

## **M.Ed. COURSE (Semester System)**

### **(Revised Syllabus for the M.Ed. Course)**

The M.Ed. Course is designed in two semesters of six months duration or 105 working days in each semester.

#### **SCHEME OF EXAMINATION**

<b>Semester I</b>	<b>University Exam Max. Marks</b>	<b>Internal Max. Marks</b>	<b>Total</b>
<b>Paper I</b>	<b>100</b>	<b>20</b>	<b>120</b>
<b>Paper II</b>	<b>100</b>	<b>20</b>	<b>120</b>
<b>Paper III</b>	<b>100</b>	<b>20</b>	<b>120</b>
<b>Total</b>	<b>300</b>	<b>60</b>	<b>360</b>

<b>Semester II</b>	<b>University Exam Max. Marks</b>	<b>Internal Max. Marks</b>	<b>Total</b>
<b>Paper IV</b>	<b>100</b>	<b>20</b>	<b>120</b>
<b>Paper V</b>	<b>100</b>	<b>20</b>	<b>120</b>
<b>Dissertation</b>	<b>150</b>		<b>150</b>
<b>Viva-Voce</b>	<b>25</b>		<b>25</b>
<b>Project work</b>		<b>25</b>	<b>25</b>
<b>Total</b>	<b>375</b>	<b>65</b>	<b>440</b>
<b>Grand Total for Semester I &amp; II</b>	<b>675</b>	<b>125</b>	<b>800</b>

**Paper I**  
**PHILOSOPHICAL AND SOCIOLOGICAL FOUNDATIONS OF**  
**EDUCATION**

**Objectives**

1. To enable the student to understand the philosophical and sociological origins of educational theories and practices.
2. To enable the student to develop a philosophical and sociological outlook towards educational problems.
3. To help the student to understand the role of education in effecting social political, economic and cultural changes.
4. To help the student to understand the contribution of the important philosophical school to the theory and practice of education.

**Course Outline**

SECTION A: Philosophical Foundations of Education

1. The meaning and significance of philosophy of education – The main divisions of Philosophy- Metaphysics-Epistemology and Axiology- its relationship with education. The significance of philosophy of education and its relation to the values, the philosophy of life and social structure of people values of the Emerging Indian Society. Philosophical traditions of Indian and their impact on Indian education.
2. Ancient Indian philosophy and its impact on education- Aims and ideals of education as exemplified in Upanishads, Sankhya, Yoga, Nyaya and Vedanta. Educational thought in the Bagavad Gita. Philosophical and Educational ideal of Carvaka School, Jainism and Buddhism and Islamic thought and their impact on Indian Education.
3. Some western school of Philosophers and their significance to education. The Axiological, Metaphysical and Epistemological aspects of Idealism, Humanism, Realism, Naturalism, Pragmatism and Existentialism and their implications.
4. Some social philosophies and their educational implications-individuals in, democracy, socialism and totalitarianism. The concept of democracy, socialism and secularism.

5. Freedom and discipline in education-importance of freedom descriptive-philosophical theories of discipline-the concept of freedom as mentioned in traditional Indian Philosophy and classical and modern western of philosophy. Democratic versus totalitarian discipline.
6. Curriculum development-theories regarding curriculum development-philosophical sociological and psychological basis of curriculum development, General versus specialized education-vocational versus liberal education.
7. Doctrines of great educators-Plato, Rousseau, Posalozzi, Froebel, Montessoysi, Dewery, Paulo Frier, Swami Vivekananda, Rebindranath Tagore, Mahatma Gandhi and Sri Aarabindo.
8. Recent researches in Educational philosophy and their educational implications.

### **SECTION B: Sociological Foundations:**

1. Meaning and Scope of Educational Sociology-relation between education and social system- Socialization and Education- Education as Pre-requisite for the building of a socialistic pattern of society-Education in independent India. The Educational Demands of Independent India-The development of a National Policy on Education.
2. Educator and social transformation- Education a process of social control and social change. education in the context of social and cultural change, Technological change, Industrialization, urbanization- Link between Educational system and governmental needs-Education and social mobility.
3. Social change in India: Education in accelerating social change, Education of the weaker sections of the community-Adult Education- Women's Education- Population education-Human Rights Educations and Workers Education, Environmental education.
4. Education and the state education for democracy, socialism and secularism. Equalization of educational opportunities, education for the minorities: Cultural, religious and linguistic minorities. Constitutional provisions relating to education in India.
5. Value Education-the present value crisis, social morel spiritual values. Recommendations of the different commissions up to the National Policy on Education of 1968 and 1986.

6. National Policy on Education, a detailed study. International understanding shaping the instrumentalities of education to effect National Integration and International understanding. Approaches and trends.
7. Recent researches in Educational sociology and their educational implications.

### **List of Readings**

1. Broudy, H.S. Building a Philosophy of Education, Prentice Hall, Delhi, 1965.
2. Bageley, W.C. Educational and the Emergent Man, Thomas Welson & Son, New York, 1935.
3. Boyd, W. and Young, E.J. The History of Western Education. Adam and Charles Black, London, 1975.
4. Butler, J.S. Idealism in Education, Harper & Row, New York.
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7. Brown, F.J. Educational Sociology, Prentice Hall, 1947.
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10. Dewey, John Democracy and Education Macmillan Co., 1916.
11. O'Connor, D. Introduction to the Philosophy of Education, Methuen & Co., 1961.
12. Kneller, G.F. The Logic and Language of Education, John Willey, 1966.
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14. Brubacher, J.S. Modern Philosophies of Education, McGraw Hill Book Company, 1939.
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20. Ross, James, S. Groundwork of Educational Theory, George G. Harrap and Co., Ltd., 1937.
21. Dunsoft. An Introduction to Sociology, Macmillan, 1975. New York.
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29. Ruhela, S.P. (Ed.), Sociology of the Teaching Profession in India, NCERT, 1970.
30. Ruhela, S.P. & Vyasa, K.C. Sociological Foundations of Education in Contemporary India. Dhanpat Rai & Sons, 1970.
31. Naik, J.P. Equality, Quality and Quantity.
32. Mathur, S.S. A Sociological Approach to Indian Education, Vinod Pustak Mandir, 1966.
33. Nunn, Percy. Education: Its Data and First Principles, Annold and Co., 1957.
34. Olive Banks. The Sociology of Education, London.
35. Naganatam, R. New Frontiers: East and West Philosophies of Education, Orient Longman, 1958.
36. Livingstone, R. The Future of Education, Cambridge University Press, 1941.
37. Bode, Boyd, H. Modern Educational Theories, MacMillan Co., 1927. McIver & Page. Society.
38. Musgrawe. The Sociology of Education.

## Paper II

### EDUCATIONAL RESEARCH AND STATISTICS

#### Objectives

1. To develop in the student the concept that education can be studied as a science.
2. To acquaint the student with the methods used for locating problem areas and research problems.
3. To familiarize the students with the common tools of research and assess their efficiency.
4. To familiarize the students with the different methods of research.
5. To help the student to use statistical techniques and designs in educational research.
6. To familiarize the student with the standard conventions used in preparing and presenting the research report.
7. To help the student to be a better consumer of educational research.

#### Course Outline

##### Section A: Elements of Research Methods:

1. Meaning of Research-Research as a method of science – scope and functions of educational research – classification of educational research: pure vs. Applied: Fundamental vs. Action research.
2. Designing a research plan
  - i) Selection of problem: education and selection of research areas and problems-working of the problem-criteria for selecting problems.
  - ii) Review of literature – initial and second. Functions of the reviewed literature – How to conduct a review of literature- recording the surveyed information.

- iii) Stating the hypothesis-Need for hypothesis different ways of stating hypothesis- sources for hypothesis making criteria for evaluating a good hypothesis-role of hypothesis in theory making.
- iv) Tools of research- selecting the data gathering method and technique (observation, measurement and questionnaire) selecting and developing data gathering instruments- (observation, interview, tests, scales, checklists, schedules, score cards, sociometric techniques, etc.)
- v) Sampling- Needs for sampling, different methods of sampling sample size, statistical concepts of large and small samples.
- vi) Data gathering (see methods of research)
- vii) a) Preparing the research report: Format of the research report, style of writing, preparing tables for presentation of data, system of indicating reference and Bibliography.  
b) Evaluation of the research report- criteria for evaluation.

### **3. Methods of Research:**

Classification of research methods into Historical, Ex post Facto and Survey, Ethnographic, Experimental and case study. Content Analysis and Scalogram Analysis.

### **Section B: Elements of Educational Statistics**

#### **1. Measurement, Tabulation and Depicting Data**

Why statistics is need for educational research, types of data, graphic presentation of data in the form of histograms, frequency of polygons, smoothed frequency curves, etc.

#### **2. Basic Descriptive Statistics**

- (i) Measures of central tendency- computation of the Arithmetic mean median and mode. When to use different measures-merits and demerits of different measures.
- (ii) Measures of variability, computation of Range, Mean deviation, standard deviation and quartile deviation- when to us each- merits and demerits of the

various measures of variability-Measures of variability as supplements to measures of central tendency.

- (iii) Cumulative distributions, percentiles and percentile ranks construction of the cumulative percentage.
- (iv) The Normal curve. Important properties and applications skewed and kurtosis measures of divergence for normality-use of standard in finding areas under the normal curve.
- (v) Correlation. Concept of correlation in education research indices of correlation: Rank coefficient of correlation product moment coefficient of correlation and the coefficients- Applications of correlation; Measurement of relationships, prediction (by simple regression equations) Item analysis, estimating-the reliability and validity of tests and faction analysis.

### **3. Basic Inferential Statistics**

- i) Statistical significance- Testing the significance of the Mean; standard deviation, product moment coefficient of correlation and percentage, confidence limits.
- ii) Tests of significance for differences, Null hypothesis, level of significance, Type and type II error, Tests of significance for difference between (a) means, (b) percentages (c) correlations for large independent samples, large dependent samples, small independent samples and small dependent samples and small dependent samples.
- iii) The chi-square tests. Use of chi-square tests for testing the agreement between theoretical and observed frequencies.
- iv) Analysis of variance concept and utility of ANOVA Basic assumptions of ANOVA, Analysis in a one-way classification problem.

### **REFERENCES:**



### **Paper III. Advanced Educational Psychology**

#### **Objectives:**

1. To acquaint the student with the objectives, methods and concepts of modern scientific psychology.
2. To acquaint the student with the laws and principles governing learning and instruction.
3. To help the student to understand the psychological origins of behavior problems in children and deal with them effectively.
4. To prepare competent present for research in educational psychology.

#### **Course Outline:**

1. Introductory Concepts
  - a) The science of psychology, origins, Trends in problems Trend in methods, scientific characteristics of psychology, theory in scientific psychology.
  - b) Educational psychology: Definition and scope, Areas and fields of application.
2. The Child's Development.
  - a) Means of studying Human Development (Cross sectional, longitudinal, case study) with reference to recent researches in developmental psychology.
  - b) Principles of human development.
  - c) Adolescent Problems and Remedial measures- Recent researches in adolescent education.
  - d) Theories of adolescence.
  - e) The physical, motor, mental and socio-emotional characteristics of adulthood and old age.
    - iii) Patterns in adulthood
    - iv) Period of old age
    - v) Ericksons stages of psycho-social development
3. Intelligence and cognition

- a) Meaning of the Concept- Different perspectives on Intelligence: Philosophical, Subjective and Objective. Definitions of Intelligence – Biological, Psychological and Operational.
- b) Theories of Intelligence: Classical Theories of Spearman, Thorndike, Thompson, Thurstone, Burt, Vernon, Guilford and Cattell. Modern Theories: Triarchical theory, Multiple Intelligence Theory, Bio-ecological Theory, Socio-cultural theory and Theory of Emotional Intelligence. Concept and Applications of Artificial Intelligence (AI).
- c) Developmental theories and studies: Contributions of Hebb, Piaget, Bruner, and Gagne to ideas of cognitive development- Carrols definition of aptitude – Mastery learning. Moral development- Piaget and Kolberg.
- d) Measurement of Intelligence: Classification of tests, Representative tests, with special reference to India, constructs like I.Q. and standard scores in Intelligence measurement like D.I.Q., limitations of intelligence testing. The IQ controversy. IQ and EQ.
- e) Practical experience in measurement and interpretation of a Verbal and Non-verbal test of intelligence.
- f) Creativity: Definitions. Measurement, Classroom implications (Teaching for creativity and problem solving). Creativity as related to intelligence and achievement.

#### 4. Psychology of Learning and Instruction.

- a) Definitions and preliminary constructs.
- b) Theories: Theories of Thorndike, Hull, Skinner, Tolman, Gestalt-Field Theory of Learning and Guthrie.
- c) Theories of Instruction: Learning theory-related instructional theories (Behaviour modification theories- Piaget, Bruner; Task analysis instructional theories- Gagne, Humanistic Psychology and Instructional Theories- Rogers-Information Process Theories.
- d) Introductory concepts of Models of Teaching. For families (social interaction models, information processing models, personal models, and behavioural modification models).
- e) Learning Disabilities-Factors affecting-Types (Physical-Psychological-Educational-cultural-remedial-measures).

- f) Motivation (psychoanalytic, Behaviouristic, cognitive field, Humanistic) Role in teaching and learning. Experimental studies.
- g) Transfer and functional learning: Definition. Theories, Experimental studies. Implication for educational theory and practice.
- h) Learning in Learner's Perspective. Orientations in Learning-Meaning Orientation – Achieving Orientation – Reproducing Orientation-Non-Academic Orientation. Styles of Learning: Holistic, Serialistic and Versatile Style- Environmental, Emotional, Sociological and Physical Style. Strategies of Learning: Cognitive, Metacognitive and Socio-affective Strategies. Pathologies in Learning: Globetrotting and Improvidence.

#### 5. Personality

- a) Introductory concepts: Definitions. Psychological constructs, classifications of Personality variables.
- b) Representative theories and approaches: study of the theories of Freud, Adler, Rogers, Allport, Catell, Social Learning Theory, Approach of Eysenck, Current Status.
- c) Measurement of personality: Different types of measures. Inventories, Rating Scales, Projective Techniques, Situational tests of character.
- d) The Deviant Personality: Definitions. Classifications. Disease entity approach, Genetic hypothesis, Body types, psychological and psycho analytic theories. Application to education. Maladjustment, their causes and symptoms, treatment.
- e) Guidance and counselling: The guidance approach Different types of guidance. Procedure and practices. Counselling. School guidance services.

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2. Bigge & Hunt Psychological Foundations of Education. New York: Harper & Row, 1962.
3. Rojer, T.G.R. Human Development, San Francisco, W.H. Ereeman and Company, 1979
4. Bruner, J.S. Process of Education, Harward University press, 1960
5. De Cecco, J.P. and The Psychology of Learning and Instruction. New Delhi: Prentice Hall, 1977.

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6. Dease and Hulce                      Psychology of Learning, McGraw Hill.
  7. Denischild                              Psychology Classroom Teacher
  8. Fernald, L.D. &                      Introduction to Psychology Houghton,  
Fernald, P.S.                              Mifflin Co.
  9. Freeman, F.S.                          Theory and practice of psychological testing.  
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  10. Gadge and Berliner                      Educational Psychology. Chicago Rard  
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  12. Guilford, J.P.                          Fields of Psychology, Van Nostrand, 1966.
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- 25 Morse, W.C. & Readings in Educational Psychology,  
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- 26 Patterson, C.H. An Introduction to Counselling in Schools.  
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- 27 Piaget, J. The Language, and Thought of the Child,  
. Routledge and Kegan Paul, 1959.
- 28 Ryckman, R.M. Theories of Personality, D. Van Nostrand Co.  
. 1978
- 29 Skinner, C.E. Educational Psychology. Prentice Hall of  
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30. Snelbecker, G.E. Learning Theory, Instructional Theory and  
Psychoeducational Design. New York  
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31. Weiner, I.B. & Readings in Child Development, John Wiley,  
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Teaching Eric Eric Enelan Human Development London Hellen  
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33. Helen L. Bee and Sandra A life span approach (2<sup>nd</sup> ed.) New York  
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Developing Person.

### **Additional Reference**

- 1) Robert M. Libert & Michal D. Speigler (1978). *Personality straegies and issues*. Illinois. The Dorsey Press.

- 2) Barbara Woods (1995). *Basic in psychology*. London. Hodder Stoughton.
- 3) Mark Tennant (1988) *Psychology and adult learning*. London: Routledge
- 4) Jagannath Mohanty (1988) *Child development and education today*. New Delhi: Anmol Publications.
- 5) Suresh Dult (1977) *Encyclopaedia of child psychology and development*. New Delhi: Anmol Publications.
- 6) James W. Kalat. (1999). *Introduction to Psychology* (5<sup>th</sup> ed.). Pacific Grove: Brooks/Cole.
- 7) Lestel A. Lefton (1985). *Psychology* (3<sup>rd</sup> ed.). Boston. Allyn of bcon, Inc.
- 8) Frames of Mind: The Theory of Multiple Intelligences. New York: Basic Books.
- 9) Goleman, D. (1995). *Emotional Intelligence*. NEw York: Bantam Books.
- 10) Howe, M.J.A. (1997). *IQ in Question: The Truth About Intelligence*. London: Sage.
- 11) Sternberg, R.G. (1985). *Beyond IQ: A Triarchic Theory of Human Intelligence*. New York: Cambridge University Press.
- 12) Eysenck, M.W. (1994). *The Blackwell Dictionary of Cognitive Psychology*. Oxford: Blackwell Publishers.
- 13) Entwistle, N.J. (1981). *Styles of Learning and Teaching*. New York: John Wiley.
- 14) Entwistle, N.J. (1987). *Understanding Classroom Learning*. London: Hodder & Straughton.
- 15) Entwistle, N.J. (4990). *Handbook of Educational Ideas and Practices*. London: Routledge.

## **Optional- GUIDANCE AND COUNSELLING**

### **Objectives**

1. To acquire the students with the concepts and principles of Guidance and Counselling.
2. To acquire the students with the techniques, types and areas of Counselling and Guidance.
3. To acquire the students with the role and responsibilities of the guidance personnel.
4. To acquire the students with the theories in counseling and Guidance.
5. To acquire the students with the methods and tools for information gathering for Guidance and Counselling.

### **1. Principles of Guidance**

Meaning of guidance: Basic concepts Philosophy of guidance. Guidance in relation to education need for guidance.

### **2. Essential Guidance Services**

Areas of education process- Curricula (importing subject matter knowledge). Administrative (Staffing plating, budgeting and building, supervision, etc.). Pupil personnel (i) Child accounting and regulatory services: registration and admission, attendance, fee, fine, etc., (ii) Clinical services: General health, hygiene, first aid etc., (iii) Guidance services: Orientation service, inventory service, information service, counselling, placement, follow-up, research and evolution).

### **3. Personnel and Resources for Guidance:**

Functions of a school counselor. Functions of careers teachers in-School resources (Principal, Teachers, Pupil, Personnel Staff), Out of school resources (Parents, community resources). Staff level guidance agencies National employment services.

### **4. Dimensions of Guidance**

Educational guidance, vocational guidance, personal social guidance. (All these in elementary, Secondary and higher secondary levels).

### **5. Overview of Counselling**

Concept of counselling. Counselling a different from advice and psychotherapy. Basic principles of counselling. Counselling approaches psychoanalytic, humanistic, trait and factor. behaviouristic, electric.

## 6. Counselling Service

Nature of counselling individual counseling and group counselling. Beginning a counselling relationship. Basic skills in counselling. Qualities of an effective counselor. Counselling interview.

## 7. Pupil Appraisal in Guidance

Testing techniques achievement, aptitude and ability tests, projective techniques. Self-reporting techniques inventories. Questionnaires, checklists. Self-descriptions, Essays on aspects of Myself, Diaries, Autobiography, Observational techniques: Situational tests, Rating scales, check lists, Anecdotal reports, Observation technique. Interview, Sociometry, Guess who technique, records.

Placement and follow-up services:

Meaning and agencies of placement and follow-up

Research and Evaluation in Guidance:

Evaluation of guidance programmes current areas of research in guidance.

## References

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- Bhatnagar, A. & Gupta, N. (Eds. 1999): Guidance and Counselling: A Theoretical Perspective, New Delhi: Vikas Publishing House.
- Lakshmi, K.S. (Eds. 2000) : Encyclopaedia of Guidance and Counselling, New Delhi: Mittal Publications.
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## OPTIONAL

### TECHNIQUES OF EVALUATION AND METHODS OF TEST CONSTRUCTION

#### Objectives:-

- i. To acquaint the students with thematical basis of evaluation.
- ii. To make the students conversant with the different tools and techniques of evaluation.
- iii. To develop skill in the technique of test construction analysis and interpretation of test results.
- iv. To acquaint students with the recent developments in the theory and research bearing on modern evaluation.

#### Course Outline

##### I. Introduction Concepts on Evaluation.

- i. Definition of Measurement and Evaluation- Basic kinds of measurement scales- purpose of measurement and evaluation-Evaluation as basis of decision making.
- ii. Historical development of evaluation – models of educational evaluation (goal attainment model and goal free judgment).
- iii. The role of objectives-different approaches for the formulations of objectives- Taxonomy of Educational objectives – (cognitive, affective and psychomotor).

##### II. Tools and Techniques of Evaluation.

Teacher made evaluation tools.

###### a) Classification in terms of

- i) Item format (essay viz., objective)
- ii) Stimulus materials (verbal) vs. non-verbal) vs. performance.
- iii) Purpose (Norm references vs. criterion referenced; diagnostic, prognostic and readiness tests; formative vs. summative).

###### b) Planning and preparation of a teacher madder (achievement) Test.

##### 2. Other Teacher made evaluation procedure

Observation – Questionnaire – Interview – Checklists – Rating Scales

- Aneedotal record – Sociograms.

### 3. Standardized evaluation Tools

- a) Definition and classification of standardized tests – functions (purposes).
- b) Theoretical format and uses of select standardized tests in
  - i) Intelligence
  - ii) Aptitude
  - iii) Personality, Interest and Attitude
  - iv) Creativity

### III. Process of Test Construction and Standardization.

(With reference to Achievement, Intelligence, Creativity, Aptitude and Personality)

- a) Planning of a test
- b) Item writing, scrutinizing and editing
- c) Preliminary Try out and item analysis
- d) Selection of items for the final test.
- e) Estimating the desiderata (reliability, and validity) of the test.
  - (i) Reliability of measurements (Basic definition of reliability-reliability coefficient as an index-methods of estimating reliability and practice problems-factors affecting reliability of the test-)
  - (ii) Validity of measurements
 

(Basic definition, methods of estimating validity, relation of validity to reliability, validity and length of the test)
- f) Norms, Scores and Profiles.

### IV. Process of Attitude Scale (Thurstone and Lickert)

Construction and Standardization.

### V. a) Marking and Reporting the results of measurements.

Necessity for reporting variety of reporting procedures – marking and reporting procedures for

- (i) teacher made instruments (ii) standardized instruments.

b) A critical discussion of the following:

- i. Internal Assessment
- ii. Pass-fail system
- iii. Question Banks
- iv. Moderation of Marks
- v. Ranking Vs. Grading
- vi. Semester System of Examinations.
- vii. Criticisms of Bloom's Taxonomy of Objectives.
- viii. Use of Computer in Testing.

c) An introduction to Teacher evaluation and programme evaluation

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## **Optional: EDUCATIONAL TECHNOLOGY**

### **Objectives**

1. To acquaint the students with modern technological development.
2. To make the students aware of the significance of technology in education.
3. To develop skills in production, selection and evaluation of educational materials.
4. To develop favourable attitudes towards using new educational media.

### **Course Outline**

#### I. Nature, Scope and Theoretical Bases:

- (i) Definition of Educational Technology (Physical Science Approach, behavioural science approach systems approach). Technology as fourth revolution. Technological Development and its impact on education Learning, Teaching and Instructional Technology Limitations.
- (ii) Learning-instructional theories and educational technology

#### II. Learning Technology

- (i) Individualized instruction, contributions of Skinner, Crowder, \*\*\*

Programmed Learning – Different styles- present positions and criticisms – Future implications.

(ii) Auto instructional to devices; Scope with special reference to Higher education.

(iii) Group instructional techniques and mass instructional techniques.

(iv) Technologies categorized based on accessability used locally or used over distance.

Computer Assisted Instruction and Computer managed Instruction – Working of PLATO and ‘SOCRATES’ – Scope of CAI in India. Mini Computer- Computer Assisted Testing.

Audio and Audiographics – Audio tapes, Electronic, B.B. Dial Access. Slow Scan T.V. Facmile – Language Lab.

(v) Video Tapes and Video Discs.

(vi) Modules approach- Modules – learning packages

Keller Plan (PSI)-

Flexi Study

### III. Communication Technology

(i) Theory of communication- communication cycle – Type of communication- principles and their practical relationship to new educational media – Cybernetics.

(ii) Communication in the classroom

Factors affecting classroom communication – Teacher behaviour and classroom interaction – Interaction Analysis (OSCAR Bales, IPC, FIACS. VICS, RCS and ETC, multiple coding system.

(iii) Training Technology:

-Micro-teaching, important features of microteaching-Identification and classification of teaching skills – Developments of teaching skills – link practice and macro teaching.

### IV. Media Technology

(i) Psychology of Using A.V. Aids

(ii) Media classification schemes – mass media-satellite instruction.

(iii) Media subsystems and multimedia approach.

(iv) Use of Media for mass instruction- Distance Education and continuing education including adult education – instructional technology in special education.

#### V. Technology in Teacher Education:

An overview of teaching models- social interaction models information processing models- personal models-behaviour modification models.

#### VI. Management Technology:

Systems approach to education, definition of a system, components of an instructional systems, Advantages of systems approach- Instructional kits and media packages.

#### Practical Work

- (i) Construction of PLM and a learning module for a particular topic.
- (ii) Observation of classroom interaction using any observation schedule.
- (iii) Internship in micro teaching.
- (iv) Preparation of radio/TV lesson.
- (v) Preparation of a teaching unit based on any teaching model.

## COMMERCE EDUCATION

### Objectives

- To acquaint the learner with the modern psychological theories and their bearing commerce curriculum development, methods of teaching and evaluation.
- To acquaint the learner with the recent development and research on modern commerce education.
- To enable the learner to improve his/her professional competence as a commerce teacher.
- To acquaint the learner with the use of different modern materials and media in commerce teaching.

### Course Outline

- I.
  - a) A theoretical introduction to why teach commerce.
  - b) Historical development of Commerce and Modern trends in Commerce.
  - c) Objectives of teaching commerce – Broad goals and instructional objectives.
- II.
  - a) Basic competencies in commerce- structure of competencies in various commerce subjects – their theoretical and practical importance.
  - b) Teaching for development of skills and competencies – cognitive and non-cognitive skills and competencies in commerce.
- III. Curriculum
  - a) Psychological theories and researches of Piaget, Bruner and Gagne and their implications in curriculum construction.
  - b) Types of curriculum – Integrated, Discipline centred and Competency Based
  - c) Construction of commerce curriculum- criteria for selection of concepts/competencies, criteria for organizing content, approaches to organizing content-development of sources and supplementary materials articulating programmes for higher secondary stage.



- d) Individual difference and commerce curricula- special treatment for the gifted and slow learners (differentiated curricula, horizontal and vertical acceleration, enrichment programmes, individualized instruction).
- e) Critical study of the existing higher secondary commerce curriculum in the light of the theories of curriculum construction.

#### IV. Strategies for Commerce Education

- a) Implication of the theories of Piaget, Bruner and Gagne on Commerce education.
- b) Approaches to commerce education-traditional and learner centred approaches.
- c) Techniques of teaching commerce- lecture, discussion, demonstration, team teaching, directed study, programmed learning, problem solving, Role playing, simulation, project work shop, etc.
- d) Models of Teaching Commerce- Information Processing Models (Piaget, Bruner, Suchman and David Ausubel), Behaviour Modification Model (Mastery Learning, and Simulation) Social Models (Jurisprudential Inquiry and Co-operative Learning) Personal Model (Carl Rogers).
- e) Technology in Commerce Instruction – system approach to commerce education, Technology for teaching individual, small group and large group (Programmed and computerized instruction, personalized. Instruction, educational television, CCTV, Video Tape Interaction, Radio Lessons).
- f) Non-formal technique of Learning Commerce-Quiz, Field trips, Reading, Open learning from resource centres, placement, etc.

#### V. Evaluation

- a) Evaluation of product, process and performance- abilities and skills
- b) Teacher made tests and standardized tests.
- c) Formative and summative evaluation.
- d) Diagnostic testing and Remedial teaching.

## VI. Research Perspective:

Survey of recent researches in commerce education with special reference to:

- a) Commerce curriculum and resource materials.
- b) Instructional procedures
- c) Technology in commerce learning
- d) Commerce learning and other cognitive functioning
- e) Evaluation in commerce education.

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## NATURAL SCIENCE EDUCATION

### Objectives:

- (i) To acquaint the student with the fundamental concepts of the acted of science.
- (ii) To acquaint the student with the modern psychological theories and their bearing on science curriculum development, methods of teaching and evaluation.
- (iii) To acquaint the student with the recent developments and research hearing on modern science education.

### Course Outlines:

#### 1. Preliminary Considerations:

- a) Meaning and changing concepts of science (Product, Process, and both Product and Process)
- b) Objectives of teaching biological science- Broad goals and instructional objectives.

#### 2. Method of Science:

- a) Characteristics of an experimental science: Observation, organization, reasoning and communication.
- b) Understanding of science: reflective and critical thinking.
- c) Formulation of problems and hypotheses: Understanding cause-effect relationships, distinction between fact and theory; recognizing and evaluating assumptions.
- d) Testing hypotheses and generalizing: Manipulation f variables and collection of evidence. Interpretation of data. Drawing conclusions or generalization. Formulation of scientific principles.
- e) Application of principles and deduction of new principles. Implications for instruction.
- f) Developing functional understanding of scientific facts, concepts and principles. Use of scientific method in developing science concepts and principles.

#### 3. Curriculum:

- a) Psychological theories and researches of Piaget, Bruner, and \*\* and their implications in curriculum constructivism.

- b) Types of curricula:- Environmental, Integrated and Discipline centered.
- c) 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.
- d) Individual differences and science curricula-special treatment for the gifted and the slow learners (differential curricula, horizontal and vertical acceleration, enrichment, individualized instruction).
- e) Forces directing the new science curriculum- Need for changing science curriculum.
- f) Some significant curricular experiments- BSCS, Nuffield, SCERT.
- g) Critical study of the existing high school syllabus in Kerala in the light of the theories of curriculum construction.

#### 4. Strategies for Science Education:

- a) Implications of the theories of Piaget, Bruner and Gagne in Science Education.
- b) Approaches to science education – Traditional, Learner-centred (Investigatory, Inquiry and Discovery).
- c) 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.
- d) Models of Teaching science – Information Processing Models (Piaget, Bruner, Suchman, Schwab), Behaviour Modification Model (Contingency Management).
- e) Technology in science instruction – Systems approach to science education. Technology for teaching individual, small group and large group (Programmed and computerized instruction, personalized instruction, educational television, closed-circuit television, Video Tape Interaction, Radio/Tape Lessons).
- f) Non-formal techniques of learning science- work experience, community resources, science exhibitions and fairs, science quiz, field trip, reading, drawing, model-making, environmental education; open learning from resource centres.

#### 5. Evaluation of Science Education:

- a) Evaluation of product, process and performance abilities and skills.
- b) Teacher made tests and standardized tests
- c) Formative and summative evaluation.
- d) Diagnostic testing and remedial teaching.

6. Research Perspective:

Survey of recent researches in science education with special reference to:

- a) Science curriculum and resource materials.
- b) Instructional procedures
- c) Science Learning and Cognitive Functioning
- d) Scientific creativity
- e) New technology in science learning
- f) Evaluation in science education

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## MATHEMATICS EDUCATION

### Objectives:

1. To acquaint the students with the fundamental concepts and major events in history which helped shape the present day mathematics education.
2. To get a knowledge of the structure of mathematical abilities, their theoretical and practical importance.
3. To acquaint the students with the modern psychological theories and their on mathematics curriculum development, methods of teaching and evaluation.
4. To acquaint the students with the recent developments and research on modern mathematics education.

### Course Outline

- I.
  - a) A theoretical introduction to why teach mathematics.
  - b) Historical roots of mathematics- Euclidean and Non-Euclidean Geometries- historical development of mathematics with social reference to the developments in the 19<sup>th</sup> and 20<sup>th</sup> centuries.
  - c) Major events that led to the development of present day mathematics education.
- II
  - a) Structure of mathematical abilities – their theoretical and practical importance.
  - b) Mathematical giftedness and mathematical creativity- characteristics of information gathering, information processing and information retention by mathematically capable students.
  - d) Teaching basic skills in mathematics (problem solving; Applying Mathematics to every day situations; Awareness to Reasonableness of results; Estimation and approximation; Appropriate Computational skills; Geometry; Measurement; Reading, Interpreting, and constructing Tables, Charts and Graphs; Using Mathematics to Predict and Computer Literacy).
- III. Curriculum Planning
  - a) Psychological theories and researches of Piaget, Bruner and Gagne and their implications in curriculum construction.
  - b) Types of curricular.



- c) Construction of curriculum – criteria for selection of content, criteria and approaches of organizing content; development of source and supplementary materials- articulating maths from primary to higher secondary stages- spiral curriculum.
- d) Mathematics curricula to meet individual differences-special treatment for the gifted and slow learners. (Differential curricula, horizontal and vertical acceleration, enrichment, individualized instruction).
- e) Forces directing curriculum revision – Needs for changing mathematics curriculum.
- f) Some significant curricular experiments – SMSG, Nuffield, SMP, NCERT
- g) Critical study of the existing High School Mathematics Syllabus in light of the theories of curriculum construction.

#### IV. Strategies for Science Education:

- a) Implication of the theories of Piaget, Bruner and Gagne in Mathematics Instruction.
- b) Approaches to mathematics education – Traditional and Learner-centred.
- c) Techniques of teaching mathematics– Lecture, Questioning, Discussion, Demonstration, Team teaching, Directed study, Programmed Learning, Micro-teaching, Problem Solving, Role Playing and Stimulation.
- d) Models of Teaching Mathematics– Information Processing Models (Piaget, Bruner, Suchman) and Behaviour Modification Model (Contingency Management).
- e) Technology in Mathematics Instruction. Systems Approach to Mathematics education. Technology for teaching individual, small group and large group (Programmed and computerized instruction, personalized instruction, educational television, closed-circuit television, Video-Tape Interaction, Radio/Tape Lessons, calculators).
- f) Nonformal techniques of learning mathematics. Mathematics Quiz, Reading, Drawing, Model-making, open learning from resource centres, games and Puzzles, Enrichment Materials Periodicals.

#### V. Evaluation:

- g) Evaluation of cognitive and effective outcomes.
- h) Teacher made tests and standardized tests
- i) Formative and summative evaluation.
- j) Diagnostic testing and remedial teaching.

#### VI. Research Perspective:

Survey of recent researches in Mathematics education with special reference to:

1. Mathematics curriculum and resource materials.
2. Instructional procedures
3. Mathematics Learning and other Cognitive Functioning
4. Mathematical creativity
5. Technology in Mathematics learning
6. Evaluation in Mathematics education

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## **LANGUAGE EDUCATION**

### **Objectives**

1. To acquaint the students with the advanced developments in the theory relating to the teaching of mother tongue.
2. To acquaint the student with some of the modern procedures and techniques in teaching languages.
3. To help the students to improve his professional competence as a language teacher.
4. To acquaint the student with the use of different modern materials and media used in language teaching.
5. To acquaint the student with the latest researcher relating to the teaching and learning of the mother tongue.

### **COURSE OUTLETS**

1. Preliminary considerations: Language – Its meaning and definitions – The nature of language – Language development – Role of language in the development of the child- Factors conditioning language development.
2. The psychology of language learning: Recent developments in the psychology of language development and verbal learning. Readiness in relations to language skills- implication of the theories of Skinner, Piaget, Bruner and Gagne and Chomsky.
3. Sociology of Language Learning: Language and culture- Cultural nature of language- The Social context of language acquisition – contribution of Bloomfield, Edward, A Sapir, Robert Lado, and Benjamin, L. Whorf. The role of environment in language development with reference to socio-economic status of parents and socio-cultural variables. Compensatory programmes for socially deprived groups – Research studies bearing on the above.
4. Linguistics and language learning: Language and Linguistics- Linguistics and phonetics- Phonetic –Phonetic principles in language teaching and language learning. Studying native language Chomsky and transformation grammar.
5. Goals of Language Instruction: A detailed consideration of the goals of language instruction at different levels of education. The cognition, affective and psychomotor domains of behaviour associated with the learning of language. Evolving a taxonomy

of language behaviour for different levels of instruction. Modern approaches to the instruction of languages.

6. a) Teaching of language skills: A details consideration of the modern developments in the teaching of the main language skills- viz., listening, speaking, reading, handwriting, spelling. Creative writing, expression both oral and written. Teaching of poetry and prose with special reference to development of skills.
- b) Teaching for cognitive changes associated with language development: Teaching of vocabulary- grammatical principles, History of language and literature with special reference to cognitive changes. Use of detailed textbook for cognitive learning.
- c) Teaching for affective behaviour, Teaching for affective behaviour such as attitudes, interests, values and literary appreciation with special reference to teaching of literature- Teaching of poetry and prose for detailed and non-detailed study.
- d) Co-curricular programme for language instruction – literary associations, arts club, library work, educational tours etc.
7. a) Educational technology and language teaching, Technology of Language teaching and learning. Educational technology Hardware and Softwares. The system approach- use of technological aids like computer, television, radio, video tape recorder and Linguophone records, the language laboratory-teaching machines and programmed learning. Language instruction through distance education.
- b) Models of teaching suited for teaching of language and literature. The use of cognitive developmental model, behaviour modification model and concept attainment model. The type of lessons suited for cash.
8. Curriculum development: Principles of curriculum development- modern trends in curriculum development – the place of mothertongue in the present school curriculum.
9. Text book and supplementary materials. Different types of books in use. Criteria for preparation – use and improvement. Analysis of prescribed textbooks with special reference to the existing Kerala Language syllabus. Supplementary reading materials- school library and community resources as complements.

10. Evaluation in language teaching: Role of summative formative evaluation-defining the outcome – Test and Reliability of Measuring instruments. Evaluating outcomes in speaking, reading, spelling, handwriting, and creative writing. Construction of tests for measuring different outcomes. Standardized tests-scope of oral examination-diagnosis of learning difficulties in the basic language skills.

11. Recent researches in language teaching and learning

- (i) Technology and instructional materials.
- (ii) Theories of verbal learning and language development.
- (iii) Affective correlates of language learning.
- (iv) Bilingualism on language learning.
- (v) Environmental variables affecting language learning.
- (vi) Effect of laterality on early language skill.

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## **PHYSICAL SCIENCE EDUCATION**

### I. Preliminary Considerations

Definition of science-science as a process and as a product-science an integrated discipline-specialized areas of physical science- relation between physical science and other disciplines.

### II. Objectives

Science education for changing times-social functions of science- Categorization of objectives: Cognitive, affective and psychomotor-specific objectives in the instruction of physical science.

### III. Curriculum:

Changing curriculum patterns: different approaches-unified, interdisciplinary, integrated and correlated.

Significant curricular experiments: PSSC, CHEM study, CBA, Nuffield

Science Project, NCERT Science Materials.

Critical study of the syllabus, textbooks and guide books- Guidelines for preparing science curriculum materials.

### IV. Strategies for physical science instruction:

Psychological basis of modern science education: Theories of Piaget; Burner, Ausubel and Gagne and their educational implications.

### V. Method of Science:

Characteristics of Scientific method – Observation, reflective and critical thinking, formulation of problems and hypotheses, collection of data, and interpretation, generalization- formulation and application of principles- application of scientific method.

### VI. Strategies for deformatisation of science instruction:

Need, techniques like environmental education, individualized learning, contract learning. Personalized system of learning etc.

### VII. Instructional Practices and Materials

- (i) Conventional methods of approach: Lecture, lecture demonstration, laboratory, Project, Discussion, Heuristic, Dalton plan.
- (ii) Problem solving approach, Group work and individual work as methods of learning.
- (iii) Modern approaches to instruction: Team teaching, Multiple class teaching, Self study, auto instruction, Seminars, Role playing, Simulation, Micro and Macro Teaching and System Approach.
- (iv) Impact of Educational Technology: Computer based instruction, Computer Assisted Learning, Programmed Learning, ETV and Radio.

#### IX. Practical work:

Role of science laboratory, Science clubs, science exhibitions, school museum etc. in Science curriculum.

#### X. Evaluation

Terminology and concepts- Principles of test construction and Standardization- Measurement of achievement- Diagnostic test and remedial teaching- Formative and summative evaluation.

XI. Research perspective: Areas of research in physical science education, Review of the research done in the University, Areas in which more research is needed.

#### XII. Practical Work

(Topics under this will be covered through assignments or by any method for internal evaluation. There will not be any external evaluation for the topics).

- (i) Preparation of lessons based on modern strategies of teaching science
- (ii) Pedagogical analysis of some selected topics.
- (iii) Review of researches done in India and Abroad.



## **SOCIAL STUDIES EDUCATION**

### **Objectives**

1. To acquaint the students with the concepts and development of social studies in 20<sup>th</sup> Century.
2. To acquaint the students with the current trends in developing a social studies curriculum.
3. To acquaint the student with the recent developments in the theory, methods of teaching and evaluation in social studies.
4. To acquaint the students with the latest research relating to social studies education.

### Course Outline

#### I. Preliminary Considerations

1. The concept, meaning and definition of social studies.
2. A brief review of the development of social studies in 20<sup>th</sup> century.
3. Fusion course-Importance merits and limitations.

#### II. Aims and objectives of social studies education.

1. General aims, objectives-conceptual, inquiry skill and affectives- of teaching social studies.
2. Values, social change, education for citizenship, national and emotional integration, international understanding and controversial issues in teaching social studies.
3. Formulating the goals of instruction at various levels, what to teach and why?

- #### III.
1. Psychological theories and researches of Piaget,, Bruner, Gagne and Ausubel, and their implications in curriculum construction.
  2. Principles of selecting the content and learning experiences, organization of subject matter-discipline centered, activity centered, core curriculum, concentric v/s spiral and separate v/s. integrated curriculum.
  3. Modern trends in curriculum construction-Need for changing social studies curriculum.
  4. A critical analysis of the existing high school syllabus with special reference to national goals, individual and social needs.

#### IV. Methods, models and theories for social studies learning.

1. Theories of Piaget, Bruner and Gagne in social studies education.
2. Instructional methods. Teacher centred-learner centred. Lecture method, text book method, discussion, project, problem solving method, supervised/study, team teaching, programmed learning, self study, role play, brain storming, dramatization, socialized recitation simulation and questioning.
3. Models of teaching social studies-Information processing, concept attainment, jurisprudential social simulation and social inquiry models.
4. Educational technology in social studies education technology of social studies teaching and learning. The systems approach to social studies education-use of computer, television, radio, video, tape recorder, projector and social studies laboratory.
5. Students activities in social studies learning-exhibitions, excursions, symposia, discussions and seminars, preparation of chart and models, community involvements and their educational values.
6. Resources for learning social studies-Text books, preparation and use, teachers handbook, question bank-preparation and use, library, laboratory, museum and community resources.

#### V. Evaluation in Social Studies.

1. Need for evaluating the outcomes in the light of objectives-importance of evaluation techniques in social studies.
2. Different tools and techniques of evaluation.
3. Formative and cumulative evaluation.
4. Dignastics testing and remedial teaching.

#### VI. Recent researches in

1. Objectives of social studies education
2. Existing social studies curriculum.
3. Teaching controversial issues in social studies.
4. Social studies textbooks.
5. Instructional materials and aids for social studies education.
6. Evaluation in social studies education.

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## **COMPUTER SCIENCE EDUCATION**

### **Objectives:**

1. To develop in students an understanding of the existing and emerging trends in Computer Science Education.
2. To develop insight in to the special significance of values and objectives of Computer Science as a subject of study.
3. To develop matter of the effective strategies for imparting instruction in the various aspects of Computer Science.
4. To make students aware of the educational use of computers.

### **Course Content:**

#### Unit 1

Historical development and trends- development of Computer Science in view of the past changes; - need for a forward looking attitude and a process oriented approach.

#### Unit II

Need and purpose of computers in education- Historical perspective- type of Computers- Characteristics- Generation of Computers- Computer literacy- Computer and instruction, useful tool of instruction.

#### Unit III

Aims and objectives of teaching Computer Science in schools- Place of Computer Science in the curriculum- Use of computer as a teaching aid.

#### Unit IV

Basic structure of personal computer- input and output devices- Memory storage elements- Classification of computer literacy- goals, scope and functions- operational and instrumental functions- algorithmic reasoning.

#### Unit V

Computer laboratory- Smart rooms/Resource rooms, planning and management- need for planning- setting up a computer lab- essential infrastructure- LAN topologies- advantages- laboratory management.

#### Unit VI

Production and use of programmes and other instructional materials for computer instruction- nature , scope , preparation and use of product oriented and process oriented programmes- programme for providing training in higher order thinking.

#### Unit VII

System analysis and design- Information systems- role of system analysis systems development life cycle- Brief idea about structure analysis- data dictionary, logical systems design, physical systems design, input and output design, planning for implementation-Education and training - systems testing.

#### Unit VIII

Languages: Machine language-common high level languages- general concepts of object oriented programming as a problem solving method- object oriented programming as a software design methodology- Overview of Artificial Intelligence.

#### Unit IX

Application of computer science in education- distance education continuing education, E-learning etc.

- a) Internet in education-Development of TCP/IP- Hypertext-working of internet-world wide web- HTML-search engines-social networking.
- b) Internet and instruction-various tools used- E mail- teaching skills in electronics mail environment- limitations of E mail techniques for instruction-integration with traditional teaching methods.
- c) Websites related to education- Internet and moral values- computer viruses-virtual reality, cyber security, cyber law and cyber crime.

#### Unit X

Evaluation and monitoring- characteristics of evaluation in computer education, Formative evaluation-feedback- diagnosis- monitoring and summative evaluation- use of computer in scoring- recording of results- analysis of data etc.

#### Unit XI

Emerging trends in computer education-survey of research and studies in computer education.

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