

**Master in Education (M.Ed.)**  
**(En force from session 2008- 2009)**

<b>Semester I</b>		<b>Semester II</b>	
<b>Papers</b>	<b>Marks</b>	<b>Paper</b>	<b>Marks</b>
<b>PAPER I:</b> FOUNDATIONS OF EDUCATION: PHILOSOPHICAL AND SOCIOLOGICAL	100	<b>PAPER I:</b> ADVANCED EDUCATIONAL PSYCHOLOGY	100
<b>PAPER II:</b> RESEARCH IN EDUCATION	100	<b>PAPER II: OPTIONAL GROUP II</b> A. GUIDANCE AND COUNSELLING B. EDUCATIONAL TECHNOLOGY FOR A LEARNING SOCIETY C. MANAGEMENT AND ADMINISTRATION IN EDUCATION D. TEACHER EDUCATION E. ADVANCED PEDAGOGY OF A SCHOOL SUBJECT i. MATHEMATICS ii. SCIENCE iii. SOCIAL SCIENCE iv. LANGUAGE F. FUTUROLOGY OF EDUCATION G. HIGHER EDUCATION	100
<b>PAPER III:</b> STATISTICAL APPLICATIONS IN EDUCATIONAL RESEARCH	100	Psychology Practical	50
<b>PAPER IV: OPTIONAL GROUP I</b> A. SPECIAL EDUCATION B. PRINCIPALS AND PRACTICES OF CURRICULUM DEVELOPMENT C. MEASUREMENT, EVALUATION	100	Viva voce on Dissertation	100

AND TESTING IN EDUCATION D. COMPARATIVE EDUCATION E. ENVIRONMENTAL AND POPULATION EDUCATION F. COMPUTER APPLICATIONS IN EDUCATION			
Research Proposal and Chapter writing on 'Review of Related Research'	Grades A to E	---	---
Educational excursion	Grades A to E	---	---
Community work	Grades A to E	---	---
Visit to Library other than the Library of University of Lucknow	Grades A to E	---	---
<b>TOTAL</b>	<b>400</b>	<b>TOTAL</b>	<b>350</b>

**MASTER IN EDUCATION (M. Ed.),  
SEMESTER I**

**PAPER I: FOUNDATIONS OF EDUCATION (PHILOSOPHICAL & SOCIAL)**

**COURSE OBJECTIVES:**

**MARKS:**

100

The philosophical component of this core (foundation) paper for the professional post-graduate course in Education (M.Ed.) aims at developing the following competencies in its scholars –

1. Understanding that philosophical enquiry forms the basis for all educational endeavours and knowing the nature and function of philosophy of education.
2. Analyzing, synthesizing and interpreting the various concepts, propositions and philosophical assumptions about the educational phenomena.
3. Using philosophical methods for the study of educational data.
4. Making critical appraisal of the contributions of prominent educational thinkers – both Indian and Western, to education.

The Sociological component aims at developing the following competencies

–

5. Understanding the concepts and processes of social institutions, social organizations and social stratification.
6. Making penetrating analysis of the social structure and knowing about the significant and instrumental role of education in bringing about social, political, technological, industrial and economic changes in a society.
7. Developing a sociological outlook towards education for becoming capable of directing the course of development of education.
8. Knowing and becoming sensitive to the issues of equality, excellence, and inequalities in education.

## **COURSE-CONTENT:**

### **UNIT-I**

1. Philosophy of Education:  
Nature – a Directive Doctrine, a Liberal Discipline, an activity.  
Function – Speculative, Normative, Analytical.  
Philosophy and Education:  
Meaning and Relationship.
2. Metaphysical Problems and Education:  
Related to Nature, Man and Society.
3. Impact of different philosophical suppositions on Indian Education:  
(of) Idealism, Naturalism, Realism, Pragmatism, Marxism, Humanism, Existentialism and Scientific Humanism.

### **UNIT II**

4. Branches of Philosophy:  
Metaphysics, Epistemology, Axiology, Logic.  
Epistemology and Education:  
Knowledge and methods of acquiring valid knowledge with specific reference to Analytic Philosophy, Dialectical approach, Scientific inquiry, Nyaya, Yoga.
5. Axiology and Education:

Contributions and educational implications of Sankhya, Yoga, Vedanta, Buddhism, Jainism, Upanishads and Bhagavadgita (only the thematic contents) and Islamic philosophy (especially in the context of value formulation and unity reflected in values enshrined in the Indian Constitution).

6. Thoughts and Trends in Education:

Contributions of Plato, Kant, Dewey, Gandhi, Tagore and Aurobindo in specific reference to their views on Learner, educative process and educational system. Contributions of Ivan Illich, Paulo Friere.

### **UNIT III**

7. Sociology of Education:

Concept, nature and methods of study. Difference between Sociology of Education and Educational Sociology. Social organizations, Social groups and Social stratification – characteristics and influencing factors.

8. Education as a Social Sub-System:

In relation to and interaction with other social institutions and sub-systems such as – Family, Community, Economy, Political System and Religion. Social Institutions and their role in attitude and value formation (with reference to family, community, school and youth organizations).

9. Education and Society:

Education as a social sub-system, as a socialization process and as a process of social change. Social change, social progress and modernization with special reference to scientific and technical advancement. Constraints on social change in India – in the face of caste, class, language, religion, regionalism and ethnicity.

### **UNIT IV**

10. Education and Culture:

Meaning and nature of culture; role of education in the cultural context. Cultural change and Cultural crisis with special reference to Indian society.

11. Educational opportunity and Excellence:

Equality vs. Equity; Inequalities in Indian social system with special reference to social and economic disadvantaged groups specifically in respect to scheduled castes and scheduled tribes, gender, and habitation (rural vs. urban & hilly region) – need and measures for addressal.

12. Important Concerns and Issues in Education:

Education, Democracy and Constitutional provisions for education in India; Education and Nationalism; Education for National Integration and International Understanding; Education as an investment in Human-Resource Development; Educational Planning – micro and macro.

## **PAPER II: RESEARCH IN EDUCATION**

MM- 100

### **UNIT I**

#### **PLANNING & REPORTING THE EDUCATIONAL RESEARCH**

1. Levels/ types/ approaches of educational research:
  - a. Fundamental, Applied and Action research
  - b. Experimental, Descriptive, Historical, and Qualitative research
2. Identification and formulation of research problem, Development of objectives, formulation of hypotheses and framing the research questions
3. Preparation of ‘research proposals’ and ‘research project proposals’
4. Issues of ‘Style’ in research reporting: thesis writing, research paper writing.

### **UNIT II**

#### **THE HISTORICAL RESEARCH**

1. Nature of historical knowledge, Principles and main steps of historical research, new trends in historical approaches to education, Limitations of historical research.

2. Sources of data: Classification of historical sources and documents. Validation of sources and documents: External and Internal Criticism.
3. Some important historical researches
4. Nature of philosophical studies and Steps of philosophical enquiry in education

### **UNIT III**

### **THE DESCRIPTIVE RESEARCH**

1. Survey studies: school survey, public opinion survey and community surveys, Self- administered survey, Telephone/ Mail survey. Job analysis, documentary analysis. Population, Sample and Sampling.
2. Inter-disciplinary studies: case studies, causal comparative studies, ex- post facto studies, correlation studies, prediction studies, cross- cultural and comparative studies
3. Developmental studies: growth studies (genetic and longitudinal trend studies)
4. Major data gathering devices and tools in descriptive research.

### **UNIT IV**

### **THE EXPERIMENTAL RESEARCH**

1. Characteristics and general steps of experimental research. 'Laboratory experiments' and 'Field experiments.'
2. Variables, Controls, and the Experimental design.
3. External and internal validity of experimental research.
4. Study of some recent experimental studies Reported in educational research literature.

### **Recommended Readings:**

1. Anastasi, Anne - **Psychological Testing**, New York: Mc Millan,
2. Ary, Donald et al - **Introduction to Research in Education** N.Y.: Holt, Rinehart and Winston, 1972
3. Best, J.W. - **Research in Education**, New Delhi: Prentice Hall of India.
4. Broota, K.D. **Experimental Design in Behavioural Research**, New Delhi: Wiley Eastern Ltd. 1992.
5. Cohen, L. & Manion Lawrence. : **Research methods in Education**, London:Croom Helm,1980.

6. Ebel, R.L. A. **Guide to Educational Research**. Boston: Allyn & Bacon. Inc, 1965
7. Edward, A L. **Experimental Design in Psychological Research**, New Delhi: Amerind Publishing co.,1971
8. Festinger, V. and Katz,D **Research Methods in the Behavioural Sciences**. New Delhi: Amerind Publishing co.,1970
9. Fox, D.J. **The Research Process in Education**, New York: Holt Rinehart and Winston Inc,1969
10. Freeman F.S.: **Theory and Practice of Psychological Testing**, New Delhi:, Oxford & SBH pub. Co.
11. Garrett, H.E. - **Statistics in Psychology and Education**. Bombay : Vakils, Feffer and Simon Pvt Ltd
12. Gay,L.R. **Educational Research – Competencies for analysis and Application**. New Jersey: Prentice Hall Inc, 1996.
13. Good, C.V. - **Essentials of Educational Research: Methodology and Design** N.Y.: Appleton Century Crofts, 1963.
14. Koul, L. **Methodology of Educational Research**, New Delhi: Vikas Pub. House., 1984
15. Kerlinger, F.N. - **Foundations of Behavioural Research**, Delhi: Surjeet Publications, 1978.
16. Levin, J - **Elementary Statistics in Social Research**, N.Y: Harper and Row Publication,
17. Lincoln Y.S. & Gupta E. G.: **Naturalistic Inquiry**, New Delhi: Sage Publications Pvt. Ltd.
18. Mertens D.M.: **Research Methods in Education and Psychology: Integrating diversity with quantitative and qualitative approaches**, New Delhi: Sage Publications.
19. Mouly, George J. **The Science of Educational Research**. New Delhi: Eurasia Publishing House Pvt Ltd., 1964
20. Popper, K.R. **The Logic of Scientific Discovery**. London: Routledge. And Kegan Paul, 1959.
21. Siddhu, K.S. - **Methodology of Research in Education**, Bombay: Sterling Publishers, 1963.

22. Siegel S. - **Non Parametric Statistics for the Behavioural Sciences.** New York : Mc Graw Hill Book Co., 1988
23. Singh, A.K. .**Test, Measurements and Research Methods in Behavioural Sciences, Patna:** Bharti Bhawan (P&D), 1997.
24. Sodhi, A.N. and Singh, A. . **Research Methodology in Social Sciences,** Bombay: Himalaya Pub. House.
25. Sukhia, S.P., et al.**Elements of Educational Research.**
26. Travers, R.M.W. - **An Introduction to Educational Research,** N.Y.: MacMillan, 1978.
27. Van Dalen, D.B. : **Understanding Educational Research: An Introduction,** New York: McGraw Hill Book Company.
28. Verma, M. - **An Introduction to Educational and Psychological Research,** New Delhi: Asia Publishing House.
29. Winer, B.J. **Statistical Principles in Experimental Design.** New York: McGraw Hill Book Co, 1971.

#### **Recommended Readings (Hindi):**

- 1- अस्थाना, विपिन- मनोविज्ञान और शिक्षा में सांख्यिकी, आगरा, विनोद पुस्तक भण्डार ।
2. दौन्डियाल, एस0- एवम् पाठक, ए0-शिक्षा अनुसंधान का विधि शास्त्र, जयपुर ।
- 3- कपिल, एच0 के0- अनुसंधान विधियां-व्यवहारपरक विज्ञानों में, आगरा, भार्गव पुस्तक भण्डार ।
4. कपिल, एच0 के0- सांख्यिकी के मूल तत्व, आगरा, विनोद पुस्तक मन्दिर ।
5. सिंह, रामपाल- सांख्यिकी मूल्यांकन, आगरा, विनोद पुस्तक मन्दिर ।
6. वर्मा, प्रीति एवं श्रीवास्तव, डी0 एन0- मनोविज्ञान एवं शिक्षा में सांख्यिकी, आगरा, विनोद पुस्तक मन्दिर ।
7. सुग्रीवा, एस0 पी0- शैक्षिक अनुसंधान के मूल तत्व, आगरा, विनोद पुस्तक मन्दिर ।
8. तिवारी- शैक्षिक एवं मनोवैज्ञानिक अनुसंधान के मूल आधार, आगरा, विनोद पुस्तक मन्दिर ।
9. पाण्डेय, के0पी0- शैक्षिक अनुसंधान की रूपरेखा, मेरठ, अमिताश प्रकाशन ।



## **PAPER- III: STATISTICAL APPLICATIONS IN EDUCATIONAL RESEARCH**

### **UNIT-I**

#### **Descriptive Statistics- I**

1. Tabular representation of data with regard to levels of measurement: Nominal, Ordinal, Interval and Ratio.
2. Graphical presentation of data: Histogram, frequency Polygon, Pie diagram, Bar diagram
3. Measures of Central Tendency: Mean, Median and Mode- computation and uses
4. Measures of Variability: Range, Quartile deviation, Mean deviation, Standard deviation, variance- computation and uses
5. Measures of relationship: Percentiles and Percentile ranks- computation and uses

### **UNIT-II**

#### **Descriptive Statistics- II**

1. Measures of Association; Correlation- concept, types, coefficient of correlation; assumptions, computation , uses and interpretation of rank order and product- moment correlation
2. Assumptions and uses of other types of correlation- Biserial, Point Biserial, Tetra choric, Phi coefficient, Partial and Multiple correlation
3. Regression and prediction: concept of regression, regression equations ( involving two variables only) and their uses, accuracy of prediction
4. Normal distribution, characteristics of Normal Probability Curve and its applications, Deviations from normality

### **UNIT-III**

#### **Inferential Statistics- I**

1. Concept of Population, Sample and Sampling error; Parameter and Statistic, Degree of freedom

2. Standard error, confidence limits and confidence intervals
3. Concept and testing of null hypothesis, Type-I and Type-II errors, Levels of significance, One tailed and two tailed tests
4. Parametric tests:
  - a) t- test,
  - b) Analysis of Variance (ANOVA) - one way and two way, Analysis of Covariance (ANCOVA), and their uses in educational research

## UNIT-IV

### Inferential Statistics- II

1. Concept, assumptions and uses of Non Parametric tests in educational research
  - a. Chi square test,
  - b. Sign test,
  - c. Median test,
  - d. Kolmogorov-Smirnov test,
  - e. Kruskal- Wallis test
2. Computer programmes in data analysis-SPSS

#### SUGGESTED READINGS

- Edwards, A. L. ***Statistical Methods for Behavioural Sciences***, New York: Holt, Rinehart and Winston.
- Ferguson, G. ***A Statistical Analysis in Psychology and Education***, New York: McGraw Hills.
- Fisher, R.A. ***Statistical Methods for Research Workers***, New York: hafner Publishing Co.
- Garret, H.E. ***Statistics in Psychology and Education***, Bombay: Vakils
- Guilford, J. P. & B. Fruchter. ***Fundamental Statistics in Education and Psychology***, Tokyo: McGraw Hill
- Lindquist, E. F. ***Statistical Analysis in Educational Research***, Boston: Houghton Mifflin Co
- McNemar, Q. ***Psychological Statistics***, New York: Henry Holt & co.
- Siegel, S. ***Non Parametric Statistics for Behavioural Sciences***, New York: McGraw Hill
- Tate, M.W. ***Statistics in Education***, New York: McMillan Co.
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## **PAPER IV: OPTIONAL GROUP I**

### **A- SPECIAL EDUCATION**

#### **COURSE OBJECTIVES:**

**MARKS: 100**

To make the students –

1. Know and understand the concept and principles of special education and its scope in India.
2. Understand the reasons for, and suggestions of recent commissions of education about special education as important and essential for realizing the objective of universalization of education.
3. Grasp the meanings, specific needs, characteristics, and modalities of identifying various types of special/exceptional learners.
4. Know and understand the various educational intervention programmes and academic provisions for meeting the exceptional needs of special children separately as also in regular classrooms.

#### **COURSE CONTENTS**

##### **UNIT I**

1. Special children: Nature, needs and types of special children (children with exceptional abilities – creative and gifted; with deficiency and handicaps – mentally retarded, sensory and physically disabled; with learning disability – slow learners, under achievers, and other types of learning disabled; with social and emotional problems – truant, delinquents, drug addicts etc.).
  - Characteristics, problems and special educational needs of each type of special children.
2. Special Education: Concept, nature, status, problems and issues; Historical perspective.
  - Objectives, principles and scope of special education in India.
  - Educational Interventions: Meaning and type.
  - Educational programmes and their trends.
  - Concept of mainstreaming from segregated, integrated to inclusive.
  - Administration of special education.
3. Special Education in India: Constitutional provisions, government policies and legislations.
  - Recommendations of various Committees and Commissions – NPE (1986), POA (1992), PWD (Person's with Disability) Act (1995).  
National Institutions of Special Education.  
Role of Rehabilitation Council of India.

## **UNIT II**

4. The Disabled Learners: Mentally retarded, slow learner, Backward and Learning disabled children – etiology and characteristics of each type and prevention – measures for each type.
5. Psychology of Teaching and Learning in relation to the disabled learner (in reference to each type of disabled learner).
6. Curriculum, Pedagogy, evaluation and placement for each type.

## **UNIT III**

7. Special children with Physical disabilities. Basis of classification (physical, Physiological, social and psychological and mental), characteristics and etiology of each type and differences between them; Educational needs and problems of each type.  
Physically disabled – visually handicapped  
Audio handicapped (speech and hearing disabled)  
Orthopaedically handicapped  
Socially deprived and Emotionally Disturbed Children: Meaning, Types (Dyslexic and Delicate Children), etiology and possible common and educational provisions.
8. Psychology of Teaching and learning in relation to each type of disabled learners and their specific needs.
9. Curriculum, Pedagogy, Evaluation and Placement in respect to each type.

## **UNIT IV**

10. Special children with Exceptional Abilities: Types – Gifted and Creative; Meaning, characteristics, problems and identification of each type.
  - Principles of creativity and its levels.
  - Measurement of creativity and fostering activities and programmes for creativity.
11. Education of the Gifted and the Creative Children: need and scope.
  - Psychology of teaching and learning in respect to the gifted and the creative.
  - Curriculum, pedagogy, evaluation and placement in respect to the gifted and the creative.
12. Problem children: concept and meaning of Truants, Delinquents, drug addicts and other types of problem children, their characteristics, problems and etiology.
  - Preventive measures and educational programmes; placement of delinquents, drug addicts and other types.

## **B- PRINCIPLES AND PRACTICES OF CURRICULUM DEVELOPMENT**

### **COURSE OBJECTIVES**

**MARKS: 100**

To enable students –

1. to understand the underlying basis, principles, and intricacies inherent in the structure of a sound curriculum and the various forces and considerations involved which must be taken into account when developing a curriculum.
2. to be acquainted with various curricular types and their designs, process and construction.
3. to know about curricular content, curriculum implementation and the process of curriculum evaluation.
4. to know and understand issues, trends and researches conducted in India in the area of curriculum and curriculum development.
5. to design and develop a curricular framework with given objectives in a particular field of formal study.

### **COURSE CONTENT:**

#### **UNIT I**

1. Curriculum: Concept and meaning.
  - Curriculum, syllabus and Textbooks – selection, gradation and organization of subject matter.
  - Bases, determinants and motives of curriculum – Philosophical, Psychological, Sociological and discipline oriented considerations.
2. Basic elements and principles of curriculum.
  - Curriculum theories and procedures.
3. History of curriculum development.

#### **UNIT II**

4. Categories and Types of Curriculum: Teacher centered, subject centered, child-centered, peripheral, Enrichment, Special, Integrated, Correlated, Fused, Interdisciplinary, Window-shopping, Frontline, Crash, Spinal.
5. Curriculum design and organization: Components, source, principles and approaches.

#### **UNIT III**

6. Models of curriculum: Different models of curriculum development – Administrative Line Staff (Taxler), Grassroot-level planning (Hild Taba), Demonstration, System-analysis.
  - Criteria for selecting a model.

- Curriculum Construction – principles and approaches; deduction of curriculum from aims and objectives of education.
- 7. Curriculum Implementation: Models and Strategies, Leadership role and community participation.
  - Role of curriculum support materials and Types and place of materials and media (aids) to be used.
  - Process of curriculum implementation in India.

#### **UNIT IV**

8. Curriculum Evaluation: Importance and Models of curriculum evaluation.
  - Types of curriculum evaluation (formative, summative).
  - Interpretation of evaluation results and the method.
9. Issues and Trends in curriculum development and curriculum researches in India.
  - Suggestions and recommendations in curriculum development – as per University Education Commission (1948), Secondary Education Commission (1952), Education Commission (1966) and NPE (1986).

### **C- MEASUREMENT, EVALUATION & TESTING IN EDUCATION**

#### **COURSE OBJECTIVES:**

**MARKS 100**

To help students to

1. know the basic concepts and practices adopted in educational measurement and evaluation and the relationship between the two.
2. know and understand the existing models/types of evaluation and develop knowledge about tools and techniques of measurement and evaluation.
3. develop skills and competencies required for constructing, standardizing and using various tools and tests for measuring both cognitive and non cognitive aspects/domains.
4. understand and realise that the aims and objectives of measurement and evaluation in education is to not only help the students but to improve upon the existing educational programmes and procedures also.

## **COURSE CONTENTS:**

### **UNIT I**

1. The Measurement and Evaluation Process: Concept, need, relevance and scope.
  - Levels of measurement
  - Relation between measurement and evaluation.
2. Norm referenced and criterion referenced measurement.
3. Basic principles and functions of evaluation.
4. Taxonomy of Educational objectives and role of measurement and evaluation.

### **UNIT II**

5. Evaluation and curriculum.
6. Models in Educational Evaluation – 3 D Model, Total Model and Individual Judgment Model.
7. Tools of Measurement and Evaluation: nature, purpose and types (Physical, Educational, and Psychological).
  - Subjective and Objective Tests.
  - Questionnaires, Scales, Schedules and Inventories.
  - Performance, Sociological, Projective and Special Tests.
  - Norm referenced and criterion referenced Test.
8. Basic characteristics of a good measuring instrument: Objectivity, Usability, Validity, Reliability, Norms.
  - Limitations of test and measurement.
  - Scaling – standard scores, T scores, C scores.

### **UNIT III**

9. Test Construction: General Principles and procedural steps; precautions and common mistakes.
10. Writing of Test items: objective type, short answer/interpretive type, and essay type.
11. Standardization of Measuring tools: major steps, item analysis.
12. Item analysis procedure for norm referenced and criterion referenced mastery tests.

### **UNIT IV**

13. Measurement of –

Achievement, Aptitude, Intelligence, Attitude, Interest, skills, Personality and Values.

- Interpretation of scores on these tests.

14. New Trends in Evaluation – Broad and Narrow Evaluation; Qualitative vs. Quantitative and Behaviouristic vs. Wholistic approaches to measurement and evaluation.
15. Types of Evaluation: Formative vs. Summative; Continuous vs. Interval; Semester System, Grading, Question-Bank.
16. Use of computers in Data Analysis.

## **D-. COMPARATIVE EDUCATION**

### **COURSE OBJECTIVES:**

**MARKS**

100

The course content will help scholars –

1. to understand comparative education as a new discipline.
2. develop an understanding about the educational systems in terms of factors and approaches of comparative education.
3. develop the skills that enable one to assess the efficacy of educational systems of different countries in terms of the dominant trends prevailing there.
4. develop a perspective about the implications of comparative education for solving existent educational problems in India.

### **COURSE CONTENT**

#### **UNIT I**

1. Comparative Education: Meaning, aims and implications.
  - Scope, Methods and major concepts of comparative education.
  - Intra and Inter educational analysis.
2. Modern trends in world education – National and Global.
  - Factors affecting national system of Education in India.

#### **UNIT II**

3. Comparative Education: Factors and Approaches – Racial, Geographic, Economic, Cultural, Sociological, Philosophical, Linguistic, Scientific, Ecological, Religious, Political.
  - Cross-disciplinary approach.



#### 4. Democracy and Nationalism.

### UNIT III

5. A comparative study of the systems of education of different countries with special reference to –
  - Pre-primary education – U.S.A., U.K., Russia, India.
  - Primary Education – U.S.A., U.K., Japan, India.
  - Secondary Education – U.S.A., U.K., Russia, Japan, India.
  - Higher Education – U.S.A., U.K., Russia, France, India.
  - Teacher Education – U.S.A., U.K., Russia, India.
  - Women's Education – India.
6. Lessons derived from comparative education, Evolution of some general principles.

### UNIT IV

7. Prevalent problems in Developing Countries and intervention of education – Issues and concerns.
  - Major problems and educational interventions with special reference to India.
    - Environmental Degradation and sustainable development.
    - Population explosion.
    - Universalization of elementary education.
    - Unemployment.
    - Terrorism and insurgency.
    - Economic under-development.
    - Vocationalization of education.
    - Political Instability.
8. Role of U.N.O. in improving educational opportunities among member countries.
  - Official organs of U.N.O. and their educational activities in India.

## **E- ENVIRONMENTAL AND POPULATION EDUCATION**

### **COURSE OBJECTIVES:**

**MARKS**

100

The course content will help student-teachers to

1. understand and know the concept, importance scope and aims of environmental education.
2. know about the various methods strategies and techniques of teaching environmental education for realizing its objectives and feel and develop concern about environmental issues.
3. know about the possible environmental hazards and enable them to combat, cope and eradicate their possible negative effects.
4. get acquainted with the various basic components of environment essentially required for developing an environmental education curriculum.
5. understand and become familiar with various projects, studies etc. being carried out in different countries of the world and utilize the resources for solving their own problems.

### **COURSE CONTENT:**

#### **UNIT I**

1. Environment: Concept, types, components and socio-cultural determinants.
2. Human Ecology: Concept, environment and adaptation.
  - Impact of human activities on environment.
  - Environmental hazards: environmental pollution (its types also); extinction of flora and fauna; deforestation; soil erosion.
  - Need for sustainable development and its meaning and implications.
3. Environmental Education: Concept, importance, scope, aims-objectives, guiding principles and foundations.
  - Relationship between environment and education – ecological and psychological perspective.
  - Content, objectives, methods and approaches (as a separate subject: as topical unit, as integrated and interdisciplinary subject) and strategies of environmental education at different educational levels.
  - Role of media.

#### **UNIT II**

4. Environmental degradation: meaning and areas.

- Causes and factors responsible for the lowering of environmental quality.
- 5. Eco-environmental concerns in India: Present scenario and future needs.
- 6. Environmental management: concept, planning, organization and agencies.
  - National schemes and movements related to environmental protection.
  - Environmental laws and constitutional provisions.

### **UNIT III**

7. Population Education: concept, objectives, scope and approaches.
  - Population explosion and environment.
8. Population scenario in world perspective: size and composition of population.
  - Demographic distribution and density of population with special reference to India.
9. Population Dynamics: determinants of population growth.
  - Traditional and sociological, economic and political, biological and psychological Factors in population.

### **UNIT IV**

10. Problems of Population Growth: family life, health and nutritional problems (with special reference to developing countries).
11. Population growth and Population policies: major institutions involved in population policies and implementation of programmes for population control.
12. Role of Teacher in Population Education:
  - as facilitator of knowledge .
  - as community leader in the process of social change.

## **F-COMPUTER APPLICATIONS IN EDUCATION**

### **COURSE OBJECTIVES:**

MARKS:100

1. To acquaint students with basic elements of computers Hardware.
2. To acquaint them with Computers as Research tool.
3. To prepare students for using the Computer as medium of instruction (CAI).
4. To acquaint them with computer as Communication Tool.

### **COURSE CONTENT:**

## **UNIT -1**

### **Computer Hardware for Educational Computing**

1. Computer : Structure, Computer as an example of system approach, Block diagram
2. Computer Hardware : Meaning, classification
3. Working of :- Input Devices, Processing Devices, Output Devices
4. Memory Devices: Primary – RAM, ROM  
Secondary – HDD, FDD, CD-ROM
5. Emerging Computer Hardware Technologies

## **UNIT –II**

### **Computers as Research Tool**

6. Application Software : Meaning, classification
7. System Software : Meaning, classification (DOS, WINDOWS in Detail)
8. Use in research: making of synopsis, cover page, Report writing by using Word Processing (Ms- Word and PageMaker)
9. Use of Spreadsheet (Excel, SPSS) in Research :- Data Entry, Data Analysis, Charts, graphs, computers in data analysis, statistical packages
10. Presentation Software:- Steps in the development of electronic slides, presentation of research report

## **UNIT- III**

### **Computers in Education**

11. CAI :- Meaning , Modes,
12. Advantages and disadvantage Computer Assisted Instruction
13. CMI, CBL – Concept and advantages
14. Multimedia : Meaning , use of multimedia CD-ROM's for educational Purposes

## **UNIT-IV**

### **Computer as Communication Tool**

15. Internet : Meaning, History, working, Educational uses of the Internet including: educational web sites & resources; downloading information; understanding the basics of Hypertext Mark Up Language (HTML); Internet Service Providers (ISPs) Surfing the Internet: Connecting, communicating, downloading,
16. Electronic Mail:- Opening of E-Mail account, sending & receiving mails and attachment, E-mail Emotions, Conferencing through messengers.

**MASTER IN EDUCATION (M. Ed.)**  
**Semester II**

**Paper I - ADVANCED EDUCATIONAL PSYCHOLOGY**

**COURSE OBJECTIVES:**

1. To enable students to understand the nature, concept and principles of educational psychology as an applied discipline with its own scientific methods and approaches.
2. To acquaint learners with the nature and processes of development and assessment of various traits and abilities; appreciate common characteristics, educational needs and behavioural problems of learners at successive stages of development from childhood to adolescence to adulthood.
3. To help students understand the implications of various psychological theories for education.
4. To familiarize students with the structure, functioning, and development of personality and their implications for education.
5. To make them know and appreciate the need and value of organizing different educational programmes to suit the needs and demands of special children.

**COURSE CONTENT:**

**MARKS:100**

**UNIT I**

1. Educational Psychology: concept, nature, concerns and methodology. An overview of its emergence as an independent discipline. Important contributions of psychology to education and its significance and importance for teachers.
2. Human Growth and Development: Meaning and relation, General principles and stages of development, problems of each stage (with special reference to adolescence).

Influencing processes and factors of development and their relative role. Developmental paradigms and issues – nurture vs. nature, Passivity vs. Activity; Continuity vs Discontinuity. A broad Indian view about psychological development.

3. Social and Emotional Development: meaning and context (Family, Parenting style, peer, school and school – family linkage). Emotion – Meaning, nature, and kinds of emotions (Anger, love, fear, frustration and anxiety) and their significant educational implications. Development of self, self – esteem, self identity and their educational significance.
  - Group dynamics and socio-emotional climate of the class room and influence of teacher characteristics and teaching – process.
  - Emotional Intelligence: concept and dimensions; implications for teachers and students.
  - Theory of social development (Erickson's)
4. Moral development and moral education: meaning and influencing factors. Theory of moral development (Kohlberg's).
  - Educational approaches to moral education and role of school.

## **UNIT –II**

5. Learning: Concept, Kinds, and Levels (Gagne's hierarchy of learning / conditions of learning.)
  - Cognitive and Information processing views about learning and instruction (Bruner, Ausubel and Piaget) and their educational implications.
  - Theories of learning – Gestalt and Sign Gestalt Theories (Tolman's). Kurt Lewin's – Field Theory; Bandura's – Social Learning Theory.
6. Motivation: Concept, nature and relationship with learning; strategies of motivation.
7. Memory and Forgetting: Meaning and nature; processes and factors involved.

### UNIT –III

8. Cognitive development: meaning of cognition, development of thought and knowledge – constructivist theory (of Piaget and Vygotsky), and its educational significance.
  - Development of Concepts, Reasoning and problem- solving.
9. Individual Variations : concept and aspects; intra and inter differences; determinants (heredity and environment);
  - Learning styles and teaching strategies to suit individual differences.
  - Intelligence and Aptitude: meaning, difference, identification and measurement.
  - Theories of Intelligence: Early views and theories of multiple intelligence (one factor, two – factor, multifactor, Group factor theories and model of intelligence in brief; Later views and theories of multiple intelligence (Stern-berg’s theory)
  - Information processing view of growth of intelligence – organismic theory of Piaget.
  - Interest, Attitude and Values- meaning, nature, and factors that foster. Their significance and relation to education.
  - Creativity – nature, process, identification and measurement; fostering of creativity – role of education.
10. Mental Health and Hygiene: nature, concept, scope and principles; factors affecting mental health and hygiene, measures used to promote mental health (preventive, constructive); Educational implications of mental health.
  - Mechanisms of Adjustment- defense, escape, withdrawal and compensatory.
11. Personality – concept, development, structure and dynamics of personality; Assessment of personality- objective methods (personality inventory, scales, Questionnaires); Projective techniques (T.A.T., Rorschach); and subjective techniques; Personality Theories – Trait Theories – Allport and Cattell, Psychoanalytic theory – Freud; Behaviour Theories – Miller and Dollard, Bandura; Indian Theories – Vedic and Buddhist views, Krishnamurti and Aurobindo’s views.

## **UNIT –IV**

### **12. Exceptional Children: nature and special needs of children with**

- deficiency and handicaps
- emotional deprivation / emotionally disturbed
- socially deprived/ disturbed
- exceptional abilities.

- Types of exceptional children – mentally retarded, educationally backward, physically impaired, learning disabled, delinquents, creative and gifted.

Special Education – concept, nature, objectives and scope. Educational provisions and strategies.

## **PAPER II: OPTIONAL GROUP II**

### **A- GUIDANCE AND COUNSELING**

#### **COURSE OBJECTIVES :**

MARKS:100

The course content will help students to –

1. understand the concepts, needs and view points about Guidance and Counseling and the underlying principles in reference to normal children as well as in reference to children with special needs.
2. get acquainted with the organizational framework and procedures of Guidance- Services in educational institutions.
3. know and use the tools and techniques required for providing guidance and counseling services to students.

#### **COURSE CONTENT**

### **UNIT I**

1. Guidance and counseling : Concept, nature, need, scope and purpose; relationship with education; issues and problems; role of teacher
  - Basic types of Guidance and the underlying principles, their nature, scope and purposes.



- Basic approaches of counseling and their underlying assumptions.
2. Educational Guidance: basic assumptions and principles
    - Curricular choice and its implications for Career guidance; Guidance and curriculum and the class room learning.
  3. Vocational Guidance: basic principles.
    - Vocational choice as a development process
    - Nature of work and Job analysis, dissemination of occupational information: vocationalisation of secondary education and career development
  4. Personal Guidance : basic assumptions; types of behavioral problems of school stage students.
    - Place of counseling in personal guidance

## **UNIT II**

5. Guidance services: Individual Inventory and Information counseling Group Guidance services, Placement services and Follow-up services.
  - Guidance of children with special needs, role of teacher.
6. Organization of a Guidance programme and its principles-at elementary, secondary, college and university levels.
  - Evaluation of Guidance programmes

## **UNIT III.**

7. Guidance and Appraisal of the Individual: meaning, need ,purpose and place of appraisal in Guidance.
8. Techniques of Appraisal: Testing techniques - tests (viz. Intelligence, Aptitude, Knowledge and Achievement), Interest tests and Personality measures
  - Non-Testing Techniques – Rating scales, Questionnaires, Inventories, records and sociometric tools.

## **UNIT IV**

9.Guidance and Counseling in Groups: Nature, aim, Principles and procedure; Group Counselling Vs Individual counseling; counselling for adjustment. Types of group activities-their merits and demerits

10.Current Trends, Concerns and Demands in Guidance.

## **B-. EDUCATIONAL TECHNOLOGY FOR A LEARNING SOCIETY**

### **COURSE OBJECTIVES :**

**MARKS: 100**

To help students to:

1. understand the meaning, nature and important components of E.T in terms of hardware and software.
2. understand the basic idea of integrating new technology in education for achieving the goals of effective teaching and learning, and meet the challenges of universalization of education and information explosion expected in the near future.
3. distinguish between communication and instruction and enable them to develop and design sound instructional system in the light of the learned models and strategies of teaching.
4. get acquainted with emerging trends in E.T. along with resource centers of E.T, and understand the need and importance of researches in this area.

### **COURSE CONTENT:**

#### **UNIT I**

1. Educational Technology: Concept, nature, scope and significance of E.T (Hardware, Software and System Analysis) and their role in modern educational practices.
  - Emerging trends of development and development of E.T
  - Ethical issues involved in the application of E.T
2. Communication and Instruction : Concept, Nature, Process, Types and Class room communication
  - Use of Strategies-Communication strategies and Teaching strategies-Meaning, Nature, functions and differences.

#### **UNIT II**

3. Information Communication Technologies : Teleconferencing
  - Learning Resource Centres-Internet and Intranet (Tools, services and Educational sites).
4. Virtual reality, Mobile Learning and other Interactive technologies.

- Future classrooms and Participative Learning.

### **UNIT III**

5. Multimedia: Concept, nature and uses.
  - Educational Multimedia-concept and technology, its birth and development; Hyper text and non-linear access.
  - Application of Multimedia in evaluating School, Home, Public place.
6. Media selection: Integration and evaluation; Factors affecting media selection-Pedagogic and Human factors; their availability, effectiveness.
  - Considerations and Strategies of selecting and integrating media,
  - use of media-Psychological considerations.
7. Evaluation of Media-different approaches (scientific, humanistic)
  - Models for evaluation (Context, .Input, Process and Product model)
8. Designing softwares; concept and need for teachers in the context of changing technology; Teacher as a software designer, process and procedure for designing software.
- . Evaluation of softwares:

### **UNIT IV**

9. Alternative Education; Concept, meaning, need and function.
  - Education: State of the Art; Education- a right, a demand or a privilege?
  - Limitations of the conventional system of education.
10. Alternative Interventions: Correspondence and Distance education, Open Schools and Open Universities, some recent programmes of N.G.Os.
  - Some state initiatives: Anganbadi, Cherwaha schools, Platform schools (Madhya Pradesh, Rajasthan), Sarvshiksha Abhiyan, Jan Shala, Open schools.
  - Technology enhanced educational programmes; combined schools (one shot schools)
  - Globalization of Education.

## **C- MANAGEMENT AND ADMINISTRATION IN EDUCATION**

### **COURSE OBJECTIVES:**

**MARKS: 100**

The course content will help students to –

1. understand the concepts, scope, functions, principles and approaches of administration and management and the relation between the two.
2. have a comprehensive view of management trends and approaches that evolved over a period of almost past 100 years.
3. get acquainted with the different types of administrative, management and supervisory problems that are confronted by our educational system, institutions and practices.
4. know the methods and strategies of management, and need and strategies of planning required for meeting the educational challenges.
5. understand about the various leadership styles, and the type required by teachers and administrators to ensure accountability on the part of each and every participant in the system.

### **COURSE CONTENT:**

#### **UNIT-I**

1. Administration and Management: concepts, meaning, scope and functions; differences and relationship between the two; concept of Scientific Management.
2. Modern concept of Educational Administration: Tracing the course of its development from 1900 to the present.
  - Administration- as a process; as a bureaucracy.
  - Human relation's approach to Administration and Management; Organizational Behaviour approach and Systems approach, Functions of Educational Managers.
3. Special and Modern Trends in Educational Management and Administration; Decision making, organizational compliance, organizational development & PERT.
  - Researches (important) relating to Educational Management.

#### **UNIT II**

4. Educational Administration : Levels and types, classification of Administrative problems

5. Personnel Administration; Meaning, importance, functions and special features.
6. Controlling and Leadership in Educational Management: Centralization vs. Decentralization, PERT, PPBS Control and other methods of control; control diameter, unity of command.
  - Leadership: Meaning, nature, theories and leadership styles; Leadership and motivation of the work personnels; Leader-Effectiveness and Adaptability description.
  - System Evaluation, Programme Evaluation and Evaluation of Functionaries,

### **UNIT III**

7. Educational supervision: Meaning, nature, need scope and approaches (traditional and Modern supervision); supervision as educational leadership.
  - Inspection vs. Supervision; Academic vs. Administrative supervision.
8. Supervision: functions, techniques, methods and problems; supervision as evaluation for performance and accountability.
9. Planning: as a rational approach and process of management towards goal achievement.
  - Planning strategy, Policy and Programme: means to realize objectives in terms of 'decision-making', 'programme-development' and 'forecasting'.

### **UNIT IV**

10. Educational Planning: concept, meaning, need, types and functions. Approaches: Man-power approach, social demand approach, cost-effectiveness approach and social-justice approach.
11. Planning of supervisory programmes: organization and implementation.
12. Institutional Planning: Meaning, importance and procedure; organizing, directing and recruiting, planning for Human Resources-Training, coordinating and controlling; Budgeting, recording and reporting.

## **D- TEACHER EDUCATION**

### **COURSE OBJECTIVES:**

Marks: 100

The content included in the paper aims to enable students to develop and understand:

1. The concept, aim, principles and scope of Teacher education in India within its historical frame-work, and know and value the recommendations of various committees and commissions on Teacher Education.
2. Trace and identify the focal points in the path of development of the concept of Teacher. Education and know about the existing practices in respect to structure, curriculum and evaluation of Teacher Education in India.
3. The concepts of teaching competency, teacher competence, teaching skills, teacher performance and teacher effectiveness and make distinction between them.
4. The essential competencies required in a teacher for effective transaction of the teaching – learning process and develop professional ethics and traits.
5. The trends and innovations in teacher education.
6. The various teaching and training techniques and know about teaching models and the concepts and processes related to them.
7. The trends and problems of researches in the area of teacher education and take inspiration to undertake researches in this area.

### **COURSE CONTENT:**

#### **UNIT I**

1. Teacher Education: concept, aim, need and scope.
2. Teacher Education in a changing society : A brief historical perspective of the concept of teacher education in the Indian context
  - Development of teacher education in India from Ancient, Medieval, British to Post-Independence period.
  - Needs of the learner, the educational system and the teacher education Programme.

3. The current Teacher Education system in India: an analytical study and critical appraisal of the recommendations of various commissions and committees of the post independence era for teacher education.
4. National Policy on Education -- Review of national level recommendations and N.P.E.

## **UNIT II**

5. Structure of Teacher Education: Salient features – relevance, flexibility integration, and interdisciplinarity. Aims, objectives and Teacher Education curriculum at different levels of education i.e. at Pre-primary, Primary, Secondary and Higher levels of education.
  - Norms and guidelines for teacher education at different stages.
  - Appraisal of current curricula and reforms proposed by N.C.T.E. and N.C.E.R.T. for different levels.
  - Levels and types of teacher education courses – (two year – under graduate, one year- post-graduate, four year –integrated)
6. Teacher Education Programmes : In-Service, Pre-Service, Distance Education Programmes, and Orientation and Refresher courses – their problems and limitations
7. Agencies of teacher Education : their roles and scope at
  - International level – U.N.E.S.C.O.
  - National level -- U.G.C., N.C.E.R.T., I.A.S.E., C.A.S.E.
  - State level -- S.C.E.R.T., D.I.E.T.
8. Current problems of Teacher Education Institutions: Teacher Education and problems of practicing schools, community and other institutions, Preparation of teachers for special schools. Teacher Education curricula and its implementation.

## **UNIT III**

9. Teaching and Teaching Models : Nature, definition and principles of teaching
  - Model of Teaching -- Concept, Attainment, Inquiry-Training, Problem - solving and Inductive thinking models - aims, purposes and paradigms.

10. Teaching as a Profession: characteristic features of a profession; features of teaching for being recognized as a profession, hurdles and drawbacks.
- Roles, responsibilities and accountability of teachers
  - Professional organization of teachers at various levels of education and their roles.
  - Performance appraisal of teachers – issues and problems.
  - Preparation of a professional personnel.
  - Teaching profession in future.
11. Teacher Effectiveness: Concept, issues, evaluation – procedures, tools and related problems in the context of each.
- Qualities of a good teacher – cognitive, affective and psychomotor.
12. Recent Trends in Teacher Education Competency based teacher education, Systems approach to teacher education, and Community – centered approach to teacher education.

#### UNIT IV

13. Research in the area of Teacher Education: Need, areas, problems and trends.
- Researches in the area of Teacher- Effectiveness in India and abroad
  - Researches in the area of admission criteria for pupil teachers.
14. Innovations in Teacher Education: meaning of innovation, factors and constraints in their acceptance and implementation.
- Some innovations - Micro teaching, observational systems and interaction analysis of teaching (verbal and non-verbal)
15. Organization of Practice-teaching and supervision of practice lessons: Block Teaching, Group-teaching, intermittent –teaching. Internship related problems, observation and assessment of practice-lessons - Concept and types of feedback to pupil-teachers.
16. Teacher Education for special children: need, problem, scope and constraints.



## **E- ADVANCED PEDAGOGY OF A SCHOOL SUBJECT**

### **(I) MATHEMATICS**

#### **COURSE OBJECTIVES:**

The students after going through the course-content

1. understand the history and culture of mathematics
2. understand the nature of secondary school mathematics and reflect mathematical creativity in their teaching.
3. take interest in recognizing the excitement of thinking like a mathematician.
4. develop an understanding of learning process in mathematics
5. develop an understanding of the different strategies and approaches to teaching of secondary school mathematics
6. learn to make use of the computer and information technology in learning and teaching of mathematics
7. teach a given mathematical content effectively by adopting appropriate teaching strategies to attain the objectives in mathematics.
8. construct appropriate test items according to instructional objectives in mathematics at various cognitive levels.
9. identify types of students' difficulties/ errors in learning mathematics and provide suitable remedial instruction.
10. understand the basis of curriculum construction of secondary school mathematics.
11. examine the recent trends in mathematics and mathematics education.
12. develop professional competencies of a mathematics teacher.

#### **COURSE CONTENT:**

##### **Unit I**

1. History of Mathematics and cultural contexts: History of mathematics and great Indian and Western mathematicians and cultural influences on the growth of mathematics.
2. Excitement in mathematics: Pattern recognition, geometric forms, generating problems.
3. Nature of mathematics: Dimensions of mathematics, pure and applied mathematics, language of mathematics, the Axiomatic method.
  - Nature of mathematical thinking, values in mathematics.
  - Philosophy of mathematics

##### **Unit II**

4. Approaches to teaching –learning of mathematics: Concept formation in mathematics, modes and strategies of teaching of mathematical concepts.
  - Expository and guided discovery strategies for teaching of generalizations in mathematics.
5. Strategies of teaching mathematics through child-centered approach, heuristic method, multigrade setting, joyful learning through play way method, development of computation and drawing skills.
  - Problem solving: stages in problem solving- Polya, techniques to improve problem-solving skills.
6. Designing mastery learning strategy for teaching product and process of mathematics based on different units in arithmetic, algebra, geometry, mensuration, trigonometry, statistics and computing.

### **Unit III**

7. Curriculum in Mathematics: History of School mathematics curriculum and basis of mathematics curriculum.
8. Evaluation of mathematics textbooks
  - Content analysis of secondary level mathematics textbook and concept of unit planning.
9. Pupil evaluation techniques: observation, oral work, analysis of written work. Planning and construction of competency based achievement test.
  - Diagnosis and remedial instruction: task and error analysis in diagnosis. Diagnosing difficulties in learning concepts and principles, construction and administration of diagnostic tests and using remedial instruction based on diagnosis

### **Unit IV: -**

10. Recent trends in pedagogy of mathematics: Examination of current issues, strategies, material and technology related to the teaching and learning of mathematics at secondary level.
11. Research in mathematics education
  - Creativity in mathematics and mathematics education
  - Establishment of mathematics laboratory and its role in school mathematics.
12. Professional Development of mathematics teacher: Types of in-service programmes for mathematics teachers, role of mathematics teacher's association, journals and other resource material in mathematics education

## (II) SCIENCE

### COURSE OBJECTIVES:

MARKS:

100

1. To develop in students a sense of appreciation for teaching science at school level.
2. To acquaint them with various objectives, approaches and methods of teaching science.
3. To train the prospective teacher educators in planning and designing for effective instruction and evaluation in science.
4. To develop in them certain specific skills for teaching selected topics of physics and chemistry through various approaches and methods.
5. To enable the learners to identify and select proper instructional material and media support for secondary level science teaching and make proper use of the materials.
6. To make the students aware of the recent developments in the pedagogy of science and the professional organizations of science teachers and teacher educators.
7. To make the prospective teacher educators able to demonstrate through practical work, their science pedagogical skills.
8. To enable the students conduct research work in pedagogy of science and do diagnostic testing and remedial teaching in science.

### COURSE CONTENT:

#### UNIT 1

1. **Nature of pedagogy of science:** Science in school curriculum, Objectives of teaching Science, Teaching of concepts, facts, principles and generalizations in science.
2. **Approaches and methods of Teaching Science:** Enquiry approach, Problem solving approach, Constructivist approach, Demonstration and Lecture- cum- demonstration method, Laboratory method, Project method.
3. **Planning and Designing for Effective Instruction In Science:** Planning for instructional process according to objectives, Designs of Lesson plan- their illustration with media support; computer aided instruction.

## Unit II

### **Pedagogy of Physics**

4. Electromagnetism: Introduction, objectives, magnetic effects of current, magnetic field affect current, electromagnetic induction. Evaluation.
5. Universe and space exploration: Introduction, objectives, origin of the universe, universe and its dimensions, organization of earth system, minerals and coal deposits, solar system, stars and life history of stars, galaxies and their origin, satellite and space exploration.

### **Pedagogy of Chemistry**

6. Atomic structure, periodic classification and chemical bonding: Introduction, objectives, structuring of atom, and classification of elements, chemical bonding, and evaluation.
7. Carbon and its compounds: Introduction, objectives, allotropes of carbon, why there are large number of carbon compounds in nature: catenation, isomerism, hydrocarbons, some other organic compounds, man made materials from carbon compounds: Polymers, soaps and detergents. Evaluation.

## Unit III

8. Instructional materials for teaching science at secondary level: activity book, workbook,
  - teachers' handbook and self- learning materials. Tryout and improvement of learning materials.
  - Resources for teaching science- use of environment and community resources
9. Planning for the development of a good secondary level physics/ chemistry textbook.
10. Role of the following in professional growth of science teachers: Periodic orientation and refresher courses, Professional organizations of science teachers, Internet and electronic media.

## **Unit IV**

11. Resources and their Evaluation: Reference books, journals, reports, bulletins in the field of science education. Research trends and research priorities in Science Education.
  - Planning, development, management and use of science lab for science education.
  - Evaluation of learners' progress: Concept, importance and techniques of evaluation and assessment, Construction and administration of test and monitoring of learners' progress, Diagnostic tests and remedial measures in science.
12. Action research: how to generate, guide and evaluate action research activities of science teachers and teacher trainees.

## **F-FUTUROLOGY OF EDUCATION**

### **COURSE OBJECTIVES:**

**MARKS:100**

The course aims at to achieve the following objectives:

1. Development of insight and futuristic vision in students.
2. To make students become sensitive to the futuristic problems of education and the society.
3. To make them aware about the environment around them.
4. To become able to apprehend and got prepared to solve the futuristic problems of education.

### **UNIT –I**

1. Meaning, Characteristics and Scope of Future Studies: Its relationship with education.
  - Futures studies in education, need and different factors viz. Social, Economical, Environmental and Technological factors.

2. Strategic Planning and Development of Knowledge: Disciplinary, Inter-disciplinary and Multidisciplinary and Transdisciplinarity. Experimental Learning and Constructionism.
3. Social change and Social mobility, characteristics and factors and role of Education.  
Problems in the wake of Population Growth, Environmental deterioration, Gender Consciousness, Globalization, Educational Futures.

## **UNIT – II**

4. Value crisis in Future perspective: Religion blended with scientific temper. Enrichment of Inner experience of Men-Awakening Intentions, Human Values and their Development.
5. Futures of Education – Learning to be, Education for 21<sup>st</sup> century – Delors Commission Report – Four Pillars of Learning. Challenges of Q Learning Society. Structure and Process of Future of Education: Education for All – Education as Fundamental Right.  
Futures of Elementary, Secondary and Higher Education System, Life long and continuing Education. General vs. Professional Education, Life Oriented Education.
6. Emergence of Open Learning Society: Characteristic of open learning system, Open Schooling and University, Virtual Classrooms, Open learning system in India and Abroad.

## **UNIT – III**

7. Futures of Information and Communication Technology (ICT). ICT in Education. Indian experiences. Impact of Technology System on Structure and Functioning of Education. Educational Technology vs. efficiency and effectiveness of education system. Systems approach, Networking.
8. Futures Learners, Teachers and Parents; Futuristic Curriculum, Classroom, Methodology and Evaluation.

## **UNIT – IV**

9. Role of National and International Organizations in Futurising Education. Role of UNESCO and World Bank in Futuristic Education.
10. Methods of Futures Studies: Forecasting methods, Qualitative techniques, Scenario Writing, Brain Storming, Free-wheel, and Delphi.
11. Quantitative Methods of Futures Studies: Trend analysis, Linear and Curvilinear trends, Time series, Regression Equation, Analysis, Decision making.

## **G - HIGHER EDUCATION**

MM- 100

### **UNIT I HISTORY AND GOVERNANCE**

1. The mother universities- Bologna, Oxford, and Paris
2. Idea of The University: Newman, Karl Jaspers, Jawaharlal Nehru, Mahatma Gandhi
3. Higher Education in *The Constitution of India*. Institutions of Higher Education and research in India: (a) Professional, Technical and General Education, (b) Formal and distance education, (d) Research
4. Central, State, Private and deemed Universities. State University Acts. Administration of Higher Education in U.P. state
5. Structure and features of university: (a) Act/ Charter, Statutes, and Ordinances, (b) General structure of a university, (c) Role of Vice Chancellor/ President of a University

### **UNIT II UNIVERSITIES ACROSS THE WORLD**

1. Vision, Practices and performance of some best Universities of the world
2. Internationalization of higher education. University in the context of changing world economy and technological revolution
3. Role of Associations of Universities: Association of American Universities, Commonwealth Universities Association, Association of Indian Universities
4. Quest for quality: Theory and practices of accreditation of higher education institutions: American concept, other benchmarking models, Accreditation in India by NAAC

### **UNIT III RESEARCH IN HIGHER EDUCATION**

1. Study of any one of the following (two years' back issues) to find out the trends and focal points of research in higher education:
  - *Dissertation Abstracts International*
  - *Journal of Higher Education*
  - *International Journal of Higher Education*
  - *University News*

2. Critical study of the research trends in Indian higher education as depicted in *Surveys of Educational Research* with an intent to explore the issues investigated and the research gaps.

## UNIT IV CONTEMPORARY ISSUES & PROBLEMS

### 1. University and society:

- a) Issue of autonomy in higher education, Autonomy versus accountability, Political interference in university's functioning.
- b) Problem of discipline : students, teachers and employees
- c) 'Not for profit' and 'For Profit' higher Education
- d) Higher Education vis a vis the economy, industry and business. Issue of employability and placement.

### 2. Liberalization versus control:

- a) Role of University Grants Commission in higher education
- b) International Trends in governance of higher education and universities
- c) Idea of self- financing of higher education
- d) Privatization of higher education and The Private Universities

### Suggested readings:

1. *Oxford University Act, 1200 AD.*
2. H.G. Good. *A History of Western Education* (1949). New York: The Macmillan Company.
3. Paul Munroe. *A Brief Course in the History of Education* (1951). London: The Macmillan Company.
4. Crammer and Browne. *Contemporary Education.*
5. *Report of the University Education Commission (1948-49)*. New Delhi: Ministry of Education, Government of India.
6. *Report of Education Commission (1964-66)*. New Delhi: Ministry of Education, Government of India.
7. Powar, K. B. and K. L. Johar (Eds.) *Private Initiatives in Higher Education* (2004). New Delhi: Sneh Prakashan and Amity Foundation for Higher Learning.
8. *Handbook of Indian Universities. (Published every year)* New Delhi: Association of Indian Universities.
9. Association of Indian Universities. *Society, Education and Development* (1998). New Delhi: AIU.
10. Association of Indian Universities. *Quality Assurance in Distance Higher Education* (1999). New Delhi: AIU.



11. Association of Indian Universities. *Accountability and Autonomy in Higher Education* (1998). New Delhi: AIU.
12. Association of Indian Universities. *Information Technology in Higher Education* (2000). New Delhi: AIU.
13. Association of Indian Universities. *Value Education in India* (2000). New Delhi: AIU.
14. Association of Indian Universities. *Management of University Administration* (2004). New Delhi: AIU.
15. *Commonwealth Directory of Universities*. (2003) London: British Common Wealth.
16. *The Uttar Pradesh State Universities Act, 1975*.
17. Rice, A.K. *The Modern University*, 1970. London: Tavistock Publications.
18. Kapur, J.N. *Current Issues in Higher education in India* (1975). New Delhi: S. Chand & Co. (Pvt.) Ltd.
19. Mathur, M. V, R. K. Arora, and Meena Rastogi (1994) *Indian University System*. New Delhi: Wiley Eastern Limited.
20. *Dissertation Abstract International*
21. *Journal of Higher Education*,
22. *International Journal of Higher Education*
23. *University News*