

## **Curriculum for One Year B.Ed. (Secondary) Programme**

### **I. Background and Guiding Principles**

At the time of preparation of this document, certain national documents were considered to provide a basis. They are:

- 1) National Curriculum Framework- 2005, NCERT, New Delhi
- 2) National Curriculum Framework for Teacher Education- 2010, NCTE, New Delhi
- 3) 2-Year B. Ed. Curriculum prepared by the NCERT, New Delhi
- 4) UGC guidelines for designing curricula for Choice Based Credit System of Higher Education

The following considerations about teacher education curriculum guided the present document

- Need for reducing the theory load in the teacher education curriculum
- Reducing the gap between theory and practice, teacher education curriculum and school realities
- Rationalizing curricular areas of teacher education from the standpoint of knowledge domains of teachers viz., subject matter knowledge, pedagogical knowledge, pedagogical content knowledge and teaching performance
- Assessment to have a variety and continuity with scope for feedback and correction

This curriculum document is designed for 'one year secondary teacher education programme' consisting of two semesters of about 18 weeks each including admission, preparatory holidays and examination, assuming six working days in a week.

### **II. Courses of Study**

#### **Area A: Foundations of Education**

- A1 Education and Development
- A2 Education: An Evolutionary Perspective
- A3 Contemporary Issues & Concerns in Secondary Education

#### **Area B: Pedagogical Knowledge**

- B1 Learner and Learning
- B2 Teaching: Approaches and Strategies
- B3 Assessment for Learning
- B4 Learning Resources
- B5 Classroom Organisation and Management

**Area C: Pedagogical Content Knowledge**

- C1 school subject-1
- C2 school subject-2

**Area D: School Based Experiences**

- D1 Initiatory School Experiences
- D2 Internship in Teaching

**Area E: Add on Courses**

- E1 Language Proficiency Workshop
- E2 ICT – Skill Development

(\*Note: the courses E1 and E2 will be essentially through practical activities through workshops.)

**III. Scheme of Study**

	Credits	Contact Hrs.	Marks
<b>Area A Foundations of Education</b>			
A1 Education and Development	3	3	100
A2 Education: An Evolutionary Perspective	3	3	100
A3 Contemporary Issues & Concerns in Secondary Education	3	3	100
<b>Area B Pedagogical Knowledge</b>			
B1 Learner and Learning	3	3	100
B2 Teaching: Approaches and Strategies	3	3	100
B3 Assessment for Learning	3	3	100
B4 Learning Resources	3	3	100
B5 Classroom Organisation and Management	2	2	100
<b>Area C Pedagogical Content Knowledge</b>			
C1 school subject-1	4	5	100
C2 school subject-2	4	5	100
<b>Area D School Based Experiences</b>			
D1 Initiatory School Experiences	3	(One day/week)	100
D2 Internship in Teaching	4	4 weeks	300
<b>Area E Add on Courses</b>			
E1 Language Proficiency	1	2*	
E2 ICT- Skill Development	1	2*	
<b>Total</b>	<b>40</b>	<b>33</b>	<b>1400</b>

**\*Note:**

1. The courses E1 and E2 are viewed as pre-requisite courses for the programme and hence will be organized at the beginning of the programme through workshop mode and performance shall be graded on a five point scale.
2. One day per week may be ear marked for school based practical work identified under Course D1 and also the practical work mentioned under various courses

## V. General Objectives

The curriculum is designed to achieve the following general objectives of the B. Ed. programme

- 1) The student teacher understands the central concepts, tools of inquiry, and structures of the disciplines and can create learning experiences that make these aspects of subject matter meaningful.
- 2) The student teacher understands how children learn and develop, how they differ in their approaches to learning and creates learning opportunities that are adapted to diverse learners and learning contexts
- 3) The student teacher plans learning experiences that are based on learner's existing proficiency, interests, experiences including misconceptions and errors; and an understanding of how students come to view, develop and make sense of subject matter contained in the learning experiences
- 4) The student teacher uses knowledge of effective verbal, nonverbal and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.
- 5) The student teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social and physical development of the learner.
- 6) The student teacher develops self identity as a teacher through school based experiences and reflective practices that continually evaluate the effects of his/her choices and actions

## VI. Modes of Learning Engagement

With a view to move away from theoretical discourses and lectures, the student teachers will be required to be engaged in various kinds of learning experiences. Every course in the teacher education programme provides specific engagements that are spelt out under each course. However, the nature of engagement of the student teachers will be of the following kinds.

**Lecture-Discussion Session:** The teacher educator provides a platform for review of experiences, develop insights into the disciplinary knowledge base and relate them to the school realities.

**Focused Reading and Reflection:** Student teachers would be led into focused readings on various themes with questions inviting reflections either individually or in small groups.

**Observation-Documentation-Analysis:** Simulated and real school/community experiences would be arranged for the student teachers to observe, document in the form of record/journal/diary and analyze with an intention to revisit their own understandings or develop new insights.

**Seminar:** Students will undertake thematic/topical study, prepare write-up and make seminar presentation followed by open-house discussion with a view to enhance their knowledge base and repertory of skills in the area of presentation.

**Case Study:** An in-depth and comprehensive study of a single or few cases would be taken up as per the guidelines provided and submit a study report.

**School Based Practical:** Observing an experienced practitioner, planning-implementing-receiving feedback from peers and supervisor and reflection on one's own performance would influence development of insights, beliefs and attitudes necessary for a teacher. Learning experiences would be provided through several school based practicum for development of certain professional qualities and competencies. The conceptual and theoretical learning made under various courses would not transfer to the real classroom/school context unless one makes specific attempts at applying them in relevant contexts. The school based practical would also include opportunities for planning and implementation of learning experiences and strategies and reflecting on their appropriateness and effectiveness.

**Workshop:** A series of learning experiences in a given performance area would be provided in the form of workshop engaging them in modeling-practice-feedback sequence with a view to develop specified competencies required for a teacher

## **VII. Modes of Assessment**

Pre-service teacher education programme provides inputs that are to be internalized through an active process of assimilation and accommodation. Hence, assessment needs to be formative and summative, quantitative and qualitative by nature. The modes of assessment would consist of

- **Written tests and assignments** for assessing conceptual understandings and clarity
- **Products** of planning and preparation activities such as lesson plan, unit plan, assessment tools, and learning resources.
- **Observation** of teaching performance using schedules and rating scales, both in simulated and real classroom contexts, for assessing performance skills and competencies
- **Records/Reports/Reflective Journals and Diaries** maintained by the student teacher of their school based experiences and project work related to different courses
- **Seminar presentations** for assessing ability to review, record, reorganize and present their work on thematic/topical study
- **Laboratory journals/ Activity records** for assessing ability to plan and implement laboratory activities on subject specific skills under various pedagogical content courses
- **Observation** of the student teachers in various contexts of teacher education such as their participation in seminar, professional attitudes and dispositions

## **VIII. Scheme of Assessment**

In view of the varied nature of the different courses of study, differential procedures for assessment need to be visualized. This has been shown in the weightage for formative and summative assessments.

	<u>Sessional</u>	<u>Terminal</u>
Area A: A1, A2, A3	30	70
Area B: B1, B2, B3, B4, B5	30	70
Area C C1, C2	50	50
Area D D1	100	--
D2	100	100*
Area E E1, E2	Grades	

#### **IV. SYLLABUS FOR VARIOUS COURSES UNDER ONE YEAR SECONDARY TEACHER EDUCATION PROGRAMME (B.ED.)**

##### **Area A: FOUNDATIONS OF EDUCATION**

##### **Course A1: Education and Development**

##### **Course Objectives**

1. To understand the relationship between Education and individual and National Development.
2. To examine the influences of political and policy decisions on Education and its aims, content and procedures.
3. To understand how Education derives its relevance from socio cultural contexts and critically reflect on the influence of education on quality of life
4. To analyze the social context of education and its bearing upon school system
5. To examine the changing emphases on Education in the context of Globalization, Liberalization and Privatization

##### **Unit-1: Education for National Development**

National development –meaning, scope and different view points

Indicators of national development – Education Commission 1964-66, Planning Commission, World Bank, NPE-1986

Education as a development indicator, and enhancer of development indicators

Education for Sustainable Development (ESD): Components: Brundtland Commission 1987 & UNESCO, Aims of education for SD, Areas of SD (United Nations Division for SD)

Role of education in ensuring sustainable development,

A review of the initiatives for educational development in India over decades

The perspective of education for national development in the NCF-2005

##### **Unit-2: Emerging Interface between Political Process & Education**

Education as a key area of public policy- relevance, essentiality

The National and State Education Policies and their formulation- political decision making process; relationship between constitutional provisions and educational policies- Right to Education

Implementation of an educational policy- political will and effort, macro level requirements; action plans and programme guidelines as tools for implementation and essentiality of political support; State and Centrally Sponsored Schemes of Education

Research and feedback for policy analysis and planning

Financial supplementation: grant-in-aid and developmental grants for implementing educational policy- the role of planning commission

### **Unit-3: Education and Economic Development**

Education for economic development- its meaning and nature

Education as development of human resource: Education for Employability - academic concerns in education, Consumer driven educational programmes

Quality of life as an outcome of education,

Education as an investment

Privatization, private initiative, and liberalization in education

### **Unit-4: Education and Individual Development**

Education for development of individual capabilities, enhancement of quality of life, and proactive participation in the socio-political-economic-cultural context

Education and Actualization of individual aspirations

Education for development of responsible citizens

Education and development of life skills: preparation of individuals for the 21<sup>st</sup> century

### **Unit-5: Education and Socio-cultural Context**

Education as an instrument of social change- influence of education on society, family and their practices

Socio-cultural influences on the aims and organization of education

Social acceptability of educational policy and practice

Impingement of cultural history on education

Emerging trends in societies and their repercussions on education: globalization and internationalization of education

### **Sessional work**

Analyse writings on analysis of education-development interface and make presentations

Group discussions, debates and dialogue on the themes

Presentations on National educational policies

Preparation of reports on the state and centrally sponsored schemes of education

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## **Course A2: Education: An Evolutionary Perspective**

### **Course objectives**

The student teachers will be able to

- analyze and understand educational concepts, their premises and contexts that are unique to education.
- understand and appreciate the nature and the purpose of education, their practical ramifications in the school context.
- analyze the philosophical reflections and educational thoughts of great Educational thinkers
- understand the nature of knowledge in Education and its contribution to status of education as a discipline and interdisciplinary in nature
- inquire into the roles of teacher, school and the community in the changing perspectives of pedagogy
- appreciate the historical development of education as a system and its evolving structures
- examine the concerns and issues related to education system
- understand the importance of systemic reforms in achieving quality education

### **Unit -1: Education as an evolving concept**

- Meaning of education: ancient to present- education as an organized, institutionalized, formal and state sponsored activity
- Concepts in education and their changing connotations: school, curriculum, teacher, learner, teaching, learning, instruction, freedom, autonomy and control in relation to the child and teacher

Shifts in process of education: Knowledge giving, didactic and constructivist interpretations  
 Expansion in modes of education: face-to-face (tutorial, small group, large group) to distant  
 modes of education: oral/aural to digital; individualized and group based

#### **Unit-2: Aims of education**

Aims of education: Historicity of aims of education  
 Changing aims of Education in the context of globalization  
 Sources of Aims of Education: Educational aims as derived from the Constitution of India  
 Influence of aims of education on the curriculum and transactional strategies  
 Ideas of educational thinkers such as Gandhi, Tagore, Aurobindo, Dewey, Krishnamurthy, Friere and Illich

#### **Unit-3: Evolving Knowledge base in Education**

Nature of knowledge in education: concepts, statements, educational viewpoints, metaphors and theories. Emerging K base in education  
 Differences between information, knowledge, belief, and opinion  
 Interfaces with cognate disciplines such as physical, natural and social sciences

#### **Unit-4: Learning Environment: the changing scenario**

Changes in Teacher roles, learner participation, knowledge emphasis, learning resources and physical space  
 Shift in pedagogy: Knowledge focused to teacher focused to learner focused learning environment  
 Shift in learning environments: Unimodal to multi-mediated, school based to community linked, and real to virtual learning environments. The open-distance learning environment

#### **Unit-5: Systems & structures in school education**

Education as a system: meaning and nature  
 Evolution of educational network over the past two centuries (1800s to 21<sup>st</sup> century): a brief overview of historical development of learning systems that resulted in the present network of schools.  
 Differentiation of educational structures: stage wise; stream wise;  
 Role of state-centre: need for a national system of education  
 Predominant concerns of the education system– co ordination, quality assurance and feasibility  
 Systemic reforms in education: meaning and need. Demands from the secondary education system upon achieving universal elementary education

#### **Sessional Work**

- 1) Student teachers are required to read at least two books listed below and discuss in groups the aspects of education evolving as presented in them; critically examine the extent to which the process of differentiation and diversification in education have raised concerns about its quality and relevance in the present changing times. After discussions, students document their understanding in lucid manner as a term paper.

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## Course A3: Contemporary Concerns and Issues in Secondary Education

### Course Objectives

The student teacher will be able to

- Understand the importance of universalisation of secondary education and the constitutional provisions for realizing it
- Examine the issues and concerns related to universalisation of secondary education
- Analyse the strategies used for realization UEE and the outcomes of their implementation.
- Realize the need and importance of equity and equality in education and the constitutional provisions for it.
- Identify the various causes for inequality in schooling
- Realize the importance of Right to Education and the provisions made for realizing it.
- Understand the importance of indicators, standards and strategies for enhancement of quality in secondary schools

Understand the need and importance of education for peace and the national and international efforts towards it.

Examine the issues and concerns related to global and local environmental crisis

Explores the strategies for sensitizing the learners towards environmental conservation

Understand the Action measures taken for Environmental Conservation and its sustainability at the international level.

Explore the school curriculum for integrating environmental concerns

#### **Unit-1: Universalisation of Secondary Education**

Constitutional provisions

Policies and programmes for realizing the constitutional obligations

Right to education and its implications for universalisation of secondary education (USE)

Impact of realizing the UEE on secondary education: access, enrolment, participation and achievement; status of USE

USE: issues and concerns

Lessons from implementation of UEE

Strategies for realization of targets

#### **Unit-2: Equity & Equality in Education**

Meaning of Equality of Educational Opportunities, provision and outcomes; constitutional provisions for ensuring equity

Nature and forms of inequality including dominant and minor groups, gender

Inequality in schooling: public-private schools; Rural-urban-tribal schools, and differential school systems – schools for education of the challenged

#### **Unit-3: Quality in education**

What is 'quality education'?

Indicators of quality: related to learning environment, Student Outcomes

Outcome improvement through: Setting standards for performance; supporting inputs known to improve achievement, Adopting flexible strategies for the acquisition and use of inputs, and Monitoring performance.

Enhancement of quality in secondary schools

#### **Unit-4: Peace Education**

Peace as a dynamic Social Reality

Relevance of Peace: national and international contexts

Dangers to Social Security: terrorism, war, natural calamities and impact on quality of life

Peace context: conditions for promotion of peace, UNESCO's concerns on Peace and Understanding

Role of education in promotion of peace: implications for pedagogy

Teacher role in promoting peace

#### **Unit-5: Education for Conservation of Environment**

Conservation of environment- an imminent need

Need for sensitizing learners towards concerns of environmental conservation

Integration of environmental concerns in curriculum  
 Role of teacher in promoting conservation

### Sessional Activities

Presentation on the reports and policies on USE  
 Analysis of school curriculum for integrating environmental concerns  
 Conduct surveys of various educational contexts (eg. Schools of different kinds) to identify various forms of inequality.  
 Individual or group projects to visualize feasible school-based strategies for contributing to 'peace' and 'environmental conservation'  
 One sessional test

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## **Area B: PEDAGOGICAL KNOWLEDGE**

### **Course B1 Learner and Learning**

#### **Course Objectives**

Upon completion of the course, student teachers will be able to

- Develop an understanding about the impact/influence of socio cultural context in shaping human development, especially with respect to the Indian context;
- Develop an understanding of dimensions and stages of human development and developmental tasks
- Understand the range of cognitive capacities among learners
- Reflect on their own implicit understanding of the nature and kinds of learning
- Gain an understanding of different theoretical perspectives on learning
- Appreciate the critical role of learner differences and contexts in making meanings, and draw out implications for schools and teachers

#### **Unit 1 Nature of the Learner: Child and Adolescent**

- Learner as a developing individual; a psycho-social entity; stages of development
- Developmental characteristics of a child and an adolescent: physical, cognitive, social, emotional, moral and language; their interrelationships
- Developmental tasks of childhood and adolescence and their implications
- Factors influencing development such as heredity, nutrition, child-rearing practices, siblings and peers

#### **Unit 2 Understanding Differences between Learners**

- Differences between individual learners: multiple intelligence, learning style, self-concept, self esteem, attitude, aptitude, skills and competencies, interest, values, locus of control and personality
- Understanding differently abled learners: slow learners and dyslexic learners
- Methods of assessing individual differences: tests, observation, rating scales, self-reports
- Catering to individual differences: grouping, individualizing instruction, guidance and counseling, bridge courses, enrichment activities and clubs

#### **Unit 3 Understanding Learning**

- Nature of learning: learning as a process and learning as an outcome
- Types of learning: factual, associations, conceptual, procedural, generalizations, principles and rules, attitudes, values and skills
- An exploration of the theoretical positions on each of the above types of learning
- Pedagogic principles for organizing learning: behaviouristic, cognitivist, and humanistic
- A critical analysis of the relevance and applicability of various learning theories for different kinds of learning situations

#### **Unit 4 Factors Influencing Learning**

- Biological and hereditary factors influencing learning
- Factors related to the subject matter content and learning material
- Factors related to the method of learning

Factors influencing remembering and forgetting, conceptual organization and reorganization, scaffolding

Attention, motivation and readiness as factors influencing scholastic learning

Role of the teacher and school in addressing various factors influencing learning: a few strategies

### **Unit 5 Organizing learning: Issues and Concerns**

Individual versus group learning: issues and concerns with respect to organizing learning in a classroom such as study habits, self-learning and learning to learn skills

Organizing learning in heterogeneous classroom groups – socio economic background, abilities and giftedness, interest

The issue of media influences on learning – role of parents and teachers

Paradigms for organizing learning: teacher centric, subject centric and learner centric

### **Sessional Work**

The following activities are only suggestive. The teacher educator can formulate more activities

Critical analysis of classroom instruction in the light of the understandings developed in Units 2 & 3

Any one experiment on learning – division of attention, memory, transfer of learning

Case study of a learner with behaviour problem/talented child/a LD child/a slow learner/a disadvantaged child

Study of intelligence of at least 5 school children and relating it with achievement and other background factors

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## **Course B2 Teaching: Approaches and Strategies**

### **Course Objectives**

- On completion of the course the student teacher will be able to
- Demonstrate his/her understanding of the role of a teacher at different phases of instruction
- Write instructional objectives teaching of a topic
- Demonstrate his/her understanding of different skills and their role in effective teaching
- Use instructional skills effectively

### **Unit 1 Understanding Teaching**

- Teaching as a planned activity – elements of planning
- Assumptions underlying teaching and their influence on the planning for teaching
- Phases of teaching: pre-active, interactive and post-active.
- Proficiency in teaching: meaning and place of awareness, skills, competencies and commitment
- The general and subject related skills and competencies required in teaching
- Impact of one's own socialization processes, awareness of one's own shifting identities as 'student', 'adult', and 'student teacher', and their influences on 'becoming a teacher'
- Teacher's professional identity- what does it entail?
- An analysis of teacher roles and functions in the three phases: pre-active phase – visualizing; decision-making on outcomes, preparing and organization; interactive phase - facilitating and managing learning; post-active phase – assessment of learning outcomes, reflecting on pre-active, interactive and post-active processes

### **Unit 2 Pre-active Phase of Teaching**

- An analysis of teacher roles and functions in the pre-active phase – visualizing; decision-making on outcomes, preparing and organization
- Visualizing: the learner and learner readiness characteristics, the subject matter content and their interlinkages, the learning resources, approaches/strategies
- Decision-making on outcomes: establishing general instructional goals, specification of objectives and standards for learning, allocation of instructional time for various activities/tasks – instructional time as a variable in learning
- Decision-making on instructional approaches and strategies: Expository or Inquiry, Individualized or Small Group or Whole Class – Skills required for learner engagement in the context of the strategy decided,
- Preparing for instruction: identifying and selecting available learning resources or developing required learning resource
- Preparation of a Plan: Unit Plan and Lesson Plan

### **Unit 3: Interactive Phase of Teaching – Strategies of Teaching**

- An analysis of teacher roles and functions in the interactive phase - facilitating and managing learning;

Expository Strategy as approach to teaching for understanding: Presentation-discussion-demonstration, the Advance Organizer Model;

Inquiry Strategy as approach to teaching thinking skills and construction of knowledge: Concept Attainment/ Concept Formation, Inductive Thinking, Problem Based Learning/Project Based Learning;

#### **Unit 4: Interactive Phase of Teaching – Approaches and Skills of Teaching**

Approaches to Organizing Learning - Approaches to Individualized Instruction: Computer Managed Instruction, Programmed Instruction, and Learning Activity Packages; Approaches to Small Group and Whole Group Instruction: Cooperative and Collaborative approaches to learning, Brain storming, Role Play and Dramatization, Group Discussion, Simulation and Games, Debate, Quiz and Seminar

Instructional Skills: Structuring, Soliciting and Reacting, Verbal and Non verbal, Feedback and Reinforcement, Discourse, Demonstration and Modeling

#### **Unit 5: Post-active Phase of Teaching**

An analysis of teacher 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: Reflection on appropriateness and sufficiency of planning and implementation activities of a teacher

Reflection and appraisal for professional development in teaching: self-reflection, observation and feedback by peers, analysis of teaching using media, appraisal by students

Understanding teacher as a professional: expectations and responsibilities of a teacher, teacher as an autonomous functionary and a member of a community of professionals - balancing personal aspirations and professional pressures, developing an 'identity' as a teacher.

#### **Seasonal Work**

Study of instructional practices with reference to use of classroom skills

Classification of instructional objectives of a lesson under domains and levels

Writing instructional objectives for different content categories

Identifying skills incorporated in a lesson plan and judging their appropriateness and adequacy

Practice of skills in a simulated situation

#### **References**

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- Sharma, R A (1983) Technology of Teaching; International Publishing House, Meerut
- Kumar, K L (1996) Educational Technology; New Age International (P) Ltd Publishers, New Delhi
- Singh, L C Microteaching: Theory and Practical, National Psychological Corporation, Agra

### **Course B3 Assessment and Evaluation**

#### **Course Objectives:**

The student teachers will be able to

- Understand the nature of assessment and evaluation and their role in teaching-learning process.
- Understand the perspectives of different schools of learning on learning assessment
- Realise the need for school based and authentic assessment
- Examine the contextual roles of different forms of assessment in schools
- Understand the different dimensions of learning and the related assessment procedures, tools and techniques
- Develop assessment tasks and tools to assess learners performance
- Analyse, manage, and interpret assessment data
- Analyse the reporting procedures of learners performance in schools
- Develop indicators to assess learners performance on different types of tasks
- Examine the issues and concerns of assessment and evaluation practices in schools
- Understand the policy perspectives on examinations and evaluation and their implementation practices
- Traces the technology bases assessment practices and other trends at the international level

#### **Unit 1: Perspectives on Assessment and Evaluation**

- Meaning of Assessment, Measurement, Tests, Examination, Appraisal, and Evaluation and their interrelationships
- Difference between 'true ability' and 'observed ability', Principles of assessment and evaluation,
- Behaviorist, Cognitivist and Constructivist Perspectives
- Purposes of Assessment: Prognostic, Monitoring of Learning, Providing Feedback, Promotion, Placement, Certification, Grading and Diagnostic
- Classification of assessment: based on purpose (prognostic, formative, diagnostic and summative) scope (teacher made, standardized), attribute measured (achievement, aptitude, attitude, etc.), nature of information gathered (qualitative, quantitative), mode of response (oral and written; selection and supply), nature of interpretation (norm referenced, criterion referenced) and context (internal, external)
- Need for continuous and comprehensive assessment

School based assessment; Authentic assessment

### **Unit 2: Assessment of Learning**

Dimensions of learning: cognitive, affective and performance

Assessment of cognitive learning: types and levels of cognitive learning: understanding and application; thinking skills –convergent, divergent, critical, problem solving, and decision making; items and procedures for their assessment

Assessment of affective learning: attitude and values, interest, self-concept; items and procedures for their assessment

Assessment of Performance: tools and techniques for assessment of skills

Grading: Concept, Types and Application: indicators for grading; CBSE and State evolved indicators

### **Unit 3: Assessment for Learning**

Assessment information as an input for learning, metacognition and development – need for continuous, formative and diagnostic assessment

Use of Projects, Assignments, Work sheets, Practical work, Performance based activities, Seminars and Reports as assessment devices

Developing Performance Tasks (Subject Specific)

Assessment of Group Processes - Collaborative/Cooperative Learning and Social skills

Portfolio Assessment – its meaning, scope and uses; Planning, development and assessment

Self, Peer and Teacher Assessments

### **Unit 4: Planning, Construction, Implementation and Reporting of assessment**

Consideration of what and why to assess (content and objectives)

Differentiation between instructional, learning and assessment objectives

Stating of Assessment Objectives - Need for integrated objectives.

Deciding on the nature and form of assessment - oral tests and written tests; open book examination; weightage to content, objectives, allocation of time; Preparation of a blue print

Construction/selection of items; Guidelines for construction of test items

Assembling the test items; Guidelines for administration

Scoring procedure – manual and electronic; Development of Rubrics

Analysis and Interpretation of Students' Performance

Processing test performance: calculation of percentages; central tendency measures; graphical representations; and interpreting performance

Item response analysis

Role of Feedback in Improving Learning, and Learners' Development

Ascertaining student needs, identifying student interests and feeding forward for improving learning

Reporting Student Performance – content and formats; Progress reports, Cumulative records, Profiles, and Open house

Using feedback for reporting to different stakeholders – students, parents, and administrators

Use of Feedback for teachers' self-improvement

#### **Unit 5: Issues, Concerns and Trends in Assessment and Evaluation**

Existing Practices: Unit tests, half- yearly and annual examinations, semester system, Board examinations and Entrance tests, State and National achievement surveys

Management of assessment and examinations, Use of question bank

Issues and Problems: Marking Vs Grading, Non-detention policy, Objectivity Vs Subjectivity, Impact of entrance test and public examination on teaching and learning – the menace of coaching

Policy perspectives on examinations and evaluation: Recommendations in National Policies of Education and curriculum frameworks

Trends in assessment and evaluation: Online examination, Computer-based examination and other technology based examinations

Standards based assessment – international practices

#### **Sessional Work**

Planning of an achievement test

Planning of other assessment tools

School visits followed by presentation on evaluation practices in schools

Data processing and interpretation of any achievement test of school students

Presentation of papers on issues and concerns / trends in assessment and evaluation

Presentation of papers on examination and evaluation policies

One sessional test

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Nitko, A.J. (2001). Educational assessment of students (3<sup>rd</sup> ed.). Upper Saddle River, NJ: Prentice Hall.

Norris N.(1990) Understanding Educational Evaluation, Kogan Page Ltd.

Singh H.S.(1974) Modern Educational Testing. New Delhi: Sterling Publication

Ward &Ward( 2007) Assessment in classrooms.

## **Course B4 Learning Resources**

### **Course Objectives:**

On completion of the course, the student teacher will be able to

Understand teaching as a process of communication and be aware of various resources available for making it effective

Prepare and use appropriate instructional material for effective classroom transaction

Design and develop an ICT integrated learning resource

Critically reflect on the suitability of learning resources planned in teaching-learning

Organise learning with active participation of learners- individually and in groups

### **Unit 1 Learning, Communication and Experience**

Concept, components and types of communication, Classroom communication – an analysis of its facilitative and Inhibitive nature

Role of media in communication process, teaching as interpersonal communication, a reflection on the factors of communication affecting learning and learner

Communicating through learning experiences – nature and role in effectiveness of teaching-learning.

Learning resources and the nature of experiences provided by them – extent of concreteness and directness of experiences provided through different media.

The nature of teacher student communication: verbal and non verbal

### **Unit 2 Learning Resources for Classroom Teaching**

Meaning, purpose, steps in development, guidelines for use, and criteria of judging quality of the following resources

Print Resources: resources for communicating verbal experiences - text book, work book, case study and self instructional material

Audio Resources: resources for communicating audio experiences - educational radio broadcast and audio programmes – an analysis of their formats, strengths and limitations

Visual Resources: Resources for communicating visual experiences –

Non projected visual Resources: graph, map chart, poster, models and material – nature of experiences provided by them, their making and possibilities of using them as learning resources

Projected Visual Resources: still visuals – slide, transparency and film-strip, moving visuals – film, video and animation

Media selection, utilization and integration into teaching and learning – learning resources for different pedagogies: a classification of learning resources based on teaching objectives.

### **Unit 3 Resources for Promoting Self Learning and Learning to Learn Skills**

An analysis of what and how self-learning occurs among students – principles of self-learning.

Ways and means of promoting self-learning: organization, merits and demerits of Computer Assisted Instruction, personalized system of instruction, self-paced activity, learning activity packages, learning centers, mini courses, modular instruction, and programmed instruction.

Designing a self-learning material: principles and steps

Learning to learn skills – an analysis and teacher's role in promoting them

### **Unit 4 Classroom Learning Community as Learning Resource**

Learning as a social cultural process

Learning group as a resource for learning – understanding dynamics of a group, zone of proximal development

Variety of ways of organizing learning in groups - Meaning, scope, advantages and guidelines

Teacher's role in building learning communities in a classroom through promotion of common goals, partnership, shared leadership, co-evolving and co-learning

Cooperation and competition as processes in group learning: possibilities in organizing co-operative and collaborative learning, peer coaching

Assessment of group learning

### **Unit 5 Technology-enhanced Learning Resources**

ICT and Multimedia as technology-enhanced communication devices in teaching-learning: a comparative review of various learning resources

Interactive white board – its features and advantages

Computer as a learning resource for presentation, documentation, word processing, evaluation. Animation and other visual presentation options on a computer

Internet as an Information Resource. Evaluating information resources on the Internet

Emerging Internet trends and technologies for facilitating learning

Designing and Developing Technology-enhanced Learning Material

Changing roles and competencies of a teacher in technology enhanced learning

### **Sessional Work**

Preparation of at least three teaching-learning resources from those mentioned in Unit 2

Planning and preparation of an ICT integrated presentation for secondary level

Identification and use of an internet resource for learning at the secondary level

Critical analysis of an existing learning resource

### **References**

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S. Majumdar, (2005). Regional Guidelines for Teacher Development for Pedagogy Technology Integration. UNESCO. Bangkok. Thailand

#### **Internet Resources:**

Online! A Reference Guide to Using Internet Resources.

<http://www.bedfordstmartins.com/online/citex.html>

Wikipedia – online encyclopedia website - <http://www.wikipedia.org/>

E learning India Website - <http://elearning-india.com/>

## **Course B5 Classroom Organisation and Management**

### **Course Objectives**

To enable students to

Understand importance of classroom management

Describe approaches to classroom management

Understand ways of preventing problems in managing a classroom

List physical resources and describe how to maintain them

Explain the role of teachers and the principal in ensuring a vibrant school climate

### **Unit 1 Classroom Organisation**

Meaning of classroom organization – purposes. Concept of a smart classroom

Seating arrangements for various purposes

Display area and chalk board – other facilities such as OHP and Multimedia in a classroom

Characteristics of School climate – conducive, learner friendly, inclusive, vibrant, Relation between school policy and school climate

### **Unit 2 Physical Facilities in a School**

Physical resources in a school - physical space (building) with adequate classroom space, adequate furniture, learning resources such as the labs, library, sports field, and staff rooms, rest rooms, etc.

Management of physical resources - Cleanliness, appropriate use of each with an intent or schedule

Streamlining ways of using the facilities: coordination, sharing

### **Unit 3 School Environment- Teacher Role**

School as an institution with an environment of its own

Leadership style of the headmaster and its influence on teacher role performance

Visualize the requirements- procure, maintain and replenish with support of authorities

Teacher self assessment and accountability – importance of feedback  
 Factors affecting school environment - goodwill, acceptance, belongingness, openness, orderliness, and access, both among teachers and between teachers and students  
 Promoting self-esteem among students  
 Team work and transparency in functioning among teachers

#### **Unit 4 Classroom Management**

Classroom management – concept, need and approaches  
 Roles of students in a classroom – leader, follower and non participant  
 Role of a teacher in classroom management – relationship between leadership styles of a teacher and classroom discipline  
 Managing behavior problems in a classroom – Preventative, Supportive and Corrective.  
 Common mistakes in classroom behavior management. Establishment of routines, rules and procedures  
 Punishment and its legal implications – the rights of a child  
 Time management in a classroom – allocated time versus engaged time

#### **Unit 5 Mechanisms for coordinated functioning in school**

Planning: annual and long term; annual school calendar  
 Day to day schedules- time table, notifications, announcements  
 Monitoring for coordinated functioning: allotment, autonomy and accountability (internal and external)  
 Staff Meetings: forum for sharing, review and further planning  
 Regular, documentation of events and activities  
 Approaches to professional development of teachers in a school  
 Mechanisms that promote and hinder school-community and teacher-parent relationship

#### **Sessional Work**

Practice of various approaches to classroom management in simulated group work  
 Through small group work find out the various school systems in India and their relevance of the varied school systems  
 Review the school time-table planning and its effectiveness towards attaining academic expectations laid by National Curriculum Framework  
 Preparation of a plan of action to be implemented during the next three years for improving a functioning of school  
 Project work on analyzing good and weak points of school management in private, Government, large sized and small sized classroom

#### **References**

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### **Area C: PEDAGOGICAL CONTENT KNOWLEDGE**

#### **Course C1 and C2**

**Note:** The courses for different pedagogical content knowledge will have to be worked out on the basis of the suggested course for Pedagogy of Mathematics presented below. The course structure for different subject specific pedagogy courses could suitably be developed under a combination of the following themes as illustrated in the Pedagogy of Mathematics course.

- Nature of the Subject
- Nature of Learning the Subject
- Curriculum Reforms in the Subject
- Planning for Organising Learning in the Subject
- Strategies for Learning Various Kinds of Subject Matter Contents
- Assessment of Learning in the Subject
- Learning Resources and their Organisation
- Contextual Issues in Learning the Subject Matter Content
- Research and Development in Teaching and Learning the Subject
- Professional Development of the Teacher of the Subject

#### **Course C1: Pedagogy of Mathematics**

##### **Course Objectives**

Upon completion of the course the students will have

- understanding of the characteristics of Mathematical language and its role in Science
- understanding of the nature of axiomatic method and mathematical proof

knowledge about aims and general objectives of teaching secondary school mathematics  
 ability to state specific objectives in behavioural terms with reference to concepts and generalizations  
 ability to teach different kinds of mathematical knowledge consistent with the logic of the subject  
 ability to evaluate learning of concepts and generalization  
 ability to identify difficulties in learning concepts and generalization and provide suitable remedial instruction  
 understanding of mathematical proof in the context of secondary school mathematics  
 understanding of nature, importance and strategies of problem-solving  
 ability to teach proof of theorem and solution of problem to develop relevant skills  
 ability to evaluate understanding of proof of a theorem and problem-solving skills.  
 understand the characteristics of and strategies for teaching exceptional children in mathematics  
 prepare and evaluate instructional materials in mathematics  
 appreciate the need for continuing education of mathematics teachers.

## **Course Content**

### **Unit 1: Foundations of Mathematics Education**

#### **Nature of Mathematics**

Meaning and dimensions of mathematics- the historical, scientific, language, artistic, recreational, activity and tool; the nature of mathematical propositions, mathematical proof, structure and logic, axiomatic method, history of mathematics with special emphasis on Indian mathematics

#### **Learning of Mathematics**

Perspectives on the psychology of learning and teaching of Mathematics- constructivism and enactivism, constructivism and a Vygotskyan perspective, Zone of Proximal Development, Cognitive guided instruction, Cognitive apprenticeship, critical and realistic mathematics education, The van Hiele levels of geometric thinking, constructivism and spatial learning, cognitive modeling in spatial learning; implications for teaching

#### **Curriculum Reforms in School Mathematics**

Rationale, objectives, principles, designs and materials produced in the recent curricular reforms at the National and State levels and their critical appraisal

Need for Standards for school mathematics, Analysis of the aims and general objectives of teaching mathematics vis-à-vis the objectives of secondary education.

### **Unit 2: Strategies for Teaching of Different Kinds of Mathematical Knowledge**

#### **Teaching of Mathematical Concepts**

Meaning and aspects of a concept, concept formation and concept assimilation, Moves in teaching a concept – defining, stating necessary and/or sufficient condition, giving example

with/without a reason, Comparing and contrasting, giving counter example; non-example with/ without a reason; Use of Concept Attainment and Advance Organizer Models, planning and implementation of strategies in teaching a concept.

### **Teaching of Mathematical Generalisations**

**Learning by Exposition:** Moves in teaching for understanding of generalizations: Introduction moves – focus, objective, motivation; Assertion, Interpretation moves- instantiation, paraphrasing, review of prerequisites, translation, analogy, analysis; Justification, Application – planning of strategies for teaching generalizations.

**Learning by discovery:** Nature and purpose of learning by discovery, Inductive-, deductive – guided discovery strategies, Maxims for planning and conducting discovery strategies; planning of strategies involving either induction or deduction or both for constructing knowledge.

Learning mathematics in groups-issues in practice, Characteristics of students of high ability and unsuccessful, Group work and cooperative or collaborative strategies, Provision in heterogeneous classrooms

## **Unit 3: Teaching of Process in Mathematics**

### **Teaching for Understanding Proof**

Developing an intuition about the nature of proof – to make the transition from concrete thinking to more formal reasoning and abstract thinking as they progress from class to class, kinds of proof – direct proof, mathematical induction, proof by contradiction, proof by cases, the contra positive, and disproof by counter example.

### **Teaching Problem Solving in Mathematics**

Definition of a problem, problem-solving and teaching problem-solving; importance of teaching problem solving, posing a problem, generating problem, modeling and model for problem-solving in algebra and geometry, Situation model for solving word problem, discovering or exploring various options for solving the problem i.e. developing heuristics, carrying out the plan and generating and extending a good problem,

## **Unit 4: Assessment of and for Mathematics Learning**

Stating measurable objectives of teaching concepts, generalizations, problem solving and proof; construction of appropriate test items for assessing product and developmental(thinking skills) outcomes, Diagnosing basic causes for difficulties in learning concepts, generalizations, problem solving and proof; planning remedial teaching strategies based on the perceived causes, implementing and evaluating the strategies.

Construction of unit tests: Design and blue print; item construction; marking scheme; question-wise analysis. Construction of a mathematics question paper including general instruction with nature of options and overall coverage, and marking scheme.

Learning mathematics in groups-issues in practice, Characteristics of students of high ability and unsuccessful, Group work and cooperative or collaborative strategies, Provision in heterogeneous classrooms

### **Unit 5: Learning Resources in Mathematics**

Meaning, types, functions, preparation and utilization of learning resources in Mathematics: Textbook, Models, Calculators and Computers, Graphic calculators, Logo in learning algebraic language and spatial reasoning, Cabri geometry as a mediating and as a cognitive tool, Geometer's sketchpad, The Mathematics Laboratory – planning and organizing lab activities, Mathematics Outside the Classroom

### **Sessional Work:**

Selecting the content, knowing the content to teach the content through identifying the pedagogical content knowledge

Stating instructional objectives for a mathematics lesson and identifying learning outcomes

Designing learning activities, appropriate strategies; selecting/preparing learning resources; assessment techniques and tools, etc.

Preparing lesson plans and unit plans

Analysis of a Unit / Chapter in mathematics textbook to identify the concepts, principles and processes and to understand the underlying mathematical structures

Stating specific objectives of teaching items of knowledge and processes reflecting goals of secondary school mathematics

Critical analysis of moves and teaching skills used in a lesson taught in a class or in a lesson plan

Planning and implementation of appropriate strategies for teaching mathematical concepts and generalizations in simulated and real classroom situations

Construction of appropriate test items to assess outcomes of learning mathematics

Identification of learning difficulties experienced by students in a lesson and evaluation of the remedial strategies adopted by the teacher

Observation and analysis of strategies followed in teaching proof and problem-solving in mathematics

Preparation of at least a lesson plan based on each of the strategies of teaching proof, and problem solving and practice of the strategies in simulated/real classroom situations

Construction of a unit test, a diagnostic test and an achievement test in mathematics

Planning and implementation of remedial instructional strategies based on an analysis of students' responses to questions in a test

Review of research articles from journals on mathematics education related to teaching and learning of mathematics in heterogeneous classes

Development of a learning aid on a topic in mathematics and the procedure for using it

Case study of a gifted/ talented and an unsuccessful learner in the class

An appraisal of inservice programme for mathematics teachers organized by some nodal institutions in the area/region

*The following topics in mathematics at secondary school level may provide subject matter inputs for explaining different pedagogical aspects of teaching mathematics and for*

*undertaking the sessional work. (As and when there are changes in topics to be taught in Mathematics at school level, the corresponding changes in topics should be made).*

**Arithmetic :**

*Development of number system; Modular Arithmetic, Ratio and proportion, time and work*

**Algebra :**

*Sets, Relations, Functions and Graphs, Systems of linear equations and their graphical solutions, quadratic equations, Linear inequations and graphical solutions and their applications, Theory of Indices and logarithms, Cyclic factorization, Factor theorem and Remainder Theorem, Matrices, Axioms of Groups and Fields with examples from Number Systems.*

**Geometry :**

*Axioms of Euclidian Geometry, Polygons and Circles, Congruency and similarity of triangles, Polyhedrons and Prisms, Introduction to transformation geometry of two dimensions (straight lines only), Construction of geometrical figures*

**Trigonometry :**

*Trigonometric ratios, simple identities and elementary problems on heights and distances, solution of simple trigonometric equation*

**Statistics :**

*Tabular and Graphical representation of Data, Measures of Central Tendency and Variability*

**Computing:**

*Computer devices flow charts and algorithms*

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- Cooney, Thomas J. and Others (1975). Dynamics of Teaching Secondary School Mathematics, Boston: Houghton Mifflin.
- Driscoll, M., Egan, M., Nikula, J., & DiMatteo, R. W. (2007). Fostering geometric thinking: A guide for teachers, grades 6-10. Portsmouth, NH: Heinemann.
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- Lester, F.K (Ed) (2007). Second Handbook of Research on Mathematics Teaching and Learning, Charlotte, NC: NCTM & Information Age Publishing.

Polya, George (1957) How to solve it, Princeton, NJ: Princeton University Press.  
 NCERT and State textbooks in Mathematics for Class VIII to X

### **Periodicals/Journals**

Educational Studies in Mathematics  
 International Journal of Science and Mathematics Education  
 Journal of Research in Mathematics  
 Journal of Mathematics Teacher Education  
 Mathematics Education Research Journal  
 Mathematics Teaching  
 Research in Mathematics Education  
 School Science and Mathematics  
 Teaching Children Mathematics  
 The Mathematics Teacher

## **AREA D: SCHOOL BASED EXPERIENCES**

### **D1 Initiatory School Experiences**

#### **Course Objective**

This course aims at enabling student teachers to  
 Develop conceptual understandings about teaching and learning in school environment  
 Validate the theoretical understandings developed through various foundation and pedagogy courses  
 Understand and develop meaningful learning sequences appropriate to the specificity of different levels of learning  
 Mobilise appropriate resources for them.

#### **Task Set 1 Initiatory Experiences**

Reflections on one's own School Experiences  
 Identifying Nurturants and Deterrents  
 Creating a 'Big Picture'

#### **Task Set 2 Recognise School as an 'organised' Endeavour**

Functioning within a 'structure' with defined roles and responsibilities  
 Internal arrangements for coordinated functioning-time table, work allocation, differential responsibilities, planning and coordination procedures  
 External liaison – with parents, community, authorities.

#### **Task Set 3 School as an 'Enabling Learning Environment'**

What 'enables' learning in schools?  
 Nature of school environment;  
 Learner perceptions; teacher perceptions; parental/community perceptions  
 Nature of inter relationships between and among learners-teachers; teachers; teacher-principal; parents-school; office-teachers-learners  
 Nature of 'impact' generated in school

**Task Set 4 Classroom as a Learning Site**

Kinds, modalities, learning resources used, student reactions and any relevant related points

**Task Set 5** Design Learning Sequences in each of the two school subjects with all the details required; draw upon from the other earlier courses of study

*Assessment of this course shall be done internally by the teacher education institution concerned*

**D2 Internship in Teaching****Course Objectives**

On completion of the course the student teacher will be able to

Understand the content and pedagogical principles, issues and problems related to teaching

Acquire competencies and skills required for effective classroom teaching, class management and evaluation of student learning, organization of co-curricular activities, working with the community

Develop proper professional attitudes, values and interests

Understand the role of a teacher

Familiarize with the existing educational scenario of the respective states.

**Organization**

The internship will be organised for a continuous period of eight weeks in selected cooperating schools of the southern region. Necessary orientation to the cooperating teachers and headmasters will be organised at the Institute.

**Activities**

Getting acquainted with various aspects of cooperating schools- The student will teach 40 lessons in each method/subject. Out of 40 lessons in each subject, 20% will cater to the needs of slow learners, enrichment for talented children, in-group learning set up and on self-learning models

Participating in school activities and organisation of activities

Administering of diagnostic tests and identifying of learning difficulties

Conducting a case study/action research

Organizing curricular and co-curricular activities

**Post-internship Activities**

Follow-up activities (remedial and enrichment activities) to be taken up by the Institute

Finalization of records and reports related to curricular and co-curricular activities

**Evaluation and Scheme of Assessment**

Evaluation of performance during pre-internship will be done on the basis of assessment by institute supervisors, cooperating teachers, headmasters, records, reports and student activities/assignments. The scheme of assessment will be as follows.

Area		Marks
1. Teaching	Subject I	100
	Subject II	100
2. Record of Lesson Observation	Subject I	10

(Ten in each method)	Subject II	10
3. Evaluation Record	Subject I	15
	Subject II	15
4. Preparation and presentation of teaching aids	Subject I	15
	Subject II	15
5. Record of participation in school activities	Subject I	10
	Subject II	10
		-----
	Total	300
		-----

### AREA E: ADD-ON COURSES

#### Course E1 Language Proficiency

##### Course Objectives

Upon completion of this course, the student teacher will:

Improve his/her proficiency in 'reading', 'writing', 'thinking', and 'communicating' in the language of instruction.

Develop an interest in reading

Improve his/her ability to understand instruction

##### Unit 1: Engaging with narrative and descriptive accounts

The selected texts could include stories or chapters from fiction, dramatic incidents, vivid descriptive accounts, or even well produced comic strip stories.

##### Suggested Activities:

Reading for comprehending and visualizing the account (individual + group reading and discussion/explanation)

Re-telling the account - in one's own words/from different points of view (taking turns in a smaller group)

Narrating/describing a related account from one's life experience (in front of a smaller group)

Discussion of characters and situations – sharing interpretations and points of view (in a smaller group)

Writing based on the text – eg. Summary of a scene, extrapolation of story, converting a situation into a dialogue etc. (individual task)

##### Unit 2: Engaging with popular subject-based expository writing

The selected texts could include articles, biographical writing, or extracts from popular non-fiction writing, with themes that are drawn from the subject areas of the student teachers (various sciences, mathematics, history, geography, literature/language pieces)

For this unit, the student teachers should work in groups divided according to their subjects, within which different texts could be read by different pairs of student teachers.

##### Suggested Activities:

Reading to extract overall meaning, information, subject knowledge (guided reading in pairs and simple note making)

Identifying major concepts and ideas involved and making notes on these in some schematic form - flow diagram, tree diagram, mind map etc (guided working in pairs)

Explaining the gist of the text/topic to others (in the larger subject group)

Attending to writing style, subject-specific vocabulary and 'perspective' or 'reference frame' in which different topics are presented – this will vary across subjects and texts, and requires some interpretative skills for 'placing' the context of each text (group discussion and sharing)

Writing a review or a summary of the text, with comments and opinions (individual task)

### **Unit 3: Engaging with journalistic writing**

The selected texts would include newspaper or magazine articles on topics of contemporary interest. Student teachers can be grouped randomly for this unit.

#### **Suggested Activities:**

Using reading strategies such as scanning, skimming and reading for extracting information – as appropriate for initial reading of articles (guided individual task)

Analysis of structure of the article, identifying sub-headings, key words, sequencing of ideas, use of concrete details, illustrations and/or statistical representations etc (guided working in pairs)

Critical reading for attending to 'framing' of the article, point(s) of view presented, possible biases or slants (small group discussion)

Researching and writing articles on topics of local interest (working to produce a local interest magazine)

### **Unit 4: Engaging with subject-related reference books**

For this unit, the student teachers should work in groups divided according to their subjects. Within these groups, pairs of student teachers would make a choice of a specific topic in their subject area which they could research from a set of available reference books. The focus of this unit is as much the learning of effective processes of reference research and its presentation, as the actual reading of the reference books themselves.

#### **Sequence of activities:**

Selecting the topic for research and articulating some guiding questions

Searching and locating relevant reference books (could be from a school library or the Institute library)

Scanning, skimming and extracting relevant information from the books by making notes

Collating notes and organizing information under various sub-headings

Planning a presentation – with display and oral components

Making presentations to whole subject group, fielding questions

### **Unit 5: Engaging with educational writing**

Selected texts here could be drawn from the wide range of popular educational writing in the form of well-written essays, extracts or chapters from authors who deal with themes from education, schooling, teaching or learning. The writings selected should present a definite point of view or argument about some aspect of the above themes. Student teachers can be grouped randomly for this unit.

#### **Suggested activities:**

Reading for discerning the theme(s) and argument of the essay (guided reading – individually or in pairs)

Analyzing the structure of the argument: identifying main ideas, understanding topic sentences of paragraphs, supporting ideas and examples, terms used as connectors and transitions (guided small group discussion)

Discussion of the theme, sharing responses and points of view (small group discussion)

Writing a response paper (individually or in pairs)

Presentations of selected papers, questions and answers (large group)

## **Course E2 ICT Skill Development**

### **Objectives:**

On completions of the course, the student will be able to

Describe a computer system;

Describe the working of a computer;

Open the windows operating system;

Use word processing package;

Appreciate the use of the word processing package in education;

Acquire the skill of trouble shooting whenever there are problems in the working of computer.

### **COURSE CONTENT:**

#### **Unit I: Computer Fundamentals**

Basic anatomy of computer; Introduction to Computing; What is computer; Characteristics of Computer – Speed, Storage, Accuracy, Versatile, Automation, Diligence; Classification of Computers, Types of Computer; Data Representation Within Computer; Basic Structure of Computer – input, output, process; Memory – ROM, RAM, CD ROM,, Configuration of Computer – Selecting a PC

#### **Unit II: Input / Output Devices**

Input Devices – Keyboards, Mouse, Touch Screen, MICR, Light Pen, Joy Stick, Digitizer, Scanner; Output Devices – VDU, Printers, laser, Inkjet; Data storage devices – Hard disk, Compact disk, Optical disk, Pen drive and other devices

#### **Unit III: Operating System.**

Operating system – What is Operating system?, Types of Operating system, Relative Merit and Demerits; Computer Networks, Distributed Processing; Installation of Software, MS Windows- Introduction to Windows, Control Panel, File Manager, Accessories Write, Paint brush, Calendar, Card File, MS-Office, Overview.

#### **Unit IV: MS-Word**

Starting MS-Word: Creating a Documents; Opening a Documents; Saving a Documents; Editing, Formatting Text, Viewing Documents; Formatting Documents – Line spacing, Paragraph spacing, Setting Tab, Indenting Text, Aligning Text; Adding Header and Footers; Numbering Pages; Inserting a Tables; Proofing a Documents – Spell-check, automatic Spell-

check, Auto Text, Auto Correct; Printing a Documents; Mail Merge; Simple Trouble shooting; Use of MS-WORD in Education.

**Unit V: Spread Sheet – MS Excel**

Introduction to MS- Excel; Starting MS-Excel, Opening a Worksheet, Saving a Worksheet; Spreadsheet operations – Entering Numbers, text, Dates & Time, formulas; Editing the Worksheet – Deleting Cells, Rows, Columns; Inserting Cells, Rows, Columns, Printing a Worksheet; Formulas and Function – Entering Formulas, Absolute and Relative Reference of a Cell, Mixed Referencing, operating in Formulas, Using Text, Data and Time in a Formula, Array and Named Ranges; Preparing a Resume