

## Course-X

# PEDAGOGY OF MATHEMATICS

### Objectives

After completion of the course, the student-teacher will be able to

1. Appreciate Mathematics as a tool to engage the mind of the student
2. Appreciate mathematics to strengthen the students resource
3. See mathematics as something to talk about to communicate through to discuss among themselves to work together on.
4. Construct appropriate assessment tools for evaluating mathematics learning.
5. Stimulate curiosity, creativity and inventiveness of mathematics
6. Develop Competencies to develop gifted and slow learners.
7. Develop language of mathematics; engage with research on children's learning in specific areas.

### Course Content

#### Unit-1: Mathematics Curriculum:

- 1.1 Meaning and objectives of curriculum
- 1.2 Principles for designing and Organizing Curriculum
- 1.3 Approaches for Organizing Curriculum
- 1.4 Meaning of syllabus and difference between syllabus and curriculum
- 1.5 Recommendations and critical appraisal of NCFSE- 2005, APSCF – 2011 and other commissions on Mathematics curriculum.
- 1.6 Discussion of important concepts, principles and processes from the topics of the branches as specified below.
  - i. Arithmetic : Development of number system, Ratio and Proportion, Percentages and other topics based on them.
  - ii. Algebra: Sets and Operations on them, Systems of Linear Equations and their graphical solutions, Quadratic Equations, theory of Indices and Logarithms, Remainder and factor theorems.
  - iii. Probability and Statistics: Basic concepts of Probability, Representation of data, Measures of Central Tendencies.
- vi. Geometry: Theoretical, Practical and Co-ordinate Geometry, Distance formula, section formula.  
Menstruation ; Areas and Volumes
- v. Trigonometry: Trigonometrical Ratios, Identities, Composite Angles, Multiple and Sub multiple angles, Heights and Distances.

#### Unit-2: Language and Aesthetic sense of Mathematics

- 2.1 Aesthetic Sense in Mathematics; three aesthetic experience variables identified by Brikhoof and their relation.
- 2.2 Co-existence of Precision and beauty in Mathematics- order pattern, structure and symmetry
- 2.3 Recreational Mathematics – Mathematical games, puzzles, and riddles.
- 2.4 Language of Mathematics

#### Unit-III: Assessment and Evaluation

- 3.1 Testing of Mathematical abilities of children
- 3.2 Meaning of Assessment, measurement and evaluation in mathematics

- 3.3 Achievement test in mathematic- Arithmetic, Algebra, and Geometry.
- 3.4 Speed test in Mathematics - Arithmetic, Algebra, and Geometry.
- 3.5 Preparation of test items – Precautions to be taken while preparing test items in different branches of mathematics
- 3.6 Concept of CCE and measurement of different behavioral changes like interest attitude, and aptitude in learning mathematics.

#### **Unit-IV: Mathematics for all**

- 4.1 Speed and accuracy in Mathematics
- 4.2 Understanding Learners – Gifted slow, backwardness and dyscalculia
- 4.3 Activities enriching Mathematics learning- Mathematical Clubs, fairs and its activities, Olympiad, Recreational activities
- 4.4 Mathematic Laboratory and its effective use
- 4.5 Teaching learners with special needs - Co-operative learning, Peer learning, Reciprocal learning – Breur, using technology to meet diverse needs of learners.

#### **Unit-V: Professional Development in Mathematics Teacher**

- 5.1 In-service programmes for Mathematics Teacher
- 5.2 Mathematics Teachers Associations – Role, and Uses
- 5.3 Journals and other resource material in Mathematics Education
- 5.4 Professional Growth – Participation in conferences/Seminars/ Workshops and E-Learning

#### **Activities**

- 1. During Internship, conduct of Essay writing/ quiz competitions in mathematics and report
- 2. One case study of gifted child and slow learner with interventions suggested.
- 3. Preparation of Mathematical Puzzles, Games, riddles and other recreational activities.
- 4. Preparing two types of assessment tests – Formative, Summative type of tests.
- 5. Preparing Diagnostic test in Algebra, Arithmetic and Geometry from VIII to X class mathematic syllabus.

#### **Text Books and Reference Books**

As given in Course IV- Pedagogy of Mathematics

## **Course-X**

### **PEDAGOGY OF SOCIAL SCIENCES**

#### **Objectives**

This course will enable the student teachers to

1. understand the teaching and learning of geography, economics, history, political science and identify the difference among them
2. understand the importance of social science curriculum and its organization
3. understand various teaching aids for social sciences
4. understand the assessment process through CCE
5. sensitize and equip teachers to handle social issues and concerns in a responsible manner
6. inculcate qualities and competencies required for a good social sciences teacher

#### **Course Content**

##### **Unit-1: Teaching and Learning of Geography and Economics**

- 1.1 Fundamental concepts of Geomorphology - Latitudes, longitudes, earth movements, climatology, temperature, pressure, wind, humidity; Hydrology and Oceanography – Hydrological Cycle, Ocean and Ocean deposits
- 1.2 Indian Geography-Political divisions, Rivers and Landforms
- 1.3 Meaning, Nature and Scope of Economics; Key concepts in Economics
- 1.4 Classification of Economic Systems
- 1.5 Teaching strategies of geography and economics

##### **Unit-2: Unit-VII: Teaching Learning of History and Political Science**

- 2.1 Periodisation of World History, Indian History – Ancient, Medieval, Modern and Contemporary society with special reference to Secondary School Social Studies Textbooks
- 2.2 Capitalism, Democracy and Citizenship – American and French Revolutions
- 2.3 Nature and Scope of Political Science; Key concepts and current trends
- 2.4 Indian Constitution – Fundamental Rights and Duties; Organs of Government-Legislature, Executive and Judiciary
- 2.5 Teaching Strategies of Teaching History and Political Science

##### **Unit-3: Social Science Curriculum**

- 3.1 Curriculum – Meaning, Nature and Scope
- 3.2 Principles of Social Sciences Curriculum Construction
- 3.3 Approaches of organizing social studies curriculum – concentric, spiral, chronological, topical and correlation
- 3.4 Qualities and Characteristics of Good Social Science Textbook
- 3.5 Analysis of Social Science Textbook of State Board and CBSE

##### **Unit-4: Teaching Learning Material in Social Sciences**

- 4.1 Need and significance of Teaching Learning Material in Teaching Social Sciences
- 4.2 Globe and Maps – Types of Maps – Map Language, Map Reading and Map Making
- 4.3 Charts and Graphs – Types of Charts – Chronology, Tabular, Diagrammatic and Pictorial; Types of Graphs – Bar, Pie, Line and Pictorial
- 4.4 Models – Working, Still and Diorama
- 4.5 Objects, Specimens and Scrap book

##### **Unit-5: Evaluation in Learning Social Sciences**

- 5.1 Meaning, Nature and Characteristics of Evaluation
- 5.2 Forms of Evaluation
- 5.3 Quantitative and Qualitative Tools of Evaluation in Social Sciences
- 5.4 CCE Model of assessment in social sciences
- 5.5 Analysis and Interpretation of test scores

### **Activities**

1. Observe a day's proceedings in house of assembly or parliament and report
2. Collect News paper clippings on any social issue and write a report on the issue with your comments
3. Organise any one of the social awareness programme on Swatch Bharath/ Water and Plant/ Aids Awareness/ Vanamahotsavam, etc in a village/ward and report.
4. Observe the functioning of any local body office and report
5. Critically analyse the characteristics of Social Science text book of any class and prepare a detailed report

### **Text Books and References**

As given in Course IV- Pedagogy of Social Sciences

**Course-X**  
**PEDAGOGY OF BIOLOGICAL SCIENCES**

**Objectives**

After completion of the course, the student-teacher will be able to

1. Understand the curriculum development issues in biological science
2. Identify the role and use of laboratory, ICT, and TLM in the teaching of biological science teaching effectively
3. Develop the skill of writing lesson plan period plan
4. Develop micro teaching skills
5. Develop the skill of constructing test papers

**Course Content**

**Unit-1: Biological Science Curriculum and Textbooks**

- 1.1 Meaning and Definitions of curriculum
- 1.2 Principles of Curriculum Construction
- 1.3 Organizational Approaches of Curriculum: Logical, Psychological,
- 1.4 Topical concentric and spiral
- 1.5 Steps involved in the development of science curriculum
- 1.6 Basic Criteria of Validity of a Science Curriculum context, - Cognitive, Process, Historical, Environmental Science and Ethical Validity
- 1.7 Curriculum at upper Primary, Secondary and Higher secondary stages.
- 1.8 National Curriculum Framework, 2005 – Position paper on Science
- 1.9 Andhra Pradesh State Curriculum Framework 2011- Science
- 1.10 Qualities of good biological science text books
- 1.11 Analysis of Secondary School Biological Science text book

**Unit-2: Biological Science Laboratory**

- 2.1 Importance of practical work in Biological Science
- 2.2 Planning of science laboratories, Lecture cum laboratory, all-purpose laboratory, mobile science laboratory
- 2.3 Procurement, care and maintenance of laboratory equipment
- 2.4 First Aid

**Unit-3: Teaching Learning Materials**

- 3.1 Edgar Dale's Cone of experience
- 3.2 Audio, visual Instructional aids
- 3.3 Activity aids (Aquarium, Vivarium, Terrarium, Herbarium), Electronic Teaching Aids
- 3.4 Improvisation of Teaching aids

**Unit-4: Resources for Teaching Biological Science**

- 4.1 Science Kit
- 4.2 Science library
- 4.3 Science club
- 4.4 Science exhibition and science fair
- 4.5 Science Museum
- 4.6 Community Resource

## **Unit-5: Evaluation in Biological Science**

- 5.1 Concept of test, measurement and evaluation
- 5.2 Evaluation- meaning, types, Process, and tools
- 5.3 Qualities of a Good test and types of tests
- 5.4 Preparation of Continuous Comprehensive Evaluation (CCE) Record
- 5.5 Analysis and interpretation of test scores.
- 5.6 Assessment of performance of the student, electronic assessment
- 5.7 Preparation of portfolio

### **Activities**

1. Make a survey on the problems of environmental pollution in your locality and record the observations and submit a report
2. Select any topic of your choice and prepare a lesson plan on the lines suggested in constructivistic approach.
3. Prepare laboratory instructional cards for any two experiments of your choice.
4. Prepare a herbarium based on a certain theme.
5. Analyze recent public examination X class Biological Science question paper and compare with the pre-final question paper and record your observations.

### **Text Books and References**

As given in Course IV- Pedagogy of Biological Sciences

# **Course-XI**

## **PEDAGOGY OF PHYSICAL SCIENCES**

### **Objectives**

After completion of the course, the student-teacher will be able to

1. understand the importance of physical science curriculum and its organisation
2. develop the skill, procurement and maintenance of the science laboratory.
3. equip the resources for effective teaching of physical sciences.
4. utilize the applications of science and technology on society.
5. construct the achievement test on CCE model and analyse the results

### **Course Content**

#### **Unit-1: Science Curriculum and Textbooks**

- 1.1 Curriculum - Concept and Meaning, Principles of Curriculum Construction
- 1.2 Different Approaches of Curriculum Organisation: Concentric, Topical, Psychological & Logical – Learner Centred curriculum
- 1.3 Curriculum organisation in terms of NCF-2005, RTE-2009, NCFTE-2009, APSCF-2011
- 1.4 Characteristics of a Good Physical Sciences Text Book
- 1.5 Learning Resources for Physical Science – Exploring alternative resources

#### **Unit-2: Instructional Material for Physical Sciences Teaching**

- 2.1 Importance of Practical Work in Physics and Chemistry
- 2.2 Planning and Organisation of Science Laboratories, Procurement and Care of Laboratory Equipment, Registers, Safety and First-Aid – Conduct of Laboratory experiments
- 2.3 Development of Improvised Apparatus for concrete and abstract concepts
- 2.4 ICT and multimedia resources for teaching Physical Sciences - Simulated computer based laboratory activities
- 2.5 Self Learning Material (SLM) – Characteristics and Functions - Preparation of Self Learning Material on one lesson – Analysis of its Effectiveness by Classroom Discussion and Preparation of SLM by each student for their classroom use

#### **Unit-3: Lifelong Physical Sciences Learning**

- 3.1 Science Clubs, Science Exhibition, Science Museums, Science Fairs and Olympiads
- 3.2 Role of Government and Non-Governmental Organizations in the Propagation of Science
- 3.3 Utilizing Knowledge Resources – Identification of online and offline resources – context and challenges in Utilization
- 3.4 Science Communication in India – DST-NCSTC Network – National Children Science Congress, National Teachers Science Congress, Initiative for Research and Innovation in Science
- 3.5 Development of Scientific Temper and encouraging and inspiring students to choose science as career and to become scientists

#### **Unit-4: Professional Development of Physical Sciences Teachers**

- 4.1 Professional development of Physical Sciences Teachers
- 4.2 Participation in Seminars, Conferences, Workshops and In-service Training Programmes
- 4.3 Membership in Professional Organisations; Teachers as a community of learners
- 4.4 Role of reflective practices in professional development of physical science teachers
- 4.5 Teacher as a researcher: Action Research in Physical science - Learning to understand how children learn science

#### **Unit-5: Evaluation in Physical Science**

- 5.1 Evaluation of Learning Outcomes in Physical Sciences
- 5.2 Qualities of a good test - Written and Practical
- 5.3 Planning, Preparation and Conduct of Achievement Test in CCE model
- 5.4 Evaluation of Responses, Scoring and Tabulation
- 5.5 Analysis and Interpretation of Test Scores

#### **Activities**

1. Prepare different steps involved for demonstration of an experiment one each in Physics and Chemistry
2. Prepare two improvised apparatus / teaching gadgets with locally available material resources for Physics and Chemistry and submit
3. Visit a Science Centre or Science-Museum (District/ State/ National) and prepare a report
4. Participate in a District / State Level Science Fair and prepare a report on the exhibits and activities presented
5. Celebrate National Science Day/ Earth Day/ Water Day / any important day related to science in the school during the internship and submit a report

#### **Text Books and References**

As given in Course V- Pedagogy of Physical Sciences

## **Course-XI**

### **PEDAGOGY OF ENGLISH**

#### **Objectives**

After completion of the course, the student-teacher will be able to

1. get acquaintance with skills of communication for classroom teaching
2. develop creativity among learners
3. use multilingualism as a strategy in the classroom situation
4. understand the basics of English grammar
5. develop the skills of presentation of vocabulary
6. get acquaintance with different sounds in English and use correct pronunciation in the classroom teaching
7. understand constructivist approach to language teaching and learning
8. assess and Evaluate the student skills of language learning

#### **Course Content**

##### **Unit-1: Language across Curriculum**

- 1.1 Need for Communication
- 1.2 Communication for classroom teaching
- 1.3 Classroom interaction patterns
- 1.4 Interpersonal skills
- 1.5 Individual/Pair/Group activities

##### **Unit-2: Teaching of Grammar**

- 2.1 Need and importance of teaching Grammar
- 2.2 Types of Grammar and Techniques of Teaching Grammar
- 2.3 Using Authentic materials to teach Grammar
- 2.4 Grammar Games and the related activities
- 2.5 Remedial teaching in Grammar

##### **Unit-3: Teaching Vocabulary, Study and Reference skills**

- 3.1 Selecting and Grading vocabulary items
- 3.2 Techniques of teaching vocabulary
- 3.3 Vocabulary games
- 3.4 Techniques of teaching Study Skills: Note-making/Note-taking/Mind mapping/Brain-storming
- 3.5 Techniques of teaching Reference Skills: Dictionary, Thesaurus, Encyclopedia and Bibliographies

##### **Unit-4: Introduction to Phonetics**

- 4.1 Vowels and Diphthongs
- 4.2 Consonants
- 4.3 Stress
- 4.4 Intonation
- 4.5 Techniques of using Language Laboratory

##### **Unit-5: Language Assessment and Evaluation**

- 5.1 Concept of Evaluation and Characteristics of a good test in English
- 5.2 Progress and assessment of development of language skills; CCE; techniques of evaluation – oral and written; self evaluation; peer evaluation; group evaluation.
- 5.3 Typology of questions: activities and tasks reflecting - problem solving, creative and critical thinking and enhancing imagination.
- 5.4 Preparing tests for different skills of language – Listening, speaking, reading,

- writing, study skills and reference skills
- 5.5 Preparation of Scholastic Achievement Test (SAT) giving weightages to objectives and learning experiences.

### **Activities**

1. Take a few passages from different lessons of any class of your choice and critically examine the following and comment:
  - a. To what extent the language clearly convey the meaning of the topic being discussed?
  - b. Is the language learner-friendly?
  - c. Is the language too technical in nature?
2. Select 10 examples of grammar activities listed in English Readers of classes VI to X and analyse.
3. Take a topic of your choice and select 10 vocabulary items to teach in the relevant context. Give reasons for your selection.
4. Prepare 3 activities for practicing pronunciation and spelling of 15 words from a lesson in any text book of classes VI to X.
5. Develop a question paper for classes VI to X to assess all the aspects of language learning.

### **Text Books and References**

As given in Course V- Pedagogy of English

**Course-XI**  
**PEDAGOGY OF TELUGU**

## II. వాచాపాటకాలు - బోధనాప్రక్రియలు:

శబ్ద బోధన - వాచకబోధన - ఉపవాచక బోధన - ఉచ్చారణ-సంభాషణ వాచక బోధన వ్యాకరణ బోధన-వ్యాకరణ బోధన - ఉపవాచక బోధన

మూలం - III లో పొందుపరచిన పద్ధతులు అన్వయించేసుకోవాలి)

\* వాచాపాటకాల బోధనలో ప్రావీణ్యతలు - వాచా పాటకాలు విద్యార్థుల అనుభవాల పరిమితులలో ఉండవలసింది.

\* పాఠశాల కేంద్ర, స్వేచ్ఛావాక్యతలకు పెంపొందించుటకు ప్రయత్నం చేయాలి

## III. వాచాత్మకత, బోధన పద్ధతులు, బోధన పాఠ్యాన్ని నిర్మాణం.

వాచాత్మకతలు:

వాచాత్మకత కేంద్ర, వాచాత్మకత (వాచాత్మకతగా మార్చడం చేయాలి)

వాచాత్మకతలు:

\* వాచాత్మకతల నిర్మాణం - అక్షరాలు:

\* వాచాత్మకతల నిర్మాణం - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

వాచాత్మకత:

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

## IV. వాచాత్మకత - బోధన - అధునిక పద్ధతులు.

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

\* వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత - వాచాత్మకత

V. భాషాభ్యసనం - బోధన - మూల్యాంకనం:

మూల్యాంకనం - పరీక్ష - నికష - పరిగణన, బావనలు - సామర్థ్యాధారిత మూల్యాంకనం  
నిరంతర సమగ్ర మూల్యాంకనం రూపణ మూల్యాంకనం సంకనల మూల్యాంకనం  
బోధ నిర్ధారణ మూల్యాంకనం ప్రాగ్నాన్టిక్ మూల్యాంకనం - మూల్యాంకనానికి ప్రశ్నాపత్రాలు  
ప్రశ్నల తయారీ - వివిధ ప్రశ్నరూపాలు, ప్రశ్నల లక్షణాలు - మెలకువలు - పాఠాల నికషలు  
కంతర్థల మూల్యాంకనం - భాషార మూల్యాంకనం, విద్యార్థులు/అభ్యాసకుల స్వల్ప  
మూల్యాంకనం మూల్యాంకనం - బాషా కౌశల నికషలు - శ్రవణ నికష - చరన నికష -  
భాషణ నికష - లేఖన నికష - అభిరుచి నికష - ఆసక్తి నికష - సృజనాత్మక నికష, ప్రశంసానికష  
బాషా స్పృహ నికష - నిర్మాణం - విశ్లేషణ - మెలకువలు - ముదిరి సమాధాన పత్రాలు  
ప్రశ్నపత్రాల సమాధానాలను సరిచూచుట - ఫలితాల నివేదన - గ్రేడింగ్ - ఫలితాల వ్యాఖ్యానం

**బోధన సంబంధ కృత్యాలు:**

1. ఏవేని మూడు స్థానిక వార్తాపత్రికల్లోని - సంపాదకీయ వ్యాసాలు, వార్తా వ్యాఖ్యలను సమీక్షించి, ముఖ్యభావనలను, భాషా లక్షణాలను క్రోడీకరించి, వ్యాసరూపంలో నివేదిక తయారు చేయుట.
2. నచ్చిన ఒక కవి/రచయితల ఒక కవిత/కథను ప్రశంసిస్తూ రాయుట.
3. కార్యక్రమయుత బోధనపై ఒక పాఠం సిద్ధం చేయించుట.
4. బాలల పత్రికలు - భాషాభ్యసనానికి వాటి తోడ్పాటుపై పిల్లల అభిప్రాయ సేకరణ.
5. స్థానిక భాషా విశేషాలు - జాతీయాలు - సామెతలు - పొడుపు కథలు - సేకరణ.

**పరామర్శ గ్రంథాలు:**

కోర్సు V నందు పొందుపరచబడినవి.

## Course-XII

### LEARNING ASSESSMENT

#### Objectives

After completion of the course, the student-teacher will be able to

1. Understand the nature of assessment and evaluation and their role in teaching-learning process.
2. Understand the perspectives of different schools of learning on learning assessment
3. Realize the need for school based and authentic assessment
4. Examine the contextual roles of different forms of assessment in schools
5. Understand the different dimensions of learning and the related assessment procedures, tools and techniques
6. Develop assessment tasks and tools to assess learners' performance
7. Analyse, manage, and interpret assessment data
8. Analyse the reporting procedures of learners' performance in schools
9. Develop indicators to assess learners' performance on different types of tasks
10. Examine the issues and concerns of assessment and evaluation practices in schools
11. Understand the policy perspectives on examinations and evaluation and their implementation practices
12. Trace the technology based assessment practices and other trends at the international level

#### Course Content

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

- 1.1 Meaning of Assessment, Measurement, Tests, Examination, Appraisal, and Evaluation and their interrelationships
- 1.2 Purpose(s) and principles of Assessment, characteristics of quality assessment
- 1.3 Current thinking about learning based on Behaviorist, Cognitivist and Constructivist learning theories and their implications for classroom assessment- changing the culture of classroom assessment
- 1.4 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* (self-referenced, norm-referenced, criterion-referenced) and *context* (internal, external)
- 1.5 Policy perspectives on examinations and evaluation: Recommendations in National Policies of Education and curriculum frameworks- continuous and comprehensive assessment

##### Unit-2: Formative and Summative Assessment

- 2.1 Formative Assessment (FA) meaning, purpose, essential elements (formative assessment in practice), major barriers to wider use of FA, role of students and teachers in formative assessments.

- 2.2 Observation, questioning, reflection on learning as strategies for using assessment in the process of learning;
- 2.3 Use of Projects, Assignments, Work sheets, Practical work, Performance-based activities and Reports as assessment devices; Self, Peer and Teacher assessments- use of rubrics,
- 2.4 Summative assessment: meaning, purpose, summative assessment in practice, use of teacher-made and standardized test
- 2.5 Aligning formative and summative assessments

### **Unit-3: Tools of Assessment**

- 3.1 Assessment of cognitive learning: understanding and application; thinking skills –convergent, divergent, critical, problem solving, and decision making;
- 3.2 Selected-Response Assessment: Multiple Choice, Binary Choice, and Matching and Constructed Response Assessment: Completion, Short-Answer, and essay Items as tools-nature, advantages and limitations, guidelines for their construction and scoring
- 3.3 Assessment of affective learning: attitude and values, interest, self-concept; tools and procedures for their assessment; observation, interview, rating scales, check-lists, inventories as tools/techniques, their uses and preparation
- 3.4 Assessment of Performance/ project-based assessment- meaning, characteristics, scope; using rubrics to grade a performance-based assessment
- 3.5 Portfolios: meaning, types, purposes, guidelines for portfolio entries and assessing portfolios

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

- 4.1 Planning: Deciding on what, why and how to assess- difference between instructional, learning and assessment objectives, stating of assessment 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
- 4.2 Construction/selection of items: writing test items/questions, reviewing and refining the items, assembling the test items; writing test directions and guidelines for administration (if any), Scoring procedure – manual and electronic; Development of Rubrics
- 4.3 Administration, item analysis and determining item and test characteristics; Item response analysis, ascertaining student needs, identifying student interests and feeding forward for improving learning
- 4.4 Analysis and Interpretation of Students' Performance  
Processing test data: graphical representations; calculation of measures of central tendency and variability, and derived scores- percentiles, percentile rank, percentage score, grade point averages, z-scores; and Frame of reference for interpretation of assessment data: norm-referenced, criterion-referenced and self-referenced ie., relative and absolute interpretation;

- 4.6 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
- 4.7 Use of Feedback for teachers' self-improvement and curriculum revision

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

- 5.1 Existing Practices: Class/Unit tests, half- yearly and annual examinations, Board examinations and Entrance tests, State and National achievement surveys; Management of assessment and examinations; Use of question bank
- 5.2 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.
- 5.3 Trends in assessment and evaluation: Online examination, Computer-based examination and other technology based examinations  
Standards- based assessment – international practices

### **Activities**

1. Plan and construct an achievement test in one of the methodology subjects
2. Survey the assessment practices followed in different schools – Zilla Parishad/ Government, Private and a Residential and prepare a report
3. Prepare a report by undertaking question paper analysis of two school subjects (Public Examinations of Previous Years)
4. Administer an intelligence test on students of any class and interpret the results
5. Conduct a survey to find out occupational choices of 9<sup>th</sup> Class students and prepare a report

### **Text Books**

- Bransford, J., Brown, A.L., & Cocking, R.R. (Eds.) (2000). How people learn: Brain, mind, experience, and school. Washington, DC: National Academy Press.
- Burke, K. (2005). How to assess authentic learning (4<sup>th</sup> Ed.). Thousand Oaks, CA: Corwin.
- Burke, K., Fogarty, R., & Belgrad, S (2002). The portfolio connection: Student work linked to standards (2<sup>nd</sup> Ed.) Thousand Oaks, CA: Corwin.
- Carr, J.F., & Harris, D.E. (2001). Succeeding with standards: Linking curriculum, assessment, and action planning. Alexandria, VA: Association for Supervision and Curriculum Development.
- Danielson, C. (2002). Enhancing student achievement: A framework for school improvement. Alexandria, VA: Association for Supervision and Curriculum Development.
- Gentile, J.R. & Lalley, J.P. (2003). Standards and mastery learning: Aligning teaching and assessment so all children can learn. Thousand Oaks, CA: Corwin.

## Reference Books

- Guskey, T.R., & Bailey, J.M. (2001). Developing grading and reporting systems for student learning. Thousand Oaks, CA: Corwin.
- McMillan, J. (2013). Classroom Assessment: Principles and Practice for Effective Standards-Based Instruction, 6th ed. Boston, MA: Pearson
- Natrajan V. and Kulshreshta SP (1983). Assessing non-Scholastic Aspects-Learners Behaviour, New Delhi: Association of Indian Universities.
- NCERT (1985). Curriculum and Evaluation, New Delhi: NCERT
- Newman, F.M. (1996). Authentic achievement: Restructuring schools for intellectual quality. San Francisco, CA: Jossey-Bass.
- 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.
- Parker Boudett, K., et. al. (2013). Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve Teaching and Learning, Revised and Expanded Edition. Cambridge, MA: Harvard Education Press.

## Course-XIII

### UNDERSTANDING THE SELF

#### Objectives

After completion of the course, the student-teacher will be able to

1. understand that any Self is a human resource to exercise all the resources: cognitive, affective and psychomotor resources.
2. make them realize that the Self does not have independent existence but related to Nature, other selves and the „Unknown“ causing it and this great design of the Universe.
3. make the student-teacher perform one's function to the possible extent as any part of the Nature is silently doing so; thereby developing self-actualization and self-esteem.
4. realize that one is responsible as a person and as a teacher for the integrated development of oneself and one's pupils: Physical, cognitive, social, emotional, aesthetic, moral, and spiritual developments.
5. realize the commonness and uniqueness prevalent in Nature and human nature and feel equality as the reality and contribute to the furtherance of evolution at mental level.

#### Purpose of the Course

It aims at student-teachers' understanding of themselves as person and teacher through conscious ongoing reflection. This course is intended *to transact through a workshop mode* by more than one teacher educator / resource person. The resource persons can be identified from those who have philosophical outlook, psychological orientation and social consciousness. It enables to develop sensibilities, dispositions, values and skills that facilitate personal growth in relation to different identities and professional identity as a teacher. The core life skills are to be developed with relevant exercises. It may use yoga, meditation, case studies, biographies, and stories of children like Prahlada, Dhruva, Markandeya, etc. and the holistically developed people. Its expected outcome is to promote self-actualization and also healthy, happy and peaceful coexistence wherever they are as a being, a citizen and as a global citizen.

#### Course Content

##### Unit-1: Self as a human resource:

- 1.1 Cognitive resources of the self: Self-critical awareness about one's abilities and opportunities to develop independent thinking-critical thinking and creative thinking, decision making and problem solving and develop them as skills.
- 1.2 Affective resources: Feelings of love, joy, appreciation; emotions like fear, anger, jealousy, affection, happiness to be understood both as assets and threats or limiting factors.
- 1.3 Sensitize the ability to identify the structural and functional commonality of the human body except the organs of reproduction and allied features of the human kind.
- 1.4 Empathic understanding of geographical, climatic and genetic conditions causing physical differences.

## **Unit-2: Self in relation to social identities:**

- 2.1 Self-critical awareness of the causes for one's positive and negative relations with the people based on caste, class, language, religion, nation, region etc.,
- 2.2 Self-critical understanding of the basic realities of the man-made divisions over the time-scale.
- 2.3 Critical understanding of the Nature's necessity of gender difference for the onset and continuity of human race.
- 2.4 Critical understanding of the basic realities of cultural differences across the time-scale and across the globe.

## **Unit-3: Self (person) as a part of the Nature:**

- 3.1 Nature, harmony in existence and co-existence
- 3.2 Dependence of Self on the Nature for the very life; dependence of self on other selves for comfortable living.
- 3.3 Responsibility of self towards conservation, protection and enrichment of plant and animal life.
- 3.4 Responsibility of self towards other human beings in the family, society, and people across the globe.

## **Unit-4: Self in relation to profession:**

- 4.1 Self-critical awareness of teaching competency: adequacy of subject matter knowledge, professional skills, and effective communication to the students.
- 4.2 Self-critical awareness of one's attitudes towards students, teaching, teaching material, interest in students and subject and one's aptitude in the inculcation of interest in students and in tapping their abilities to realize the values identified in the lesson.
- 4.3 Self-critical awareness of suitability of one's role being performed contextually to enrich learners' capabilities and guiding them for self-actualization while interacting.
- 4.4 Self-critical awareness of involvement in team work with colleagues, head of the institution, parents of learners and management for the development of the learners.

## **Unit-5: Self-development through self-learning (Self-knowledge):**

- 5.1 Development of self and social identities in the learners to enrich human resources and self-esteem; Realistic understanding of any self as depending on the source of the whole existence for spiritual awakening free of any religious identity.
- 5.2 Objective view of beliefs, prejudices and stereotypes to liberate from irrational tendencies.
- 5.3 Understanding human roots in animal and possibility of heights in the divinity through the philosophers like Swamy Vivekananda, Sri Aurobindo and J. Krishnamurti to awaken oneself to Truth, beauty and goodness both inside and outside.
- 5.4 Yogic practices for physical, mental and spiritual health and to lay the seeds or foundations for Self-realization.

## **Activities**

During the transaction of this course, through workshop mode, student teachers will be asked to come out with the following documents. Student teachers are required to submit only five documents, one from each unit. These documents will be assessed by a minimum of two faculty members to award 25 marks for activities.

1. Self-critical awareness about one's abilities and assets in different contexts of life and limitations in terms of knowledge, attitudes, skills and values which may be revised or developed.
2. Activities that develop cognitive skills-independent thinking to promote critical thinking and creative thinking; decision making and problem solving with all their components.
3. Visits to the slums and natural calamities and stories of different children to tap empathy which is inherent.
4. Group discussion on the current issues to develop psycho-social skills like interpersonal relationship skills and effective communication skills.
5. Introducing yoga exercises to be done with ease and meditation which starts with self-knowledge with let come and let go spirit to experience spells of silence for healthy body and mind and to awaken the hidden faculties.
6. Exercises to have inner observation for self knowing while in stress or in emotions and to develop skills of self management.
7. Use of brain storming, value clarification and group discussion techniques to arrive at the realities free of habitual modes of thoughts, attitudes and action tendencies.
8. Encouraging Nature observation, inner observation, nature walks, and reading biographies of great people who contributed their might out of self-abnegation but not with self-centeredness and sharing personal experiences.

### Reference Books

1. Delors, Jaquis. (1996) Learning the Treasure within –Twenty First Century Education. UNESCO Education Commission Report.
2. Goel, D.R. Co-ordinator. (2005-06) Quality Concerns in Education. Center for advanced study in Education- M. S. University of Baroda
3. UNICEF (2006) Life Skills Modules-Adolescence Education Program. UNICEF House, New Delhi.
4. Venkateshamurthy C. G. and A.V. Govinda Rao (2005) Life Skills Education Training Package. R.I.E., Mysore
5. Swami Vivekananda (1988) Selections from the complete works of Swami Vivekananda. Mayavathi, Advaita ashrama.
6. Krishnamurti J (1998) On Self- knowledge. Chennai, Krishnamurti Foundation India.
7. Krishnamurti J. (2000) Education and Significance of Life. Chennai, Krishnamurti Foundation India.
8. Dalal A.S. (ed) (2001) A Greater Psychology – An Introduction to the Psychological thoughts of Sri Aurobindo. Puducherry, Sri Aurobindo Ashram Pub.