



**CHRIST**  
UNIVERSITY

**SCHOOL OF EDUCATION**

**Bachelor of Education (B. Ed)**

**SYLLABUS**  
**2011-2012**

## **CURRICULUM OVERVIEW**

The curriculum has been designed keeping in view of the Goals and Mission of School of Education. The goal is to prepare competent and professional secondary school teachers, who will be able to provide leadership in schools.

The programme aims at developing competency relevant to separate pedagogy in secondary school subjects such as Physics, Chemistry, Biology, Social Science, English and Mathematics.

Further the course aims at preparing teachers who will innovate and deliver effective learning resources, and able to conduct systematic action research on problems pertaining to the field of education.

On completion of B.Ed programme, the teacher trainee will understand the nature, purpose and philosophy of secondary education, develop an understanding of the psychology of learners and develop skills for providing guidance and counseling. They will be proficient in the usage of technology in teaching curriculum transaction and evaluation.

**B.Ed Course Structure**  
**FIRST SEMESTER**

Course Code	Title	Hours	Marks		Credit
			CIA	ESE	
<b>EDU 131</b>	Educational Psychology	<b>6</b>	<b>50</b>	<b>50</b>	<b>4</b>
<b>EDU 132</b>	Educational Management & School Administration	<b>6</b>	<b>50</b>	<b>50</b>	<b>4</b>
<b>EDU 133</b>	Educational Evaluation & Assessment	<b>4</b>	<b>50</b>	<b>50</b>	<b>3</b>
<b>EDU 134*</b>	Content Cum Methodology I 134- A(Social Science) 134-B(Biology) 134-C(Mathematics)	<b>5</b>	<b>50</b>	<b>50</b>	<b>4</b>
<b>EDU 135*</b>	Content Cum Methodology II 135-A(English) 135-B(Chemistry) 135-C(Physics)	<b>5</b>	<b>50</b>	<b>50</b>	<b>4</b>
<b>EDU 181</b>	Guidance & Counseling	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>
<b>EDU 183</b>	Micro Teaching	<b>1</b>	<b>50</b>	<b>-</b>	<b>1</b>
<b>Value Added Course</b>					
<b>EDU 182</b>	Communication Skills	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>
<b>EDU 184</b>	Personality Development	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>
<b>EDU 185</b>	Theatre in Education	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>
<b>EDU 186</b>	Holistic Education	<b>1</b>	<b>-</b>	<b>-</b>	<b>1</b>

**SECOND SEMESTER**

Course Code	Title	Hours	Marks		Credit
			CIA	ESE	
<b>EDU 231</b>	Educational Thought and Practice	<b>6</b>	<b>50</b>	<b>50</b>	<b>4</b>
<b>EDU 232</b>	Educational Technology and Modern Trends in Education	<b>6</b>	<b>50</b>	<b>50</b>	<b>4</b>
<b>EDU 235</b>	Contemporary Concerns and Issues in Education	<b>4</b>	<b>50</b>	<b>50</b>	<b>3</b>
<b>EDU 233*</b>	Content Cum Methodology I 233- A(Social Science) 233-B(Biology) 233-C(Mathematics)	<b>5</b>	<b>50</b>	<b>50</b>	<b>3</b>
<b>EDU 234*</b>	Content Cum Methodology II 234-A(English) 234-B(Chemistry) 234-C(Physics)	<b>5</b>	<b>50</b>	<b>50</b>	<b>3</b>
<b>EDU 281</b>	Action Research	<b>1</b>	<b>50</b>	<b>-</b>	<b>1</b>
<b>EDU 284</b>	Seminar	<b>1</b>	<b>50</b>	<b>-</b>	<b>1</b>
<b>EDU 285**</b>	Practice Teaching Method I	<b>-</b>	<b>100</b>		<b>3</b>
<b>EDU 286**</b>	Practice Teaching Method II	<b>-</b>	<b>100</b>		<b>3</b>

**\*\* Practice Teaching will be held in selected schools for a period of one month. Prior to Practice Teaching, simulated practice teaching will be held in the School of Education. Each student has to take two lessons in each method during simulated teaching.**

## **PAPER: EDU 131: EDUCATIONAL PSYCHOLOGY**

### **DESCRIPTION**

This paper is offered as general paper in the first semester. It develops the knowledge of Educational psychological methods and its application in the educational context. It enhances the views of a teacher towards the pupils in a positive way viz., Intelligence, Individual differences, Interest, Attention, Attitude, Memory etc. It helps to develop teachers attitude and to retain healthy atmosphere of the class room.

### **LEARNING OBJECTIVES**

- To acquaint the meaning and methods of Educational psychology
- To understand the adolescents and to recognize their role
- To able to use different techniques of testing IQ
- To understand the different kinds of personality and methods to assess the pupils.
- To understand the meaning, nature and various theories of learning
- To understand the cognitive psychology of learner

### **UNIT 1- MEANING AND SCOPE OF EDUCATIONAL PSYCHOLOGY 07 Hours**

#### **Level of Knowledge – Conceptual and Basic**

Meaning and Scope of Educational Psychology -Methods of Educational Psychology; Observation, Case Study, Experimentation - Meaning, Steps - Uses and Limitations  
Need of Educational Psychology to the teacher.

### **UNIT 2- LEARNER AS A DEVELOPING INDIVIDUAL**

**12 Hours**

#### **Level of Knowledge – Application**

Different stages of growth in man -Concept of Growth and Development -Adolescents Psychology - Meaning, Characteristics, Various developments viz., Physical, Mental, Social and Emotional- Developmental Tasks of Adolescents -Piaget 's stages of cognitive development -Mental Health - Meaning, Causes for mental ill health, role of a teacher in fostering mental health. Developmental characteristics of a child and adolescent: Physical, cognitive, social, emotional, moral and language development and their inter-relationship, Developmental tasks of childhood and adolescence and their implications.

### **UNIT 3 - UNDERSTANDING THE DIFFERENCE BETWEEN THE LEARNERS**

#### **Level of Knowledge – Comprehension**

**10 Hours**

Individual differences - Meaning , Classifying factors , Role of Heredity and Environment -Intelligence - Meaning , different types of test with examples, IQ - its distribution Multiple Intelligence – Howard Gardner -Emotional Intelligence : concept,

Dimensions and its importance -Gifted children - Meaning , Nature , Identification, Educational programmes for gifted children -Educationally Backward Children –

Meaning, Characteristics, Causes and Remedial instruction - Creativity - Meaning , Characteristics of creative children, Role of teachers and parents in fostering creativity. Differences between individual learners, learning style, self-concept, self esteem, attitude, aptitude, skills and competencies, interest .

#### **UNIT 4- PERSONALITY**

**07Hours**

##### **Level of Knowledge – Conceptual**

Personality - Meaning, Classification -Structure of Personality -Sigmund Freud's theory - Assessment of Personality - Subjective, Objective and Projective techniques -Role of a teacher in molding personality

#### **UNIT 5- THEORITICAL PERSPECTIVES OF LEARNING - AN OVERVIEW**

##### **Level of Knowledge – Theoretical**

**12Hours**

Learning - Meaning and Nature -Learning Theories ; Meaning , Classification -Trial & Error leaning theory and laws of learning - Classical conditioning theory & its educational implications - Operant conditioning theory & its educational implications - Gestalt theory & its educational implications -Gagne's hierarchy of learning & its educational implications - Modes of learning -Enactive, Iconic & Symbolic, & its educational Implications - Constructivism - Concept formation, Concept learning - meaning, types, approaches to teach concepts. Learning in constructivist's perspective; Pedagogic principles for organizing learning: behaviouristic, cognitivistic, and humanistic -A critical analysis of the relevance and applicability of various learning theories for different - kinds of learning situations

#### **UNIT- 6 - FACTORS AFFECTING LEARNING**

**12 Hours**

##### **Level of Knowledge – Comprehension**

Maturation ; Meaning & Educational Implications - Motivation ; Meaning & Techniques to motivate the students, Humanistic Model on Motivation by C.R. Rogers - types -STM & LTM, Process - registration, retention, recall & recognition. -Transfer of learning – meaning types, & its educational implications. Biological and hereditary factors influencing learning -Factors related to the subject matter content and learning material - Factors related to the method of learning - Attention, interest, motivation and readiness as factors influencing scholastic learning, Maturation- Abraham Maslow's theory of motivation

#### **Skill Development**

1. Able to develop Teaching learning strategies catering to heterogeneous group of students such as slow learners, educationally backward children, average learner & special children.
2. Solving practical problems in school situations through psychological methods.
3. Case studies

## References

1. Aggarwal J.C., *Essentials of Educational Psychology*, New Delhi: Vikas Publishing, House Ltd., 2002.
2. Aggarwal J.C., *Psychology of Learning and Development*, New Delhi: Shipra Publishing House Ltd., 2006.
3. Bhatnagar A.B., *Advanced Educational Psychology*, Meerut: Loyel Book Depot, 1996.
4. Chauhan S.S., *Advanced Educational Psychology*, New Delhi: Vikas Publishing House, Pvt. Ltd., 1987.
5. Dandapani S.A., *Text Book of advanced Educational Psychology*, New Delhi : Anmol Publication, 2003.
6. 6..Das R.C., and Vital, *Curriculum and Evaluation*, New Delhi: NCERT,. 1984.
7. Kundu C.L and Tuttoo D.N., *Educational Psychology*, New Delhi. Sterling Publishers Pvt. Ltd., 1985.
8. Passi B.K.,Goel D.R. and Senapathy H.K *Piagetian Teaching Model for Cognitive Development*, Agra, Modern Printers, 2004.
9. Robert.M.Gagne *The Conditions of learning* –, Holt, New York Tinchart and Winston Inc., Third edition ,1977.

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## **PAPER: EDU132: EDUCATIONAL MANAGEMENT AND SCHOOL ADMINISTRATION**

### **DESCRIPTION**

This paper is offered as a general paper in first semester .It will help the students in acquiring the knowledge management and administration of secondary education .They will understand the challenges and strategies related to imparting quality education at secondary stage, and also help them acquire the knowledge of principles and process of Management, Organisation and Management of school programmes etc.

### **LEARNING OBJECTIVES**

- Acquire the knowledge of secondary education during post independent India
- Understand the challenges and strategies related to importing quality education at secondary stage.
- Understand the importance and issues related to professional growth of Teachers.
- Acquire the knowledge of various agencies in secondary education.
- Acquire the knowledge of principles and processes of management
- Understanding of Organization and management of school programmes
- Understanding Concept and importance of time management

### **UNIT-1 INDIAN EDUCATION POLICIES AND PROGRAMMES 12 Hours** **Level of Knowledge-Fundamental**

Education in concurrent list – Constitutional provisions for education- Mudaliyar Commission, kothari Commission, NPE- 1986 – POA 1992 -Women’s Education, Education for the disadvantage groups (SC, ST and Minorities) -Education for the challenged children – Inclusive Education

### **UNIT 2 PROFESSIONAL GROWTH OF SECONDARY SCHOOL TEACHERS 10 Hours** **Level of knowledge-Basic**

Teaching as a profession – Code of Professional Ethics for Teachers -Motivation of Teachers – Factors affecting Teacher Motivation - Accountability of Teachers -In-service Education of Teachers – Importance, Nature & Various Agencies providing in service Education -Role of Professional Organization of Teachers.

### **UNIT 3\_- ROLE OF VARIOUS AGENCIES IN EDUCATION 10 Hours** **Level of Knowledge- Basic**

NCERT, DSERT, CTE, NGOs, NCTE  
Salient features of different boards of Education in India

**UNIT 4 - MANAGEMENT OF HUMAN RESOURCES****06 Hours****Level of Knowledge-Basic**

Concept, Principles and process of Educational Management - Duties of Head master as a Teacher, Supervisor and Manager -Qualities and Functions of Teachers

**UNIT 5 –MANAGEMENT OF TIME****08 Hours****Level of Knowledge – Theoretical and Practical**

Concept of Time Management – Annual Programming - Factors to be considered in Annual Programming - Time Table – Principles of framing Time Table and types of Time Table ; Developing learning related competencies- Subject related; expository; organizational competencies

**UNIT 6 - MANAGEMENT OF MATERIAL RESOURCES****08 Hours****Level of Knowledge- Theoretical and Practical**

School Plant, infrastructural facilities, preparation of School budget, sources of Income and Expenditure of school School Complex, meaning, purpose & function -Maintenance of School records - purpose and types of School Records

**UNIT 7 - MANAGEMENT OF SCHOOL ACTIVITIES AND PROGRAMMES****Level of Knowledge - Theoretical and Practical****06 Hours**

Co-Curricular activities -Meaning, importance and types of Co. curricular activities - Principles of organizing Co. curricular Activities -School Health Education -Importance, various school health services -Physical Education – Importance and Programmes - Managing engagement with parents/ community- Service Learning Concepts- Concept, types of service learning- Significance of Service Learning- Strategies

**SKILL DEVELOPMENT**

1. Visit to Schools for practical experience on organizing Co-curricular activities, School plant etc
2. Group Discussion on Motivation of teachers ,role of professional organization of teachers etc.
3. Presentations on Time Management, School records etc



## REFERENCES

1. Mohanty, Jagannath. *Educational Administration and Supervision*. New Delhi: Sterling Publishers, 1990.
2. Kochhar S.K. *Secondary School Administration*. New Delhi: University Publishers, 1964.
3. Murthy S.K. *Essentials of School Organization and Administration*. New Delhi: Tandon Publishers, 1995.
4. Sachdeva M.S. *School Organization and Administration*. Prakash Brothers, 1997.
5. Terry and Franklin. *Principles of Management*. 8<sup>th</sup> Edition. AITB publishers & distributors, 1997.
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7. Pandey S.R. *Administration and Management of Education*. New Delhi: Himalaya Publishing House, 1995.
8. Myageri C.V. *Text book of Educational Management*. Gadag: Vidyanidi Prakashan, 1993.
9. Rao, Govinda L. *Perspectives on Special Education* Hyderabad: Neelkamal Publishers, 2008.
10. Chaube, S.P. A *Historical Review of Development of Modern Indian Education*, Hyderabad: Neelkamal publishers, 2008.
11. Romesh, Verma. *Educational Administration*, New Delhi: Anmol Publications, 2005.
12. Satija, B.K. *Trends in Education*, New Delhi: Anmol Publications, 2003.
13. Udai, Veer. *Modern School Organisation*, New Delhi: Anmol Publications Pvt.Ltd, 2004.
14. Yadav, Seema. *School Management and Pedagogies of Education*, Anmol Publications Pvt. Ltd., 2005.
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17. Mohanty, Jagannath. *Educational Management , Supervision, School Organisation*, Hyderabad: 2005.
18. Jharana Manjeri Lenka. *Secondary School Education*. New Delhi: Himalaya Publishing House, 2007.
19. Pandey S.R. *Administration & Management of Education*. New Delhi: Himalaya Publishing House, 2007.

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## **PAPER: EDU 133: EDUCATIONAL EVALUATION AND ASSESSMENT**

### **DESCRIPTION**

This paper is offered as a core paper in the First semester. It helps in understanding the concept of Evaluation and the different types of evaluation methods existent in Secondary Schools. It helps in construction of objective based Achievement test and diagnostic tests. It develops skills in computing certain parametric tests.

### **LEARNING OBJECTIVES**

- To understand the role and importance of Evaluation in the teaching-learning process
- To acquire knowledge of the different types and tools of Evaluation
- To construct Diagnostic test and organize remedial teaching
- To prepare an objective based Question bank
- To develop skills in the graphical representation of data
- To develop the skill necessary to compute important statistical estimates and interpret the test scores by applying them.
- To familiarize with the new trends in evaluation and assessment

### **UNIT 1 EVALUATION AND ASSESSMENT**

**07 Hours**

#### **Level of Knowledge – Conceptual and Basic**

Clarifying terms –Measurement- Evaluation- Test- Assessment; Examination and their inter-relationships; Continuous Comprehensive Evaluation-Concept, uses.

### **UNIT – 2 ASSESSMENT TOOLS**

**08 Hours**

#### **Level of Knowledge – Conceptual and Working Knowledge**

Characteristics of a Good Tool; Types of Tests : Teacher made, Standardized – Meaning, construction and uses; Diagnostic Test-Concept, Construction, uses, Remedial teaching; Construction of Test Items – Objective type, Short Answer & Essay Type, Qualitative and Quantitative Tools-Observation- Interview and self-reporting techniques.

### **UNIT -3 STATISTICAL METHODS**

**15 Hours**

#### **Level of Knowledge – Conceptual and Working Knowledge**

Descriptive Statistics; Measures of Central Tendencies-Mean, Median, Mode-Meaning, Computation for grouped and ungrouped data, uses; Measures of Variability-Range, Standard Deviation, Quartile deviation-Meaning, Computation for grouped and ungrouped data, uses- Need and Importance of Statistics in Educational Evaluation- Tabulation of Data -Frequency Distribution Table

### **UNIT-4 STATISTICAL INTERPRETATION**

**15 Hours**

#### **Level of Knowledge – Conceptual and Working Knowledge**

Graphical representation of data- Bar diagram, Histogram, Frequency Polygon, Pie Chart –construction and uses; Correlation: Meaning and uses; Coefficient of correlation: Meaning, Computation by Rank Difference method; Interpretation based on Measures of

central tendencies, Measures of Variability, Frequency Polygon; Normal Probability Curve: Meaning, Characteristics and uses; Skewness: Meaning, Types, Interpretation

**UNIT -5 NEW TRENDS IN EVALUATION AND ASSESSMENT 15 hours**  
**Level of Knowledge – Conceptual and Working Knowledge**

Constructivist perspective on Assessment, Grading System – Concept, features, CBSE & State evolved indicators, Self Assessment, Peer Assessment, Performance Assessment, Maintaining student portfolios using Rubric Assessment procedures, Feedback-Types of teacher feedback, peer feedback, performance feedback, Open Book Exam, On-line Exam, Credit System, Question Bank

**Skill Development**

1. Group debate on Grading System and Internal Assessment system
2. Drill work in Statistics
3. Construction and administration of Questionnaire
4. Conducting Interviews
5. Construction and administration of Achievement test and Diagnostic tests

**References:**

1. Aggarwal, J.C. *Essentials of Examination System Evaluation Tests and Measurement*, New Delhi: Vikas Publishing House, 2003.
2. Bhatia, H.R. *Textbook of Educational Psychology*, New Delhi: The McMillan Company of India Ltd, 1977.
3. Chauhan, S.S. *Advanced Educational Psychology*, New Delhi: Vikas Publication, 1988.
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12. Vashisht, S.R. *Practice of Educational Evaluation*, New Delhi: Anmol Publications, 2004

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**PAPER EDU 134-A - CONTENT CUM METHODOLOGY OF TEACHING  
SOCIAL SCIENCE**

This paper is offered as an elective in I semester. Students who opt for this elective will get to know the Instructional objectives and instructional strategies of the subject and mode of lesson plan preparation. This paper provides students with the learning opportunities needed to become proficient Social Science teachers with a strong knowledge base in History, Geography and other allied subjects of social studies.

**Learning Objectives :**

- To acquire knowledge about the content of Social Science
- To acquaint with the nature of the subject Social Science
- To analyse the aims and values of Social Science
- To understand the curricular approaches of Social Science
- To array the set of instructional objectives and specifications
- To master the instructional strategies of the subject
- To acquire the skill of planning an effective lesson.

**UNIT 1 - CONTENT OF SOCIAL SCIENCE**

**18 Hours**

**Level of Knowledge - Conceptual and Basic**

The First world war- causes and consequences, The Second world war- Causes and consequences – Role and significance of UNO -River Valley Civilizations -French, Chinese and Russian Revolution -Colonization of India and the Impact of Colonial Rule - India's Struggle for freedom, First war of Indian Independence -Indian Constitution-Fundamental Rights and Duties -Local Self Government and Democracy -The Planet Earth – Human Interaction with the environment – Components of Environment -Basic concepts of Economics

**UNIT -2 NATURE AND SCOPE OF SOCIAL SCIENCE**

**08 Hours**

**Level of Knowledge - Conceptual knowledge**

Difference between Social Science and Social Studies - Core Subjects of Social Sciences - History, Civics, Geography, Economics and the inter relationship between them - Scope of Social science and contemporary status of Social Science Education in India-Theme of Social Sciences - standards in teaching Social Science (NCSS\_U.S.A) -Values of Social Science

**UNIT – 3 CURRICULAR APPROACHERS IN SOCIAL SCIENCE**

**08 Hours**

**Level of Knowledge - Theoretical and Practical knowledge**

Co-ordination Approach -Co-relation Approach - Concentric Approach - Chronological Approach, Topical Approach - Unit Approach - Fusion Approach or Integrated Approach -NCF -2005 -towards Social Science.

**UNIT 4 TAXONOMY OF INSTRUCTIONAL OBJECTIVES**

**08 Hours**

## **Level of Knowledge – Practical knowledge**

Difference between Educational and Instructional objectives -Benjamin S. Bloom's Taxonomy of Instructional Objectives and its Specifications – Domain wise analysis

### **UNIT 5 INSTRUCTIONAL STRATEGIES IN SOCIAL SCIENCE**

**18 Hours**

#### **Level of Knowledge – Theoretical and Practical knowledge**

Learner directed Instructional Strategies -Project Method - Computer assisted instruction -Assignment Method -Group Directed instructional strategies -Panel Discussion -Problem Solving - Dramatization - Role Play -Teacher Directed Instructional Strategies - Source Method -Supervised Study -Dalton Plan -Story Telling -Models of Teaching- Jurisprudential Model

### **UNIT 6 PLANNING IN SOCIAL SCIENCE**

**08 Hours**

#### **Level of Knowledge - Practical knowledge**

Need and Importance of Lesson Planning -Steps and Format of Lesson Plan, Unit Plan and Year Plan

**[Total60 hours]**

### **Skill Development**

1. Use appropriate Instructional objectives and specifications in teaching of Social Science
2. Use appropriate Methods and Models of teaching social science.
3. Develop Pedagogical skill in the subject concerned.
4. Design and plan the Lesson Plan and Unit Plan and Year plan

### **REFERENCES**

1. Agarwal,J.C., *Teaching of Social Studies - A Practical Approach*; Fourth Revised Edition, New Delhi : Vikas Publishing House Pvt. Ltd., 2008
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7. Siddiqui.M.H. *Models of Teaching*, New Delhi: APH publishing corporation, 2008.
8. Secondary School Text Books(DSERT, C.B.S.E and ICSE)

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**PAPER : EDU 134 B -CONTENT CUM METHODOLOGY OF TEACHING  
BIOLOGY**

**DESCRIPTION**

This paper is offered as elective in the first semester. It develops the content as well as practical knowledge of Teaching Biology at secondary school. It deals with various methods and approaches, and its application in the educational context. It enhances the views of a teacher towards the pupils in a positive way viz., Content, Individual differences, Interest arousal, Attitude etc. It helps to develop the depth of knowledge in Biological discipline.

**LEARNING OBJECTIVES**

- To acquaint the fundamental concepts of Secondary school Biology.
- To construct the instructional objectives of teaching Biology at secondary school level
- To acquaint the knowledge of nature and scope of Biology.
- To acquaint the usage of various methods and approaches of teaching Biology.
- To acquaint the skill of writing the Lesson plan and Unit plan for lessons in Biology

**UNIT 1 CONTENT IN SECONDARY SCHOOL BIOLOGY**

**10 Hours**

**Level of Knowledge – Fundamental**

Living World – Classification of organisms and salient features of major groups of organisms. Study of cells –Cell division, Plant and Animal tissues -Microbes –in relation to human life and welfare; special reference to HIV -Life processes – Major life processes in plants and Human physiology

**UNIT 2 MEANING AND SCOPE OF BIOLOGICAL SCIENCE**

**12 Hours**

**Level of Knowledge – Theoretical + Skill**

Science - Meaning and Nature with particular reference to the Biology -Scope of Biological Science with respect .to agriculture, medicine, conservation of natural resources, new careers in Biological science- VermiCulture -Abilities of Biological Science; observation, collection, discussion, preservation -Microscopic study, classification and experimentation- Meaning & advantages - Scientific attitude- Meaning nature & different ways of developing the same

### **UNIT 3 TAXONOMY OF EDUCATIONAL OBJECTIVES**

**10 Hours**

#### **Level of Knowledge – Theoretical +Skill**

Difference between Aims & Objectives - Bloom's taxonomy of -Objectives:cognitive, affective & psycho-motor domains - Instructional objectives (I.O.) –meaning, classifications & characteristics - Writing of I.O. in terms of specific learning outcomes.

### **UNIT 4 AN EFFECTIVE PLANNING FOR TEACHING BIOLOGY**

**12Hours**

#### **Level of Knowledge – Theoretical + Skill**

Lesson plan –meaning, need, steps and importance, based on evaluation approach. - Designing a lesson plan for topic of secondary school Biological Science - Unit plan – meaning, steps, importance and its format.

### **UNIT 5 APPROACHERS AND METHODS OF TEACHING BIOLOGY**

**16Hours**

#### **Level of Knowledge – Comprehension**

Meaning, Steps, Merits, Demerits/Limitations and Application in the Context of Teaching Biology at Secondary School Level. - Scientific Method -Lecture Demonstration Method -Project Method -Inductive Deductive Method - Problem Solving Approach(according to Maier) -Critical Inquiry Approach - Structural Functional Approach - ( meaning, illustration, merits and demerits) - Type-Species Approach - ( meaning, illustration, merits and demerits)

**[Total 60 hours]**

#### **Skill Development**

- 1.Effective usage of teaching techniques in a class room context.
2. Effectively analyse the unit , content and task for various activities.
3. Design the lesson plan for Biological topics.
4. Design the unit plan for Biological chapters.
5. Select and Use the steps of various methods and approaches to deal with suitable topics.

#### **References**

1. Sharma R.C., *Modren Science Teaching* , Dhanpat Rai publications, 1982.
2. .Kulshreshtha S.P., *Teaching of Biology*, Meerut, Surya publications, Meerut.: 2006
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  9. R.C. Sharma , *Modern Science Teaching*,3<sup>rd</sup> Edn , New Delhi: Dhampat Rai and sons. 1982.
  10. S. K.Gupta *Teaching of Physical Sciences in Secondary Schools*, New Delhi : Sterling Publishers Pvt.Ltd 1989
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  12. Dr.Rajasekar, *Method of Teaching Physical Sciences*, Hyderabad: Neelkamal publishers 1995
  13. V. Krishnamacharyulu, *Teaching of science*, Hyderabad: Neelkamal Publishers. , 2006
  14. Prof.Kamala Narasimha ,*Content cum Method of Teaching Chemistry*, Bangalore: Sumukha Prakashana. 2005

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**PAPER: EDU 134-C: CONTENT CUM METHODOLOGY OF TEACHING  
MATHEMATICS**

**DESCRIPTION**

This paper is offered as an elective in the First and Second semester. This paper introduces students to the aims and objectives of teaching Mathematics at secondary school level. It introduces the essential elements of good mathematics teaching, practice needed to teach mathematics in an effective and inspirational manner.

**LEARNING OBJECTIVES**

- To acquire the knowledge of the content of Mathematics operating at the secondary school level (8<sup>th</sup> and 9<sup>th</sup> grades)
- To acquire the knowledge of nature of Mathematics
- To appreciate the role of Mathematics in daily life
- To understand the Aims and Objectives of teaching Mathematics
- To state meaningful specific objectives in behavioral terms
- To develop the skill to prepare Unit plan and Lesson plan
- To achieve mastery over Methods, Approaches and Models of teaching Mathematics

**UNIT-1 MATHEMATICS SYLLABUS SECONDARY SCHOOL **12 Hours**  
**Level of Knowledge – Working Knowledge****

Arithmetic: Number system, Sets, Matrices, Statistics; Algebra : Basics, Operations, Exponents, Factorization; Geometry : Basics, Polygons – Triangles & Quadrilaterals, Circles, Surface Area and Volume of solids

**UNIT-2 INTRODUCTIONS TO TEACHING MATHEMATICS **10 Hours**  
**Level of Knowledge – Conceptual and Basic****

Meaning, nature, scope of Mathematics; Application and significance of Mathematics in daily life; Importance of Mathematics as a school subject – Practical, disciplinary, Cultural and recreational functions of Mathematics.

**UNIT-3 AIMS AND OBJECTIVES OF TEACHING MATHEMATICS 10 Hours**  
**Level of Knowledge – Conceptual and Basic**

Meaning and need of objective based teaching; General aims of teaching Mathematics at senior secondary level; Classification of educational objectives with reference to Bloom's Taxonomy; Objectives of Teaching : Arithmetic, Algebra and Geometry; Writing specific objectives in behavioral terms

**UNIT-4 EFFECTIVE PLANING FOR TEACHING MATHEMATICS 10 Hours**  
**Level of Knowledge – Conceptual and Working Knowledge**

Lesson Plan: Meaning and importance; Herbatian Steps in Lesson Plan; Evaluation Approach – Features, Procedure, Merits; Unit Plan: Meaning and importance, features, procedure and advantages; Observation: Criteria for evaluation of a lesson, Systematic observation of a lesson, recording of observation

**UNIT- 5 METHODS/ APPROACHES/ MODELS OF TEACHING MATHEMATICS**  
**18 Hours**

**Level of Knowledge – Conceptual and Working Knowledge**

Meaning, salient feature, steps, relative merits and demerits and application in teaching Mathematics topics: Methods: Inducto-Deducto, Guided Discovery, Analytic, Synthetic, Project method; Approaches: Inductive, Deductive, Problem Solving approach; Models: Concept attainment model, Inductive thinking model, Advance Organizer model; Oral work; Written work; Drill Work in Teaching Mathematics

**[Total 60 hours]**

**Skill Development**

1. Peer Teaching of Content topics from VIII and IX standard State Syllabus Textbooks.
2. Power point presentations on any topic in Secondary School Mathematics
3. Report on Interaction with Secondary school and students on methods of Mathematics teaching
4. Presentations of Fun activities in mathematics
5. Preparation of Lesson plan in mathematics
6. Construction of drill work problems

## Reference:

1. Burger, Edward B & Starbird, Michael. *The Heart of Mathematics*, California: Key College Publishers, 1999
2. Butler & Wren. *The Teaching of Secondary School Mathematics*, London: Mc Graw Hill Book, 1965
3. Cooney T.J.et.al. *Dynamics of teaching Secondary School Mathematics*, Boston: Houghton Mifflin, 1975
4. Ediger Marlow. *Teaching Math Successfully*, Discovery Publication, 2004
5. Davis David R. *Teaching of Mathematics Addison*, Wesley Publications, 1960
6. Goel Amit. *Learn and Teach Mathematics*, New Delhi: Authors Press, 2006
7. Gupta, H.N. and Shankaran -*Content cum Methodology of Teaching Mathematics*, New Delhi: NCERT, 5<sup>th</sup> Ed. 1984
8. James Anice. *Teaching of Mathematics*, New Delhi: Neelkamal Publication, 2005
9. Kulshrestha. *Teaching of Mathematics*, New Delhi: R.Lal & Sons
10. Kumar Sudhir. *Teaching of Mathematics*, New Delhi: Anmol Publications Pvt Ltd, 2004
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13. Raj B C. *Methods of Teaching Mathematics*, Lucknow: Prakashan, 2001
14. Yadawada S B. *Methods of Teaching Mathematics*, Gadag: Vidyanidhi, 2004
15. Zevenbergen, Robyn. *Teaching of Mathematics in Primary Schools*, New Delhi: Viva Books, 2004

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## **PAPER: EDU 135A: CONTENT CUM METHODOLOGY OF TEACHING ENGLISH**

### **DESCRIPTION**

This paper is offered as an elective in the first semester. The students opting for this elective should have specialized or studied English at the graduate or post graduate level. The students develop linguistic skills which are essential for language teaching and prepares them for the profession as ESL/EFL teachers.

### **LEARNING OBJECTIVES**

- To understand the role of English in India and its importance as ESL and EFL.
- To familiarize the language skills to be developed and evaluated among students.
- To acquire knowledge about the recent trends in English language teaching and learning.
- To distinguish the different approaches and methods of teaching English and the use of appropriate ones for teaching various aspects of the language.
- To be acquainted with the importance and practical utility of teaching resources and activities.

### **UNIT - 1      FUNDAMENTALS OF LANGUAGE**

**10 Hours**

#### **Level of Knowledge – Theoretical Knowledge**

Meaning and definition of language; its functions - Fundamental principles of language - Principles of language learning - Need and importance of learning English in India - Learning of mother-tongue vs. English language learning.

### **UNIT- 2      DEVELOPMENT OF LANGUAGE SKILLS**

**12 Hours**

#### **Level of Knowledge – Theoretical and Practical Knowledge**

Listening Skills: Objectives - Importance - Purpose - Activities to develop listening skills in students. Speaking Skills: Objectives - Preparation - Perfection in Pronunciation - Types of speaking situations - Activities to develop speaking skills in students. Reading Skills: Objectives - Types - Mechanics - Activities to develop reading skills in students. Writing Skills: Objectives - Importance of Handwriting - Mechanics - Activities to develop writing skills in students.



## **References:**

1. Nagaraj, Geetha, 'English Language Teaching – Approaches Methods Techniques', Orient Longman Private Ltd., 1996.
2. Woodward, Tessa, 'Planning Lessons and Courses', Cambridge University Press, 2004.
3. Kulakarni K.G, 'Content Based Methodology of Teaching English', Pradeep Prakasham, 2004.
4. Dakin, Julian, 'The Language Laboratory and Language Learning', London: Longmans, 1973.
5. Hornby, 'Teaching of Structural Words and Sentences Pattern', Oxford University Press, 1967

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## **PAPER: EDU135B: CONTENT CUM METHODOLOGY OF TEACHING CHEMISTRY**

### **DESCRIPTION**

This is an elective paper in First semester for students who have studied Chemistry as one of their optional subjects in their degree. It will help them familiarize with the content of chemistry at a Secondary School level. Students will understand the various methods and approaches of Teaching Chemistry and the skill of developing lesson plans based on instructional objectives and the skill of stating the objectives in behavioral terms.

### **LEARNING OBJECTIVES**

- Acquire the knowledge of nature & scope of Chemistry.
- Acquire the knowledge of basic branches of science & their interrelationships
- Understand the objectives of Teaching Chemistry
- Understand various methods and approaches of teaching of chemistry
- Skill of developing lesson plans based on instructional objectives skill of analyzing the content in terms of concepts and learning experiences.
- Developing skill in stating objectives in behavioral terms.

### **UNIT 1 - CONTENT IN CHEMISTRY**

**15 Hours**

#### **Level of Knowledge-Basic**

States of matter, Physical Change & Chemical Change, Structure of atom, Dalton's atomic theory, Rutherford's model, Bohr's model -Periodic classification of elements; early classification and modern classification - Water cycle; Hard water and Soft water, solutions, mixtures, methods of separation of Mixtures, Colloids -Fuels, fossil fuel, non fossil fuel, calorific value of fuel, properties of good fuel -Metals & Non Metals: Difference between Metals & non Metals, Important Chemical Reactions of metals, extraction of Copper & Iron, Extraction of Silicon; Use of Silicon compounds.

### **UNIT 2 - INTRODUCTION TO THE TEACHING OF CHEMISTRY**

**12 Hours**

#### **Level of knowledge-Fundamental**

Meaning, Nature of Science in a general and chemistry in particular - Contribution of Scientists / Research Organizations in the field of chemistry - Process and product aspects of science. Components of scientific knowledge facts, concepts - principles, theories, laws - Branches of science and their inter relationships. Importance of teaching chemistry with referents to agriculture, medicine, industry -Scientific Method: Meaning

& steps -Scientific attitude: meaning, characteristics, role of teacher in the development of scientific attitude among students.

### **UNIT 3- OBJECTIVES OF TEACHING CHEMISTRY**

**09 Hours**

**Level of Knowledge-Fundamental and Working Knowledge**

Difference between Aims & Objective - Instructional objectives – classification based on Bloom's Taxonomy – writing Instructional objectives in terms of specific learning

### **UNIT 4 -METHODOLOGY AND APPROACHES OF TEACHING CHEMISTRY**

**18 Hours**

**Level of Knowledge-Working Knowledge**

Meaning, salient features, steps relative merits and demerits and application in the - context of teaching chemistry at secondary school level -Lecture Cum Demonstration Laboratory Method - Problem Solving Method -Inductive – Deductive Method -Project Method -Critical Inquiry Approach -Heuristic Method -Concept Attainment Model Inquiry Training Model

### **UNIT 5 - PLANNING FOR TEACHING CHEMISTRY**

**06 Hours**

**Level of knowledge-Basic and Working Knowledge**

Unit plan – Meaning, Importance, steps in unit plan - Lesson plan - Importance, Herbartian steps Of Lesson Plan - Format of lesson plan based on evaluation approach.

**[Total60 hours]**

### **SKILL DEVELOPMENT**

1. Preparation of Lesson Plan
2. Application of different methodologies of Teaching in Classroom teaching
3. Stating Objectives of teaching in behavioral terms

### **REFERENCES**

1. Das R.C., *Teaching of Science*, 2<sup>nd</sup> Edn, New Delhi : Sterling Publishers Pvt.Ltd , 1985.
2. Gupta S.K. *Teaching of Physical Sciences in Secondary Schools*, New Delhi: Sterling Publishers Pvt.Ltd 1989.
3. Narendra Vaidya ,*The Impact of Science Teaching*, New Delhi: Oxford and IBH Publishing house. 1971
4. V. Krishnamacharyulu, *Teaching of science*, Hyderabad: Neelkamal Publishers. , 2006



5. Prof.Kamala Narasimha, *Content cum Method of Teaching Chemistry*, Bangalore:Sumukha Prakashana. 2005
6. Dr.Rajasekar *Method of Teaching Physical Sciences*, Hyderabad: Neelkamal publishers 1995.
7. Sharma R.C., *Modern Science Teaching*, 3<sup>rd</sup> Edn , New Delhi: Dhampat Rai and sons 1982.
8. Thurber W.A. and Colletta A., *A Teaching Science in today's Secondary schools*, Prentice Hall of India. 1964.
9. Secondary school text books in Science ( DSERT, C.B.S.E and I.C.S.C Boards)

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## **PAPER: EDU 135-C: CONTENT CUM METHODOLOGY OF TEACHING PHYSICS**

### **DESCRIPTION**

This paper is offered as an elective in the First and Second semester. This paper introduces students to the aims and objectives of teaching Physics at secondary school level. It introduces the essential elements of good Physics teaching, practice needed to teach Physics in an effective and inspirational manner.

### **LEARNING OBJECTIVES**

- To acquire the knowledge of the content of Physics operating at the secondary school level (8<sup>th</sup> and 9<sup>th</sup> grades)
- To acquire the knowledge of nature of physics
- To appreciate the role of physics in daily life
- To develop scientific attitude among students
- To understand the Aims and Objectives of teaching Physics
- To state meaningful specific objectives in behavioral terms
- To develop the skill to prepare Unit plan and Lesson plan
- To achieve mastery over Methods, Approaches and Models of teaching Physics

### **UNIT-1 PHYSICS SYLLABUS AT SECONDARY SCHOOL LEVEL 14 Hours** **Level of Knowledge – Working Knowledge**

Magnetism and electricity: Properties of magnetic field, Magnetic effect of electric current, Electromagnetic induction, Resistance, Heating effect of electric current; Dynamics: Motion, Speed, Velocity, Acceleration, Universal law of gravitation, Centrifugal & Centripetal, momentum, movement; Heat: Propagation of heat, effects of heat, measurement of temperature, Specific heat, latent heat; Light: Refraction, Total internal reflection, Lens, Telescope, Microscope, Dispersion

### **UNIT-2 INTRODUCTION TO TEACHING PHYSICS 10 Hours** **Level of Knowledge – Conceptual and Basic**

Meaning & nature of Science, scope of Physics; Application and significance of Physics in daily life; Importance of Physics as a school subject – Practical, disciplinary and recreational functions of Physics; Scientific attitude – Meaning, characteristics, techniques of developing scientific attitude

**UNIT-3 AIMS AND OBJECTIVE S OF TEACHING PHYSICS 10 Hours**  
**Level of Knowledge – Conceptual and Basic**

Meaning and need of objective based teaching; General aims of teaching Physics at senior secondary level; Classification of educational objectives with reference to Bloom's Taxonomy; Writing specific objectives in behavioral terms

**UNIT- 4 EFFECTIVE PLANNING FOR TEACHING PHYSICS 10 Hours**  
**Level of Knowledge – Conceptual and Working Knowledge**

Lesson Plan: Meaning and importance; Herbatian Steps in Lesson Plan; Evaluation Approach – Features, Procedure, Merits; Unit Plan: Meaning and importance, features, procedure and advantages; Observation: Criteria for evaluation of a lesson, Systematic observation of a lesson, recording of observation

**UNIT-5 METHODS/APPROACHES/ MODELS OF TEACHING PHYSICS 16 Hours**  
**Level of Knowledge – Conceptual and Working Knowledge**

Meaning, salient feature, steps, relative merits and demerits and application in teaching physics topics: Methods: Lecture cum demonstration, Heuristic, Laboratory, Problem solving, Project method; Approaches: Inductive, Deductive, critical enquiry approach; Models: Concept attainment model, Inductive thinking model, Inquiry training model

**[Total60 hours]**

**Skill Development**

1. Peer Teaching of Content topics from VIII and IX standard State Syllabus Textbooks.
2. Power point presentations on any topic in Secondary School Physics
3. Report on Interaction with Secondary school and students on methods of Physics teaching
4. Presentations of Fun activities in Physics
5. Preparation of Lesson plan in Physics
6. Practical experiments in laboratory

**Reference:**

1. Anderson, R.D. *Developing Children's thinking Through Science*, New Delhi: Prentice Hall, 1970.
2. Chand, B. *Teaching of Science*, Ludhiana: Prakash Brothers, 1986
3. Chauhan, S.S. *Innovation in Teaching Learning Process*, New Delhi: Vikas Publishing House Pvt. Ltd, 2000.
4. Das, R.C. *Science teaching in School*, New Delhi: Sterling Publishers, 1985
5. Gupta, S.N. *Teaching Physical Science in Secondary School*, New Delhi: Sterling Publishers, 1985.
6. Joyce, Bruce and Marsha Weil. *Models of Teaching* New Delhi: Prentice Hall, (4<sup>th</sup> Ed.), 2000.
7. Kochar, S.K. *Methods and Techniques of Teaching*, New Delhi: Sterling Publishers Pvt Ltd, 1997.
8. Maitre, K. *Teaching of Physics*, New Delhi: Discovery Publishing House, 1991
9. Mukalel, J.C. *Creactive Approaches to Classroom Teaching*, New Delhi: Discovery Publishing House, 1998.
10. Nayak A K. *Teaching of Physics*, New Delhi: Anmol Publications Pvt Ltd, 2004.
11. Prakash, R. & RATH, T.N. *Emerging Trends in Teaching of Physics*, New Delhi: Kanisha Publishers, 1996.
12. Prasad, J. *Practical Aspects in teaching of Science*, Kanishka Publishers, 2005.
13. Rao, D.B. *Reflections on Scientific Attitudes*, New Delhi: Discovery Publishing House, 1997.
14. Vanaja M. *Methods of Teaching Physics*, New Delhi: Discovery Publishing House, 2006.
15. Veer, Udai. *Modern Teaching of Physics*, New Delhi: Anmol Publications Pvt Ltd, 2004

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**SECOND SEMESTER**

## **PAPER: EDU 231: EDUCATIONAL THOUGHT AND PRACTICE**

### **DESCRIPTION**

This paper is offered as a general paper in the second semester. Through the analysis of different school of thoughts of Philosophy it develops a formative effect on the mind and character of the student. It provides the information that education is the process by which society deliberately transmits its accumulated knowledge, skills and values from one generation to another. The paper also provide basis of Philosophical and sociological principles which are invariably applied in the field of education.

### **LEARNING OBJECTIVES**

Enable the Student teacher to

- To familiarize the term Education
- To understand the role of Philosophy in Indian Educational context
- To acquire the skill of proficiency in teaching
- To acquaint with the various principles and forms of curriculum
- To understand the functions of Educational Sociology
- To analyse the sociological issues of a democratic society.

### **UNIT- 1 BASIC ASPECTS OF EDUCATION**

**05 Hours**

**Level of Knowledge - Conceptual**

Etymological meaning of education -Newsome's approach related to Education; Axiology , Epistemology and Metaphysics -Aims of education – Individual, Social and Vocational aims Nature of Education- Education as an art and science- A product and process -Four Pillars of Education- Changing aims of Education in the context of globalization

### **UNIT -2 PHILOSOPHICAL BASES OF EDUCATION**

**15 Hours**

**Level of Knowledge - Theoretical**

Relationship between Education and Philosophy -Functions of philosophy of Education- Speculative, Normative and Critical -Philosophical theories of Discipline - Fundamental postulates -Idealism, Naturalism and Pragmatism -Contributions of great Indian and Foreign thinkers towards Education -. Frobel,. John Dewe, Maria Montessori , Mahatma Gandhi, Rabindranath Tagore and Swami Vivekananda- J. Krishnamurthy.

### **UNIT- 3 PRINCIPLES OF TEACHING**

**15 Hours**

**Level of Knowledge - Conceptual and Working**

General Principles of teaching -Maxims of Teaching -Mursells Principles of Teaching

Phases of teaching -Flander's Interaction Analysis (FIAC) -Characteristics and Qualities of Good Teaching -Effective Teaching and Learning -Biddle's Model of Teacher Effectiveness, An analysis of teacher roles and functions in the pre-active phase :visualizing; decision making - roles and functions in the interactive phase : facilitating and managing learning - roles and functions in the post-active phase: evaluation of pupil - learning, evaluation and generating feedback on all three phases of teaching - Using learner achievement as a feedback for evaluating teacher/ teaching effectiveness

#### **UNIT - 4 THE CURRICULUM**

**08 Hours**

##### **Level of Knowledge - Conceptual and Practical**

Principles of curriculum construction -Types of curriculum - Organization of Curriculum Curriculum reconstruction and up gradation, Concept of curriculum – Differentiating curriculum framework, syllabus, textbooks their significance in school education. Role of School in operationalizing the curriculum – National curriculum framework – 2005 (NCERT) - National curriculum framework – 2009

#### **UNIT- 5 SOCIOLOGICAL PERSPECTIVES OF EDUCATION**

**08 Hours**

##### **Level of Knowledge – Conceptual**

Functions of Educational Sociology, Difference between Educational sociology and Sociology of Education -- Role of Education in Social Change and Social Mobility - Agencies of Educational and Social Change – Media, Family, School , Religion - Functions of Education towards cultural change and modernization.

#### **UNIT - 6 EDUCATION IN A DEVELOPING SOCIETY**

**09 Hours**

##### **Level of Knowledge - Conceptual**

Factors leading to and resisting from the socialization of a child - Wastage and Stagnation a threat to Universalisation of Education -Education for Vocationalisation - Women Empowerment through Education - Problems, issues and remedies regarding child labour -Role and Significance of UNICEF , Quality of life as an outcome of education, Education as an investment, Privatization, private initiative, and liberalization in education - Education and development of life skills: preparation of individuals for the 21st century.

##### **Skill Development**

1. Presentation on Social Problems ,Remedial measures and Service to the Society
2. Effective way of teaching and observation criteria
3. Organization of teaching on the basis of different philosophical thoughts and disciplines.
4. Organization of Community Living camp and learning the art of living together.

## REFERENCE

1. Aggarwal J.C, *Philosophical and sociological perspectives on education*, New Delhi: Shipra Publications, 2004
2. Aggarwal J.C., *Teacher Education in a developing Society*, New Delh: Vikas Publications,2005.
3. Bhatia, *Philosophical foundation of Education in India*, Jaipur: Sudha Publications. 2004.
4. Badami B.S, *Philosophical and sociological foundations of Education*, Gadag, Vidhyanidhi Publications. 2007.
5. D.J.O'Connor, *An introduction to the Philosophy of Education*-London , 1975.
6. Dewey John , *Democracy and Education*, New York: Macmillan company, 1944.
7. Horne Herman.H. ., *The democratic Philosophy of Education*, New York: Macmillan company. 1934.
8. Kilpatric, William.H. , *A defense of Philosophy in Education*, Harvard teachers record. 1931.
9. Murthy .S.K. *Philosophical & Sociological foundations of Education*, Ludhiana:Tandon Publications. 2000.
10. Nayar P.R., and Dave P.N., *The teacher Education in Emerging Indian Society*,, New Delhi: Arora Publications. 1982.
11. Paliwal, M.N.R. *Social change and Education*, New Delhi:Uppal Publishing House, 1984.
12. Taneja *Educational Thought and Practice*, New Delhi: Sterling Publishers Pvt.Ltd. 2005.
13. Yogendra K.Sharma, *Sociological Philosophy of Education*, New Delhi: Kanishka Publishers. 2004
14. Zikr-Ur-Rehman , *Teaching Methods and Techniques*, New Delhi : Anmol Publications 2004.

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## **PAPER: EDU 232: EDUCATIONAL TECHNOLOGY AND MODERN TRENDS IN EDUCATION**

### **DESCRIPTION**

This is a general paper offered in the second semester. The students learn the fundamentals of Educational Technology and its application in the teaching-learning process. They prepare technology based lesson plans on the texts prescribed at the secondary level and present them effectively in the classroom. They also have hands-on experience on use of computers at school for academic and administrative purposes. Field trips are organized to schools to have an exposure and understanding of its working and prepare themselves according to the requisites and expectations of present day teaching.

### **LEARNING OBJECTIVES**

- To understand the concept of Educational Technology and its approaches to teaching and learning.
- To acquire the knowledge and skill of Programmed Instruction and Instructional Design.
- To acquire the knowledge of the different Models of Teaching.
- To understand the concept and application of TQM in education.
- To develop awareness of the use of technology in teaching.
- To understand the basics of computers.
- To prepare and present content with multimedia using MSOffice.
- To understand the applications of technology in school administration.

### **UNIT - 1 EDUCATIONAL TECHNOLOGY**

**08 Hours**

#### **Level of Knowledge – Theoretical Knowledge**

Meaning - Definition of Educational Technology - Difference between Information Technology and Instructional Technology - Aims and Objectives of Educational Technology Components - Hardware and Software - Role of a teacher in Educational Technology

### **UNIT - 2 PROGRAMMED LEARNING**

**10 Hours**

#### **Level of Knowledge – Theoretical and Practical Knowledge**

Origin - Principles of Programmed Instruction - Types of Programmed Learning - Linear-Branching - Mathematics - CAI - Importance and application of Computer Assisted Learning

**UNIT- 3 MODELS OF TEACHING 05 Hours**  
**Level of Knowledge – Theoretical and Practical Knowledge**

Models of Teaching -Definition - Meaning - Characteristics - Fundamental elements - Types of Models.

**UNIT - 4 INSTRUCTIONAL DESIGN 06 Hours**  
**Level of Knowledge – Theoretical Knowledge**

Concept of Instructional Design - Levels of Instructional Design - Basic Teaching Model- Glaser System approach

**UNIT - 5 MODERN CONCEPTS IN MANAGEMENT 10 Hours**  
**Level of Knowledge – Conceptual Knowledge**

TQM – Definition - Fundamental principles - Process of TQM - Quality tools of TQM. Organization –Principles of Organization- Types of Organization and Structure. Leadership – Meaning- Functions of Leadership- Leadership style, Organizational Culture-Concept and definition-Creating an Organizational Culture and managing an Organizational Culture-Dimensions of Organizational Culture, Organizational climate-Meaning-Definition-Dimensions of Organizational climate

**UNIT - 6 COMPUTER TECHNOLOGY 15 Hours**  
**Level of Knowledge – Theoretical and Practical Knowledge**

Basics of Computers: Definition – Functions – Characteristics – Parts – Generation – Classification – Devices –Accessories, MSWord \*: Create documents - manipulate data – format - save & retrieve, MSPowerPoint\*: Slide creation - slide design, MSEXcel\*: Spreadsheet - Data manipulation - Cell formatting - Cell references – functions, Basics of Computer Networking\*: Internet - e-mail - e-learning. \* (practice in the computer lab) Computers in School Environment- Teacher’s Role , Mass media in classroom, Teleconferencing, Video conferencing, Teamwork, Participative proactive role

**UNIT - 7 ALTERNATIVE SCHOOLING AT SECONDARY STAGE 06 Hours**  
**Level of Knowledge – Conceptual Knowledge**

Concept and importance of alternative schooling - Curriculum in alternative schooling - problems encountered in alternative schooling - Role of Government and NGOs in alternative schooling - Strategies to improve quality of alternative schooling - Open schooling - National and State open school

## **Skill Development**

1. Development of computer skills for preparing and presenting content from secondary school texts in their respective methods
2. Planning and execution of activities through technology
3. Presenting activities in a classroom/ school for different occasions
4. Preparation of episodes/ marks cards using MS Office
5. School visits to enhance learning
6. Presentations on TQM in academics, Models of Teaching and Instructional Design

## **References:**

1. Aggarwal J. C. , 'Essentials of Educational Technology', New Delhi: Vikas Publishing House, 2000.
2. Aggarwal J. C., 'Innovations in Educational Technology' New Delhi: Vikas Publishing House, 2000.
3. Bhattachary.S.P., 'Models of Teaching', Regency Publications, 1994.
4. Byran P., 'Discover the Internet Comdex Computer', New Delhi: Dream Tech Publishing, 1997.
5. Spencer, Donald D., 'The Illustrated Computer Dictionary', New Delhi: Universal Book Stall, 1993.
6. Suganthi and Samuel, 'Total Quality Management', New Delhi: PHI Learning, 2009.
7. Gupta, Madaan and Arya, 'The Illustrated Computer Dictionary', New Delhi: Dream land Publications, 1993.
8. Fry, Edwards B., 'Teaching Machines and Programmed', New York: Mc Graw Hill Book Company Inc., 1973.
9. Honcock, 'A Planning for Educational Mass Media', New York: Longman Group Ltd., 1977.
10. 'Comdex Computer Course Kit', New Delhi: Dream Tech Publishing.
11. Crouton T. E., 'Programmed Learning and Computer Based Instruction', New York: Mc Graw Hill Book Company Inc., 1962.

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## **PAPER: EDU 235: CONTEMPORARY CONCERNS AND ISSUES IN EDUCATION**

### **DESCRIPTION**

This paper is offered as a general paper in the second semester. It provides the students with an understanding of contemporary concerns and issues in education. It helps to acquire knowledge on national concerns like peace education, value education, multi-cultural education, environmental education, universalization of secondary education, population and aids education.

### **LEARNING OBJECTIVES**

- To develop reasonable understanding about the role of Secondary Education in fostering the idea of quality life
- To develop a sense of responsibility towards conservation of environment, biodiversity and sustainable development
- To understand the essence of Peace
- To acquire knowledge about AIDS
- To acquire knowledge on environmental concerns and issues
- To safeguard Human Rights and to Maintain Peace in the Society
- To respect the Cultural Diversity of the Student from varied groups
- To understand the essence of Human Values
- To acquire knowledge about Population associated issues

### **UNIT-1 UNIVERSALIZATION OF SECONDARY EDUCATION 06 Hours** **Level of Knowledge – Theoretical and Conceptual Knowledge**

Constitutional Provisions, Impact of UEE on secondary Education-Access, Enrolment and Achievement- Issues and concerns

### **UNIT -2 HUMAN RIGHTS EDUCATION 07 Hours** **Level of Knowledge – Theoretical and Conceptual Knowledge**

Obstacles and hindrance of Human Rights-Methods of Human Rights teaching-Human Rights Education at Secondary Level-Role of Human rights Education-Human Rights Education in Indian Context

### **UNIT –3 MULTICULTURAL EDUCATION 06 Hours** **Level of Knowledge – Theoretical and Conceptual Knowledge**

Meaning-significance and objectives of Multicultural Education-Activities helpful in Multicultural Education-Curriculum and instructional Strategies of Teaching

#### **UNIT-4 POPULATION AND AIDS EDUCATION**

**07 Hours**

##### **Level of Knowledge – Theoretical and Conceptual Knowledge**

Concept, need, importance and Objectives, Structure of Indian Population, Causes of Population explosion, Consequences of Population explosion, Population Control – Planning and remedies

#### **UNIT – 5 VALUE EDUCATION**

**06 Hours**

##### **Level of Knowledge – Theoretical and Conceptual Knowledge**

Meaning and classification of Values-Need for value education-Activities employed in Value Education-Inculcation of Values-Value Oriented Programmes-Contribution of Sri Ramakrishna to world culture

#### **UNIT-7 PEACE EDUCATION**

**06 Hours**

##### **Level of Knowledge – Theoretical and Conceptual Knowledge**

Relevance of peace – National and international context, Dangers to social security – terrorism, wars, natural calamities and impact on quality life, Promotion of Peace – UNESCO, Role of Education, Role of Teachers

#### **UNIT-8 ENVIRONMENTAL EDUCATION**

**07 Hours**

##### **Level of Knowledge – Theoretical and Conceptual Knowledge**

Life supporting resources and role of Bio-diversity, Urbanization and Associated problems, Clean Energy Technology, Environmental Laws and regulations, Striving for a better environment, education for sustainable development.

#### **REFERENCES**

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## **PAPER: EDU 233-CONTENT CUM METHODOLOGY OF TEACHING SOCIAL SCIENCE**

### **DESCRIPTION**

This paper is offered as an elective in the second semester. It gives the students information pertaining to different kinds of instructional media and material needed for an effective teaching of the subject. The paper enables them to administer better evaluation techniques and imparts in them the qualities needed for a competent Social Science Teacher.

### **LEARNING OBJECTIVES**

- To enhance the knowledge of content
- To acquaint with instructional media of Social Science
- To understand the different kinds of instructional materials in Social Science
- To acquire the skill in collecting and maintaining the resources and equipments in Social Science teaching
- To appreciate the role of non-formal Social Science Education
- To acquire the knowledge about the professional competencies in Social Science Teaching
- To understand the relevance of Evaluation in Social Science

### **UNIT- I CONTENT OF SOCIAL SCIENCE**

**08 Hours**

**Level of Knowledge – Basic and conceptual**

The Delhi Sultanate, The Vijayanagara Empire, The Bhamini Rule, The Mughal Rule, Religious Reform Movements, Jesus Christ and Christianity, The Vedic Period -The Cold war and Military block, Fascism and Nazism -Challenges and Problems faced by our Country and the world -The Solar System, The Solar and Lunar Eclipse, Weather and Climate - Infrastructure of Indian Economy

### **UNIT – 2 INSTRUCTIONAL MEDIA IN SOCIAL SCIENCE**

**05 Hours**

**Level of Knowledge - Working Knowledge**

One Dimensional - Maps, Charts, Graphs, (Chronology)-Timelines, Pictures – Types and Suggestion for use - Three Dimensional – Globe. Realia, Diorama, Bulletin Board, Models, Qualities and suggestion for use -Uses of Multimedia, Radio, Television, Power Point Presentation

### **UNIT - 3 - INSTRUCTIONAL MATERIALS IN SOCIAL SCIENCE**

**07 Hours**

**Level of Knowledge - Conceptual and working**

Text Book, Qualities of Good Social Science Text Book, Critical appraisal of Social Science Text Book of 8<sup>th</sup> and 9<sup>th</sup> Standards -Supplementary Materials – Importance – Types- Biographies, Newspaper, Journals, Magazines, Plays, Fiction, Travel

Stories -Instructional Kits, Advanced Books and relevant Websites \_ Importance and Uses

**UNIT- 4- RESOURCES AND EQUIPMENTS IN SOCIAL SCIENCE** **05 Hours**  
**Level of Knowledge - Conceptual and working**

Community Resources, Importance, Utilization and Advantages -Social Science Room – Need , Importance and maintenance

**UNIT 5 NON –FORMAL SOCIAL SCIENCE EDUATION** **08 Hours**  
**Level of Knowledge – Conceptual and working**

Current Events- Nature and Scope, Criteria and Illustration, Methods of Teaching -  
- Role of the teacher -Role of teacher with regard to Controversial Issues - Social Science Club - Model Parliament - Field Trip – Objectives, steps and organization

**UNIT – 6 COMPETENCIES OF SOCIAL SCIENCE TEACHER** **06Hours**  
**Level of Knowledge – Theoretical**

Qualities of Social Science Teacher -Importance of In-service Programmes for quality improvement -Methods of In- Service Instruction – Seminar, Workshop, Talent Search, Refresher Course, Teacher Exchange Programme, Extension Lectures

**UNIT – 7 EVALUATION IN SOCIAL SCIENCE** **06Hours**

**Level of Knowledge - Working**

Concept of unit test; Steps in the construction of unit test ; designing three dimensional chart / blue print of question paper; Format of question paper -IOTAQB- Development & its use  
**( Total – 45 Hours)**

**Skill Development**

1. Arrange Social Science Room and Field Trip
2. Conduct Model Parliament
3. Usage of various supplementary materials in teaching
4. Review of Secondary School Text Books
5. Preparation of Question paper
6. Construction of Unit test and analysis
7. Preparation of Teaching aids

## **REFERENCE**

1. Agarwal,J.C.: Teaching of Social Studies - A Practical Approach; Second Revised Edition, New Delhi :Vikas Publishing House Pvt. Ltd.,. 1993.
2. Arrora. K. K., *Teaching of History*, Ludiana: Prakash Brothers 1990.
3. Dash.B.N. *Methods of Teaching Social Science* , Hydrabad: Neelkamal Publications. 2004.
4. Dr. Singh Y. K, *Teaching of Social Studies.*, New Delhi : APH Publication Corporation 2006.
5. Kochar. S.K, *Teaching of Social Studies*, New Delhi: Sterling Publications, 2006.
6. Rogers V. R., *Teaching of Social Studies in Urban Classroom*, Wesley :Reading Mass Addison, -1972
7. Smith J.S., *Creative Teaching of Social Studies in Elementary Schools*, Allen & Bacon Inc. 1967
8. Taneja V.R, *Fundamentals of Teaching Social Sciences*, New Delhi: Maheendra Capital Publishers, . 1970
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10. Veena Kumari B., Digumarti and Bhaskara Rao., *Methods of Social Studies*. New Delhi Discovery Publications house. 2004.

## **EXTERNAL EXPERTS**

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## **PAPER : EDU 233 B:CONTENT CUM METHODOLOGY OF TEACHING BIOLOGY**

### **DESCRIPTION**

This paper is offered as elective in the second semester . It develops the content as well as practical knowledge of Teaching Biology at secondary school. It deals with evaluation procedure and its application in the educational context. It also deals with organizing Bio club activities and professional growth of teacher. It enhances the views of a teacher towards the pupils in a positive way viz., Content, Individual differences in achievements, Interest and Attitude arousal, etc. It helps to develop the of depth of knowledge in Biological discipline .

### **OBJECTIVES**

- To acquaint the fundamental concepts of Secondary school Biology.
- To construct the unit test paper of Biology at secondary school level.
- To acquaint the knowledge of resources in teaching Biology.
- To acquaint the meaning and professional competencies of a Biology teacher.
- To acquaint skill of conducting Science club activities.

### **UNIT -1CONTENT IN SECONDARY SCHOOL BIOLOGY**

**10Hours**

#### **Level of Knowledge – Fundamental**

Environmental Science – Ecology , the various Food chains -Constituents of Food - Production and Management of food -Evolution of life – basic concepts of organic evolution -Biotechnology – modern concepts, application of Biotechnology for human welfare.

### **UNIT 2- PROFESSIONAL GROWTH OF A BIOLOGY TEACHER**

**05Hours**

#### **Level of Knowledge – comprehension**

Biology teacher- Professional competencies -Programmes for quality improvement by various agencies through seminars, conferences, workshop, refresher courses, Programmes viz., seminars, conferences, workshops, experimentation, refresher courses science visit, science fair

### **UNIT-3 RESOURCES IN TEACHING BIOLOGY**

**15Hours**

#### **Level of Knowledge – Comprehension +Skill**

School garden, Aquarium , Terrarium , Vivarium –set up and advantages -Biology Laboratory; design, equipments, lab- records -Biology text books, characteristics of good text book, criteria for evaluating it, limitations of the present day science books - Teaching aids – meaning and its classification -Instructional aids – meaning , types and advantages -Audio aids- meaning and advantages of radio& tape recorder -Visual aids – meaning and advantages of charts , models & specimens - Projected aids –meaning and advantages of films and OHP - Audio Visual aids – meaning and its advantages of T.V. & VCD -Supplementary Reading Materials – meaning , types and criteria for selecting SRM.

### **UNIT- 4 EVALUATION IN TEACHING BIOLOGY**

**10Hours**

#### **Level of Knowledge – Fundamental + Skill**

Unit test – meaning and its importance - Meaning and importance of Unit analysis, Content analysis & Task analysis -Construction of unit test –steps -IOTAQB – meaning and advantages

### **UNIT- 5 CO-CURRICULAR ACTIVITIES IN TEACHING BIOLOGY** **05Hours**

#### **Level of Knowledge – Comprehension + Skill**

Meaning, Organization and Importance of the following activities -Science Club - Science Exhibition -Science Museum -Science visits

**( Total – 45 Hours)**

#### **Skill Development**

1. Effectively construct the question papers.
2. Effectively evaluate the expected learning behaviour of secondary school students.
3. Effectively organize the activities under science club .
4. Effectively identify and prepare teaching aids of various kinds to teach Biological lessons.
5. Imbibe the traits of Biology teacher.

#### **References**

1. Sharma R.C., *Modern Science Teaching* , Dhanpat Rai publications, 1982.
2. Kulshreshtha S.P., *Teaching of Biology*, Meerut, Surya publications, Meerut:. 2006
3. Das R.C., *Science Teaching in Schools*, Sterling Publications, 1990
4. Vaidya N., *Science Teaching for the 21<sup>st</sup> century*, Deep& Deep Publications., New Delhi: 1996 .
5. Thurber W.A. and Colletta A., *A Teaching Science in today's Secondary schools*, Prentice Hall of India. 1964
6. Yadav K., *Teaching of Life Science* New Delhi; Anmol Publications, 2001

7. R.C Das,(1985) ,*Teaching of Science*,2<sup>nd</sup> Edn, New Delhi: Sterling Publishers Pvt.Ltd
8. Narendra Vaidya, *The Impact of Science Teaching*, New Delhi:Oxford and IBH Publishing house.
9. R.C. Sharma , *Modern Science Teaching*,3<sup>rd</sup> Edn , New Delhi: Dhampat Rai and sons. 1982.
10. S. K. Gupta *Teaching of Physical Sciences in Secondary Schools*, New Delhi : Sterling Publishers Pvt.Ltd 1989
11. Narendra Vaidya ,*The Impact of Science Teaching*, New Delhi: Oxford and IBH Publishing house. 1971.
12. Dr.Rajasekar, *Method of Teaching Physical Sciences*, Hyderabad: Neelkamal publishers 1995.
13. V. Krishnamacharyulu, *Teaching of science*, Hyderabad: Neelkamal Publishers. 2006
14. Prof.Kamala Narasimha ,*Content cum Method of Teaching Chemistry*, Bangalore Sumukha Prakashana. 2005

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**PAPER: EDU 233-C: CONTENT CUM METHODOLOGY OF TEACHING  
MATHEMATICS**

**DESCRIPTION**

This paper is offered as an elective in the First and Second semester. This paper introduces students to the aims and objectives of teaching Mathematics at secondary school level. It introduces the essential elements of good mathematics teaching, practice needed to teach mathematics in an effective and inspirational manner.

**LEARNING OBJECTIVES**

- To acquire the knowledge of the content of Mathematics operating at the secondary school level (10<sup>th</sup> grades)
- To develop Teaching Aids and other learning material
- To organize a Mathematics Club
- To organize co-curricular activities in Mathematics
- To acquire the knowledge of Professional competencies of a Mathematics teacher
- To acquire the knowledge of Resource materials required for teaching Mathematics
- To develop the skill in construction, administration and interpretation of a Unit test

**UNIT-1 MATHEMATICS SYLLABUS AT SECONDARY SCHOOL LEVEL 10 Hours**  
**Level of Knowledge – Working Knowledge**

Arithmetic: Sets, Matrices, Statistics, Permutations & Combinations; Algebra: Factorization, Quadratic equations, Modular Arithmetic; Geometry : Theorems– Triangles & Circles, Mensuration, Polyhedra

**UNIT-2 RESOURCES FOR TEACHING MATHEMATICS 15 Hours**  
**Level of Knowledge – Conceptual and Working Knowledge**

Printed Resources : Text book: Characteristics, uses, limitations and critical analysis; Work book, guides and reference material: Characteristics and uses; Non-Printed Resources: Laboratory : Organization, maintaining, uses and precautions needed; Teaching Aids : Projected, Non-projected and electronic aids – Types, features, merits and demerits; Edgar Dale’s Cone of Experience; Improvised Aids: Meaning, preparation, importance; Community Resources;

**UNIT-3 EVALUATION IN TEACHING MATHEMATICS 05 Hours**  
**Level of Knowledge – Working Knowledge**

Construction of Objective based test items; Unit Test: Concept, Construction- Weight ages to components, Blue print, Uses; IOTAQB – Concept, Development and uses.

#### **UNIT-4 CO-CURRICULAR ACTIVITIES IN MATHEMATICS**

**08 Hours**

##### **Level of Knowledge – Working Knowledge**

Meaning, Objectives, Organization and importance of: Mathematics Club, Mathematics Olympiad, Mathematics Quiz and Field trips

#### **UNIT-5 MATHEMATICS TEACHER AND PROFESSIONAL GROWTH**

**07 Hours**

##### **Level of Knowledge – Conceptual and Basic Knowledge**

Competencies of a Mathematics Teacher; Programmes for Professional Growth: Seminars, workshops, Conferences; Projects, In-service training and Research & Literature – Meaning, Features and uses

**[Total 45 hours]**

#### **Skill Development**

1. Peer Teaching of Content topics from VIII and IX standard State Syllabus Textbooks.
2. Conducting a Mathematics Quiz
3. Visit to schools for a critical analysis of the Mathematics laboratory facilities in three schools – Government, Private Aided and Private unaided school
4. Preparation and presentation of Work book on any one topic in Mathematics
5. Visit to schools for a study of Annual Mathematics activities of any two schools in the community
6. Preparation and presentation of Teaching aids (Model) for teaching any topic in Mathematics

#### **Reference:**

1. Agarwal, S.M. *A course in Teaching of Modern Mathematics*, New Delhi: Dhanpat Rai & Sons, 1977
2. Burger, Edward B & Starbird, Michael. *The Heart of Mathematics*, California: Key College Publishers, 1999
3. Butler & Wren. *The Teaching of Secondary School Mathematics*, London: Mc Graw Hill Book, 1965
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5. Davis David R. *Teaching of Mathematics Addison*, Wesley Publications, 1960
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7. Goel Amit. *Learn and Teach Mathematics*, New Delhi: Authors Press, 2006
8. Gupta, H.N. and Shankaran - *Content cum Methodology of Teaching Mathematics*, New Delhi: NCERT, 5<sup>th</sup> Ed, 1984
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13. Kumar Sudhir, *Teaching of Mathematics*, New Delhi, Anmol Publications Pvt Ltd, 2004

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20. Sobel, Max A and Maletsky Evan M. *Teaching Mathematics, A source book for Aids Activities and Strategies*, New Jersey: Prentice Hall1988
21. Spencer, Peter Loncoln and Brydegaard, Margnerite. *Building Mathematical Competence in the Elementary School*, New York: Holt Rinehart and Winston Inc., 1966
22. Yadawada S B. *Methods of Teaching Mathematics*, Gadag; Vidyanidhi, 2004
23. Zevenbergen, Robyn. *Teaching of Mathematics in Primary Schools*, New Delhi: Viva Books, 2004

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## **PAPER: EDU 234A: CONTENT CUM METHODOLOGY OF TEACHING ENGLISH**

### **DESCRIPTION**

This paper is offered as an elective in the second semester. The students learn to prepare lesson plans based on the texts prescribed for first language as well as second/third language learners and present them effectively in the classroom at the secondary level.

### **LEARNING OBJECTIVES**

- To familiarize the language skills to be developed and evaluated among students.
- To acquire knowledge about the recent trends in English language teaching and learning.
- To develop the ability to identify and write the objectives for teaching and learning.
- To develop the ability of planning and writing meaningful lessons and teaching them effectively.

#### **UNIT - 1      AIMS AND OBJECTIVES OF TEACHING ENGLISH                      10 Hours**

##### **Level of Knowledge – Theoretical Knowledge**

Aims of teaching English - Educational objectives of teaching English – Meaning – Classification - Writing educational objectives for classroom teaching.

#### **UNIT - 2      LESSON PLANNING**

##### **Level of Knowledge – Theoretical and Practical Knowledge**

**12 Hours**

Meaning – Characteristics – Steps – Structure - Selection of teaching methods and strategies - Activities to develop language skills - Evaluation and Home Assignment - Lesson plan based on evaluation approach of teaching English - Unit plan – Characteristics - Format of a unit plan.

#### **UNIT - 3      EVALUATION AND TESTING**

**10 Hours**

##### **Level of Knowledge – Theoretical and Practical Knowledge**

Meaning of Unit test - Construction of Unit test - Designing a 3 D chart/ Blueprint - Preparation of a question paper - Administration and evaluation of unit test

#### **UNIT - 4 USE OF EDUCATIONAL TECHNOLOGY IN ENGLISH**

**08 Hours**

##### **Level of Knowledge – Theoretical and Practical Knowledge**

Language Laboratory: Use of software for teaching and learning English - Computer assisted learning in English - Use of multimedia in teaching English - Role of websites in learning English.

#### **UNIT - 5 MASTERY OF CONTENT**

**05 Hours**

##### **Level of Knowledge – Conceptual Knowledge**

Study of literary terms - Figures of speech with relevance to secondary school text - Enrichment in vocabulary, idioms and phrases

**[Total 45 hours]**

## **Skill Development**

1. Development of resources for teaching and learning English, based on the secondary school texts
2. Planning and execution of English language exercises in prose and poetry
3. Activities in an English classroom to develop creativity
4. Preparation of episodes for teaching vocabulary and structures using educational technology
5. Presentations in groups to develop mastery of content

## **References:**

1. Elizabeth M. E. S. and Rao, Digumurti B., 'Methods of Teaching English', Discovery Publications, 2004.
2. Hewings, Martis, 'Pronunciation, Practice, Activities', Cambridge University Press, 2004.
3. Mukalel Joseph C., 'Psychology of Language', Discovery Publications, 2003.
4. Elizabeth, Brett and Blake, Robert, 'Literacy and Learning', Library of Congress – Cataloguing in Publication, 2002.
5. Borich Gary D., 'Effective Teaching Methods', Library of Congress – Cataloguing in Publication, 2000.

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## **PAPER: EDU234B: CONTENT CUM METHODOLOGY OF TEACHING CHEMISTRY**

### **DESCRIPTION**

This is an elective paper in the second semester offered to students who have studied Chemistry as one of their optional at degree level. It will help them familiarize with the content of chemistry at Secondary education level. They will understand the importance and use various resources for teaching of chemistry and develop skills in the construction and administration of Unit test in Chemistry.

### **LEARNING OBJECTIVES**

- Acquire mastery in Content of Chemistry of Secondary Education
- Understand the importance, maintenance and uses of various resources for Teaching of Chemistry.
- Critically analyze the textbook of the secondary schools.
- Acquire the knowledge about various co-curricular activities in Chemistry.
- Develop Skill in construction & administration of unit test in Chemistry.
- Acquire the knowledge of quality improvement in Chemistry instruction.

### **UNIT 1 - CONTENT IN CHEMISTRY**

**15Hours**

#### **Level of Knowledge : Basic**

Chemical bonding – Ionic, Covalent, Hydrogen and Metallic Bonds, Properties of compounds having these bonds -Chemistry of carbon, classifications of organic compounds, isomerism of organic compounds, functional groups, saturated and unsaturated hydrocarbon-Petroleum; fractional distillation, Petrochemicals & its uses-Allotropic forms of carbon; crystalline & amorphous forms-Types of Chemical reactions -Preparation & properties of carbon dioxide & carbon monoxide -Rate of chemical reactions ; factors affecting rate of chemical reactions - Sulfur & phosphorus; extraction, & properties - Soaps & detergents.

### **UNIT 2- RESOURCES IN TEACHING CHEMISTRY**

**10 Hours**

#### **Level of knowledge: Basic and Working knowledge**

Science Library & its organization; Classification of books in Science Library -Laboratory & its organization; Design of multipurpose laboratory – Lab apparatus and equipments; Laboratory rules, discipline in lab, registers maintained in lab; Accidents in lab and first aid -Place of Text books in Teaching Chemistry; Criteria of good Text books; Teacher's Hand book, Reference books & Resource books -Teaching aids – Types of Teaching aids – importance of Teaching aids in teaching of Chemistry ; Charts, Models ; Role of Radio and Television as resources for Learning Chemistry; Improvisation of Lab apparatus – Need & importance.

### **UNIT 3 - CO-CURRICULAR ACTIVITIES IN CHEMISTRY**

**06 Hours**

#### **Level of knowledge: Basic and Practical**

Meaning, Organization & importance of the following activities -Science Club -Science Exhibition -Science museum -Science quiz -Science Centre -Field Trips

## **UNIT- 4 VALUATION IN TEACHING CHEMISTRY**

**07 Hours**

**Level of knowledge : Basic and working knowledge**

Concept of unit test; Steps in the construction of unit test ; weight age to the components of unit test, designing three dimensional chart / blue print of question paper; Format of question paper IOTAQB- Development & its uses

## **UNIT 5 -PROFESSIONAL GROWTH OF CHEMISTRY TEACHER**

**07Hours**

**Level of knowledge : Basic and working knowledge**

Essential qualities of Chemistry Teacher - In service training for professional growth; Role of seminar, workshops etc in quality improvement.

**[Total 45 hours]**

### **SKILL DEVELOPMENT**

- 1 Preparation and administration of Unit Test
- 2 Organise Co-Curricular activities in Science
- 3 Visit schools and familiarize with the working of Science Laboratory ,science Library etc.
4. Practical experiments in Chemistry Lab

### **References**

1. R.C.Das, *Science Teaching in Scinece in Schools*, 2<sup>nd</sup> Ed., Sterling publishers Pvt.Ltd. 1985.
2. Narendera Vardya, *The impact Science Teaching*, Oxford and IBH Publishing Co... 1971
3. R.C Sharma, *Modern Science Teaching*, 3<sup>rd</sup> Ed., Dhampat Rai & Sons, 1982
4. S.K.Gupta, *Teaching physical science in Secondary Schools*, New Delhi, Sterling Publishers Pvt.Ltd., 1989.
5. Gupta S.K. *Teaching of Physical Sciences in Secondary Schools*, New Delhi: Sterling Publishers Pvt.Ltd 1989.
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8. Dr.Rajasekar *Method of Teaching Physical Sciences*, Hyderabad: Neelkamal publishers 1995.
9. R.C., *Modern Science Teaching*, 3<sup>rd</sup> Edn , New Delhi: Dhampat Rai and sons 1982.
10. Thurber W.A. and Colletta A., *A Teaching Science in today's Secondary schools*, Prentice Hall of India. 1964.
11. Secondary school text books in Science ( DSERT, C.B.S.E and I.C.S.C Boards)

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## **PAPER: EDU 234-C: CONTENT CUM METHODOLOGY OF TEACHING PHYSICS**

### **DESCRIPTION**

This paper is offered as an elective in the First and Second semester. This paper introduces students to the aims and objectives of teaching Physics at secondary school level. It introduces the essential elements of good Physics teaching, practice needed to teach Physics in an effective and inspirational manner.

### **LEARNING OBJECTIVES**

- To acquire the knowledge of the content of Physics operating at the secondary school level (10<sup>th</sup> grades)
- To develop Teaching Aids and other learning material
- To design and Organize a Physics Laboratory
- To organize Science Club and other co-curricular activities in Physics
- To acquire the knowledge of Professional competencies of a Physics teacher
- To acquire the knowledge of Resource materials required for teaching Physics
- To develop the skill in construction, administration and interpretation of a Unit test

### **UNIT-1 PHYSICS SYLLABUS AT SECONDARY SCHOOL LEVEL: 10 Hours** **Level of Knowledge – Working Knowledge**

Modern Physics: Structure of Atom, Isotopes, Nuclear force, Nuclear fission, Nuclear reactor, Nuclear fusion, Photoelectric effect; Energy: Sources of energy, forms of energy, conservation of energy, Electro magnetic radiation; Electronics: Concept, Transistors, Radio & television, microprocessors; Sound: Properties of sound waves, reflection of sound, echoes, Ultra Sonics, Doppler effect, Spectroscopy

### **UNIT-2 RESOURCES FOR TEACHING PHYSICS 15 Hours** **Level of Knowledge – Conceptual and Working Knowledge**

Printed Resources : Text book: Characteristics, uses, limitations and critical analysis; Work book, guides and reference material: Characteristics and uses; Non-Printed Resources: Laboratory : Organization, maintaining, uses and precautions needed; Teaching Aids : Projected, Non-projected and electronic aids – Types, features, merits and demerits; Edgar Dale's Cone of experience; Improvised Aids: Meaning, preparation, importance; Community Resources;

### **UNIT-3 EVALUATION IN TEACHING PHYSICS 05 Hours** **Level of Knowledge – Conceptual and Working Knowledge**

Construction of Objective based test items; Unit Test: Concept, Construction- Weightages to components, Blue print, Uses; IOTAQB – Concept, Development and uses.

#### **UNIT-4 CO-CURRICULAR ACTIVITIES IN PHYSICS**

**08 Hours**

**Level of Knowledge – Conceptual and Working Knowledge**

Meaning, Objectives, Organization and importance of: Science Club, Science Fair and Exhibition, Science Museums, Science Quiz and Field trips

#### **UNIT-5 PHYSICS TEACHER AND PROFESSIONAL GROWTH**

**07 Hours**

**Level of Knowledge – Conceptual and Basic Knowledge**

Competencies of a Physics Teacher; Programmes for Professional Growth: Seminars, workshops, Conferences; Projects, In-service training and Research & Literature – Meaning, Features and uses

**[Total 45 hours]**

#### **Skill Development**

1. Peer Teaching of Content topics from VIII and IX standard State Syllabus Textbooks.
2. Conducting a Physics Quiz
3. Visit to schools for a critical analysis of the Physics laboratory facilities in three schools – Government, Private Aided and Private unaided school
4. Preparation and presentation of Work book on any one topic in Physics
5. Visit to schools for a study of Annual activities of any two schools in the community
6. Preparation and presentation of Teaching aids (Model) for teaching any topic in Physics
7. Presentation of Annual Science activities of any two schools in the community
8. Field trip to a factory/scientific institution – Report

#### **Reference:**

1. Anderson, R.D. *Developing Children's thinking Through Science*, New Delhi: Prentice Hall, 1970
2. Chand, B. *Teaching of Science*, Ludhiana: Prakash Brothers, 1986
3. Chauhan, S.S. *Innovation in Teaching Learning Process*, New Delhi: Vikas Publishing House Pvt. Ltd, 2000
4. Das, R.C. *Science teaching in School*, New Delhi: Sterling Publishers, 1985
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6. Heis. *Modern Science Teaching*, New York: Mac Milan Publications, 1957
7. Joyce, Bruce and Marsha Weil. *Models of Teaching*, New Delhi: Prentice Hall, (4<sup>th</sup> Ed. 2000)
8. Kochar, S.K. *Methods and Techniques of Teaching*, New Delhi: Sterling Publishers Pvt Ltd, 1997
9. Maitre, K. *Teaching of Physics*, New Delhi: Discovery Publishing House, 1991
10. Mukalel, J.C. *Creative Approaches to Classroom Teaching*, New Delhi: Discovery Publishing House, 1998
11. Nayak A K. *Teaching of Physics*, New Delhi: Anmol Publications Pvt Ltd, 2004
12. Prakash, R. & RAth, T.N. *Emerging Trends in Teaching of Physics*, New Delhi: Kanisha Publishers, 1996

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16. Siddiqui & Siddiqui. *Teaching of Science-Today and Tomorrow*, New Delhi: Doaba House, 1998
17. Sundharshan, P.V. *A Manual of Science Club*, Sushma Publishers, 1994
18. Vydhya Narendra. *Impact of Science Teaching*, London: Oxford I.B.H, 1971
19. Vanaja M. *Methods of Teaching Physics*, New Delhi: Discovery Publishing House, 2006
20. Veer, Udai. *Modern Teaching of Physics*, New Delhi: Anmol Publications Pvt Ltd, 2004

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## **EDU 281: ACTION RESEARCH**

### **UNIT 1 FUNDAMENTALS OF RESEARCH 5**

Meaning and definition of Research-Purpose and Importance of Research-Types of Research

### **UNIT 2 ACTION RESEARCH 5**

Meaning of Action research-Steps involved in Action research-Importance of Action research

### **UNIT 3 RESEARCH REPORT 5**

Importance of Research report-Style and Format of report-Steps in drafting a research report.

## **EDU 284: SEMINAR**

Each Student-teacher has to present a Seminar on a topic relevant to Education. Assessment will be done for the written work and for the presentation.

## **EDU 285 & 286: PRACTICE TEACHING**

Practice Teaching will be held for a period of one month in selected schools. Every student shall execute not less than 10 Lessons in each subject of specialization during the Practice Teaching, of which one should be Criticism Lesson in each method. Out of the 10 lessons in each method, a minimum of 4 Lessons shall be supervised by the Teacher Educators.

Prior to Teaching Practice in schools, Simulated Practice Teaching will be held in the School of Education. Each student will execute 2 Lessons in each method in the Simulated Practice Teaching.

Student shall be exposed to a minimum of three demonstration lessons in each of the subjects of specialization before the Practice Teaching.

Each student shall observe a minimum of 30 Lessons during Practice Teaching. Students have to maintain proper record of lessons observed.

Each student shall submit the teaching aids including models prepared during Practice Teaching Session. (Assignment -1)

Each student shall prepare a unit test, administer the test to the students in the school, analyses and interpret the data obtained in each method. (Assignment 2).

### **Method of Evaluation**

Students are evaluated for each paper on the basis of Written Examination and Continuous Internal Assessment. Each paper carries maximum 100 marks and the evaluated can follows.

End Semester exam (ESE) :	50%
Mid Semester exam :	25%
Continuous Internal Assessment (CIA) :	25%
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Total	100%
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### **Written Examination**

Mid Semester Exam	:	50 marks (2 hrs)
End Semester Exam	:	100 marks (3hrs)

Mid Semester exam marks will be taken for Internal Assessment. End Semester exam will be reduced to 50 for deciding the promotion criteria.

### **Continuous Internal Assessment**

CIA -I for (25 marks)	CIA II for (10 marks)	CIA III for (10 marks)	CIA IV for ( 5 marks)
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CIA-I MSE marks will be reduced to 25 for this purpose.

CIA-II & CIA-III: Continuous Internal Assessment  
(CIA III for CCM of Teaching Chemistry, Physics and Biology in II Semester includes practical experiments in the science lab.)

### **Continuous Internal Assessment II**

CIA- II will be in two components  
Written (reports) Group or Individual  
Viva or Presentation may also be conducted

### **CIA-III**

The following methods may be adopted

- Multiple choice based test.
- Practical Activity
- Viva
- Group Discussion

### **Attendance**

The Marks distribution for attendance is as follows

95%-100%	: 05 marks
90%-94%	: 04 marks
85%-89%	: 03 marks
80%-84%	: 02 marks
76%-79%	: 01 mark

Distribution of Marks for practice teaching related activities will be as follows ( in each method)

<b>Method</b>	<b>Marks</b>
Lesson	<b>10</b>
Observation of Lessons	<b>5</b>
Assignment 1 (Preparation of Teaching Aids & Models)	<b>20</b>
Assignment 2 (Unit test and Analysis of Result of the test)	<b>10</b>
Supervised Lessons (including simulated Lessons)	<b>20</b>
Criticism Lesson	<b>10</b>
Practical Exam	<b>20</b>
Attendance	<b>5</b>
<b>Total</b>	<b>100</b>