Vocabulary Building and Language Problems & its Remedies**

- a) New Structure and building of vocabulary
- b) Learning new vocabulary and Diagnostic Language Errors
- c) Language Phonemes & Identification of Sound Errors
- d) Remedial Programme for Language Development

#### **Assignment & Practical Work (Any Two)**

- Write any one term paper
- Identify speech defect in classroom teaching
- Prepare a Report on Creative Writing
- Prepare a C.D. on communication (30 minutes)

#### **Suggested Readings:**

1. Baruah, T.C. (1985), The English Teacher's Hndbook, New Delhi, Sterling Publication Pvt. Ltd.
2. Lado, Robert (1971), Language Teaching, New Delhi, Tata Mc. Graw Hill Pub. Co. Ltd.
3. Richards, J.C. and Rodgers, T.S. (2000), Approaches and Methods in Language Teaching, Cambridge, CUP.

### Semester VII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 701	Chemistry	Pedagogy of a School Subject Any two CE	4	30	70	100
BSE 702	Physics					
BSE 703	Mathematics					
BSE 704	General Science					
BSE 705	Biology					
		CE	4	30	70	100

#### BSE 701 : Chemistry

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop a broad understanding of the principles and procedures used in modern science specially in chemistry.
- ❖ To develop essential skill for practising modern science education.
- ❖ To understand aims and objectives of chemistry.
- ❖ To gain ability for critically evaluate the existing syllabus of science.
- ❖ To prepare achievement test and diagnostic test.
- ❖ To enable him to organize co-curricular activities related to science.
- ❖ To appreciate the contribution of world scientist in connection with historical development of chemistry.

#### Course Contents:

##### UNIT-I Nature and Scope

- a) Nature of Science and Chemistry, Importance of Chemistry in Daily Life, Correlation of Chemistry with Other Subjects
- b) Values of Teaching Chemistry
- c) Scientific Attitude, Scientific Literacy
- d) Eminent World Scientist in the Area of Chemistry Like Dalton, Einstein, Neil Borh, Rutherford, Marry Quarry.
- e) Globalisation and Chemistry

##### UNIT-II Curriculum planning and activities

- a) Place of Chemistry in School Curriculum, Principles of Developing Chemistry Curriculum
- b) Modern Trends in Chemistry Curriculum, Reading Material - Text Book, Journal, Handbook, Science Library
- c) Critical Appraisal of Syllabus of Science with Reference to Chemistry Prescribed by State Board of Secondary Education

##### UNIT-III Methods and approaches of teaching

- a) Lecture cum Demonstration Method (Inductive and deductive method), Project Method, Scientific Method, Heuristic Method
- b) Panel Discussion. Seminars and Workshop Laboratory Method.
- c) Teaching aid-Bulletin Board, Flannel Board, Filmstrips, Transparency, OHP, Direct Projector LCD Panel, Non-formal Approaches- field trips

- d) Laboratory- Lay out Plans, Equipments, Furniture, Maintenance of Records, Repair, Care and Improvisation of Apparatus, Safety measures in Laboratory

#### UNIT-IV

- a) Planning for Teaching and Role of Teachers. Annual Plan, Content analysis, Pedagogical Analysis  
b) Inquiry Model of Teaching Lesson Plan and Level Plan Piagian and Brunerian Approach- Behaviourist Contribution  
c) Evaluation - Criteria of good Evaluation Concept of Evaluation, Types of Test Items : Objective, Short Answer, Essay Type, their Merits and Demerits, Blue Print for a Unit Test  
d) Achievement and Diagnostic Test

#### Term Paper : (Any one)

- Make a list of practicals related to secondary science curriculum
- Essay related to any topic of the paper
- Make a list of local resources useful in teaching chemistry to the students of vv Secondary class
- Make a visit any senior secondary science laboratory of a school and prepare a report.
- Make a presentation based on any above topic.

#### Suggested Reading:

1. Dass- R.C. (1985), Science Teaching in Schools, Sterling Publications Pvt.Limited, New Delhi.
2. Gupta Nirmal (1967), Method of Teaching Science, Rastogi and Company Meerut.
3. Joshi S. R. (2005), Teaching of Science, APH Publishing Corporation, New Delhi.
4. Mittal A. (2004), Teaching of Chemistry, APH Publishing Corporation, New Delhi.
5. Nayak A. K. (2004), Teaching of Physics, APH Publishing Corporation, New Delhi.
6. NCERT: General Science, Handbook of activities Class-VI-VIII
7. Sood, J. K. (1989), New direction in Science teaching, Kohli Publication, Chandigarh.
8. Yadav M. S.,(2000), Modern methods of teaching science, Anmol Publications Pvt. Ltd. New Delhi.
9. अग्रवाल वी. पी., सिडाना के., पारीक के., (2007), विज्ञान शिक्षण, शिक्षा के प्रकाशन, जयपुर
10. कुलश्रेष्ठ पी. के. (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
11. नेगी जे. एस., नेगी आर, (2000), रसायन विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
12. रावत डी. एस. (2009), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
13. शर्मा एस. आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
14. सूद जे. के. (2007), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
15. श्रीमाली एन. के., भूषण ए., रिहानी आई, (2007), विज्ञान शिक्षण, राजस्थान ग्रन्थ अकादमी, जयपुर

#### BSE 702 : Physics

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To appreciate the contribution of eminent physicist in connection with the development of the subject.
- ❖ To familiar with the aims and objective of the subject in relation to the present need of the society and educational policies of India.
- ❖ To plan curriculum at the secondary and senior secondary level and analyze the syllabus of the subject in relation to its applicability to practical situation.

- ❖ To develop scientific attitude and provide training in scientific method to their student.
- ❖ To write objectives in behavioural term content analysis and content mapping .
- ❖ To develop yearly plan, unit plan and lesson plan.
- ❖ To plan, equip and organize physics practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and classroom situation.
- ❖ To prepare test paper for theory and practical work.

### **Course Contents:**

#### **Unit- I Nature Scope & Curriculum**

- a) Nature of science and physics, major milestones in the development of physics
- b) Aims, objectives and values of teaching physics at secondary and senior secondary level
- c) Concept of curriculum place of physics in secondary/sr. secondary level curriculum, selection and organization of content and experience
- d) Correlation of physics with other school subjects and its role in daily life
- e) Critical appraisal of the prescribed syllabus of physics (at senior secondary, secondary level of Rajasthan and CBSE board)

#### **Unit- II Planning for Instruction and Role of Teachers**

- a) Writing of objectives in behavioural terms, content analysis.
- b) Developing yearly, unit and daily lesson plan.
- c) Teachers role in training students in scientific method and in development of scientific attitude.
- d) Qualities, responsibilities and professional growth of physics teacher.
- e) Creativity among students.

#### **Unit- III Methods and Approaches of Teaching Physics**

- a) Demonstration method, heuristic method, inductive-deductive method.
- b) Laboratory method, Project method, problem solving method, assignment method.
- c) Multi sensory aids in teaching of physics like chart, model modern electronic resources like; LCD projector, OHP and ICT
- d) Co-curricular activities like science club, science fairs and field trip.
- e) Role of state and national level institutes and laboratories(DST, ISRO, solar observatories etc.) in promoting science education.

#### **Unit- IV Evaluation**

- a) Types of test items.
- b) Construction of various test items.
- c) Preparation of blue print and achievement test.
- d) Diagnosis and remedial teaching in physics, enrichment material.
- e) Evaluation and practical work in physics.

#### **Assignment & Practical Work (Any Two)**

- Planning of an out of class activity to use local environment to teach physics.
- Life sketch of any two modern physicists.
- Essay related to a topic prescribed in the paper .
- Case study of any one senior secondary lab of physics.
- Conducting and reporting three experiments useful at secondary level.
- Description of design of any improvised apparatus.

### **Suggested Reading:**

1. Joshi S. R. (2005) Teaching of Science, APH Publishing Corporation, New Delhi.
2. Maitre, K. (1991), Teaching of Physics, Discovery Publishing House, New Delhi.
3. Nayak A. K. (2004), Teaching of Physics, APH Publishing Corporation, New Delhi.
4. Sharma, R.C. (1971), Teaching of Science Dhanpat Rai and Sons, Delhi.
5. Sood, J. K. (1989), New direction in Science teaching, Kohli Publication, Chandigarh.
6. Vaidya, N. (1970), The impact of science Teaching, Oxford & IBH Publishing Company, New Dehli.
7. Yadav M. S., Modern methods of teaching science, Anmol Publications Pvt. Ltd. New Delhi.
8. अग्रवाल वी. पी., सिडाना के., पारीक के, (2007), विज्ञान शिक्षण, शिक्षा के प्रकाशन, जयपुर
9. कुलश्रेष्ठ पी. के. (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
10. त्यागी एस.के. (2000), भौतिक विज्ञान शिक्षण साहित्य प्रकाशन, आगरा
11. नेगी जे. एस., (2007), भौतिकी शिक्षण, विनोद पुस्तक मंदिर, आगरा
12. रावत डी. एस. (2009), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
13. शर्मा एस. आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
14. सूद जे. के. (2007), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
15. श्रीमाली एन. के., भूषण ए., रिहानी आई, (2007), विज्ञान शिक्षण, राजस्थान ग्रन्थ अकादमी, जयपुर

### **BSE 703 : Mathematics**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand and appreciate the uses and Significance of Mathematics in daily life
- ❖ To learn successfully various approaches of teaching mathamethics and use them judiciously.
- ❖ To know the methods of planning instruction for the classroom.
- ❖ To prepare curricular activities and organize the mathematics Laboratory.
- ❖ To appreciate and organize activities to develop aesthetics of mathematics.
- ❖ To give competence in teaching different mathematics topic effectively

### **Course Contents:**

#### **Unit- I Concept meaning and objectives of mathematics.**

- a) Concept, meaning and nature of mathematics
- b) History of mathematics
- c) Contribution of Indians and western mathematics.
- d) Aims and objectives of teaching mathematics
- e) Blooms taxonomy relating to the teaching objectives in mathematics (cognitive , Affective, psychomotor domain)

#### **Unit- II Methods and approaches of teaching mathematics.**

- a) Inductive vs. Deductive
- b) Analytical vs. synthesis
- c) Heuristic, Project, drill, assignment and supervised study, Laboratory method.
- d) Lesson planning, Unit plan and Yearly plan for mathematics teaching.
- e) Audio visual teaching aids in mathematics (Chart, Model, OHP, LCD, ICT), Improvising Low cost teaching aids in mathematics.

### **Unit- III Planning for instruction and curriculum.**

- a) Curriculum development principle for the secondary and senior secondary level.
- b) Teaching of Arithmetic, algebra and Geometry
- c) Text book in mathematics, Quality of good book in mathematics.
- d) Critically evaluation of existing mathematics syllabus prescribed by Rajasthan Board of Secondary Education and C.B.S.E. at different levels.
- e) Using mathematics as a game for recreation, organizing Quiz programmes, magic square, answering puzzle and reasoning.

### **Unit- IV Evaluation in teaching mathematics:**

- a) Academic testing – objective vs. subjective type test.
- b) Diagnostic evaluation in mathematics.
- c) Preparation of blue print and achievement test.
- d) Preparations of standardized vs. teacher made test in mathematics.
- e) Process of obtaining feedback and evaluation in mathematics in term of teaching objectives.

### **Assignment & Practical Work (Any Two)**

- Preparation of detailed plan about development of mathematics laboratory or mathematics club.
- Life sketch of any two Mathematicians.
- Essay related to a topic prescribed in above paper.
- Prepare a case study of slow learner in mathematics or gifted child in mathematics.
- Observation of mathematics classroom teaching in any secondary school and then prepare a diagnostic and remedial teaching plan.

### **Suggested Reading:**

1. Kumar S., Ratnalikar D. N. (2003), Teaching of mathematics, Anmol Publications Pvt. Ltd. New Delhi.
2. Mustafâ M. (2004), Teaching of mathematics, New trends and innovations, Deep and Deep Publications Pvt. Ltd., New Delhi.
3. Wadhwa S., (2000), Modern methods of teaching mathematics, Sarup and sons, New Delhi.
4. Yadav S. (2007), Teaching of mathematics, Vinod Pustak Mandir, Agra.
5. जैन, एस. एल. (2007), गणित शिक्षण, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
6. नेगी जे. एस. (2006), गणित शिक्षण, विनोद पुस्तक मंदिर, आगरा
7. रावत एम. एस. (1960), अग्रवाल एम. बी. एल., गणित शिक्षण, विनोद पुस्तक मंदिर, आगरा
8. सिंह एस. (2005), गणित शिक्षण, विनोद पुस्तक मंदिर, आगरा

## BSE 704 : General Science

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To appreciate the contribution of eminent Indian scientists in connection with the development of the subject.
- ❖ To familiar with the aims and objectives of the subject in relation to present needs of the society and education policies in India.
- ❖ To plan curriculum at secondary and senior secondary level and analyze the syllabus of the subject in relation to its applicability to practical situations.
- ❖ To identify proper methodology to deal with the content which is to be handled by him as teacher in secondary and higher level.
- ❖ To develop a broad understanding of the principles and procedures used in modern science education.
- ❖ To prepare test paper for evaluation.

**Course Contents:**

### UNIT- I Concept and Nature of General Science

- a) Science : concept, nature and scope
- b) Correlation of science with other subjects
- c) General Science and its importance in school curriculum.
- d) Inquiring influence of science on man and environment.
- e) Scientist and their professional achievement.

### UNIT- II Aims Objectives and Curriculum

- a) Writing aims and objectives in behavioural term.
- b) Developing yearly, unit and daily lesson plan.
- c) Principle of curriculum construction in General Science.
- d) Teachers role in training students in scientific method and scientific attitude.
- e) Professional growth of General Science teacher.

### UNIT-III Methods of Teaching General Science

- a) Lecture method, Demonstration method
- b) Inductive-deductive method
- c) Project method, problem solving method
- d) Laboratory method, Assignment method
- e) Heuristic method

### UNIT- IV Activities and Evaluation

- a) Science laboratory
- b) Teaching aids in General science- OHP, LCD Projector , Television.
- c) Co curricular activities, Science club, Science fair
- d) Evaluation : concept and importance
- e) Preparation of blue print and test paper construction.

### Assignment & Practical Work (Any Two)

- Make a list of practicals related to secondary science curriculum.
- Essay related to one topic prescribe in the paper.
- Preparation of a comprehensive field trip to plan for a group of twenty students.
- Make a list of local resources useful in teaching general science to the students.
- Make a visit at any senior secondary science laboratory of a school and prepare a report.
- Conducting and reporting three experiments useful at secondary level.
- Make a presentation based on any above topic.

### Suggested Reading:

1. Dass- R.C. (1985), Science Teaching in Schools, Sterling Publications Pvt. Limited, New Delhi.
2. Dass- R.C. (1986), Teaching Science in India, Sterling Publications Pvt. Limited, New Delhi.
3. Gupta Nirmal (1967), Method of Teaching Science, Rastogi and Company Meerut.
4. Joshi S. R. (2005), Teaching of Science, APH Publishing Corporation, New Delhi.
5. Mittal A. (2004), Teaching of Chemistry, APH Publishing Corporation, New Delhi.
6. Nayak A. K. (2004), Teaching of Physics, APH Publishing Corporation, New Delhi.
7. NCERT: General Science, Handbook of activities Class-VI-VIII
8. Sood, J. K. (1989), New direction in Science teaching, Kohli Publication, Chandigarh.
9. Yadav M. S.,(2000), Modern methods of teaching science, Anmol Publications Pvt. Ltd. New Delhi.
10. अग्रवाल वी. पी., सिडाना के., पारीक के, (2007), विज्ञान शिक्षण, शिक्षा के प्रकाशन, जयपुर
11. कुलश्रेष्ठ पी. के. (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
12. नेगी जे. एस., (2007), भौतिकी शिक्षण, विनोद पुस्तक मंदिर, आगरा
13. नेगी जे. एस., नेगी आर, (2000), रसायन विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
14. भूषण शैलेन्द्र (1977), जीव विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
15. रावत डी. एस. (2009), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
16. शर्मा एस. आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
17. सूद जे. के. (2007), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
18. श्रीमाली एन. के., भूषण ए., रिहानी आई, (2007), विज्ञान शिक्षण, राजस्थान ग्रन्थ अकादमी, जयपुर

### BSE 705 : Biology

**Learning outcomes:** After completion of this course the student teacher will able :

- ❖ To acquire the knowledge of nature and scopes of Biology.
- ❖ To understand the principles of curriculum, planning and E-resources in Biology.
- ❖ To know and apply the various approaches and innovative methods of Biological science for effective teaching learning process.
- ❖ To apply knowledge of multisensory teaching aids to enhance students engagement and activity based learning.
- ❖ To construct Blue Print, Diagnostic test and remedial self learning material and conduct CCE procedure.



## **Course Contents:**

### **Unit- I Theoretical Perspective of Biology**

- a) Meaning , Nature and Scope of Biological science and its branches
- b) Historical Development of Biological science
- c) Development of values through Biology teaching
- d) Science as a domain of enquiry, dynamic body of knowledge and as a process of constructing knowledge
- e) Developing and significance of Scientific Temper through activities
- f) Aims and Objectives of Biological teaching
- g) Writing Objectives in Behavioral terms and Content analysis

### **Unit- II Curriculum and Planning**

- a) Concept and principles of curriculum
- b) Models and approaches related to curriculum organization
- c) Recent curriculum innovations in context of National Curriculum Framework (NCF)
- d) Planning : Concept, Types and Importance
- e) Co- Curricular activities- Excursion, Science fair, Science club
- f) E-resources in Biology : Biology blog, E-learning, Useful links and websites etc.

### **Unit- III Methods and Approaches**

- a) Herbertian & Constructivist approach (Five 'E' model)
- b) Co- operative learning approach
- c) Inquiry training model & its application
- d) Problem solving approach
- e) Inductive and Deductive methods
- f) Multisensory Teaching aids- Low cost models, L.C.D. Projector, Poster making, Concept map etc.

### **Unit- IV Measurement and Evaluation**

- a) Concept of Measurement and Evaluation
- b) Criteria of good Evaluation
- c) Preparation of Blue Print
- d) Diagnostic test and Remedial learning material
- e) Continuous and Comprehensive Evaluation in biology

### **Assignment & Practical Work (Any Two)**

- Construct, administer and interpret an achievement/diagnostic test and resolving related problems through remedial measure too
- Prepare the Concept map related to school level teaching and demonstrate them to learn different contents in classroom
- Prepare the report on environmental problems in local area and resolving issues through scientific project.
- Poster Presentation/ Drama on various issues related to community awareness about biodiversity/ environmental problems/ waste management.
- Organization of exploratory activities to develop scientific attitude and temper

**Suggested Reading:**

- 1 Choudhary, S. (2010), Teaching of Biology, APH Publishing Corporation, New Delhi.
- 2 Grear, T. L., The Teaching of Biology in Secondary Schools.
- 3 Joshi, S. R. (2005), Teaching of Science, A.P.H. Publishing Corporation, New Delhi.
- 4 Lakshmi, Gade Bhuvneswara, Rao Digumarti Bhaskara, (2004), Method of Teaching Life Science, Discovery Publishing House, New Delhi.
- 5 Mohan, Radha (2007), Innovative Science Teaching, Prentice Hall of India, (p) Ltd., New Delhi.
- 6 Singh, Yogesh Kumar & Nath, Ruchika (2005), Teaching of General Science, A.P.H. Publishing Corporation, New Delhi.
- 7 Sood, J. K. (1987), Teaching of Life Science, Kohali Publishers, Chandigarh.
- 8 Yadav, M. S. (2000), Modern methods of Teaching Science, Anmol Publishers, Delhi.
- 9 कुलश्रेष्ठ, प्रदीप कुमार (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
- 10 भूषण, शैलेन्द्र (2008), जीव विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
- 11 मंगल, एस. के. (2010), जैविक विज्ञान शिक्षण, लॉयल बुक डिपो, मेरठ
- 12 माहेश्वरी, बी. के. (2003), जीव विज्ञान शिक्षण, सूर्या पब्लिकेशन, मेरठ
- 13 शर्मा, एस.आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
- 14 सक्सेना, इनिड (2007), विज्ञान शिक्षण, यूनिवर्सिटी बुक हाउस (प्रा.) लि., जयपुर
- 15 सूद, जे. के. (2007), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
- 16 श्रीमाली, नंदकिशोर (2007), विज्ञान शिक्षण, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

**Semester VII**

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
BSE 706	Optional Course Environmental Education	Any one CE	4	30	70	100
BSE 707	Health and Physical					
BSE 708	Guidance and Counseling					
BSE 709	Distance Education					
BSE 710	Additional Course (Any one)					
	5.1 Chemistry					
	5.2 Physics					
	5.3 Mathematics					
	5.4 General Science					
	5.5 Biology					

**BSE 706 : Environmental Education**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the problems Concerning Environment through multi disciplinary approach.
- ❖ To make the students in the schools environmentally conscious.
- ❖ To develop the skill of planning and organizing Ecological activities in the schools so the children can equipped to play their part in protection and enrichment of environment.
- ❖ To create Environment Consciousness among the adult learners.
- ❖ To use different Techniques and materials for the affective Dissemination of Environmental information.
- ❖ To conduct local surveys, arrange field trips Environmental games and hobbies.

## **Course Contents:**

### **UNIT- I Concept Of Environment**

- a) Meaning , Scope, Importance
- b) Eco-System – Characteristic Qualities
- c) Inter- Dependence In Environment
- d) Natural Resources
- e) Bio-Diversity – Scope & Threats, Preservation

### **UNIT- II Environmental Education**

- a) Meaning, Importance and Objective
- b) Scope of Environmental Education
- c) Need for Public Awareness as a subject
- d) Multi-disciplinary Nature of Environmental Studies Curriculum Development

### **UNIT- III Environmental Hazards and Pollution**

- a) Air Pollution
- b) Water Pollution
- c) Soil Pollution
- d) Noise Pollution

### **UNIT- IV Global Issues and Environmental Conservation**

- a) Global Issue (Global Warming, Climate Change, Depletion of Ozone Layer and Energy Crisis)
- b) Different Aspects Related To Environmental Conservation.
- c) Environmental Preservation & Improvement (At National & International Level)
- d) National Environment Policy

### **Assignment & Practical Work (Any Two)**

- Study on Any one environmental problems. The report on the study must include efforts of the pupil / teacher in developing awareness among people about the environmental problems.
- Prepare a plan to teach environment at education to the adults.
- One term paper solve.
- Prepare a scrap book of an environmental articles and news.
- Conduct environmental competition for local school student.

### **संदर्भ ग्रन्थ सूची :**

1. उपाध्याय, राधावल्लभ, (2008), पर्यावरण शिक्षा, विनोद पुस्तक मंदिर, आगरा
2. गुप्ता, चौदमल, शर्मा, रेनू (2008), पर्यावरण शिक्षा, आस्था प्रकाशन, जयपुर
3. गोयल, एम. के. (2008), पर्यावरण शिक्षा, विनोद पुस्तक मंदिर, आगरा
4. बरौलिया, ए., पर्यावरणीय शिक्षा के नये आयाम, राधा प्रकाशन मन्दिर, आगरा
5. बरौलिया, ए. पराशर, राधिका एवं दुबे, श्री कृष्ण, पर्यावरण शिक्षा के नये आयाम, राधा प्रकाशन मंदिर, आगरा
6. राजस्थान पाठ्यपुस्तक मण्डल की कक्षा 11 से 12 तक की पुस्तकें
7. रावत, कमलेश, पर्यावरण शिक्षा, अलका पब्लिकेशन्स, अजमेर
8. श्री वास्तव, पंकज (2007), पर्यावरण शिक्षा, मध्यप्रदेश हिन्दी ग्रन्थ अकादमी,

## **BSE 707: Health and Physical**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop the organic system of the body.
- ❖ Development of understanding and appreciation of the techniques and strategies of sports
- ❖ To develop correct health habits.
- ❖ Attainment of knowledge of proper health procedure as related with physical exercise.
- ❖ The physical education program will allow the students to participate in developmentally appropriate activities.

### **Course Contents:**

#### **Unit- I Concept of Health Education**

- a) Meaning of Health education.
- b) Environmental factor which promote and affect In Health.
- c) Importance and objective of Health education.
- d) General Exercises in school.

#### **Unit- II Environment and Science of Living and Yoga**

- a) Importance of water to life and our environment.
- b) Science of Living and yoga.
- c) Role of Individual in improvement of sports environment.
- d) Physical and physiological benefits of exercise on children.

#### **Unit- III Physical Education, Balanced Diet and First Aid**

- a) Meaning and Importance of physical Education
- b) Balanced Diet and Nutrition : Macro and Micro Nutrients
- c) First Aid

#### **Unit- IV History of Volleyball & Kabbadi**

- a) Historical Development of Volleyball
- b) Measurement and Rule of Volleyball
- c) Historical Development of Kho-Kho
- d) Measurement and Rule of Kabbadi

### **Assignment & Practical Work**

- Write a Term paper on a topic given in the course
- Skill of any one Team Game of choice from the given List

### **Suggested Readings:**

1. Thorburn, M. (2000), Physical Education-Intermediate Course Notes, Leckie & Leckie Publisher.
2. कमलेश एवं संगरल, शारीरिक शिक्षा में शिक्षण विधियां, विनोद पब्लिकेशन, लुधियाना।
3. पाराशर, गीता एवं कुमार सुनील (2014), स्वास्थ्य शिक्षा तथा मनोरंजन।
4. सफाया, आर. के. स्वास्थ्य एवं शारीरिक शिक्षा, विनोद पब्लिकेशन, लुधियाना।
5. सिंह, बलदेव, स्वास्थ्य एवं शारीरिक शिक्षा, विनोद पब्लिकेशन, लुधियाना।
6. सिंह, परमजीत, राठौड़, भूपेन्द्र सिंह, बार्थोनिया, माया, खान, एम. ए. (2007), शारीरिक एवं स्वास्थ्य शिक्षा, कक्षा-9 माध्यमिक शिक्षा बोर्ड, राजस्थान अजमेर।

## **BSE 708 : Guidance and Counseling**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the basic concept, Nature and scope of Educational and Vocational guidance.
- ❖ To understand the aims objective of educational and vocational guidance.
- ❖ To understand the importance of educational and vocational guidance.
- ❖ To understand the role and responsibilities of guidance workers in school.
- ❖ To understand the Nature and Types of guidance service & with reference to school education.
- ❖ To understand the concept, Nature and Types of counseling.

**Course Contents:**

### **Unit- I Basics of Guidance**

- a) Meaning and Nature of Guidance.
- b) Aims and Principles of Guidance.
- c) Types of Guidance
- d) Importance of Guidance in schools for individual and for society.
- e) Process of Guidance.

### **Unit- II Basics of Counseling**

- a) Meaning, Nature and Principles of counseling
- b) Types of Counseling.
- c) Distinction between Guidance and Counseling.
- d) Role and Responsibilities of Guidance workers in school.
- e) Qualities of a good guidance programme.

### **Unit- III Area of Guidance**

- a) Educational guidance
- b) Vocational guidance
- c) Personal guidance
- d) Guidance Implication in the current Indian scenario.
- e) Problems of guidance in India.

### **Unit- IV Guidance Services**

- a) Introduction to Guidance Services.
- b) Individual Inventory Service
- c) Information Service
- d) Cumulative Record
- e) Placement Services
- f) Follow up Service

### **Assignment & Practical Work (Any Two)**

- Prepare a term paper on any topic of Educational, Vocational or Personal guidance
- Write an article on current educational problems, providing the solution.
- Observe an educational or co-curricular activity in a school or college and provide guidance for the improvement.
- Case study of two special children.

### **Suggested Readings:**

1. Bansal, Aarati (2007), Educational and Vocational Guidance, Sublime Publication, Jaipur
2. Chaturvedi, Ramesh, (2007), Educational and Vocational Guidance and Counseling, Crescent Publishing Corporation, New Delhi.
3. Nayak A. K., Rao V. K. (2007), Guidance and Career Counseling, APH Publishing Corporation, New Delhi.
4. Sharma, Shashi Prabha (2005), Career Guidance and Counseling (Principles and Technique), Kanishka Publishers, New Delhi.
5. Sharma, Sita Ram (2005), Evolution of Educational and Vocational Guidance, ABD Publishers, Jaipur.
6. Sharma, Yogendra K. (2005), Principles of Educational and Vocational Guidance. Kanishka Publishers, New Delhi.
7. Vashist, S. R. (2001), Methods of Guidance, Anmol Publication, Pvt. Ltd., N. Delhi
8. जायसवाल, सीताराम (2006), शिक्षा में निर्देशन एवं परामर्श, विनोद पुस्तक मंदिर, आगरा
9. भाटिया, के. के., (2006), मार्गदर्शन एवं परामर्श के सिद्धान्त, कल्याणी पब्लिशर्स, नई दिल्ली
10. शर्मा, आर. ए., चतुर्वेदी, शिखा (2009), शैक्षिक एवं व्यवसायिक निर्देशन एवं परामर्श, आर. लाल. बुक डिपो, मेरठ
11. सिंह, रामपाल, उपाध्याय, राधावल्लभ (2004), शैक्षिक एवं व्यवसायिक निर्देशन, विनोद पुस्तक मंदिर, आगरा

### **BSE 709 : Distance Education**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To provide an effective alternative path to wider opportunities in education and especially in higher education.
- ❖ To provide an efficient and less expensive education.
- ❖ To provide education facilities to all qualified and willing persons.
- ❖ To provide opportunities of academic pursuits to educate citizens willing to improve their standard of knowledge.
- ❖ To provide education facilities to those individuals who look upon education as a life-long activity.

### **Course Contents:**

#### **Unit-I Theoretical Prospective of Distance Education**

- a) Meaning and Definition of Distance Education.
- b) Characteristics of Distance Education
- c) Distance education as a discipline.
- d) Need for establishing Distance Education as a discipline.

#### **Unit-II Scenario of Distance Education Institutes**

- a) State wise situation of Distance Education Institutes in India.
- b) Objectives of Indira Gandhi National Open University.
- c) Main Theoretical Bases of Distance Education.
- d) Theory of Independent study by CHARLES WEDEMEYER.

#### **Unit-III Essential Elements of Developing in Distance Education**

- a) Essential Elements of Developing curriculum in Distance education.
- b) Different services provided by Sanchar Kendra IGNOU.
- c) Non- Print Instructional media in Distance Education: Educational RADIO.
- d) Major educational Television projects in Distance education.

#### **Unit-IV Counseling for Distance Learners**

- a) Organizing counseling Services for Distance Learners.
- b) Various Types of Tele - Conferencing.
- c) Format of the Text in Distance Education.
- d) Distance Learners and Counseling

#### **Assignment & Practical Work**

- Write any one term paper on a topic with in the content.
- Make the list of Distance Education programme of various universities in India.

#### **Suggested Readings:**

1. Datt, Ruddar (1985), Distance Education in India, Open School, New Delhi
2. Hillard, R. I., Writing for T.V. and Radio, N.Y. Hastings House
3. Parmaji, S. (1984), Distance Education, Sterling Publication, New Delhi
4. यादव, सियाराम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा

### **BSE 710 : 5.1 Chemistry**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of Chemistry for secondary and senior secondary level.
- ❖ To improve the various skills of student teachers in practical work.
- ❖ To understand the practical and theoretical description of various content.
- ❖ To solve different problems related with the content of chemistry.
- ❖ To know importance and use of course content.
- ❖ To plan, equip and organize chemistry practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and class room situations.
- ❖ To develop scientific attitude and provide training in scientific method to their students.

#### **Course Contents:**

##### **Unit- I Chemical Properties**

- a) Chemical Equation
- b) Chemical Equilibrium
- c) Types of Chemical Reactions
- d) Acid and Base
- e) Chemical Change

##### **Unit- II Metal and Non Metals**

- a) Metal
- b) Nonmetal
- c) Chemical Properties of Metal
- d) Hydrogen
- e) Water

##### **Unit- III Carbon**

- a) Bonding in Carbon
- b) Saturated and Unsaturated Carbon Compound
- c) Nomenclature of Carbonic Compound

- d) Chemical Properties of Carbon Compound
- e) Coal and Petroleum

#### Unit- IV Periodic Table

- a) Periodic Table and Atoms
- b) Atoms and Molecules
- c) Atomic Mass and Mole Concept
- d) Atomic Models
- e) Isotopes and Isobars

#### Assignment & Practical Work (Any Two)

- Preparation of a term paper based on any above topic.
- Solve an examination question paper.
- Make a presentation based on any above topic.
- Conducting and reporting three experiments useful at secondary level.

#### Suggested Readings:

1. रसायन विज्ञान, (2014) भाग-1, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
2. रसायन विज्ञान, (2014) भाग-2, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
3. रसायन विज्ञान, (2014) भाग-1, कक्षा 12 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
4. रसायन विज्ञान, (2014) भाग-1, कक्षा 12 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
5. विज्ञान, (2014) कक्षा 8 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
6. विज्ञान, (2014) कक्षा 9 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
7. विज्ञान, (2014) कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
8. अग्रवाल वी. पी., सिडाना के., पारीक के, (2007), विज्ञान शिक्षण, शिक्षा के प्रकाशन, जयपुर
9. कुलश्रेष्ठ पी. के. (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
10. नेगी जे. एस., नेगी आर, (2000), रसायन विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
11. रावत डी. एस. (2009), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
12. शर्मा एस. आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
13. सूद जे. के. (2007), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
14. श्रीमाली एन. के., भूषण ए., रिहानी आई, (2007), विज्ञान शिक्षण, राजस्थान ग्रन्थ अकादमी, जयपुर

#### BSE 710 : 5.2 Physics

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of physics for secondary and senior secondary level.
- ❖ To improve the various skills of student teachers in practical work.
- ❖ To understand the practical and theoretical description of various content.
- ❖ To able for solving different problems related with the content of physics.
- ❖ To make student teachers to know importance and use of course content.
- ❖ To plan, equip and organize physics practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and class room situation.
- ❖ To develop scientific attitude and provide training in scientific method to their students.



## Course Contents:

### Unit- I Electric field

- a) Electric charge
- b) Conductor and non conductor
- c) Charge through induction
- d) Characteristics of electric charge
- e) Coulomb's law

### Unit- II Optics

- a) Mirror reflection, refraction
- b) Spherical mirror
- c) Total internal reflection
- d) Lens
- e) Power of lens

### Unit- III Characteristics of matter

- a) Elasticity of solids
- b) Stress
- c) Pressure
- d) Viscosity
- e) Surface energy and surface tension

### Unit- IV Gravitation and Energy

- a) Gravitation
- b) Work
- c) Energy
- d) Power
- e) Sound

### Assignment & Practical Work (Any Two)

- Preparation of a term paper based on any above topic.
- Solve an examination question paper.
- Make a presentation based on any above topic.
- Conducting and reporting three experiments based on above topics.

### Suggested Readings:

1. भौतिकी, (2014) भाग 1, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
2. भौतिकी, (2014) भाग 2, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
3. भौतिकी, (2014) भाग 1, कक्षा 12 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
4. भौतिकी, (2014) भाग 2, कक्षा 12 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
5. विज्ञान, (2014) कक्षा 8 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
6. विज्ञान, (2014) कक्षा 9 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
7. विज्ञान, (2014) कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर

## BSE 710 : 5.3. Mathematics

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of Mathematics for Secondary and Senior Secondary level.
- ❖ To know different methods for solve mathematical problems.
- ❖ To understand the mathematics formulas and use them appropriately.
- ❖ To make student teachers speed and accuracy for solving different mathematical questions.
- ❖ To encourage student teachers in the development of mathematical interest.
- ❖ To solve various types of mathematical problems

- ❖ To develop mathematical attitude and provide training in preparing various teaching aids in mathematics.

### Course Contents:

#### Unit- I Number System

- Irrational numbers
- Real numbers and their decimal expansions
- Operation on real numbers
- Laws of exponents for real number
- Fundamental theorem of arithmetic

#### Unit- II Plane Geometry

- Angles and lines at a point
- Angles made by a transversal with two lines
- Classification of triangles on the basis of sides and angles
- Square, Rectangle and Circle
- Congruence of triangles

#### Unit- III Algebra

- Linear equations (in two variables )
- Polynomials in one variable
- Zeros of a polynomial
- Factorization of polynomial
- Quadratic equation

#### Unit- IV Trigonometry

- Introduction
- Trigonometric ratio
- Trigonometric ratio of various angles
- Surface area
- Statistics –mean, mode , median

#### Assignment & Practical Work (Any Two)

- Preparation of a term paper based on any above topic
- Solve an examination question paper
- Make a presentation based on any above topic.

#### Suggested Readings:

1. गणित, (2014), कक्षा 7 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
2. गणित, (2014), कक्षा 8 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
3. गणित, (2014), कक्षा 9 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
4. गणित, (2014), कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
5. गणित, (2014), कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
6. गणित, (2014), कक्षा 12 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर

7. जैन, एस. एल. (2007), गणित शिक्षण, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
8. नेगी जे. एस. (2006), गणित शिक्षण, विनोद पुस्तक मंदिर, आगरा
9. रावत एम. एस. (1960), अग्रवाल एम. बी. एल., गणित शिक्षण, विनोद पुस्तक मंदिर, आगरा
10. सिंह एस. (2005), गणित शिक्षण, विनोद पुस्तक मंदिर, आगरा

### **BSE 710 : 5.4. General Science**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To gain the knowledge of General Science for secondary and Senior Secondary level
- ❖ To improve various skills of student teachers in practical work
- ❖ To understand the practical and theoretical description of various content
- ❖ To solve different problems related with the content of science
- ❖ To make student teachers to know importance and use of course content
- ❖ To plan, equip and organize physics practical in the laboratory.
- ❖ To use various methods with appropriateness of content, level and class room situation.
- ❖ To develop scientific attitude and provide training in scientific method to their students.

**Course Contents:**

#### **Unit- I Matter in Our Surroundings**

- a) Matter
- b) States of matter
- c) Change in state of matter
- d) Mixture and solution
- e) Physical and chemical changes

#### **Unit- II Atoms and Molecules**

- a) Laws of chemical combination
- b) Molecule
- c) Atom
- d) Chemical formula
- e) Mole concept

#### **Unit- III Motion**

- a) Displacement
- b) Velocity
- c) Acceleration
- d) Force
- e) Laws of motion

#### **Unit- IV Atomic Structure**

- a) Atomic structure
- b) Chemical bonding (Ionic bond and covalent bond)
- c) IUPAC nomenclature
- d) Periodic table
- e) Acid - base concept

### Assignment & Practical Work (Any Two)

- Preparations of term paper based on any above topic
- Solve an examination question paper
- Make a presentation based on any above topic
- Conducting and reporting three experiments based on above topics.

### Suggested Readings:

1. भौतिकी, (2014) भाग 1, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
2. भौतिकी, (2014) भाग 2, कक्षा 11 के लिए पाठ्य पुस्तक राजस्थान राज्य पाठ्य पुस्तक मण्डल, जयपुर
3. रसायन विज्ञान, (2014) भाग-1, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
4. रसायन विज्ञान, (2014) भाग-2, कक्षा 11 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
5. विज्ञान, (2014) कक्षा 8 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
6. विज्ञान, (2014) कक्षा 9 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
7. विज्ञान, (2014) कक्षा 10 के लिए, पाठ्यपुस्तक, राजस्थान राज्य पाठ्य पुस्तक मंडल, जयपुर
8. अग्रवाल वी. पी., सिडाना के., पारीक के., (2007), विज्ञान शिक्षण, शिक्षा के प्रकाशन, जयपुर
9. कुलश्रेष्ठ पी. के. (2006), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
10. रावत डी. एस. (2009), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा
11. शर्मा एस. आर. (2008), विज्ञान शिक्षण, अर्जुन पब्लिशिंग हाउस, नई दिल्ली
12. सूद जे. के. (2007), विज्ञान शिक्षण, विनोद पुस्तक मंदिर, आगरा

### BSE 710 : 5.5. Biology

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To understand the various concepts related to Biology.
- ❖ To facilitate the development of Scientific Temper in learner.
- ❖ To provide critical and analytical knowledge to student teacher.
- ❖ To enhance creativity, skillfulness and teaching abilities among trainees to teach the school level students.
- ❖ To develop the skills related to problem solving, critical analysis and awareness to solve various health problems of community.
- ❖ To stimulate curiosity, application of knowledge and constructive thinking among the student teacher for whole biosphere.

### Course Contents:

#### Unit- I Growth and Development

- a) Cell structure and cell cycle (Mitosis, Meiosis).
- b) Tissues : Types and functions, Internal structure of Monocot and Dicot root, Secondary Growth process, Tissue culture
- c) Taxonomy of plants, Structure of flower, Floral formula & Floral diagram.
- d) Photosynthesis: Pigment, Light & Dark reaction, C<sub>3</sub> and C<sub>4</sub> cycle, Calvin cycle & affecting factors, Crassulacean acid Metabolism

#### Unit- II Reproduction and Genetics

- a) Reproduction : Types, System, Procedure and Reproductive health issues in animals

- b) Genetics and Evolution: Molecular basis, Mendelism, Gene cloning, Gene transfer
- c) Embryology - Stages and Growth, Organogenesis and Test tube baby
- d) Biotechnology : Recombinant DNA technology, Gene mapping

#### Unit- III Physiology and Regulation

- a) Respiration : Types, System and process in animals, Glycolysis, Kerb cycle, Oxidative phosphorylation and Fermentation
- b) Human physiology : Various system, Related process (Digestion, Circulation, Excretion)
- c) Regulation in Animals : Nervous system, Endocrine system

#### Unit- IV Biodiversity and New Trends

- a) Neo Darwinism, Palentological & Morphological evidences, Hardy-winberg law.
- b) Biodiversity and Ecology : Types of pollution, Global Warming, Alnino effect, Ecological Pyramids, Bio-geo-chemical cycles
- c) Community and Diseases : Malaria, AIDS, Polio, Cancer, malnutrition etc
- d) New Trends and contribution of Eminent Indian Scientist in Biology

#### Assignment & Practical Work (Any Two)

- Preparation of planning with concept mapping and teaching learning process belongs to five topics in any above unit
- Solve an examination question paper
- Make a power point presentation based on any above topic in units
- Prepare a report related to diseases in local area and organize a awareness campaign in school

#### Suggested Readings:

1. Gregaie, L., Gallagher, P. (1992), Life Science, SMD Educational, Publishers, Leiden, The Netherlands.
2. Nair, P. K. G., Hegde, M. J., Prabhu, S. G. (1998), A Text book of Biology (Vol.2), Himalaya Publishing House, Mumbai
3. Naumov, D. (1987), Zoology, Mir Publishers, Moscow
4. Rajendra, K., D' Silva Precilla., Dernandes, Anita (2004), Biology, Boscus Publications, Mangalore
5. Scott, Peter Physiology and Behaviour of Plants, John Wiley & Son's Ltd. West Sussex, England.
6. "जीव विज्ञान" पाठ्य पुस्तकें कक्षा 11 एवं 12 : राष्ट्रीय शैक्षिक एवं अनुसंधान परिषद्, नई दिल्ली
7. शुक्ल, बी. आर. के. व रस्तोगी, सुधा (1994), मानव उदविकास, सुलभ प्रकाशन, लखनऊ

#### Semester VIII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU-801	Knowledge and Curriculum (part-A)	CC Any one	4	30	70	100
EDU -802	Knowledge and Curriculum (part-B)					

## EDU 801: Knowledge and Curriculum (part-A)

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To know the concept objective and principles of curriculum.
- ❖ To develop the idea and bases of curriculum.
- ❖ To understand various types of curriculum.
- ❖ To evaluate the relevancy of curriculum.
- ❖ To describe various approaches to curriculum construction.

**Course Contents:**

### Unit- I Knowledge and Curriculum Concept

- a) Knowledge : Concepts, Characteristics, Sources of Acquiring, Methods of Acquiring
- b) Curriculum: Meaning, Definition, Characteristics, Aims Importance
- c) Difference between old and new concepts of curriculum
- d) Principle of curriculum construction and Knowledge

### Unit- II Bases of curriculum

- a) Sociological bases
- b) Scientific bases
- c) Philosophical bases
- d) Psychological bases

### Unit- III Types of curriculum

- a) Activity centred and life centred curriculum
- b) Subject centred and core centred
- c) Experience centred and work based curriculum
- d) Hidden Curriculum

### Unit- IV National curriculum

- a) Concept and Characteristics of National curriculum
- b) Curriculum reform in India
- c) NCF-2005 (School education)
- d) NCFTE-2009(Teacher education)

### Assignment & Practical Work (Any Two)

- One term paper on the topic related with the unit.
- Preparation of any one term paper on curriculum .
- Review of present curriculum (Optional subject related)
- Curriculum framework for 10th class.

### Referances :

1. अग्निहोत्री, रवीन्द्र , आधुनिक भारतीय शिक्षा
2. अग्निहोत्री, रवीन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, रिसर्च पब्लिकेशन
3. अग्निहोत्री, रवीन्द्र (2007), आधुनिक भारतीय शिक्षा और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
4. ओड, एल. के., शिक्षा के नूतन आयाम, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर

5. गुप्ता, एस. पी. (2005), भारतीय शिक्षा का अतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड, इलाहाबाद
6. त्यागी, निरंजन, माध्यमिक विद्यलयों में पाठ्यक्रम शिक्षण, हिन्दी ग्रन्थ अकादमी
7. पाण्डेय, बृजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा,
8. पाठक, पी. डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ
9. यादव, सियाराम संगीता, सिन्धू पूनम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा
10. यादव, संगीता, सिन्धू पूनम (2014), पाठ्यक्रम विकास और अनुदेशन, अर्जुन पब्लिशिंग हाऊस, 4837 / 24, प्रहलाद गली, अंसारी रोड, दरियागंज, नई दिल्ली-2
11. रावत, प्यारेलाल, प्राचीन एवं आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन, आगरा
12. सक्सैना, एन. आर. स्वरूप, शिक्षा सिद्धान्त, सूर्या पब्लिकेशन, आर. एल. कुक डिपो, मेरठ
13. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर
14. सिंघल, महेशचन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
15. National Curriculum Frame work NCFTE (2009), for Teacher Education, NCTE, New Delhi
16. National Curriculum Frame work NCF (2005), for Scholl Education, NCTE, New Delhi

### **EDU 802 : Knowledge and Curriculum (part-B)**

**Learning Outcomes:** After completion of this course the student teacher will able:

- ❖ To develop various philosophical bases of curriculum
- ❖ To develop various Sociological bases of curriculum
- ❖ To develop various psychological bases of curriculum
- ❖ To develop Educational New Trends of curriculum

**Course Contents:**

#### **Unit- I Philosophical bases of curriculum development**

- a) Idealism, Naturalism, Pragmatism and curriculum
- b) Jain philosophy , Geeta Philosophy , Buddhism Philosophy and curriculum
- c) M. K. Gandhi, Vivekanand , R. N. Tagore and curriculum

#### **Unit- II Sociological basis of curriculum development**

- a) Social change and curriculum
- b) Social Mobility and curriculum
- c) Social development and curriculum
- d) Culture and curriculum

#### **Unit- III Psychological bases of curriculum development**

- a) Structruralism and curriculum
- b) Behaviourism and curriculum
- c) Associationism and curriculum
- d) Gestaltism and curriculum

#### **Unit- IV Educational New Trends of curriculum**

- a) Skill and curriculum
- b) Values and curriculum

- c) NCF-2005(School Education)
- d) NCFTE-2009( teacher Education)

#### Assignment & Practical Work (Any Two)

- Preparation of One term Paper.
- One abstracts of Educational New trends article published in some standard Journals
- Preparation of curriculum Design (any subject related)
- Curriculum frame work for B.Ed. programme.

#### Suggested Readings:

1. अग्निहोत्री, रवीन्द्र , आधुनिक भारतीय शिक्षा
2. अग्निहोत्री, रवीन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, रिसर्च पब्लिकेशन
3. अग्निहोत्री, रवीन्द्र (2007), आधुनिक भारतीय शिक्षा और समाधान, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
4. ओड, एल. के., शिक्षा के नूतन आयाम, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
5. गुप्ता, एस. पी. (2005), भारतीय शिक्षा का अतिहास, विकास एवं समस्याएँ, शारदा पुस्तक भवन, 11 यूनिवर्सिटी रोड, इलाहाबाद
6. त्यागी, निरंजन, माध्यमिक विद्यलयों में पाठ्यक्रम शिक्षण, हिन्दी ग्रन्थ अकादमी
7. पाण्डेय, बृजेश (2002), पाठ्यक्रम अनुदेशन, भारतीय आधुनिक शिक्षा,
8. पाठक, पी. डी. (1995), भारतीय शिक्षा और उसकी समस्याएँ
9. यादव, सियाराम संगीता, सिन्धू पूनम (2008), दूरवर्ती शिक्षा, विनोद पुस्तक मंदिर, आगरा
10. यादव, संगीता, सिन्धू पूनम (2014), पाठ्यक्रम विकास और अनुदेशन, अर्जुन पब्लिशिंग हाऊस, 4837 /24, प्रहलाद गली, अंसारी रोड, दरियागंज, नई दिल्ली-2
11. रावत, प्यारेलाल, प्राचीन एवं आधुनिक भारतीय शिक्षा का इतिहास, भारत पब्लिकेशन, आगरा
12. सक्सैना, एन. आर. स्वरूप, शिक्षा सिद्धान्त, सूर्या पब्लिकेशन, आर. एल. कुक डिपो, मेरठ
13. सिंघल, महेशचन्द्र, भारतीय शिक्षा की वर्तमान समस्याएँ, राजस्थान हिन्दी ग्रन्थ अकादमी, जयपुर
14. सिंह, कर्ण (2006), भारत में शिक्षा प्रणाली का विकास, गोविन्द प्रकाशन, लखीमपुर
15. National Curriculum Frame work NCFTE (2009), for Teacher Education, NCTE, New Delhi
16. National Curriculum Frame work NCF (2005), for Scholl Education, NCTE, New Delhi

#### Semester VIII

Course Code	Course Title	Course Category	Credit	C.I.A.	Theory	Total
EDU -803	Post Internship	CC	16		160 Internship+ 120+120=240 Practical (Two Subjects final lesson)	400



## Post Internship distribution

Sr.no	Content
1.	<b>Regular Practice Teaching including - Unit Plan and Blue Print</b> (Atleast Each Subject of 25 Lessons )
2.	<b>Observation</b>
3.	<b>Block Teaching</b> School Admission Time Table Morning Assembly Classroom Mangement Oraganization of Various Activities Physical Activities Cultural Activities Leterary Activities Yoga Exercies Field Trips/Picnic Counducting of Meeting Maintenance of Garden/School Action Research Preparation of Register Library Management Other Work of School
4.	<b>Community Service</b> Swachhata Abhiyan S.U.P.W Environment Related Work Final Lesson (Two teaching Subject)