

MASTER OF EDUCATION – FIRST SEMESTER

First Semester			
S. No.	Name of Subject	Credits	Total Marks
1	Philosophical and Sociological Foundation of Education – I	4	100
2	Advanced Educational Psychology – I	4	100
3	Educational Research and Statistics – I	4	100
4	System of Teacher Education in India	4	100
5	Any one of the following: i. Pedagogy-Science Education ii. Pedagogy-Social Science Education iii. Pedagogy-Language Education iv. Pedagogy- Mathematics Education	4	100
Total		20	

Subject Name: PHILOSOPHICAL AND SOCIOLOGICAL FOUNDATION OF EDUCATION – I

Course Objectives:

- To know the meaning, nature and function of Philosophy of Education
- To understand relationship between Education and Philosophy
- To develop a critical understanding of major Indian philosophies and understand their educational implications.
- To know the meaning, nature and scope of Educational Sociology
- To understand the relationship between Education and Sociology
- To understand the major concepts, and theories, in sociology and education.
- To understand the major social processes and the role of education for strengthening these processes.

Unit 1 – Philosophy and Education

- Meaning, nature and scope of Philosophy
- Relationship between Education and Philosophy
- Educational Philosophy; its meaning, nature and scope
- The major branches of Philosophy- Metaphysics, Epistemology and Axiology- its relationship with education.

Unit 2 - Indian Schools of Philosophy and Its Impact on Education

- Nyaya
- Vyseshika
- Samkhya
- Yoga
- Buddha
- Jaina
- Carvaka

Unit 3 –Sociology and Education

- Meaning, nature and scope of Educational Sociology
- Relation between Education and Sociology
- Socialization: meaning, process and agencies
- Culture, cultural change and role of education

Unit 4 – Education and Society

- Meaning of society and its characteristics
- School as a social system
- Social Change (Concept, factors and role of education)
- Social Mobility (Types, factors and role of education)

Suggested Readings:

- Bhatia, Kamala and Baldev Bhatia, The Philosophical and Sociological Foundations of Education, Doaba House: Delhi, 1994.
- Chakrabarti, Mohit, Pioneers in Philosophy of Education, Concept Publishing Company: New Delhi, 2002.
- Chaube, S. P. and Akhilesh Choube, Philosophical and Sociological Foundations of Education, Vinod Pustak Mandir: Agra-2.
- Dash, B. N., Principles of Education and Education in the Emerging Indian Society, AjantaPrakashan: Delhi, 2004.
- Sahu, Bhagirathi, The new Educational Philosophy, Sarup and Sons: New Delhi, 2002.
- Sarmah, Mukul Kumar, Principles of Education, Banalata Dibrugarh, 2006.
- Seetharamu, A.S., Philosophy of Education, Ashish Publishing House: New Delhi, 2004.
- Sharmah, R. N., History of Indian Philosophy, Surjeet Publications: Delhi, 2004.

Subject Name: ADVANCED EDUCATIONAL PSYCHOLOGY - I

Course Objectives:

- To understand multiple dimensions and stages of learner's development and their implications on learning
- Critically analyse the Cognitive process

- Understand the concept of processing and adjustment.
- To understand the importance of a good psycho-physical environment in learning.
- To understand multiple ways of learning
- Understand a range of cognitive capacities and affective processes in human learners
- Gain an understanding of different theoretical perspectives on learning with a focus on cognitive views of learning as well as social-constructivist theories;

Unit 1 - Dynamics of Individual Development

- Growth and Development: Concept, difference, principles of development.
- Cognitive process (Sensation, Attention, Perception, Concept formation), Piagetian model of cognitive development.
- Development during Adolescence: Physical, cognitive, social and emotional.
- Problems of adolescents, educational support required for adolescents.

Unit 2 - Learning Environment

- Essentials of good physical environment, characteristics of class room, school and community environment that enhance learning
- Coping with diversity in learning contexts—crowded class rooms, language, ethnic and social diversities, different types of disadvantage that children suffer.
- Demands of inclusive environment in a class for all learners.
- Multiple ways of organizing learning - individual, self learning, group learning, cooperative learning.

Unit 3 - Theoretical Bases of Learning and its Implications

- Cognitive theories of learning by Bandura,
- Contextual theory of learning by Vygotsky
- Strategies for developing logical thinking, critical thinking and problem solving
- Creativity: concept, assessment and nurturing

Unit 4 - Psychosocial Dimensions of Learners' Contexts

- Social Learning: Concept and importance, Factors affecting Social Learning, Social Competence.
- Classroom Dynamics: Concept, Need and its Relevance, Strategies for promoting healthy psychosocial environment in class.
- Addressing classroom Aggression in Schools: Types (Bullying, Punishment, Vandalism, Cyber Violence etc) and their effects, Measures to manage aggressive behavior.

Suggested Readings:

- Chauhan S.S. (1978): Advanced Educational Psychology. Vikas Publishing House.
- Dash. M. (1994): Educational Psychology. New Delhi: Deep& Deep Publications.
- Dececco John, P. (1968): The Psychology of Learning and Instruction. New Delhi: Prentice Hall of India.
- Goleman, D., (1995) Emotional Intelligence. New York, England: Bantam Books, Inc.
- Hilgard, E.R. & Bower, S.H., (1975): Theories of Learning. Englewood Cliffs, New Jersey: Prentice Hall.
- Hurlock, E. B. (2004): Developmental Psychology: A Life span Approach (5th Ed. New Delhi) Tata McGraw- Hill Publishing Co. Ltd.
- Kundu, C.L. & Tutoo, D.N. (1989): Educational Psychology. New Delhi: Sterling Publishers Pvt. Ltd.

Subject Name: EDUCATIONAL RESEARCH AND STATISTICS – I

Course Objectives:

- To develop an understanding of scientific thinking to acquire valid knowledge.
- To develop an understanding of the basic framework of research process.
- To enable the students to understand about the nature, scope, need of educational research
- To acquaint them with modalities necessary for formulating research problem
- To develop an understanding of various methods used in educational research.
- To develop the ability to use some statistical methods to analyse and interpret educational data

Unit 1 - Educational Research

- Scientific thinking and research
- Meaning, nature , scope and need of educational research
- Types of Research: fundamental, applied and action Research.
- General Steps in Educational Research- Formulation of research problem, Review of related literature, Formulation of Hypotheses, Research question, Collection of data, Analysis of data, Reporting research.

Unit 2 - Major Approaches to Educational Research-I

- Historical Research: Nature and steps of historical research
- Descriptive Research: Nature and major types of descriptive research
- Experimental Research: Nature and Steps of experimental research
- Experimental Designs

Unit 3 - Sampling Techniques

- Population and sample, sampling element, unit, sampling frame
- Types of sampling: Probability and Non-probability sampling

- Probability sampling: Simple random, Stratified, Cluster, Multi- stage sampling, Multiphase sampling
- Non- probability sampling: Purposive or Judgmental sampling, Quota, Incidental, Convenience or Accidental sampling, Snowball sampling, Systematic sampling.

Unit 4 - Statistics and measures of variability

- Concepts of descriptive and inferential statistics
- Measures of central tendency (Mean, Median and Mode)
- Graphical representation of data: histogram, frequency polygon, ogive, pie diagram and bar diagram
- Measures of Variability: range, average deviation, quartile deviation and standard deviation.

Suggested Readings:

- Best, J. W. & Khan, J.[V. (2008). Research in Education (10th edition). New Delhi: Prentice Hall of India Pvt. Ltd.
- Garrett,H.E. (2013). Statistics in Psychology and Education (Third Indian Reprint). Delhi: Surajeet Publications.
- Kaul Lokesh (1984): Methodology of Educational Research. New Delhi: Vikas Publishing House Pvt. Ltd.
- Kerlinger, F.N. (2009): Foundations of Behavioural Research. New Delhi: SurjeetPublications.
- Kumar, R. (2005): Research Methodology- A step by step guide for beginners. New Delhi: Pearson Education.
- Mangal, S.K. (2008). Statistics in Psychology and Education (Second Edition). New Delhi: Prentice Hall of India Pvt. Ltd.
- Panneerselvam, R.(2011).: Research Methodology. New Delhi: PHI Learning Pvt. Ltd.
- Wayne, K.H. & Curt,M.A (2015) Quantitative Research In Education. New Delhi: Sage Publications.

Subject Name: SYSTEM OF TEACHER EDUCATION IN INDIA

Course Objectives:

- To understand concept, nature, scope, current status and need of teacher education
- To gain insight and reflect on the concept and the status of pre-service and in-service teacher education
- To understand in-service teacher professional development program/activities based on the needs of teachers
- To critically examine the role and contribution of various agencies and regulating bodies in enhancing the quality of teacher education.

- To understand several issues and concerns in teacher education related to improving competence of teachers and quality of teacher education.

Unit 1 - Teacher Education and Teacher Development

- Teacher Education –Concept, scope, need, brief history and Current Status
- Need and Scope of Teacher Education Programme.(Pre-Service and In-Service)
- Teacher Education at Pre-Primary, Elementary, Secondary and Higher Secondary Levels: Objectives and functions
- Teaching as a Profession, Roles and functions, Skills and Competencies and Professional Ethics.

Unit 2 - Pre-service Teacher Education in India

- Pre-Service Teacher Education: Concept, need, objectives and scope.
- Roles, functions of Institutions - NCTE, NCERT, SCERT, and DIETs.
- Roles and responsibilities of a Teacher Educator: Elementary and Secondary.
- Training of Teacher Educators: Present Practices, Challenges and Reforms needed.

Unit 3 – In-service Teacher Education in India

- In-Service Teacher Education: Concept, Need, Objectives and Scope.
- Types of In-service teacher education programmes: orientation, refresher, workshop, seminar and conference.
- Agencies of In-service teacher education: State Level and National Level.
- ICT for Professional Development of Teachers: Use of Audio, Video, Multimedia

Unit 4 - Issues and Problems of Teacher Education

- Application of ICT in Teacher Education
- Quality Assurance and Accreditation in Teacher Education Institutions- Role of NAAC,
- Strategies for enhancing teacher competence and commitment.
- Challenges in professional development of teacher-educators.

Suggested Readings:

- Attekar, A.S, Education in Ancient India Nand Kishore Bros, Banaras 1951
- Basu A.N. Education in Modern India Orient Book Co, Calcutta 1947
- Chaurasia G Teacher Education and Professional Organization, Authors press Delhi 2000
- Chaurasia G New Era in Teacher Education, Sterling Publication, Delhi 1967
- Chaurasia G Innovations & Challenges in Teacher Education, Vikas Publication, New Delhi 1977
- Dev Gowda A.C. Teacher Education in India, Bangalore Book Bureau, Bangalore 1973
- Jangira N.K. Teacher Training and Teacher Effectiveness: An Experiment in Teacher Education, National Publication House, Delhi, 1984
- Mukherjee, S.N. (ED) Evaluation of Teacher of India (Vol-I) S. Chand & Co, Delhi, 1968
- NCTE Teacher Education Curriculum: A Framework, NCERT, New Delhi 1978, 2005.

- Sharma, S.P. Teacher Education-Principles Theories and Practices, Kanishka Publishers New Delhi, 2003

Subject Name: PEDAGOGY-SCIENCE EDUCATION

Course Objectives:

- Enhance the learner's understanding of new perspectives in Science Education by developing a world view of the practices in the area.
- Acquaint the learner with the latest educational thinking about Science Education.
- Develop the professional skills needed for practicing modern education including the scientific listing of behavioural objective, devising appropriate transactional methodologies and technologies for achieving the outcomes.
- Develop the ability and skills for evaluating the range of outcomes in Science Education.
- Use of research findings in Science Education for improving practices related to Science Education

Unit 1 - Meaning and concept of science

- Meaning and changing concepts of science (Product, Process, and both Product and Process)
- Objectives of science - Broad goals and instructional objectives.
- Understanding of science: reflective and critical thinking.
- Characteristics of an experimental science: Observation, organization, reasoning and communication.

Unit 2 - Method of science, approaches and curricula

- Formulation of problems and hypotheses: Understanding cause-effect relationships, distinction between fact and theory; recognizing and evaluating assumptions; interpretation of data, collecting evidence, drawing conclusions or generalization.
- Formulation of scientific principles. Application of principles and deduction of new principles. Implications for instruction.
- Approaches to science education – Traditional, Learner- centred (Investigatory, Inquiry and Discovery).
- Types of curricula: Environmental, Integrated and Discipline centered.

Unit 3 - Curriculum construction

- Construction of science curriculum-criteria for selection of concept, criteria for organizing content, approaches to organizing, content-development of source and supplementary materials-articulating science programmes from primary to higher secondary stages-spiral curriculum.
- Techniques of teaching science – Lecture, Questioning, Discussion, Demonstrating, Term teaching, Directed study, Programmed Learning, Problem Solving, Micro-teaching for learning skills, Role playing and simulation.
- Models of teaching science – Information Processing Models (Piaget, Bruner, Suchman, Schwab), Behaviour Modification Model (Contingency Management).

- Technology in science instruction – Systems approach to science education. Technology for teaching individual, small group and large group (Programmed and computerized instruction (C.I.), personalized instruction (P.I.), educational television.

Unit 4 - Evaluation

- Evaluation of product, process and performance abilities and skills.
- Teacher made tests and standardized tests
- Formative and summative evaluation.
- Diagnostic testing and remedial teaching.
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Suggested Readings:

- Joyce, B. & Weil, M. Models of Teaching, New Delhi Prentice Hall of India, 1985.
- Michaelis, J.U., Grossmen, New Designs for Elementary Curriculum and R.H., & Scott, L.E. Instruction, New York: Mc Graw Hill, 1975.
- Renner, J.W. & Stafford, Teaching Science in the Secondary School. NewD.G. York: Harper & Row, 1972.
- Romey, W.D. Inquiry Techniques for Teaching Science, Englewood Cliffs: Prentice Hall,1968.
- Sharma, B.C. Modern Science Teaching, Delhi, Dhanpat Rai & Sons, 1971.
- Science Teacher Reading in science education: London, Education Project London, McGraw Hill, 1974.
- Vaidya, N. The Impact Science Teaching., New Delhi: Oxford & IBH, 1971.
- Vaidya, N. & Rajput, J.S. Respecting Our School Science Education. NewDelhi: Oxford & IBH; 1977

Subject Name: PEDAGOGY- SOCIAL SCIENCE EDUCATION

Course Objectives:

- Conceptualization of social science education among the learners.
- Develop the skill of identification of research problem in Social Science Education.
- Develop the understanding and skill of using higher teaching learning strategies in Social science.
- Encounter the learners with challenging aspects of social science education viz. preparing instructional design, developing innovative ideas of evaluation etc.

Unit 1 - Concept, nature and scope of Social Science

- Concept, nature, and scope of Social Science as a school subject
- Place of Social Science at secondary and senior secondary level of school education
- Aims and objectives of teaching Social Science at various stages of school education.
- Evolution of Social Science as a discipline, Social Science as a dynamic expanding body of knowledge, Inter-disciplinary & Intra -disciplinary correlation of Social Science.

Unit 2 - Social Science Curriculum, Approaches & Teaching Learning Material

- Meaning of Curriculum and Core Curriculum, Principles for Curriculum Development in Social Science Education.
- Approaches to Curriculum Formation
 - i. Concentric Approach
 - ii. Spiral Approach
 - iii. Chronological Approach
 - iv. Topical Approach
 - v. Unit Approach.
- Integrating co-curricular activities with Social Science Education, Planning, preparation and presentation of Instructional Material. Use of Teaching Learning Material in Social Sciences: Textbook, Reference Books, Workbooks, Documentaries, News Papers, Maps, Atlas, and E-resources.
- Use of ICT in Social Science Education: Video clips, Power points presentation, films etc.

Unit 3 - Approaches / Methods & Techniques of Teaching Social Sciences

- Development of unit plan, Lesson Plan, using variety of approaches.
- Teaching Learning process with a focus on:
 - i. Inquiry Approach
 - ii. Problem Solving Approach
 - iii. Project Method
 - iv. Innovative Methods
 - v. Computer Assisted Instruction (CAI)
 - vi. Constructivist Approach
- Teaching Strategies: Questioning, Dramatization, Role Play, Simulation, Story Telling, Display & Exhibition, Survey, field trips, Educational games, Action Songs, Data Collection and Data representation through graphs, tables, charts, maps and cartoons, puppetry.
- Grouping students for learning
 - i. Cooperative learning
 - ii. Using structured questions to aid learning
 - iii. Role playing and simulation

Unit 4 - Evaluation in Social Science

- Concept and need of Evaluation in teaching- learning process, Approaches to Evaluation: Formative, Summative, Diagnostic, Norm Referenced and Criterion
- Continuous and Comprehensive Evaluation: Concept, Need and Process.
- Construction of Achievement Test – Concept and Steps, Diagnostic test and Remedial measures.
- Use of Observation, Rating Scale, Check-List, Anecdotal Records, Attitude Scales, Interest Inventories, Self Reporting Techniques and Interviews as assessment tools, Use of projects, Assignments, Practical Work, and Performance based activities, seminars and reports as assessment devices.

Suggested Readings:

- Aggarwal, J.C. (1982). Teaching of Social Studies. New Delhi: Vikas Publishing House Pvt. Ltd.
- Bining, A.C. & Bining (1952). Teaching the Social Studies in Secondary Schools. New York: Mc Graw Hill Company.
- Marry Dhand (1994). Research in Teaching of Social Studies. New Delhi: Ashish PublishingHouse.
- Hilary, B. (1994). Teaching History. New York: Routledge. Joyce, B. & Weil, M. (1985). Models of teaching (2nd ed.). New Delhi: Prentice-Hall of India.
- Michaelis, J.U., Crossman, R.M. & Scott, L.F. (1975). New Design for elementary curriculum& Instruction. New Delhi: McGraw Hill Book Company.
- Risk, T.M. (1965). Principles and Practice of Teaching Secondary Schools. New Delhi: Eurasia Publishing House Pvt.Ltd.
- Vashist, S.R. (1994). Social Studies and General Education. New Delhi: Anmol PublicationsPvt. Ltd.
- Vashist, S.R. (Ed.) (1993). Social Studies in Secondary Schools. New Delhi: AnmolPublication Pvt. Ltd.
- Yanik, K.S. (1966). The Teaching of Social Studies in India. Bombay: Orient Longmans Ltd.

Subject Name: PEDAGOGY-LANGUAGE EDUCATION

- To develop an understanding of the nature, functions and implications for planning and teaching language.
- To acquaint the students to the psychology of teaching language and learning.
- To acquaint the students with pedagogy of language learning and language teaching
- To orient the students with individualization of language learning: PSI, programmed learning etc., in language learning.
- To develop understanding and skill in differentiating between teaching language and teaching literature in the context of L1 and L2.
- To help the students to knows various problems such as contextual, curriculum, teacher preparation etc. of language education in India.

Unit 1 - Nature, functions and Indian contributors of language

- Nature, functions, implications for planning and teaching language i.e. first language (L1) and second language (L2).
- Linguistics and language: Natured and functions of linguistics with special reference to the role of contrastive analysis, error analysis and structural linguistics.
- The Indian tradition: Contribution of Yask, Panini, Patanjali and Bhartihari.
- The Western tradition: The behaviouristic approach, the cognitive – code approach, the communicative approach.

Unit 2 - Psycholinguistic approaches and factors affecting teaching.

- Psycholinguistics approach; principles of language and psychology of language teaching and language learning.
- Language learning & Language acquisition; factors affecting language learning and language acquisitions.
- Teaching the first language, (L1) the second language (L2) and other languages (L3); differences in objectives, instructional materials, evaluation etc.
- Factors affecting the teaching of L2 and L3.

Unit 3 - Language curriculum, language skills, techniques and evaluation

- Developing the language curriculum and the syllabus: dimensions, factors that influence the curriculum, grading of content, selecting the contexts, transaction techniques.
- Developing basic language skills and intermediate as well as advanced language skills that are level specific viz. primary, secondary and senior secondary.
- Innovative techniques for teaching grammar, reading comprehension, written expression, rote making. Personalized system of instruction programmed learning and individualized i.e. need-based and writing programmes.
- Evaluation of language learning.

Unit 4 - Policy Formulation and language education in India

- National level; State level; District and local level.
- Three – language formula, Medium of instruction – recommendations in NPE 1968, 1986, 1992 and National School Curriculum – 2000
- Functioning and contribution of CIEFL, Central Institute of Indian Languages (CIIL), Kendriya Hindi Sangsthan etc. in strengthening language education in India.
- Lessons from other multilingual countries e.g., Canada, Russia, the UK, Israel etc.

Suggested Readings:

- Stern, H.H. : Fundamental Concepts in Language Teaching. Oxford University Press (OUP), New Delhi
- Lazar : Literature and Language Teaching. OUP, New Delhi
- Kramsch : Context and Culture in Language Classroom, OUP, New Delhi
- Agnihotry and Khanna, eds. : English Teaching in India, SAGE, New Delhi,
- Matilal, B.K. : The Word and the World : India's contribution to the Study of Language, OUP, New Delhi
- Hans R. Dua : Science Policy Education & Language Planning, Yashoda Publications, Mysore
- Hans R. Dua : Perspective of Understanding Language, Yashoda Publications, Mysore.
- Sarma, M.M. : Asamiya Bhasa Sikshan Paddhati, Students' Stores, Guwahati

Subject Name: PEDAGOGY-MATHEMATICS EDUCATION

Course Objectives:

- Enhance the learner's understanding of perspectives in Mathematics Education by developing a world view of the practices in the area.
- Acquaint the learner with the latest educational thinking about mathematics education.
- Develop the skills needed for the developing mathematics curriculum for schools and for developing support materials and literature for curriculum transaction.
- Use of research findings in mathematics education for improving practices related to mathematics education.

Unit 1 - Nature, Development and Significance of Mathematics

- Abstractness of mathematics; Distinction between mathematics and science; Distinct roles of pure and applied Mathematics; aesthetic aspect of mathematics; historical development of mathematical concepts with some famous anecdotes such as gauss, ramanujan, etc.; teaching of mathematical modeling.
- Undefined terms and axioms; proofs and verification in mathematics and distinction between them; types of theorems such as existence and uniqueness theorems etc.; types of proofs- direct proofs, indirect proofs, proof by contradiction, proof by exhaustion, proof by mathematical induction and distinction between induction and mathematical induction.
- Significance of Mathematics.
- Distinction between mathematics and science.

Unit 2 - Curriculum of Mathematics at Secondary to Senior Secondary School Level

- Principle for curriculum development in mathematics education.
- Mathematics curriculum at different stages of school education – at secondary, senior secondary. Integrating co-curriculum activities with mathematics education.
- Instructional materials including textbook: contextualization, criteria and concerns.
- Approaches to organization of mathematics curriculum at various stages of school education. Methodology of development of curricular materials viz. textbooks, workbooks, teacher handbooks.

Unit 3 - Objectives and Strategies of Teaching – Learning Mathematics

- Aims and Objectives of Teaching Mathematics at secondary school level, Instructional
- objectives in teaching mathematics; constructivist approach in teaching of mathematics; methods of teaching Mathematics – inductive and deductive methods, analytic and synthetic methods;
- Problem solving skills- stages in problem solving techniques to improve problem solving skills, competence based approach in teaching mathematics;

- Teaching Gifted/Slow learners in mathematics, pedagogical analysis of mathematics, reflective discussion, Recreational aspect of mathematics- mathematical games, puzzles and amusements; computer aided learning and computer based instructions;
- Use and preparation of teaching aids; mathematics Laboratory and mathematics club.

Unit 4 - Evaluation in Mathematics

- Concept of evaluation in teaching – learning process (formative, summative, criterion, diagnostic)
- Types of mistakes in mathematics, their identification and analysis with a purpose of preventing and remedial measures.
- Types of test items in mathematics such as long answer type, short answer type and objective type.
- Planning and construction of such items and precautions taken while constructing test items; action research in mathematics.

Suggested Readings:

- Chambers, P.(2010): Teaching Mathematics. New Delhi: Sage Publications
- NCERT (2005): National curriculum framework, New Delhi.
- NCERT (2006): Position Paper: National focus group on teaching mathematics, New Delhi. NCERT and Bosem textbooks in mathematics for Class VIII TO X.
- Singh. M (2004): Modern Teaching of Mathematics. New Delhi: D.K. Publishers.
- Buch, M.B. : Survey of Research in Education, NCERT, New Delhi
- Ghosh , B.N: Lectures on Scientific Method, Sterling Publishers Pvt. Ltd. Bangalore- 560001

Ghosh, B.N.: Scientific method and Social Research, Sterling Publishers Pvt. Ltd. New Delhi
 Joshi, S.R.: Teaching of Science, APH, Publishing Corporation, New Delhi