

B.ED SYLLABUS

Paper Code and No	Papers	Theory / Practical	Credits	Marks
FIRST SEMESTER				
BED-C101	Principles of Education and Curriculum Development	Theory	4	100
BED-C102	Psychology of Development and Learning	Theory	4	100
BED-O103	Method of Teaching English	Theory	4	100
BED-O104	Method of Teaching Geography	Theory	4	100
BED-O105	Method of Teaching History	Theory	4	100
BED-O106	Method of Teaching Economics	Theory	4	100
BED-O107	Method of Teaching Physics	Theory	4	100
BED-O108	Method of Teaching Chemistry	Theory	4	100
BED-O109	Method of Teaching Bio-Science	Theory	4	100
BED-O110	Method of Teaching Mathematics	Theory	4	100
BED-CP111	Practicum	Practical	4	100
SECOND SEMESTER (SPRING)				
BED-C201	Development of Education System in India	Theory	4	100
BED-C202	Instructional Science and Evaluation	Theory	4	100
BED-O203	Action Research	Theory	4	100
BED-O204	Environmental Education	Theory	4	100
BED-O205	Guidance and Counseling	Theory	4	100
BED-CP206	Internship Teaching	Theory	4	100
BED-CP207	Practicum	Practical	4	100

SEMESTER I

BED-C101: Principles of Education and Curriculum Development

Unit I: Understanding Education

Meaning, Nature and Scope of Education, Education as a process, Aims of Education: Education for National Development; Education as an Investment; Education for Sustainable Development. Education and Quality of Life, RTE-2009 Act.

Unit II: Schools of Philosophy and Their Contributions to Education

Relationship between Philosophy and Education, Schools of Philosophy-Idealism, Naturalism & Pragmatism and their Educational Implications, Educational Thoughts of Tagore, Gandhi, Swami Vivekananda, Sri Aurobindo and J. Krishnamurthy.

Unit III: Sociological Bases of Education

Relationship between Sociology and Education, Social Group, School as a System, Process of Socialization, Social Change, Factors responsible for Social Change and role of

Education, Attributes of Modernization, Modernization vs. Westernization, Culture, Acculturation and Enculturation - Process and Cultural Lag.

Unit IV: Curriculum Planning and Development

Definition of Curriculum, Principles of Curriculum Construction, Major Approaches to Curriculum Design, Models of Curriculum Development- Tyler's Model and Kerr's Model, Procedure of Curriculum Evaluation, and Critical Appraisal of Educational Programmes of Sikkim with Special reference to RMSA.

Reading List:

- Bhatia K.K. (2003). Principles and Practice of Education. New Delhi: Kalyani Publishers.
- Chakrabarty, J.C. (1980). Modern Education: Its Aims and Principles. Calcutta: Chakrabarty Publications.
- Dhiman, O.P.(1987). Foundation of Education. New Delhi: Atma Ram and Sons.
- IGNOU (1997). ES 331: Curriculum Planning Book-1,2,3 &4. New Delhi: IGNOU
- Kneller, G.F. (1964). Introduction to the Philosophy of Education. New York: John Wiley and Sons.
- Nath, Prem, (1990). The Bases of Education: A Philosophical and Sociological Approach. New Delhi: S. Chand & company Ltd.
- Purkait, B.R. (1996). Principles and Practices of Education. Calcutta: New Central Book Agency.
- Ross, J.S. (2008).Groundwork of Educational Theory. Kolkata: Oxford University Press.
- Sharma, Y.K. (2002). The Doctrines of the Great Western Educators. New Delhi: Kanishka Publications.
- Taba, Hilda. (1962).Curriculum Development: Theory and Practice. Jacovich: Harcourt Brace.
- Taneja, V.R. (1991). Educational Thoughts and practices: New Delhi: Sterling Publishers.

BED-C102: Psychology of Development and Learning

Unit I: Concept of Educational Psychology

Relationship between Education and Psychology, Meaning, Nature and Aims of Educational Psychology, Relevance of Educational Psychology for the teachers, Scope of educational psychology to Learners, Learning Process and the Learning Situation . Methods of Studying Learners' Behaviour- Observation, Experiment, Case Study, Interview and Survey.

Unit II: Growth and Development

Concept and Principles of Growth and Development, Factors influencing development Needs and Problems of Adolescents, Piaget's Cognitive Development Theory, Erickson's Psycho-social Development Theory and Kohlberg's Moral Development Theory and their Educational Implications

Unit III: Psychology of Learning

Learning- Meaning, Nature and Scope, Educational Implications of Learning Theories- Conditioning, Trial & Error, Insightful Learning, Reinforcement Theory, Laws of Learning, Factors Affecting Learning, Learning and Motivation, Transfer of learning- Meaning, Types and Theories, Remembering and Forgetting.

Unit IV: Individualizing learning

Individual Differences- Types, Causes, Areas; Intelligence- Concept and Components,

Theory of Multiple Intelligences, Creativity- Concept, Process, Nature, Scope and Hindrances to Promotion of Creativity, Suggestions for Improving Creativity in Children; Personality - Concept, Features and Structure of Personality; Group Dynamics- Concept and Characteristics.

Reading List:

- Aggarwal, J.C. (2000). Essentials of Educational Psychology. New Delhi: Vikas Publishing House.
- Chauhan, S.S. (2000). Advanced Educational Psychology. New Delhi: Vikas Publishing House.
- Mangal, S.K.(2003). Advanced Educational Psychology. New Delhi: Prentice Hall of India.
- Dash, M.(2002). A Text Book of Educational Psychology. Cuttack: Unique Publishers.
- Fetsco, Thomas and Mclure, John (2005). Educational Psychology - An Integrated Approach to classroom decisions. New York: Pearson.
- Hurlock, E.B.(1974). Developmental Psychology. New Delhi: Tata McGraw-Hill.
- Hilgard, E. & Bower, G.H.(1966). Theories of Learning. Englewood Cliffs: Prentice Hall.
- Sahakia, W.S.(1969). Psychology of Learning. Chicago: Rand McNally.
- Walia, J.S.(2000). Foundations of Educational Psychology. Jalandhar: Paul Publishers.
- Woolfolk, Anita (2004). Educational Psychology. New Delhi: Pearson Education in South Asia.

BED-O103: Method of Teaching English

Unit I: Needs and importance of teaching English

Importance and position of teaching English language in India and Sikkim, Aims and objectives of teaching English, English as a compulsory subject in schools at elementary and secondary levels, General principles of teaching English, Development of four language skills- Listening, Speaking, Reading and Writing- their dependency and interdependency. Recommendation of NCF 2005 on teaching English.

Unit II: Methods and approaches of teaching English

Needs for methods and approaches of teaching, Methods of teaching-Grammar-Translation method, Direct Method, Functional-Communicative Approach, Situational Approach, Inductive-Deductive approach, Constructivist approach, teaching of prose, poetry and drama, teaching of grammar - formal and functional grammar. Phonetic – meaning and transcriptions

Unit III: Learning Resources in Teaching

Materials of instruction for language teaching, audio visual aids, use of technology, multimedia centre, OHP, Video, tape recorder, use of Mass media, TV, News paper, magazines, advertisements, Language Laboratory, dictionaries, pronouncing dictionary, development unit plan and lesson plan. Pedagogical Analysis of Teaching English.

Unit IV: Evaluation in English

Evaluation procedure, Evaluation of four language skills, Principles of constructing objective test, short answer test, essay type test and their comparative advantages. Diagnostic Test and Remedial Teaching, Preparation of achievement test in English- Planning preparation-try out and evaluation, Educational statistics- measures of central tendencies, ratio and percentage.

Reading List

- Baruah, T.C. (1992). The English Teachers Handbook, New Delhi: Sterling Publishers Private Limited.
- Bhatia, K.K. (2000). Teaching and Learning English as Foreign, New Delhi: Kalyani Publishers
- Doff, Adrian, (1988). Teach English- A training Course for Teachers, Cambridge University Press.
- Nanda, V. K. (2005). Teaching of English, New Delhi: Anmol Publications.
- Shanker, Prem. (2003). Teaching of English, New Delhi: APH Publishing Corporation.
- Singh, Y. K. (2000). Teaching of English, New Delhi: APH Publishing Corporation.

BED-O104: Method of Teaching Geography

Unit I: Concept of Teaching Geography

Geography- concept, need and importance, Aims and objectives of teaching Geography at Secondary level, Inclusion of teaching geography in school curriculum, Correlation of Geography with other subjects- both social and natural sciences. Recommendation of NCF 2005 on teaching social sciences (Geography).

Unit II: Instructional Methods of Teaching Geography

Need for methods of teaching Geography, Instructional methods of teaching Geography- Observation cum Discussion method (Direct and Indirect), Project Method, Demonstration method, Discovery Method, constructivist approach to teaching Geography, Instructional strategies for teaching Geography, Emerging Curricular trends as per NCF-05.

Unit III: Learning Resources in Teaching Geography

Development of learning materials - Year plan, Unit plan, lesson plan, Teaching Aids in Geography- Map Reading and Preparation, Geography lab and Resource room, use of community resources, field trips, and geography clubs. ICT in learning Geography, Pedagogical analysis in teaching Geography

Unit IV: Evaluation in Geography

Process of Evaluation - Placement, formative, diagnostic, and summative, Principles of construction of objective, short answer and essay type tests and their comparative advantages, Planning for Continuous and Comprehensive Evaluation (CCE). Diagnostic test and Remedial teaching in Geography. Achievement test-planning, preparation, try out and evaluation. Educational Statistics- ratio, percentage and measures of central tendency.

Reading list

- Biswal, J.N. (2002). Content-cum Methods of Teaching Geography. Cuttack: Mahabeer Printers.
- Kaur, B. (1996). Teaching Geography: New Trends and Innovations. New Delhi: Deep & Deep Publishers.
- Khan, Z.A. (1998) Text book of Practical Geography. New Delhi: Concept Publishing Company.
- Mukherjee, Sutopa. (1996) Understanding Physical Geography through Diagrams. Kolkata: Orient Longman,
- Pandey, Veena Pani. (2004). Teaching of Geography. New Delhi: Mohit Publications. Paul, S. (2004). Effective Methods of Teaching Social Studies. Jaipur: ABD Publishers.

- Rao, M.S. (1993). Teaching of Geography, New Delhi: Anmol Publishing Pvt.
- Sarkar, Ashis. (2002). Practical Geography: A Systematic Approach, Kolkata: Orient Logman.
- Siddique, M.H. (2004). Teaching of Geography. New Delhi: APH Publishing Corporation.
- Singh, R.P. (2011). Teaching of Geography, Meerut: R. Lall Book Depot.
- Verma, O.P. (2005). Teaching of Geography, New Delhi: Sterling Publishers Private Limited.

BED-O105: Method of Teaching History

Unit I: Concept of Teaching History

History – concept, need and importance for teaching history, Correlation of history with other school subjects. General aims and objectives of teaching history at secondary level. Recommendations of NCF-2005 on teaching of Social Sciences (History).

Unit II: Instructional Methods of Teaching History

Need for methods of teaching Social Sciences, Instructional methods to teaching history – Story telling, Narration-cum-Discussion, Dramatization, Project, Source and Field trip methods. Constructivist Approach of Teaching History, Instructional strategies for teaching history.

Unit III: Learning Resources in Teaching History

Teaching aids in teaching history - maps, atlas, globes, charts, models and time line, historical museum, Low cost teaching aids in history.

Development of learning materials – year plan, unit plan and lesson plans.

Pedagogical analysis of teaching history.

Unit IV: Evaluation in Teaching History

Process of evaluation – placement, formative, diagnostics, and summative, Principles of construction of objective, short answer and easy type tests and their comparative advantages. Preparation of an achievement test in history- Planning for Continuous and Comprehensive Evaluation (CCE). Diagnostic tests and Remedial teaching in History. Preparation of an Achievement Test. Preparing Tryout and Evaluation.

Reading List:

- Aggarwal, J.C. (1997). Teaching of History a Practical Approach. New Delhi: Vikas Publishing House.
- Dash, B.N. (2002). Content cum Methods of Teaching Social Studies. New Delhi: Kalyani Publishers.
- Kochhar, S.K. (2004). Teaching of History. New Delhi: Sterling Publishers,
- Paul, S. (2004). Effective Methods of Teaching Social Studies. Jaipur: ABD Publishers.
- Shukla, Chhaya, (2003). Methods of Teaching History. New Delhi: Sumit Enterprises.
- Srinivas Rao, Moturi; Prasada, I Bhaskara Rao & Rao. Digumati, (2004). Methods of Teaching History. Delhi: Tarun Offset Printers.
- Singh, R.P. (2003). Teaching of History. Meerut, Surya Publication.
- Saxena, N.R. and et. al.(2003). Teaching of Social Science. Meerut: R. Lall Book Depot.

BED-O106: Method of Teaching Economics

Unit I: Concept of Economics

Meaning, nature and Scope of Economics.

Aims and Objectives of teaching Economics.

Values of teaching Economics.

Correlation of Economics with other school subjects.

Curricular reform as for NCF 2005 for teaching social science-(Economics)

Unit II: Instructional Methods of Teaching Economics

Need and importance of teaching methods, Methods of teaching Economics- Logical, Problem Solving, Inductive and Deductive, Analytic- Synthetic, Project and Lecture Methods. Techniques of teaching Economics. Constructivist approach of teaching Economics.

Unit III: Learning Resources in Economics

Development of Learning Materials for teaching Economics- Year Plan, Unit Plan and Lesson Plan in Economics. Teaching aids: need and importance of teaching aids, types of teaching aids, selection, preparation and use of low cost teaching aids. Pedagogical analysis of teaching economics.

Unit IV: Evaluation in Economics

Evaluation in Economics: placement, formative, diagnostic, and summative evaluation.

Principles of construction of Objective, Short Answer and Essay Type tests and their comparative advantages. Preparation of an achievement test in Economics- Planning, Preparation, Tryout and Evaluation. Diagnostic test and Remedial teaching in Economics. Educational Statistics: Measures of Central Tendency, Ratio and Percentage.

Reading List

Dash, B.N.(2002). Content cum Methods of Teaching Social Studies. New Delhi: Kalyani Publishers.

Dhillon, Satinder & Chopra, Kiran, (2002). A New Approach to Teaching Economics. New Delhi: Kalyani Publishers.

Rudramamba, Laxmi Kumari, Rao, V.B. & Digumart. (2004). Methods of Teaching Economics, New Delhi: Discovery Publishers.

BED-O107: Methods of Teaching Physics

Unit I: Concept of Physics Teaching

Meaning, nature, scope and importance of physics in human life.

Physical Science and its branches and its correlation with other school subjects. Aims and objectives of teaching Physical Science in schools.

Curricular reform in the context of NCF 2005 in science.

Unit II: Instructional Methods of teaching Physics.

Needs for methods of teaching sciences.

Methods of teaching Physical science – Demonstration cum Discussion Method, Problem solving method, Project Method, Laboratory Method.

Scientific attitudes and strategies for inculcating scientific attitude in the learner.

Constructivist approach to teaching Physics.

Unit III: Learning Resources in Physics

Unit plan and lesson plan in Physics.

Physical science laboratory, its maintenance.

Science fair, Science club, Science Magazine, Science Quiz.

Audio-Visual aids in teaching Physical Science, low cost teaching aid in Physical Science, Pedagogical analysis of teaching.

Unit IV: Evaluation in Physics

Evaluation procedure: Placement, Formative, Diagnostic and Summative.

Construction of an achievement test in Physical science – planning, preparation, administration and evaluation

Evaluation of text book in Physical Science- criteria of good text book, Evaluation devices- oral and written, Planning for CCE, Remedial Teaching.

Educational Statistics- Measures of Central Tendencies, ratio, percentage.

Reading list

Sharma, Y.K. (2003). Teaching of Physical Science: Methods and Techniques. New Delhi: Kanishka Publishers, Distributors.

Sharma, R.C. (2004), Modern Science Teaching. New Delhi: Dhanpat Rai Publishing Company (P) Ltd.

Nayak, A.K. (2004). Teaching of Physics. New Delhi: APH Publishing House.

Kohli, V.K. (1964). How to Teach Science: An up-to date Treatise on Methodology of Teaching Ambala: Vivek Publishers.

Siddique, M.H. (2005). Teaching of Science. New Delhi: APH Publishing Corporation.

BED-O108: Method of Teaching Chemistry

Unit I: Concept of teaching Chemistry

Chemistry as a branch of Science and its different branches - Physical, Organic, Inorganic. Nature and scope of chemistry, Aims and Objectives of teaching Chemistry in schools, Importance of teaching chemistry, Relation of chemistry with other school subjects, Recommendation of NCF-2005 on teaching sciences (Chemistry).

Unit II: Instructional Method of Teaching Chemistry

Needs for methods for teaching, Methods of teaching science- Demonstration Method, Problem solving method, Project Method, Lecture cum Demonstration method, Laboratory Method Strategies for inculcating scientific, Constructivist approach to teaching chemistry.

Unit III: Learning Resources in Chemistry

Science exhibition, Science fair, Science club, Field trip to chemical Industries, Science Magazine, Science Quiz, Audio visual aids in teaching Chemistry, Chemistry laboratory setting – characteristic of a good laboratory, setting, organization and maintenance. Skill in using chemicals in laboratory. Development of Unit Plan and Lesson Plan in Chemistry, Pedagogical analysis of teaching Chemistry.

Unit IV: Evaluation in Chemistry

Evaluation procedure- Placement, Formative, Diagnostic and Summative

Diagnostic test and Remedial Teaching in chemistry.

Criteria of a good test for Chemistry at elementary and secondary level.

Construction of an achievement test in chemistry-planning, preparing, trying out and

evaluation. Educational Statistics - Measures of Central Tendency, Ratio and Percentage.

Reading List

- Das, R.C. (1990). Science Teaching in Schools. New Delhi: Sterling Publishers.
Ediger, M. and Rao, D.B. (2003). Teaching Science Successfully. New Delhi: Discovery Publishing.
Ganguli, A. (2005). New Method of Teaching Science, Jaipur: ABD Publishers.
Mittal, A. (2004). Teaching of Chemistry. New Delhi: APH Publishing Corporation.
Siddique, M.H. (2005). Teaching of Science. New Delhi: APH Publishing Corporation.

BED-O109: Method of Teaching Bio- Sciences

Unit I: Concepts of Bio-Science

Nature of modern sciences, impact of science on daily life and globally, Globalization and science; justification for including Bio-Science as a subject of study in school curriculum and its correlation with other school subjects, Aims and objectives of teaching Bio-Sciences- Recommendation of NCF-2005 on teaching Bio-science.

Unit II: Instructional Methods of Teaching Bio-Science

Needs for methods of teaching, Instructional methods used for Biological Science instruction-Demonstration cum discussion, Observation, Problem Solving, Laboratory, Project method, Experimentation, Heuristic, Constructivist approach in teaching Biological-Science. Strategies for inculcation of scientific attitude.

Unit III: Learning Resources in Bio- Science

Modes of popularizing Biological science- field trips, science/ nature clubs, science fairs, science museums, maintenance of aquariums, herbariums, vivarium; maintenance of science laboratory, Teaching aids in Biological science: Visual, Audio-visual and activity based teaching aids i.e. Aquarium, Terrarium, Vivarium etc. development of improvised apparatus; selection, preparation and use of teaching aids, year plan, unit plan and lesson plan. Pedagogical analysis of teaching Bio-Science.

Unit IV: Evaluation in Bio-Science

Procedure of Evaluation - placement, formative, diagnostic, and summative, Principles of constructing - Essay type, short and objective type tests, developing test for measuring specific outcomes; Achievement test in Bio- science- planning, preparing, tryout and evaluation. Diagnostic testing and remedial teaching in Bio-science; Planning for CCE. Educational Statistics- Measures of central tendency, ratio and percentage.

Reading List

- Choudhury, S. (2004). Teaching of Biology. New Delhi: Anmol Publications.
Bhatnagar, A.B. (2003). Teaching of Science. New Delhi: R. Lall Book Depot.
Pandey, V.P. (2004). Teaching of Biology. New Delhi: Sumit Enterprises.
Yadav, S. et.al.(2004). Teaching of Life Science. New Delhi: A.P.H Publishing Corporation.
Pecfar, M.J. et al. (2003). Microbiology. New Delhi: Tata McGraw Hill Publishing Company.
Tulasi, G. (2004). Methods of teaching Elementary Science. New Delhi: Sumit Enterprises.
Sree, K.(2004). Method of Teaching Science. New Delhi: Discovery Publication House.

BED-O110: Method of Teaching Mathematics

Unit I: Concept of Mathematics

Meaning, Nature & Scope of Mathematics, Value of teaching Mathematics, Aims and objective of teaching Mathematics in the school curriculum. Correlation of mathematics with other school subjects. Recommendation of NCF-2005 on teaching mathematics.

Unit II: Instructional Methods of Teaching Mathematics

Needs for methods of teaching mathematics. Methods of teaching Mathematics- Inductive-Deductive, Analytic-Synthetic, Heuristic, Project and Laboratory methods, Constructivist approach of teaching mathematics.

Unit III: Learning Resources in Teaching Mathematics

Mathematics library, club, various aids in teaching mathematics-projective, audio-visual. Planning and preparation of lesson plan, unit plan, year plan; preparation of low cost improvised teaching aids, models, chart, and ICT in teaching mathematics. Co-curricular activities in mathematics - Organizing Quiz program, skill development in solving puzzles, riddles, magic etc. Using mathematics as a game for recreation, Pedagogical Analysis of teaching.

Unit IV: Evaluation in Mathematics

Evaluation procedure-placement, formative, diagnostic and summative. Principles for construction of objective, short answer and essay type tests and their comparative advantages. Preparation of an Achievement Test in Mathematics - planning, preparation tryout and evaluation. Diagnostic Test and remedial measures. Educational statistics - Measure of central tendency, ratio, percentage.

Reading List

- James, Anice, (2005). Teaching of Mathematics. Hydrabad: Neelkamal Publication Pvt. Ltd.
Kulsheshtha, A. K. (2003). Teaching of Mathematics. Delhi: Surya Publication
Malhotra, V. (2007). Methods of Teaching Mathematics. New Delhi: Crescent Publishing Corporation.
Rao, Suneetha, E. and Rao, D.B. (2004). Methods of Teaching Mathematics. New Delhi: Discovery Publishing House.
Sharan, R. Sharma, M (2006).Teaching of Mathematics. New Delhi: APH Publishing Corporation
Siddiqui, M.H. (2005) ,Teaching of Mathematics. New Delhi: APH Publishing Corporation.
Sidhu, K.B (2002).The Teaching of Mathematics. New Delhi: Sterling Publishers Pvt. Ltd.

BED-CP111: Practicum

Practicum consists of (A) Practical for lab and non lab based subjects, (B) Simulated teaching and (C) Administration and interpretation of result of a psychological test presented in a report. The details of each are described hereunder.

A) Practical for lab/non-lab based subjects

- i) Practical for lab based subjects - **Laboratory based practical.** (Geography, physics, Chemistry and Bio-Science)

ii) Practical for Non-Lab based subjects - **Text Book Analysis**. (History, Geography, English, Economics, Mathematics and other Humanities subjects)

Marks for laboratory based practical and non-lab based practical (Text Book Analysis) are distributed as follows

Lab based subjects

Experiments in sciences/project works in geography	20 marks
Record	20 marks
Viva-voce	10 marks
Total	50 marks

In case of text book analysis

Preparation of record	30 marks
Viva	20 marks
Total	50 marks

Records, experiments and Viva-voce would be evaluated both by external and Internal Examiners.

Details of practical to be conducted in lab based practical in different subjects like- physics, chemistry, geography and bio-science are as follows-

List of experiments to be done during the session (Physics)

1. Determination of Specific Gravity of Solid, Liquid and Solution.
2. Verification of the Laws of Simple Pendulum and Determination of the value of 'g' at the place of observation.
3. Mapping of magnetic lines of force.
4. Determination of the focal length of a convex lens by optical bench.
5. Verification of the Laws of Reflection and Refraction.
6. Calculation of Velocity of sound by resonance column method.
7. Verification of Ohm's Law by using Ammeter and Voltmeter.
8. Determination of the resistance of a given piece of metallic coil with the help of (a) P.O. Box and (b) Meter Bridge.

Experiments to be done during the session (Chemistry)

Group-A: Qualitative analysis of Inorganic Mixture containing not more than four radicals from the following:

Basic Radicals: Pb^{+2} , Cu^{+2} , Fe^{+2} , Al^{+3} , Zn^{+2} , Ca^{+2} , K^+ , NH_4^+

Acid Radicals: C^- , Br^- , I^- , NO_3^- , $S^{=}$, $SO_4^{=}$

(Insoluble salt excluded)

Group-B: Determination of the strength of an unknown Acid or Alkali solution with the help of standard alkali or acid solution (to be prepared by the trainees) using Phenolphthalein or Methyl orange as indicator.

Experiments to be done during the session (Bio-Science)

Group A

1. Dissection of flower
2. Biochemistry test – Protein, Fat and Carbohydrate
3. Physiology- photosynthesis

Group B

1. Identification of Museum Specimen (Protozoa, Porifera, Coelenterate, Platyhelminthes, Nematelminthes, Echinodermata, Hemichordata, Chordata, Annelida, Arthropoda, Mollusca, Amphibia, Reptilia, Aves, Mammalia)

2. Identification of permanent slides

Botany-Plant tissue system, Plant cell, various groups of plants, mitosis

Zoology- Various groups of animals, animal tissue, mitosis, animal cell

Experiments/Projects to be done during the session in Geography

List of Experiments

- | | |
|---|----|
| 1. Map Projection (Graphical Method) | 10 |
| a) Cylindrical Equal Area | |
| b) Polar Zenithal | |
| 2. Interpretation of Topo map on | 5 |
| a) Plain Region | |
| b) Hilly Region | |
| 3. Instrumental Studies | 5 |
| a) Rain Gauge | |

b) Maximum and Minimum Thermometer

Marks Distribution

Practical----- 20

Record----- 20

Viva----- 10

OR

Project work in Geography

The students may opt for experiments in the laboratory or conduct a project work in Geography. In case of project work the students are required to visit any locality and study the geographical aspects (Physical and Sociological) and prepare a report based on objectives, methodology, graphical representation of data, analysis and interpretation of data along with summary and conclusion.

Mark Distribution.

Record -----40

Viva-Voce-----10

B) Simulated teaching

All the Teacher Trainees opting different methods will undergo specific training to acquire five teaching skills in both the method papers taking five lessons in each method paper. The teaching skills are - Set Induction, Explanation, Probing Questions, Stimulus variation and Illustrating with examples.

This is to be assessed internally in respective colleges.

25 marks

C) Administration and Interpretation of result of a Psychological test

The students are required to select any one psychological test to be administered in school situation and scoring and interpretation of result would be made by them. A Report is to be prepared mentioning objectives, methodology, instruments, and analysis of result.

25 marks

Assessment is to be made internally in the respective colleges.

SEMESTER II

BED-C201: Development of Education System in India

Unit I: Historical Perspectives of Education in India

Vedic, Buddhist and Islamic Educational System, Macaulay's Minutes of 1835, Wood's Despatch 1854, Essential Features of Sadler Commission's Report 1917, National Education Movement, Hartog Committee Report 1928-29, and Wardha Scheme of Education 1937.

Unit II: Development of Education in Independent India

University Education Commission (1947-1948), Mudaliar Commission(1952-53), Kothari Commission(1964-66), NPE-1986, Ramamurthy Review Committee 1990, Revised National Policy of Education and POA 1992, NCF-2005 and Strategies for UEE, RMSA, SSA, RTE and RTI acts.

Unit III: Development of Education System in Sikkim: A Historical Perspective

Development of Education in Sikkim after post merger period, Present Status of Teacher Education in Sikkim, Steps undertaken by the Govt for Quality Education, RMSA, SSA in Sikkim, Demographic Profile of Educational Scenario of Sikkim from post merger period to the present day.

Unit IV: Contemporary Issues and Problems in Education

UEE, Equity and Equality in Education- Meaning, Need and Importance, Equality of Educational Opportunity and related Constitutional Provisions, Human Rights and Peace Education, Education for Conservation of Environment, Quality in Education- Concept of Quality Indicators(Academic and Organisational), Life Skills Education- Meaning, Scope and Relevance.

National and State Organisations promoting Education, their Constitution and Functions- NCERT, NAAC, UGC, NCTE AND SCERT.

Reading List:

- Aggarwal, J.C. (2000). Landmark in the History of Modern India. New Delhi: Vikas Publishing House.
- Bannerjee, J.P. (1994). Education in India. Vol. I and II. Calcutta: Central Library
- Bhanja, K.C.(1993). History of Darjeeling and Sikkim Himalayas. New Delhi: Gyan Publishing House.
- Bhatia, R.L.(1993).Modern Indian Education and its Problems. Delhi: Surjeet Publication.
- Bhatnagar, S., Mullick, Madhu, and Shukla, K.K. (2011). Development of Education System in India. Meerut: R. Lall Book Depot.
- Diwan, D.B.(2012).Education in Sikkim: A historical Retrospect Pre- Merger and Post Marger Period. Pedong: Tender Bird Academy.
- Das, K.K (2006). Development of Education in India. New Delhi, Kalyani Publishers.
- Government of Sikkim (2002). Sikkim: A Statistical Profile
- Jangira, N.K.(1997). Educational Change in Sikkim. Sikkim Educational Newsletter, Directorate of Education, Govt. of Sikkim.
- Mohanty, J. (1995). Modern Trends in Indian Education. New Delhi: Deep and Deep Publications.
- Moktan, R. (2004). Sikkim: Darjeeling Compendium of Documents. Darjeeling: Sunaralaya.
- Purkait, B.R.(1997). Milestones in Modern Indian Education. Calcutta: New Central Book Agency.
- Risley, H.H.(2001). The Gazetteer of Sikkim.
- Ritchi, I.M.(1977). Missionaries and Education in Sikkim.
- Subba, J.R.(1999). The Limboos of the Eastern Himalayas with Special Reference to Sikkim. Gangtok: Sikkim Yakthung Mundhum Saplopa.
- Verma, R.(1996). Sikkim, Darjeeling, Bhutan; A Guide and Handbook.

BED-C202: Instructional Science and Evaluation

Unit I: Teaching and Instruction

Meaning, Nature and Scope of Teaching and Instruction, Difference between Teaching and Instruction, Instructional Process and its Components, Instructional Design and its Features, Systems Approach to Instruction- Meaning, Characteristics and Components of System.

Unit II: Instructional Theories and Models

Theories of Teaching- Maieutic, Communication, Moulding, and Mutual Inquiry Theory, Models of Teaching- Meaning, Nature, Functions and Descriptions of the models- Concept Attainment Model, Jurisprudential Model, Advance Organiser Model and Inductive Thinking Model.

Unit III: Instructional Strategies

Levels of Instruction-Memory, Understanding and Reflective Levels, Communication Process and Electronic Media, Concept of Communication, Principles of Communication System, Barriers of Communication and overcoming them, Mass Media- Types and Functions, Electronic Media and its Present Status, Computer and its Uses in Education and Teleconferencing.

Unit IV: Evaluation and Statistics

Evaluation - Concept and Procedure- Placement, Formative, Diagnostic, and Summative, Norm Referenced Test (NRT), Criterion Referenced Test (CRT), Concept of CCE, Criteria of a Good Test- Reliability and Validity.

Educational Statistics- Graphical Representation of Data, Scales of Measurement, Measures of Variability, Correlation-Concept and Computation of Coefficient of Correlation by Product Moment Method and Rank Difference Method.

Reading List:

- Bloom, B.S. (1956). *Taxonomy of Educational Objectives- Cognitive Domain*. New York: David McKay.
- Cooper, James, M. (1991). *Classroom Teaching Skills*. Toronto: D. C. Heath and Company.
- Das, R.C. (1983). *Educational Technology- A Basic Text*. New Delhi: Sterling Publishers.
- Garret, H.E. (1973). *Statistics in Psychology and Education*. Bombay: Vakils, Feffer and Simson.
- Gronlund, N.E. and Linn, R. L. (2003) *Measurement and Assessment in Teaching*. Singapore: Pearson Education.
- Joyce, Bruce and Weil, Marsha and (1985). *Models of Teaching*. New Delhi: Prentice Hall of India.
- Joyce, Bruce , Weil, Marsha and Calhoun Emily (2009). *Models of Teaching*, 8th Edition. New Delhi: PHI Learning Private Limited.
- Ray, P.K.S (2006). *Technology of Instructional Design, Part I*. Delhi: Dominant Publishers and Distributors.
- Ray, P.K.S (2012). *Technology of Instructional Design, Part II*. Delhi: Dominant Publishers and Distributors.
- Reynolds, C. R. Livingston, R. B. and V, Wilson (2005) *Measurement and Assessment in Education*. New York: Pearson.
- Sharma, R.A. (2003). *Technological Foundation of Education*. Meerut: Surya Publications.

BED-O203: Action Research

Unit I: Introduction to Educational Research

Research – introduction, meaning and types of research- Basic, Applied and Action research: Meaning, characteristics of each along with differences.

Advantages of action research over conventional research.

Meaning and steps involved in action research with suitable examples.

Unit II: Planning Action Research

Identification, Selection and Statement of research problem for Action Research.

Formulating objectives and hypothesis; designing and planning;

Preparation of action research proposal.

Unit III: Conducting Action Research

Meaning of population and sample, Sampling methods

Tools and techniques of data collection: Standardized test, questionnaire, rating scales, check list observation and interview schedule.

Unit IV: Analysing and Reporting Action Research

Organization and analysis of data,

Statistical analysis (Descriptive and Inferential: t ratio and NPC),

Reporting Action research: Format, style and components.

Reading List:

Best, J.W. (1977). Research in Education. New Delhi: Prentice hall of India.

Flick, U. (2007). Introduction to Qualitative Psychology. London: Sage Publications.

Garett, H.E.(1973). Statistics in Psychology and Education. Bombay: Vakils, Feiffer & Simon.

Gay, L.R.(1976). Educational Research: Competencies for Analysis and Application. Merrill: Macmillan Publishing Company.

Kerlinger, F.N. (1995). Foundations of Behavioural Research. Bangalore: Harcourt Brace College Publishers.

Koul, L. (1990). Methodology Of Educational Research. New Delhi: Vikas Publishing House Pvt. Ltd.

SIEMT (2000). Conducting Action Research. Bhubaneswar – OPEPA.

Sidhu, K.S. (1987). Methodology of Research in Education. New Delhi: Sterling Publishers Pvt. Limited.

BED-O204: Environmental Education

Unit I: Concept of Environmental Education

Concept of Environment, Eco-system, biotic and abiotic components, Food chain and food web, flow of energy, Ecological pyramid. Environmental education - concept, principles, aims, objectives, need and characteristics. Multidisciplinary and Interdisciplinary approach. Co-curricular activities - Field trips, excursion, projects. Role of teacher in environmental education.

Unit II: Environmental Pollution

Pollution- meaning, air pollution, water pollution, land pollution and noise pollution. Causes of pollution-volcanoes, flood and earthquake, manmade causes industrialization,

urbanization, population growth, unsustainable practices. Impact of environmental pollution on physical, social and economic aspects of life.

Unit III: Contemporary issues related to environment

Climatic change, Global warming, Green house effect, Ozone depletion, Acid rain, Deforestation, Soil erosion,. Biodiversity- concept, importance, loss and conservation of biodiversity

Unit IV: Sustainable development

Definition, meaning, need and practices. Natural resources-Concept, Types, depletion and conservation, recycling of materials, Energy-renewable and non-renewable and its conservation.

Reading List:

- Anjaneyulu, Y (2004). Introduction to Environmental Science, Hyderabad: B.S. Publication
- Bharucha, E (2005). Text Book of Environmental Studies for under graduate courses, Hyderabad: University Press Private Ltd.
- Jain, Kavita (2005). An Introduction to Environmental Education, New Delhi: Mohit Publications.
- Kannan, Krishnan (1995). Fundamental of Environmental pollution, New Delhi: S. Chand & Company Ltd.
- Kumar, Bharati (2004). Environmental Education, New Delhi: Dominants Publishers and Distributors.
- Prakash, Ram (2004). Man and Environmental Sciences. Jaipur: ABD Publishers,
- Ranjan, Rahul (2004). Environmental Education: New Delhi: Mohit Publications
- Srivastava, K. K. (2004). Environmental Education, New Delhi: Kaniska Publishers.
- Shukla, Chaya (2004). Principles of Environmental Education, New Delhi: Sumit Enterprises.
- Trivedi, P R (2004). Environmental Education, New Delhi: Efficient Offset Printers.
- Yadav, P R & Mishra R Subrata. (2004). Environmental Biology, New Delhi: Discovery Publishing House.

BED-O205: Guidance and Counselling

Unit I: Introduction to Guidance and Counselling

Guidance – meaning, principles, need and purpose.

Types of guidance – educational, vocational, personal and psychological.

Counselling – concept, types, principles.

Skills of counsellor – empathy, listening, personality of a counsellor and communication skill.

Unit II: Guidance at Home, School and Society

Various aspect of guidance – teachers, parents, counselling officers, dean, tutors. Role of parents and teachers in guidance.

Guidance of exceptional, gifted, backward, delinquent and differently abled children.

Measuring devices in educational guidance – cumulative record cards.

Unit III: Teacher as Counsellor

Characteristics of a counsellor – qualities, functions, training programme.

Identification of learning and behavioural problems of students and remedial measures.

Group dynamics and resolution of conflicts.

Unit IV: Career Counselling and Guidance service

Organizing guidance service in school – principles and importance.

Role of headmasters, teachers, counsellors in organizing guidance service in school.

Individual Inventory Service, Occupation Information Service, Placement Service; Information Service for future occupations and providing necessary guidance for that.

Reading List:

Agarwal, J.C. (2004). Educational, Vocational Guidance and Counselling. New Delhi: Doaba House.

Bhatia, K.K. (1993). Educational & Vocational and Guidance. Ludhiana: Vonod Publications.

Crow & Crow. (1962). An Introduction to Guidance. New Delhi: S. Chand and Company.

Dev, I. (1962). The Basic Essentials of Counseling. New Delhi: Sterling Publishers.

Fuster, J.M. (1964). Psychological Counseling in India. Calcutta: McMillan & Company.

Gupta, M. (2003). Effective Guidance and Counseling-Modern Methods and Techniques. Jaipur: Mangal Deep Publishers.

Kochhar, S.K. (1993). Educational and Vocational Guidance in Secondary Schools. New Delhi: Sterling Publishers.

Naik, D. (2004). Fundamentals of Guidance and Counselling. Delhi: Adhyayan Publishers & Distributors.

Sharma, R.A. (2007). Fundamentals of Guidance and Counselling. Meerut: R. Lall Book Depot.

BED-CP206: Internship Teaching

Internship teaching would be conducted in schools by the teacher trainees in their two method subjects. Each student is required to deliver 15 lessons on each of his/her method subject in schools for a period of 30 working days where he/she will be an internee. All together 30 practice lessons are to be delivered. The student-teacher is to stay in the school for the entire school hour and is required to take part in the school activities like taking extra classes, participation in school assembly, community activities and other extra-mural activities of the school as directed by the Principal/ Head of the institution. Evaluation is to be made internally by taking the average of the total aggregate grade awarded by the supervising faculties of the college.

BED-CP207: Practicum - Field Based Activities

- | | | |
|----|------------------------------|----------|
| A. | i) Institutional activities | 25 marks |
| | ii) Working with communities | 25 marks |

Institutional activities and working with communities are to be evaluated internally.

- B. Development of an Achievement Test on any one of the Two Method Subjects opted by the teacher-trainee. They are required to follow the steps of Planning, Preparing, Administering the test and follow only ITEM Analysis. The test shall comprise only objective type of test items (50) on multiple choice format.

Assessment of the Achievement Test will be done by both the internal and external examiners appointed by the university and marks would be allotted as follows-

Record	40
Viva	10
<hr/>	
Total	50