BACHELOR OF EDUCATION (B. Ed.)

DEGREE PROGRAMME

UNDER CREDIT AND SEMESTER SYSTEM WITH GRADING

Modified Curriculum
(w.e.f.2011 admission)

Board of Studies (U G) in Education

MAHATMA GANDHI UNIVERSITY

PRIYADARSHINI HILLS
KOTTAYAM

B.Ed. Degree Programme

Mahatma Gandhi University

INTRODUCTION

The **B.Ed.** Degree Programme is modified by implementing Credit and Semester system with Grading. It shall be introduced with effect from the Academic year 2011-2012.

Regulations for B.Ed. Programme

Programme in the Credit & Semester System with Grading.

1. Preliminaries

The four major aspects of the newly implemented B.Ed. degree programme are

- Semesterisation, Credit System, Continuous Assessment, GradingIt shall be introduced by the Mahatma Gandhi University w.e.f. 2011-2012 admission onwards.

2. Definitions

Programme means a one year course of study and examinations spread over two semesters, the successful completion of which would lead to the award of a degree in education.

Course means a segment of subject matter to be covered in a semester

Common course means a course that comes under the category of courses which are compulsory – as specified for all students undergoing the B.Ed. Programme.

Core course means a course in the subject of specialization in the B.Ed. degree programme.

Complementary Electivecourse means a course which would enrich the B.Ed. programme.

Semester System means, the B.Ed. Degree will have two semesters, with a semester break of at least one month in between two semesters. There shall be 550 hours distributed over 100 working days in each semester. In the Second Semester there shall be minimum of 40 days for Teaching Practice. The time table may be set according to the day order system to provide optimal distribution of contact hours for all courses.

Credit is a unit of academic input measured in terms of the weekly contact hours assigned to a course in a semester

Grade means a letter symbol (e.g. A.B.C. etc) which indicates the broad level of performance of a student in an answer/course/semester/programme.

Weightage is a numerical measure quantifying the comparative range of an answer or the comparative importance assigned to different components like theory and practical, internal and external examinations, Common, Core and Complementary, Elective etc.

Grade point (G) is an integer indicating the numerical equivalent of the letter grade

Credit point (C.) is the assigned credit of the course

Weighted Credit point (P) is the value obtained by multiplying the grade point (G) by the credit (C.) ie. P = G×C

Cumulative Grade Point Average (CGPA) is the value obtained by dividing the sum of credit points in all the courses taken by the student for the entire programme by the total number of credits. CGPA indicates the broad level of academic performance of a student in a programme and is the index for ranking students. An overall letter grade 9 Cumulative Grade for the entire programme shall be awarded to a student depending on her/his CGPA. The CGPA shall be rounded off to two decimal places.

Semester Grade Point Average (SGPA) is the value obtained by dividing the sum of the weighted credit points (p) obtained by a student in various courses taken in a semester by the total number of credits taken by him/her in that semester. The grade point shall be rounded off to two decimal places.

Grade Point Average (GPA) is the value obtained by dividing the sum of the weighted grade points obtained by a student in an examination of a course in a semester by the total weightages taken in that examination. The grade point average shall be rounded off to two decimal places.

Weighted Grade Point is the sum of grade point multiplied by weightages.

Academic Week is a unit of five working days in which distribution of work is organized from day one to day five, with 5.5 contact hours on each day.

College Co–ordinator is a teacher nominated by the college staff council to co – ordinate the continuous evaluation undertaken by various subjects within the college.

3. Eligibility for admission and reservation of seats.

Eligibility for admission, norms for admission, reservation of seats for B.Ed. Degree Programme shall be according to the rules framed by the university from time to time.

4. Duration

The duration of B.Ed. programme shall be 2 semesters.

The duration of each semester shall be 100 days. **First semester** is from **November to March** and **Second semester** is from **May to September.**

The Teaching practice which is a compulsory part of B. Ed. programme is scheduled in the second semester, for six weeks in a secondary/higher secondary schools following Kerala state/ CBSE/ICSE/ISC. Only those students having post graduate degree in the concerned optional subject are permitted to undergo teaching practice at higher secondary level.

A student may be permitted to complete the programme, on valid reasons, within a period of 6 semesters from the date of commencement of the first semester of the programme.

Medium of Instruction and Examination**:** The medium of instruction and examination of the course shall be English. However, candidates who desire to write the examination in Malayalam may be permitted to do so.

5. Scheme of the Programme

The B.Ed. programme shall include

(a) Common course

(b) Core Course,

(c) Complementary Elective Course

(d) Teaching Competence

(e) Co-curricular Activities

(f) Extension Activities and

(g) Study Tours

Structure of the B.Ed. Programme

Programme Duration	2 Semesters
Minimum credits required for successful completion of the programme	48
Minimum credits required for common courses	22
Minimum credits required for core courses including teaching practices	22
Minimum credits required for complementary elective course	4
Minimum attendance required	75%

Programme Structure

I Common courses

II. Core courses

III Complementary Elective Course

CONSOLIDATED STRUCTURE OF B.Ed. PROGRAMME

SEMESTER I				**SEMESTER II**			
Code	**Course Name**	**Credits**	**Hours**	**Code**	**Course Name**	**Credits**	**Hours**
Common Course				**Common Course**			
EDU 701	Philosophical and Sociological Bases of Education	4	90	EDU 801	Development and Management of Education in India	4	84
EDU 702	Psychological Bases of Education	4	90	EDU 802	Personality Dynamics in Education	4	84
EDU 703	Modern Educational Practices	4	90	EDU 803	Common Practical Work Basic Skills SUPW and Art Edn,	2	48

					Child Study, Health and Physical Education		
Core Course				**Core Course**			
EDU 704	Theoretical Bases of Education	4	90	EDU 804	Pedagogic Analysis	4	84
EDU 705	Approaches and Practices in Teaching	4	90	EDU 805	Preparatory Course in Teaching Practical	2	60
Complementary Elective Course				EDU 806	Teaching Competence – Practical	8	180
EDU 706	Complementary Elective	4	90				
	Co-curricular Activities	0	10	Co-curricular Activities		0	10
	Total	**24**	**550**	**Total**		**24**	**550**

Common Courses

EDU 701 Philosophical and Sociological Bases of Education

EDU 702 Psychological Bases of Education

EDU 703 Modern Educational Practices

EDU 801 Development and Management of Education in India

EDU 802 Personality Dynamics in Education

EDU 803 **Common Practical Work** – Basic Skills in Child Study SUPW and Art Education, Health and Physical Education

Core Courses

EDU 704 Theoretical Bases of Education (Core Subjects)

EDU 705 Approaches and Practices in Teaching (Core Subjects)

EDU 804 Pedagogic Analysis (Core subjects)

EDU 805 Preparatory Course in Teaching Competence (Core Subjects) - **Practical**

EDU 806 Teaching Competence (Core Subjects) - **Practical**

Core Subjects

1 English Education

2. Malayalam Education

3. Hindi Education

4. Sanskrit Education

5. Arabic Education
6. Mathematics Education
7. Physical Science Education
8. Natural Science Education
9. Social Science Education
10. Commerce Education
11. Information Technology Education

Complementary Elective Courses

1. Environmental Education
2. Special Education
3. Health and Physical Education
4. Elementary Education
5. Guidance and Counseling

Course Summary of the B.Ed. programme

Semester I

	Common Courses		Credit	Hours
EDU 701	Philosophical and Sociological Bases of Education		4	90
EDU 702	Psychological Bases of Education		4	90
EDU 703	Modern Educational Practices		4	90
Core Courses				
EDU 704	EDU 704.11	Theoretical Bases of English Education	4	90
	EDU 704.12	Theoretical Bases of Malayalam Education	4	90
	EDU 704.13	Theoretical Bases of Hindi Education	4	90
	EDU 704.14	Theoretical Bases of Sanskrit Education	4	90
	EDU 704.15	Theoretical Bases of Arabic Education	4	90
	EDU 704.16	Theoretical Bases of Mathematics Education	4	90
	EDU 704.17	Theoretical Bases of Physical Science Education	4	90
	EDU 704.18	Theoretical Bases of Natural Science Education	4	90
	EDU 704.19	Theoretical Bases of Social Science Education	4	90
	EDU 704.20	Theoretical Bases of Commerce Education	4	90
	EDU 704.21	Theoretical Bases of Information Technology and Computer Science Education	4	90

	EDU 705.11	Approaches and Practices in Teaching English	4	90
	EDU 705.12	Approaches and Practices in Teaching Malayalam	4	90
	EDU 705.13	Approaches and Practices in Teaching Hindi	4	90
	EDU 705.14	Approaches and Practices in Teaching Sanskrit	4	90
	EDU 705.15	Approaches and Practices in Teaching Arabic	4	90
	EDU 705.16	Approaches and Practices in Teaching Mathematics	4	90
	EDU 705.17	Approaches and Practices in Teaching Physical Science	4	90
	EDU 705.18	Approaches and Practices in Teaching Natural Science	4	90
	EDU 705.19	Approaches and Practices in Teaching Social Science	4	90
	EDU 705.20	Approaches and Practices in Commerce	4	90
	EDU 705.21	Approaches and Practices in Teaching Information Technology and Computer Science	4	90

Complementary Elective Course

EDU 706.11	Environmental Education	4	90
EDU 706.12	Special Education	4	90
EDU 706.13	Health and Physical Education	4	90
EDU 706.14	Elementary Education	4	90
EDU 706.15	Guidance and Counselling	4	90

Semester II

	Common Courses	**Credits**	**Hours**
EDU 801	Development and Management of Education in India	4	84
EDU 802	Personality Dynamics in Education	4	84
EDU 803	Common Practical Work – Basic Skills in Child Study SUPW, Art Education Health and Physical Education	2	48

Core Courses

EDU 804	EDU 804.11	Pedagogic Analysis of English	4	84
	EDU 804.12	Pedagogic Analysis of Malayalam	4	84
	EDU 804.13	Pedagogic Analysis of Hindi	4	84
	EDU 804.14	Pedagogic Analysis of Sanskrit	4	84
	EDU 804.15	Pedagogic Analysis of Arabic	4	84
	EDU 804.16	Pedagogic Analysis of Mathematics	4	84
	EDU 804.17	Pedagogic Analysis of Physical Science	4	84
	EDU 804.18	Pedagogic Analysis of Natural Science	4	84
	EDU 804.19	Pedagogic Analysis of Social Science	4	84
	EDU 804.20	Pedagogic Analysis of Commerce	4	84
	EDU 804.21	Pedagogic Analysis of Information Technology and Computer Science	4	84
EDU 805	Preparatory Courses in Teaching - Practical		2	60
EDU 806	Teaching Competence – Practical		8	180

Break -up of credits in Practical courses

EDU 803 Common Practical Work – Basic Skills

Practical Course	**Weight**	**Credit**
Child Study	1	2
SUPW and Art Education	1	

Physical Education	1	
Health Education	1	

EDU 805 Preparatory course in Teaching Competence

Practical Course	Weight	Credit
Records of 5 discussion lessons	1	2
5 Demonstration lessons	1	
10 Criticism lessons	1	
3 Micro teaching lessons	1	

EDU 806 Teaching competency

Practical Course	Weight	Credit
Practice Teaching in optional subject	**4**	**6**
30 lesson plans of practice teaching	**1**	
Unit Plan, Achievement Test and statistical analysis of data	**3**	
Preparation of teaching aid and power point		
Project	**1**	
Viva Voce	**Credit - 2**	

Details of Common Practical Work – Basic Skills

Child Study : Prepare a report of a study about a child preferably belonging to anyone category of exceptional children during teaching practice.

SUPW

Each candidate shall take one activity each from group I (Service), and Group II (Product)

Suggested areas for SUPW :

1. **Service :** Survey (a topic of social importance) Literacy classes, Awareness programme camps, campus cleaning and beautification, cleaning public places and institutions, etc..
2. **Product :** Gardening/Medicinal plants, organic farming, craft/art works.

Book binding, soap making/ stitching and embroidery, candle making, Tie & dye, glass painting, jewels making etc.

Art Education : Need and importance of art education. A brief description of different form of Arts.

Health Care and Physical Education

The handbook should contain the following

Significance of health education,
Factors of good health, health care programmes in the school,

i) Health Care and First Aid

Health hazards and Maintenance of good health in pupils.

Meaning and significance of First Aid, Basic procedure of first aid for wounds, sprain and fracture., dislocation, sprain, Cramp, burns, drowning, fainting, electric shock, snake bite

ii) Physical Education -Aims and objectives of physical education.

Rules and regulations of any one major game and one event of athletics with diagrams.

Types of tournaments and fixtures.

Activities

Conduct a minimum of three physical education classes

(during practice teaching)

Participate in sports and games in the college.

Details of preparatory course in teaching competence

1. Discussion Lessons (record) : 5 Lessons
2. Demonstration Lessons (record) : 5 Lessons
3. Criticism Lessons (record) : 10 Lessons
4. Micro teaching Lessons (record) : 3 Micro teaching lessons on 3 different skills

It is desirable to present lessons for observation and reflection by student- teachers.

TEACHING COMPETENCE

1. Practice Teaching – 40 days teaching practice having 30 working days with a minimum of 30 lessons and related practical works.
2. Preparation of teaching aids – 2 charts, 2 models and 1 PowerPoint presentation with a minimum of 5 frames.
3. Unit plan, achievement test, statistical analysis of data and a school based project.
4. Viva – voce on teaching competence and common practical work.

6. Scheme of Evaluation

The academic growth of the student is evaluated through continuous internal assessment and end semester examination. 25% Weight is given for continuous internal assessment and 75% Weight for the end semester examination. In case of theory courses the continuous internal assessment will be done by the faculty.

Except for Viva voce in the case of practical courses, the internal and external ratio is 1 : 1 (50% : 50%) The practical examination will be done by the Board of practical examination constituted by the university. All students should appear before the Board of Practical Examination for external evaluation.

Internal Examination

Components of the Internal Evaluation and their weight are shown below.

A) (i) Theory

Components	Weight
Attendance	**1**
Assignment/Seminar/Project/Survey/Psychological Tests	**2**
Test Paper	**2**

a) Attendance

i) Those students who have a minimum of 75% average attendance for all the courses can register for the examination. Condonation of attendance to a maximum of 10 days or 55 hours in a semester. It can be availed only once during the whole period of the programme may be granted by the university on valid grounds. This condonation

shall not be counted for internal assessment. Student who is not eligible for condonation of attendance shall repeat the course along with the next batch.

Benefit of attendance may be granted to students attending University/College union activities, participation in co-curricular activities by treating them as present for the days of absence, by the Head of the institution. This is limited to a maximum of 10 days and this benefit shall be considered for internal assessment also.

Percentage of Attendance	Grade
>90	A
Between 85 and 90	B
Between 80 and 85	C
Between 75 and 80	D
<75	E

ii). Assignment/Seminar/Project/ Psychological Tests: The student has to take a minimum of one Assignment/Seminar/Project/Survey**/** Psychological Test per course.

iii). Class test. A minimum of 1 class test is to be attended per semester.

The evaluation of all components is to be published and to be acknowledged by the candidate. All documents of internal assessments are to be kept in the college for 2 years and shall be made available for verification by the university. The responsibility of evaluating the internal assessment is vested on the teachers who teach the course.

B. Practical

All students are to do 40 days of teaching practice with 30 lessons in their concerned core subjects. The concerned faculty shall evaluate the teaching competence of those student-teachers who has successfully completed the 40 days teaching practice with 30 lessons and other required practical work.

External examination

a. Theory

The external examination of all semesters shall be conducted by the university at the close of each semester.

b. Practical

Practical examination shall be conducted by an external examination board constituted by the university. The members of the board shall be permanent and full time teachers of affiliated colleges. The external board shall observe and evaluate the teaching competency of all candidates. The Physical Education teachers in the board shall observe and evaluate Physical Education Classes. The practical board shall conduct viva voce for each candidate and award grades on the basis of the performance of the candidates and the quality of practical works on the basis of the following components and weight.

	Components		**Weight**
i)	Teaching competence	:	1
ii)	Quality of practical works	:	1
iii)	Subject competency	:	1
iv)	Communication ability	:	1

There will be no supplementary exams. For appearance/improvement, students can appear along with the next batch.

Student who register his/her name for the external exam for a semester will be eligible for promotion to the next semester.

All programmes and courses shall have unique alphanumeric code. Each teacher working in affiliated institutions shall have a unique identification number and this no. is to be attached with the codes of the courses for which he/she can perform examination duty.

A B.Ed. degree holder who desires to study a new optional subject may do so (one optional at a time) if he/she fulfils the conditions prescribed by the university. To appear in a new optional subject, the candidate has an attendance of 8 academic weeks in the first semester and 12 academic weeks in the second semester and shall complete all the practical works including practice teaching for the concerned subject. He/she shall appear for the practical and theory examination for the concerned core courses.

Consolidation of SGPA

SGPA is obtained by dividing the sum of credit points (P) obtained in a semester by the sum of credits (c) taken in that semester. Semester Grade point Average (SGPA) of a student in that semester shall be calculated using the formula given. Suppose the student has obtained 4 credits for two courses and two credits for other two courses in a particular semester after consolidating the Grade for each course as demonstrated above, SGPA has to be consolidated as shown below.

Course Code	Title of Course	Credits ©	Grade awarded	Grade points Avg. (G)	Credit points (CxG)
01		4	A	4	16
02		4	C	2	8
03		4	B	3	12
04		4	C	2	8
05		4	B	3	12
06		4	B	3	12
Total		**24**			**68**
SGPA	**Total Credits points /Total Credits =68/24 = 2.83 Grade B**				

Consolidation of CGPA

SEMESTER 1

PHILOSOPHICAL AND SOCIOLOGICAL BASES OF EDUCATION

COMMON COURSE : EDU 701

No. OF CREDITS : 4

CONTACT HOURS : 90

Mode of Transaction

Lecture cum discussion, demonstration, problem-solving sessions, seminars, debates, assignments, brain storming sessions, panel discussions, peer learning, community visits, survey and dialogue mode.

COURSE OUTLINE

UNIT 1 – Education (15 hrs)

1.1 Meaning, aims and functions of Education - Human Resource Development

1.2 Formal education and alternative system of education (non-formal education), distance education, extension education, adult education, literacy programmes and continuing education.

1.3 Informal education – role of family, peer group and community.

UNIT 2 – Philosophies and their impact on Education (20hrs)

2.1 Philosophy – meaning – relationship between philosophy and education – significance of studying philosophy in understanding educational practices.

2.2 Idealism, Naturalism, Pragmatism and Existentialism with reference to aims, curriculum, methods of teaching, role of teacher and discipline – Importance of Eclectic approach.

UNIT 3 – Educational Thinkers (A brief account of their contributions) (15 hrs)

3.1 Western thinkers – Froebel, Montessori, Rousseau, John Dewey and Paulo Freire.

3.2 Indian thinkers - Mahatma Gandhi, Rabindranath Tagore, Sri Sankaracharya, Sri Aurobindo, Swami Vivekananda, Dr. S. Radhakrishnan and Dr. A.P.J. Abdul Kalam.

UNIT 4 – Sociology and Education (10 hrs)

4.1 Sociology – meaning and scope – Relationship between sociology and education.

4.2 Education and culture

4.3 Education and socialization

4.4 Education and modernization

4.5 Education and Social Change

UNIT 5 - Education and Values (10 hrs)

5.1 Values and value education - meaning and significance

5.2 Traditional values of India – concept of purusharthas, truth, non-violence, tolerance, simplicity, spirituality and self-realization.

5.3 Constitutional values of India – democracy, secularism, socialism and equality.

UNIT 6 – Teacher Education (20hrs)

6.1 Teacher education – meaning – aims and objectives

6.2 Pre-service and in-service education–need and significance.

6.3 Role of teachers in the emerging Indian society.

6.4 Professional Organizations - Accountability of teachers – Code of ethics for teachers

6.5 Role of SCERT, NCERT, NCTE, UGC and NAAC in promoting the quality of teacher education.

SEMESTER 1

PSYCHOLOGICAL BASES OF EDUCATION

COMMON COURSE : EDU 702

No. OF CREDITS : 4

CONTACT HOURS : 90

Mode of Transaction:

Lecture –cum- demonstrations, Seminars, Assignments, Peer learning strategies, Community visits, Brain storming sessions, Debates, Group discussions, Problem-solving sessions, Scenario-based learning strategies and Survey method.

Course Outline

Unit I

Psychology and Education (10hrs)

1.1 Psychology – Meaning, Nature and Functions

1.2 Schools of Psychology – Structuralism, Functionalism, Behaviorism,

Psychoanalysis, Gestalt School of Psychology.

1.3 Educational psychology – Meaning and Scope- Significance of Educational

psychology in teaching and learning.

Unit II

Powers of Mind (10hrs)

2.1 Sensation, Perception and Concept Formation

2.2 Types of Thinking – Concrete Vs Abstract thinking, Convergent VsDivergent thinking, Critical thinking, Creative thinking and developing creative thinking in pupils.

2.3 Problem solving – developing problem solving ability in the learner.

Unit III

Development of the Learner (22 hrs)

3.1 Concepts of Maturation, Growth and Development - Principles of Growth and Development.

3.2 The stages of Development: Infancy, Early Childhood, Later Childhood and Adolescence with reference to physical, mental, emotional and social development.

3.3 Problems of Indian Adolescents

3.4 Developmental tasks of childhood and adolescence – helping adolescents for better adjustment – Stress management.

3.5 Psychological needs of children and adolescents

3.6 Erickson's view of psycho-social development

Unit IV

Information Processing (8 hrs)

4.1 Memory and Forgetting (Concept only)

4.2 Information Processing – Atkinson-Shriffrin Model of Information Processing

4.3 Techniques for Effective Memorization- Association, Mnemonics etc

4.4 Metacognition-concept.

Unit V

Motivation in Learning and Teaching (7hrs)

5.1 Motivation –nature and significance –Types of Motivation- Achievement Motivation (Atkinson).

5.2 Strategies for developing motivation in the learner

5.3 Maslow's hierarchy of needs.

Unit VI

Learning Process (33hrs)

6.1 Learning – Process of Learning –Factors affecting learning: Subject variable, Method variable, Task variable.

6.2 Learning Curves and Learning Plateaus

6.3 Behavioural Views of Learning (Thorndike, Pavlov, and Skinner), Social Cognitive learning (Bandura), Perceptual organization/Insight Learning (Gestalt School).

6.4 Constructivist view of learning: Social Constructivism (Vygotsky), Cognitive Constructivism –Piaget (4stages), Bruner (3 stages). Constructivist methods – Co-operative learning, Discovery learning, Brainstorming, Concept mapping, Reciprocal Teaching.

6.5 Ausubel's view of learning: Meaningful Verbal Learning .

6.6 Gagne's hierarchy of learning – Eight types of learning-Significance in teaching.

6.7 Transfer of learning – meaning, types of transfer - Teaching for positive transfer.

SEMESTER 1

MODERN EDUCATIONAL PRACTICES

COMMON COURSE : EDU 703

No. OF CREDITS : 4

CONTACT HOURS : 90

Mode of Transaction

Lecture, Lecture cum demonstration, Problem Solving sessions, Individual and Group Work, Group discussion, Projects and assignments, Seminars, Debates etc.

A. EDUCATIONAL EVALUATION & RESEARCH

Contact Hours: 45

Course Outline

Unit 1 – Evaluation in Education (20 hrs)

1.1 Meaning – significance and functions of evaluation. Measurement and Evaluation – continuous and comprehensive – scholastic & co-scholastic – criterion–referenced and norm-referenced – objective & competency based – formative & summative.

1.2 Recent Trends in Evaluation – Evaluation of projects, seminars, assignments - grading.

1.3 Achievement Test: Teacher made tests Vs. Standardized tests. Characteristics of an evaluation tool – Objectivity, Validity, Reliability and Practicability – Standardization of tests.

1.4 Educational Diagnosis – Diagnostic Test - Remedial instruction.

UNIT 2 – Statistics in Education (15 hrs)

2.1 Classification and tabulation of data. Graphical representation of data: Bar diagrams, Line diagrams, Histogram, Pie diagram, Frequency polygon, Frequency curve, ogives.

2.2 Statistical methods of analysis – Measures of central tendency: Mean, Median & Mode. Measures of variability: Range, Mean deviation, Standard deviation and Quartile deviation. Measures of relationship - Coefficient of Correlation - Spearman's Rank Order Correlation.

2.3 Interpretation of statistical data –– Concept of Normal probability curve – Norms – Standard score.

2.4 Uses of test data - placement, promotion, grouping, diagnosis and remediation.

UNIT 3 – Research in Education.(10hrs)

3.1 Meaning of research – Types of research: Fundamental Vs Applied - Quantitative Vs Qualitative. Methods of Research: Survey and experimental

3.2 Teacher as researcher – Action research in education – Significance – Steps in Action Research

B. EDUCATIONAL TECHNOLOGY & INFORMATION & COMMUNICATION TECHNOLOGY

Contact Hours: 45

Course Outline

Unit 1 – Media in Education (10 hrs)

1.1 Concept of Educational Technology – principles and significance.

1.2 Classification of Audio-Visual aids – Dale's Cone of Experience. Educational significance of hardware such as OHP, LCD Projector, ETV and Audio-visual recording instruments, CD/DVD.

1.3 Mass media in education: TV, Radio, News papers, Films, Video, Audio cassettes

Unit 2 – Individualized Instructional Strategies (5 hrs)

2.1 Programmed Instruction – Fundamental Principles - Techniques of programming.

2.2 Personalized System of Instruction (PSI) – Instructional Module – Language Laboratories

Unit 3 – Information Technology (10 hrs)

3.1 Computer fundamentals: Hardware, Software, Functional units, Storage devices, Types of software - Application software, Free software

3.2 Education through Computer and Internet: Computer Assisted Instruction (CAI) and Interactive Learning, Multimedia, E-learning, Web based learning, Virtual reality, Virtual classrooms, Virtual laboratory, Teleconference, Learning Packages

3.3 Software for instructional purpose –

MS Power point – Creation, Custom animation and presentation – concept only

3.5 Information Technology – IT in India: NIC, C-Dit, IT @ school Project, Akshaya Project, e-governance project.

Unit 4 – Communication and classroom Interaction (20 hrs)

4.1 Concept of communication - Communication cycle – factors affecting communication.

4.2 Classroom interaction – Flander's Interaction Analysis Category System (FIACS).

4.3 Micro teaching – Teaching skills – Micro teaching cycle – Link practice – Simulation

4.4 Team teaching

4.5 Models of teaching – Meaning, basic elements of a model

SEMESTER 1

THEORETICAL BASES OF ENGLISH EDUCATION

CORE COURSE : EDU 704.11

No. OF CREDITS : 4

CONTACT HOURS : 90

Mode of Transaction

Lecture cum demonstration, problem solving, brain- storming session, group discussion, case- study, projects and power point presentations.

Course outline

Unit 1: Conceptual Background of English (10 hrs)

1.1 Historical development (Pre-independence period, East-West controversy, Macaulay's Minutes).

1.2 Status of English (Associate official language, Three language formula)

1.3 Functions of English (link language, international language, library language, window to the world, language of trade, science and technology)

Unit 2: Curriculum Development in English (15 hrs)

2.1 Curriculum development – General principles (psychological, sociological, philosophical, needs and interests of the learner, nature of subject matter and philosophy of nation).

2.2 Different approaches to curriculum organization (Spiral, topical and concentric approach).

Unit 3: Psychological Bases of English Teaching. (15 hrs)

3.1 Linguistic Principles, Psycho-linguistic principles

3.2 Constructivist approach, fundamentals of social and cognitive constructivism,

3.3 Individual differences in learning of English - identifying and catering the needs of gifted, slow learners, low achievers and under achievers.

3.4 Chomskyan theory of language learning-(LAD and universal grammar)

3.5 Motivational techniques in teaching of English

3.6 Learner factors in language acquisition (age, sex, intelligence, aptitude, personality disposition, Cognitive style and attitude)

Unit 4: Teacher and Professional growth (10 hrs)

4.1 English language teacher – essential qualities, duties and responsibilities.

4.2 Professional growth-Ways and means of developing professional competency-in-service training-Roles of SCERT and NCERT.

Unit 5 : Instructional support(15 hrs)

5.1 Resource materials in teaching English– Syllabus, Textbooks – criteria of selection, Resource unit, Work Book, Teachers' handbook, Journals, Magazines, periodicals, Supplementary readers, Learning aids audio- visual aids - OHP, Computer, LCD Projector, C. D. ROM such as Encarta, Video lessons & Improvised aids

5.2 Language Laboratory & its organization-English language club.

5.3 Class library and its organization

5.4 Organization of field trips and study tours – their importance

Unit 6 : Language skills (15 hrs)

6.1 Listening –sub skills –activities for developing sub skills. Types of listening skill (extensive, intensive, focused, selective and casual)

6.2 Speaking – sub skills – activities for developing sub skills – Evaluating speaking skill – scoring procedures (analytic and global impression marking scheme).

6.3 Reading – sub skills-mechanics of reading, reading problems, kinds of reading (choral and individual, loud and silent, extensive and intensive, literal, interpretive,

creative and critical). Teaching elementary reading (analytic and synthetic methods)

6.4 Writing – sub-skills, mechanics of writing, characteristics of good handwriting, punctuation. Composition – types (free and guided), correction rules.

Unit 7: Vocabulary and Grammar (10 hrs)

7.1 Vocabulary – selection and gradation

7.1.1 Vocabulary: Types (active, passive, content and structural)

7.1.2 Techniques of presenting vocabulary

7.1.3 Vocabulary expansion techniques

7.1.4 Spelling – regularities and irregularities, spelling rules.

7.2 Grammar: types (prescriptive, descriptive, formal and functional)

7.2.1 Methods (Inductive and deductive)

7.2.2 Selection and gradation of structures

SEMESTER I

THEORETICAL BASES OF MATHEMATICS EDUCATION

COMMON COURSE : EDU 704.16

No. OF CREDITS : 4

CONTACT HOURS : 90

Modes of Transaction

Lecture cum discussion, Individual assignments, guided small group discussion, project work, seminars, and Activity methods.

Course Outline:

Unit. I Conceptual Background of Mathematics (20 hrs)

1.1 Meaning of Mathematics: Nature of Mathematics, human needs as bases of growth of mathematics, pure and applied mathematics, role of induction, intuition and logic in mathematical thinking, language of mathematics.

1.2 Transfer value of learning mathematics: Practical utility of mathematics, its basis for the study of other subjects; application in real life- Disciplinary values: competencies like precision and systematic ways of dealings such as accuracy, concentration, simplicity, logical thinking and problem solving abilities, cultural values.

1.3 Development of mathematics: Development of mathematics from empirical to rational, brief history of developments of mathematics – contributions of Euclid, Pythagoras, Rene-Descarte, Bertrand Russell and Indian mathematician with special reference to Aryabhatta, Bhaskaracharya, Brahmagupta and Ramanujan.

1.4 Aims and objectives of teaching mathematics at various stages of education.

Unit 2 Curriculum Development in Mathematics (15 hrs)

2.1 Curriculum – meaning and definition 2.2 Modern trends in curriculum construction- objective based, child centered, activity based, correlated, overcoming individual difference, fulfilling the requirements of higher education, flexible and feasible.

2.2 Principles of curriculum organization- logical & psychological consideration

2.3 Different approaches to curriculum organization – Spiral, topical and concentric approach

Unit 3 Psychological Bases of Mathematics teaching. (15 hrs)

3. 1 Implications of theories of Piaget, Bruner, Gagne, Gardner and Vygotsky in teaching mathematics.

3.2 Individual differences in learning of mathematics, identifying, catering the needs of gifted, slow learners, low achievers and under achievers.

3.3 Motivational techniques in teaching of mathematics

Unit 4 Teacher and Professional growth (10 hrs)

4.1 Teacher – essential qualities, duties and responsibilities.

4.2 Professional growth –Ways and means of developing professional competency in mathematics teaching, in service training program.

Unit 5 Instructional support (15 hrs)

5.1 Resource materials in teaching Mathematics –

5.1.1 Textbooks – criteria of selection,

5.1.2 Work Book

5.1.3 Teacher's Diary

5.1.4 Teachers' handbook

5.1.5 Journals, Magazines, periodicals,

5.1.6 Learning aids: Improvised aids

5.2 Mathematics Laboratory & its organization

5.3 Mathematics Library and its organization

Unit 6 Issues in Teaching of Mathematics (15 hrs)

6.1 Concretization of abstract ideas

6.2 Gradation of Subject matter

6.3 Correlation of the Subject- incidental & systematic Correlation

.

SEMESTER 1

THEORETICAL BASES OF PHYSICAL SCIENCE EDUCATION

CORE COURSE : EDU 704. 17

No. OF CREDITS : 4

CONTACT HOURS : 90

Mode of transaction:

Lecture, demonstration, group discussion, project work, problem-solving sessions,

Brain storming, seminars, assignments and other relevant techniques.

Unit I - Conceptual Background of Physical Science(10 hrs)

1.1 Science, its meaning, definitions, nature of science, Science as a product and process. Interdependency of product and process.

1.2 Concept of correlation- incidental and systematic correlation of physical science, within the subject and with other subjects in the curriculum such as Mathematics, Biology, Languages, Geography, History, Earth Science, Drawing, Music and Craft. Correlation with life and environment.

Unit 2 -Curriculum Development in Physical Science (20hrs)

2.1 Curriculum development – General principles – psychological, sociological, philosophical, needs and interests of the learner, nature of subject matter and philosophy of nation.

2.2 Approaches in curriculum organization: Movement down along a road, Swing of a pendulum, concentric plan, Type study. Historical approach, Core curriculum, Separate Subject curriculum.

2.3 Aspects of science curriculum in NCF (2005) and KCF (2007).

Unit 3 - Psychological bases of Physical Science Education (15 hrs)

3.1 Implications of theories of Piaget, Bruner, Gagne, Gardner and Vygotsky in teaching Physical Science

3.2 Individual differences in learning of Physical science, identifying, catering the needs of gifted, slow learners, low achievers and under achievers.

3.3 Motivational techniques in teaching of Physical science.

3.4 Learning as a generative process, Children's science, Learner as a scientist, Pre – conceptions and misconceptions of learner, Influence of pre- and misconceptions in teaching and learning processes

Unit 4 -Teacher and Professional growth (10 hrs)

4.1 Teacher – essential qualities, duties and responsibilities.

4.2 Professional growth – in-service training.

Role of SCERT and NCERT

Unit 5 -Instructional Support –Resource Materials, Laboratory and Library (20 hrs)

5.1 Resource materials in teaching Physical Science

Syllabus, Textbook – criteria of selection, Resource unit, Teachers' handbook, Reference books

Supplementary readers, Learning aids: audio- visual aids (OHP, Computer, LCD Projector and C.D. ROM), Improvised aids.

5.2 Laboratory and its organization

Purchase and maintenance of chemicals, apparatus and equipments, Laboratory rules, Accidents in the laboratory, Precautions and First Aid.

5.3 Science library and its organization.

Unit 6 -Co - Curricular Activities (15 hrs)

6.1 Co – curricular activities – organization of field trips and study tours – their importance.

6.2 Science Club – its pattern, organization and activities such as science fairs.

SEMESTER 1

THEORETICAL BASES OF NATURAL SCIENCE EDUCATION

CORE COURSE : EDU 704 .18

NO. OF CREDITS : 4

CONTACT HOURS : 90

Course outline

Lecture cum demonstration, group discussions, case study, projects, brain storming, seminars,

Unit 1 Conceptual Background of teaching Natural Science (10 hrs.)

1.1 Science, its meaning, definitions, nature & scope

1.2 Science as a product and process, Interdependency of product and process.

1.3 Importance of Science in relation to self and community.

1.4 Scientific method; developing scientific attitude.

Unit 2 Curriculum Development in Natural Science (20 hrs)

2.1 Curriculum development – General principles – psychological, sociological, philosophical, needs and interests of the learner, nature of subject matter and philosophy of nation.

2.2 Various approaches in organizing the Content.

Topic approach, Historical approach, concentric approach, Interdisciplinary approach, Type study.

2.3 An appraisal of BSCS all versions.

2.4 Nuffield foundation

2.5 NCERT, SCERT, National Science Talent Search Scheme.

2.6 Science Education in National Curriculum Frame Work (2005)

Unit 3 Psychological bases of Natural Science teaching (15hrs.)

3.1 Implications of theories of Piaget, Bruner, Ausubel, Vygotsky and Gardner in Teaching Natural Science

3.2 Individual differences in learning of Natural science

3.3 Characteristics and programmes for gifted, slow learners, low achievers and under achievers

3.4 Motivational techniques of teaching Natural Science

Unit 4 Teacher and Professional growth (10 hrs)

4.1 Teacher – essential qualities, duties and responsibilities.

4.2 Professional growth –Ways and means of developing professional competency - in-service training-Roles of SCERT and NCERT.

Unit 5 Instructional Support (15hrs.)

5.1 Resource materials in teaching Natural Science – Syllabus, Textbooks – criteria of selection, Resource unit, Work Book, Teachers' handbook, Reference books, Journals, Magazines, periodicals, Supplementary readers, Learning aids : audio-

visual aids(OHP, Computer, LCD Projector), CD.ROM such as Encarta, Video lessons & Improvised aids

5.2 Laboratory & its organization

5.3 Natural Science library

Unit 6 Impact of teaching Natural Science in promoting national goals of education (20hrs.)

6.1 National Goals of education and role of Natural Science teaching

6.2 Self sufficiency in food

6.3 Modern agricultural practices; crops and management; preparing the field; selection of seed; control of weeds and pests; manuring; use of bio fertilizers, making of vermi-compost; modern techniques of cultivation; Hybridisation, Budding, Layering, Grafting, tissue culture and cloning.

6.4 Role of Science in effecting social changes (promoting health and hygiene; population control, eradication of diseases; removal of superstitions)

6.5 Role of science in raising the standard of living; bringing science to home and community (longevity of life, decreasing infant mortality rate; health index; better living conditions; role and functioning of community health centers).

6.6 Scientific Literacy

6.7 Environmental awareness (Interdependence of organism and environment; pollution).

6.8 Management of natural resources eco-friendly approach (land, water, air, forest-wild life sanctuaries)

6.9 Concept of sustainable existence (Ecological balance optimum utilization of resources

SEMESTER 1

THEORETICAL BASES OF SOCIAL SCIENCE EDUCATION

CORE COURSE : EDU 704 .19
No. OF CREDITS : 4
CONTACT HOURS : 90
Mode of Transaction

Lecture-cum-demonstration, Project work, Seminar, Assignment, Brain storming, Discussion, Group work.

Course Outline

Unit 1 Conceptual Background of Social Science (10 hrs)

1.1 Definition and Meaning - Social Science and Social Studies

1.2 Similarities and Differences between Social Science and Social Studies

1.3 Nature and Scope of Social Science

1.4 Aims and Objectives of teaching Social Science

Unit 2 Curriculum Development in Social Science (15

2.1 Curriculum development – General principles – psychological, sociological, philosophical, needs and interests of the learner, nature of subject matter and philosophy of nation.

2.2 Characteristics of a Progressive Curriculum for Social Science Education

2.3 Approaches in curriculum organization – Unit Approach, Topical Approach Concentric Approach, Chronological Approach.

Unit 3 Psychological bases of Social Science Teaching (15 hrs.)

3.1 Implications of theories of Gardner and Vygotsky in teaching social science, Critical pedagogy

3.2 Individual differences in learning of social science, identifying, catering the needs of gifted, slow learners, low achievers and under achievers.

3.3 Motivational techniques in teaching of social science

Unit 4 Teacher and Professional growth(10 hrs)

4.1 Essential Qualities of a Social Science Teacher

4.2 Ways and Means of developing professional growth among Social Science Teachers

Unit 5 Instructional Support – (20 hrs)

5.1 Text Book – Need and Importance- Criteria of a good Social Science Text Book-

5.2 Work Book

5.3 Teachers' handbook

5.4 Collateral Reading Materials - Types and Significance

5.5 Question Bank

5.6 Bulletin Board

5.7 Social Science laboratory and its organization

5.8 Field trip-Steps and Advantages.

5.9 Community Resources - Types and Advantages

Unit 6 Special Issues in the Teaching of Social Science (20 hrs)

6.1 Dealing with Controversial Issues in Social Science.

6.2 Social Science Education for Democracy

6.3 Social Science Education for National Integration –Activities for students.

6.4 Social Science Education for International Understanding–Activities for students.

6.5 Current Affairs in Social Science

6.6 Consumer Education in Social Science.

SEMESTER 1

THEORETICAL BASES OF COMMERCE EDUCATION

COMMON COURSE : EDU 704.20

No. OF CREDITS : 4

CONTACT HOURS : 90

Modes of Transaction:

Lecture cum discussion, Individual assignments, Guided small group discussion, project work, seminars, Activity methods.

Course Outline:

Unit - 1 Conceptual Background of Commerce (15 hrs)

1.1 Introduction to Commerce: Meaning, Definitions, Scope and Nature of Commerce as a discipline- Significance of Commerce in the global scenario-Modern trends in Commerce: Banking, Insurance, Trade- Correlation of Commerce with other subjects: Economics, Geography, Mathematics, Statistics, International relations ,Management information system.

1.2 Nature and Significance of Commerce Education: Meaning, Definitions, Goals, Aims and Objectives of studying Commerce Education- History of Commerce Education - Development of Commerce Education in India- Need and importance of learning Commerce at Higher secondary level- Formulation of Objectives in Commerce at National and State level(NCF).

1.3 Transfer value of learning Commerce: Practical utility of Commerce, Social, disciplinary and cultural values- Strategies adopted for inculcating values among commerce students.

Unit – 2 Curriculum Development in Commerce (20 hrs)

2.1 Curriculum development – General principles – psychological, sociological, philosophical, needs and interests of the learner, nature of subject matter and philosophy of nation.

2.2 Modern trends in curriculum construction- objective based, child centered, and activity based, correlated, overcoming individual difference, fulfilling the requirements of higher education, flexible and feasible.

2.3 Different approaches to curriculum organization – Spiral, topical and concentric approach

2.4 Analysis of Present Higher secondary school Commerce curriculum

Unit – 3 Psychological Bases of Commerce Teaching. (15hrs)

3.1 Implications of theories of constructivism, Multiple intelligence and Emotional Intelligence in teaching Commerce.

3.2 Individual differences in learning of Commerce, identifying and catering the needs of gifted, slow learners, low achievers and under achievers.

3.3 Motivational techniques in teaching of Commerce.

Unit 4 Teacher and Professional growth (10 hrs)

4.1 Teacher – essential qualities, duties and responsibilities.

4.2 Professional growth –Ways and means of developing professional competency in service training-Roles of SCERT and NCERT.

Unit 5 Instructional support(20hrs)

5.1 Resource materials in teaching Commerce– Syllabus, Textbooks – criteria of selection, Resource unit, Source Book, Teachers' handbook, Reference books, Journals, Magazines, periodicals, Supplementary readers, Learning aids :audio- visual aids (OHP), Computer, LCD Projector), CD. ROM, Interactive White Board

5.2 Commerce Library –Need & Importance

5.4 Organization of field trips and study tours – their importance

5.5 Commerce Club–Need & Significance

5.6 Community Resources and its utilization

Unit 6 IT and Commerce Education (10 hrs)

6.1 Role of IT in the development of Commerce education

6.2 CAI, CMI, CML, IT Enabled education

6.3 e-learning: Meaning, features, e- learning and commerce education

SEMESTER 1

APPROACHES AND PRACTICES IN TEACHING ENGLISH

CORE COURSE : EDU 705.11

No. OF CREDITS : 4

CONTACT HOURS: 90

Mode of Transaction.

Lecture cum demonstration, problem solving, brain- storming sessions, group discussion, case- study, projects and power point presentations.

Course Outline

Unit 1 Taxonomy of educational objectives (20 hrs.)

1.1 Aims and objectives - meaning and distinction
1.2 Blooms Taxonomy of educational objectives:
1.3 Objective based instruction, competency based instruction.
1.4 Learning as pupil activity

Unit 2: Methods and Strategies for Productive Learning(25 hrs)

A brief review of
2.1 Grammar Translation method
2.2 Direct method
2.3 Bilingual method
2.4 Structural-Oral-situational approach
2.5 Natural approach
2.6 Suggestopedia
2.7 Communicative Approach.

Unit3. Models of Teaching(10 hrs.)

3.1 Models of Teaching – Meaning and definition
3.2 Basic elements of a model

Unit 4: Techniques of teaching (15 hrs.)

4.1 Questioning, Co-operative learning-Collaborative learning-Brain storming- Peer tutoring-Role play-Computer assisted instruction, Workshop, symposia, mastery learning, Buzz session, Debates, method of Individualized assignments, Language games, reflective teaching

Unit 5: Developing study skills (15 hrs.)

5.1. Locating Information (Dictionary, Thesaurus- Reference skills)

5.2. Gathering Information – Skimming, scanning, intensive and extensive reading – SQ4R

5.3. Storing Information (Note making, note taking, summarizing and information transfer)

5.4. Retrieving Information (using technology and computers)

Unit 6: Challenges in teaching and learning English (5 hrs.)

6.1 Problems in teaching English and the solutions

6.2 Influence and interference of mother tongue (Transfer of learning)

SEMESTER 1

APPROACHES AND PRACTICES IN TEACHING MATHEMATICS

COMMON COURSE	**:**	**EDU 705 .16**
No. OF CREDITS	**:**	**4**
CONTACT HOURS	**:**	**90**

Mode of Transaction:

Lecture cum discussion, Individual assignments, Guided small group discussion, project work, seminars, Activity methods.

Course Outline

Unit 1. Taxonomy of educational objectives (25hrs)

1.1 Aims and objectives - meaning and distinction

1.2 Blooms Taxonomy of educational objectives:

1.3 Objective based instruction, competency based instruction.

1.4 Learning as pupil activity

Unit 2.Methods and Strategies for productive Learning of Mathematics(25hrs)

2.1 Teaching Mathematical Concepts -Lecture Method and Heuristic Method

2.2. Teaching Mathematical Generalisation - Inductive-deductive Strategies

2.3 Teaching Proof of theorems Assignments, homework - Analytic and Synthetic proofs.

2.4 Teaching problem solving, Definition of Problem- Types of problems- steps of problem solving - Solution of Problem solving,by problem solving method - Analytic Synthetic method - Project method

Unit3. Models of Teaching(10 hrs)

3.1 Models of Teaching – Meaning and definition

3.2 Basic elements of a model

Unit 4. Techniques of Teaching (20 hrs)

4.1 Individualized techniques-homogeneous grouping -Supervised study, Dalton plan, -Assignments- Home Assignments, Class Assignments
4.2 Questioning- Purpose, Characteristics& art of Questioning
4.3 Team Teaching
4.4 Small Group Techniques- Brain storming, Collaborative learning-Co-operative learning
4.5 Project, Seminars-Implementation and evaluation,

Unit 5. Development of Mathematical Skills.(10hrs)

5.1 Computational skills-Importance and techniques of developing accuracy and speed, role of drill lessons and use of mental calculations.
5.2 Geometrical skills – use of mathematical instruments, freehand drawing of geometrical shapes, drawing of patterns etc.
5.3 Drawing and interpreting graphs and charts.

SEMESTER I

APPROACHES AND PRACTICES IN TEACHING PHYSICAL SCIENCE

CORE COURSE : EDU 705 .17
No. OF CREDITS : 4
CONTACT HOURS : 90

Mode of transaction:

Lecture, demonstration, group discussion, project work, problem –solving sessions, brain storming, seminars, assignments and other relevanttechniques.

Course Outline

Unit 1. Taxonomy of educational objectives (25hrs)

1.1 General aims and objectives of teaching physical science. Importance of science as a school subject. Practical, disciplinary and recreational functions of physics and chemistry.

1.2 Blooms Taxonomy of educational objectives

1.3 Objectives of physical science teaching as suggested by NCERT.

1.4 Modern approach to taxonomy of educational objectives proposed by McCormack and Yager (1989).

Unit 2 -Methods and Strategies for Productive Learning (20 hrs)

2.1 **Instructional strategies**:

Lecture, Lecture – cum demonstration method, Heuristic method, Project method

Problem solving method, Role play

Unit 3. Models of Teaching (10hrs)

3.1 Models of Teaching – Meaning and definition

3.2 Basic elements of a model

Unit 4. Techniques of Teaching(20hrs)

4.1 Individualized techniques-homogeneous grouping - Individual laboratory method, Supervised study, Dalton plan, -Assignments- Home Assignments, Class Assignments

4.2 Questioning- Purpose, Characteristics& art of Questioning, Differential teaching

4.3 Team Teaching

4.4 Small Group Techniques- Buzz session, Brain storming, Collaborative learning Co-operative learning

4.5 Project, Seminars-Implementation and evaluation,

4.6 Enriching the gifted – National Talent Search Examination – its procedure, scope and function.

Unit 5 - Scientific Method (15hrs)

5.1 Meaning and Significance of scientific method - Five steps involved in Scientific Method.

5.2 Elements of scientific method: Logical and Technical aspects.

5.2.1 Logical aspects of Scientific method:

Induction – Mills five canons of Induction, deduction, Analogy, Analysis, Synthesis

5.2.2. Hypotheses- Types and characteristics, importance of hypotheses

Drawing of inference and generalization'

5.3 Technical aspects of Scientific method: Collection of data, Observation and experimentation, Recording and reporting of data.

SEMESTER 1

APPROACHES AND PRACTICES IN TEACHING NATURAL SCIENCE

CORE COURSE : EDU 705 .18
NO. OF CREDITS : 4
CONTACT HOURS : 90

Mode of transaction:

Lecture, demonstration, group discussion, project work, problem –solving sessions, case study, seminars, assignments and other relevant techniques.

Course Outline

Unit 1 Taxonomy of educational objectives (25Hrs.)

1.1 Aims and objectives - meaning and distinction

1.2 Blooms Taxonomy of educational objectives:

1.3 Objective based instruction, competency based instruction.

1.4 Learning as pupil activity

Unit 2 – Methods and Strategies for productive learning (20 hrs)

2.1 Instructional strategies: Lecture , Lecture – cum demonstration method, Heuristic method, Project method, Problem solving method, Role play, Co-operative learning – Elements of Co –operative learning.

Unit 3 Models of teaching (10 hrs)

3. 1 Models of Teaching - Introduction

3.2 Basic elements of a model

Unit 4Techniques of teaching (20 hrs)

4.1 Individualized techniques such as: Individual laboratory method, Supervised study, Dalton Plan Differential teaching ,Interdisciplinary Approach, Inductive, and Deductive Approach.

4.2 Small group techniques –Buzz session, Brainstorming

4.3Seminar/symposium

.**Unit 5 - Facilities for teaching Natural Science (15hrs.)**

5.1 Science laboratory. Science library.Science club. Science fairs, Field trip, study tours, nature rambling. Nature club.Aquarium, vivarium, terrarium.Museum.Garden, Nature calendar.

SEMESTER 1

APPROACHES AND PRACTICES IN TEACHING SOCIAL SCIENCE

CORE COURSE : EDU 705 .19
No. OF CREDITS : 4
CONTACT HOURS : 90

Mode of Transaction

Lecture-cum-demonstration, Project work, Seminar, Assignment, Brain storming, Discussion, Group work, etc.

Course Outline

Unit 1 Taxonomy of educational objectives (25 hrs.)

1.1) Aims and objectives - meaning and distinction

1.2) Blooms Taxonomy of educational objectives:

1.3) Objective based instruction, competency based instruction.

1.4) Learning as pupil activity

Unit 2 - Methods and Strategies for Productive Learning (25 hrs.)

2. 1 Traditional Approaches and Methods - Meaning and Importance, Merits and Demerits of the following.

2.1.1 Story Telling Method

2.1.2 Lecture Method

2.1.3 Text Book Method

2. 2 Investigative Approaches and Methods - Meaning and Importance, Merits and Demerits of the following.

2.2.1 Heuristic Method

2.2.2 Problem Solving Method

2.2.3 Source Method

2. 3 Self-directed Learning Approaches - Meaning and Importance, Merits and Demerits of the following.

2.3.1 Programmed Learning

2.3.2 Modular Learning

2.3.3 Computer Assisted Instruction

Unit 3 - Models of teaching (10 hrs.)

3.1 Models of Teaching: Introduction

3.2 Basic elements of a Model

Unit 4 - Techniques of Teaching (20 hrs.)

Meaning and Importance, Merits and Demerits of the following.

4.1 Dramatization

4.2 Team Teaching – Types

4.3 Buzz Session

4.4 Brain Storming

4.5 Assignment

4.6 Supervised Study

Unit 5 - Instructional Media(10 hrs.)

5.1 Devices for developing Time Sense – Chronology Charts, Time lines: Progressive, Regressive, Pictorial, Comparative.

5.2 Devices for developing Space Sense – Globe, Maps, Atlas

SEMESTER I

APPROACHES AND PRACTICES IN TEACHING COMMERCE

COMMON COURSE : EDU 705 .20
No. OF CREDITS : 4
CONTACT HOURS : 90
Modes of Transaction:

Lecture cum discussion, Individual assignments, Guided small group discussion, project work, seminars, Activity methods.

Course Outline

Unit 1. Taxonomy of educational objectives (25hrs)

1.1) Aims and objectives - meaning and distinction

1.2) Blooms Taxonomy of educational objectives:

1.3) Objective based instruction, competency based instruction.

1.4) Learning as pupil activity.

Unit – 2 Methods and Strategies for productive Learning of Commerce. (25hrs)

2.1 Teaching major and minor Concepts in Commerce. -Lecture Method and Socialized Methods
2.2. Teaching Generalisation of Commerce.- Inductive-deductive Strategies
2.3 Teaching problem solving - Analytic Synthetic method- Project method
2.4 - Case study, Current affairs ,Source method, Surveys and Market studies.
2.5 Collaborative learning ,Problem based learning & Contract learning

Unit 3 Models of Teaching (10 hrs)

, 3.1 Models of teaching – meaning and definition
3.2 Basic elements of a model

Unit 4 Techniques of Teaching Commerce(20 hrs)

4.1 Individualised techniques- -Supervised study, Assignments and Project
4.2 Questioning- Purpose, Characteristics& art of Questioning
4.3 Small Group Techniques- Drill, Review, Exposition, Quiz, Buzz session, Brain storming, Role play, Simulation

Unit 5 Approaches of Teaching Accountancy (10 hrs)

5.1 Journal approach, Ledger approach, Balancesheet approach, Equation approach, Spiral Development approach, Complete cycle approach.

SEMESTER I

HEALTH AND PHYSICAL EDUCATION

COMPLIMENTARY ELECTIVE : EDU 706.13

No. of Credits : 4

CONTACT HOURS : 90

Mode of Transaction

Lecture cum discussion, demonstration, use of audio- video, field trips, and practical.

Course Outline

Unit 1 INTRODUCTION (12 hrs.)

1.1 Health- meaning- significance

1.2 Dimensions of good health – physical, mental, social and spiritual

1.3 Factors affecting Health

1.4 Health education- significance- scope- aims and objectives.

1.5 Health hazards: Smoking and Alcoholism

1.6 Physical Education: significance- scope- aims and objectives

Unit 2 TOURNAMENTS AND MAJOR GAMES (15 hrs.)

2.1 Types of Tournaments- Knock out- League and Combination
2.2 Methods of drawing fixtures under each type- byes- seeding and its importance.
2.3 Intramural and Extramural competitions- meaning and advantages.
2.4 Major rules and regulations of Volleyball and Shuttle Badminton with diagrams.

Unit 3 DISEASES (15 hrs.)

3.1 Diseases- types
3.2 Common communicable diseases- symptoms- causes and prevention.
3.3 Preventing diseases like- AIDS- Leptospirosis- Dengue fever- Hepatitis.

Unit 4 FOOD AND NUTRITION (12 hrs.)

4.1 Fundamental factors in diet-Carbohydrate, Protein, Fats, vitamins and Minerals- functions- sources- deficiency diseases.
4.2 Balanced diet- Malnutrition.

Unit 5 FIRST AID(16 hrs.)

5.1 Meaning, definition, Aims- Principles.
5.2 First Aid for: Fracture- Dislocation-Wounds- Sprain- Strain- Cramp- Fainting- Burns.
5.3 Artificial respiration- Cardio Pulmonary Resuscitation (CPR)

Unit 6 PHYSICAL FITNESS AND PHYSIOLOGICAL BASES OF HEALTH (20 hrs.)

Physical fitness- meaning- significance

6.1 Components of health related physical fitness
6.2 Wellness- meaning- significance.
6.3 General Structure and functioning of Circulatory and Respiratory systems and effect of exercise on above mentioned systems.

SEMESTER 1
GUIDANCE AND COUNSELLING

COMPLEMENTARY ELECTIVE : EDU 706 .15

No. OF CREDITS : 4

CONTACT HOURS : 90

Transaction Mode

Lecture cum demonstration, discussion, group work, practice sessions, case study.

Course Outline

Unit I - Guidance in the school

1.1. Meaning , need significance and objectives of guidance in schools

1.2. Types of guidance - Educational, Vocational and Personal guidance

1.3. Individual and group guidance – techniques of group guidance

1.4. Objectives of Career Guidance - Career awareness - career information - career decision making

1.5. Career Information, Meaning, Components, Sources, Methods of Collection – Classification and filing – Evaluation of the information.

1.6. Organisation of Career Guidance – Career talk, Career conference, Interview, Cumulative Records.

Unit 2 Counselling

2.1 Meaning , need, aims and objectives of counselling. Types of counseling, Directive, Non-directive (client centered) and Eclectic.

2.2 Models of Counselling. Meaning – Categories of models (brief description only); (i) Model emphasizing action (Behaviourist school) (ii) Model emphasizing exploration and understanding (Freud, Rogers, Gestalt Therapy)

2.3 Transactional analysis (Eric, Berne) meaning – background – Egostates – Types of transaction – Games – Scripts – Psychological positions.

2.4 Qualities of a counsellor

Unit 3 Aspects of Counselling

3.1 Stages in counselling : (1) Beginnign (Establishing rapport, gaining trust, defining needs, deciding roles & limits) (ii) Counseling (attending, integrative understanding, facilitating action) (iii) End (terminating counseling relationship)

3.2 Counselling skills: Attending skills (attending physically, observing, listening) – Responding skills (probing, reflecting etc) - Skill of personalizing (go beyond what the client has) – Initiating skills (facilitating development)

3.3 Counselling process; identifying causes – helping process, Crisis counseling (helping students to cope with crisis situations)

Preventive counseling (Preparing students for future events) Facilitative counseling (helping students to correct mistakes, solve problems and plan for the future)

Unit 4 Communication in Counselling

4.1 Communication: Meaning, nature and significance.

4.2 Essential communication skills; non-verbal communication, active listening, selective perception, asking effective questions, identifying and reflecting feelings.

Unit 5 Counselling Children and Adolescents

5.1 Common behavior problems of children and adolescents- aggression and hostility, attention getting, home sickness, lying, stealing sex problems, shyness, withdrawal, exam anxiety and delinquency.

5.2 Individual and group counselling – Family and Marriage counselling

SEMESTER II

PERSONALITY DYNAMICS IN EDUCATION

COMMON COURSE : EDU 802
No. OF CREDITS : 4
CONTACT HOURS : 84
Mode of Transaction:

Lecture –cum- demonstrations, Seminars, Assignments, Peer learning strategies, Community visits, Brain storming sessions, Debates, Group discussions, Problem-solving sessions, Scenario-based learning strategies and Survey method.

Course Outline

Unit I

Differences among learners (16 hrs)

1.1 Individual Differences: Areas of Individual Difference

1.2 Factors causing Individual differences- Heredity and Environmental factors

General provisions for individual differences in the classroom

1.3 Exceptional learners – meaning- Brief description of the characteristics of different categories.

Gifted, creative, academically backward/slow learners, under achievers, learning disabled, mentally challenged- Catering to the needs of exceptional learners.

Unit II

Intelligence (12hrs)

2.1 Intelligence – Meaning - Emotional Intelligence, Spiritual Intelligence, Concept of IQ, EQ and SQ. Strategies for promoting EQ and SQ.

2.2 Brief description of Two Factor Theory (Spearman), Primary Mental abilities (PMA) (Thurstone), Structure of Intellect (Guilford) and Multiple Intelligence (Gardner) Categories of Intelligence Tests.

2.3 Uses and limitations of intelligence testing

2.4 Meaning, nature and differences between Attitude, Aptitude and Interest,GATB and DATB.

Unit III

Development of Personality (30hrs)

3.1 Personality – meaning – nature, Mature personality.

3.2 Introversion and Extroversion – C. G. Jung

3.3 Psycho analytic theory of Freud

3.4 Lewin's view of personality

3.5 Humanistic Approach to personality – Carl Rogers

3.6 Assessment of Personality - Methods: Introspection, Observation, Interview, Sociometry, Rating Scale, Inventories, Case Study, Situational Tests, and Projective Techniques – Rorschach's Ink Blot Test and Thematic Apperception Test (TAT).

Unit IV

Adjustment (8hrs)

4.1 Mental Health and Mental hygiene. Factors affecting mental health of the Learner- Promotion of mental health in the learner

4.2 Adjustment and Maladjustment: Meaning, Causes of Maladjustment, Common behaviour problems in schools

4.3 Adjustment Mechanisms

4.4 Ecopsychology – Concept and meaning.

Unit V

Group Dynamics (10hrs)

5.1 Meaning and Characteristics of Psychological group

5.2 Social relationship in the classroom

5.3 Group Dynamics – meaning, Group behaviour

5.4 Styles of leadership and Classroom management

Unit VI

Guidance and Counselling (8 hrs)

6.1 Meaning of Guidance and Counselling

6.2 Types of Guidance –Educational, Vocational and Personal

6.3 Types of Counselling - Directive, Non-directive, and Eclectic

6.4 Counselling Skills – Qualities of a Counsellor.

SEMESTER II

PEDAGOGIC ANALYSIS OF ENGLISH

CORE COURSE : EDU 804.11
NO.OF CREDITS : 4
CONTACT HOURS : 84

Mode of Transaction

Lecture cum demonstration, problem solving, brain- storming session, group discussion, case- study, projects and power point presentations

Course Outline

Unit: I – Planning of Instruction in English (20 hrs)

1.1 Meaning,importance and purpose of planning
1.2. Year plan, unit plan and lesson plan

1.3 Approaches in lesson planning – Herbartian, constructivist approach

Unit: 2 – Evaluation in English (10 hrs)

2.1 Objective based Evaluation, competency based evaluation

2.2 construction of achievement test –design, blue print, writing of test items.

2.3 different types of test items – merits and demerits

2.4 Continuous and comprehensive evaluation – grading system

Unit – 3 Training in Teaching Skills(14hrs)

3.1 Micro Teaching Practice in three skills- Stimulus Variation, Questioning,Reinforcement

3.2 Teacher Evaluation – Criteria for evaluating Teaching Competence

Unit 4 – Phonological and morphological structure of English (17 hrs)

4.1. Brief description of the organs of speech

4.2. Syllables, minimal pairs

4.3. Stress, intonation, strong and weak forms, pitch, juncture.

4.4. Vowels, consonants, diphthongs, linking 'r', cardinal vowels, phonetic symbols, consonant clusters.

4.5. Received pronunciation

4.6 Brief description of prefixes, suffixes.

4.7. Compound words, portmanteau words, acronyms, conversion, clipping.

Unit 5 – Semantic and Graphic structure of English (6 hrs)

51. Brief description of homophones, synonyms, antonyms, polysemy, hyponymy, IC

Analysis, conceptual meaning, contextual meaning.

5.2. Brief description of graphic substance and grapheme.

Unit 6– Syntactic structure of English (17 hrs)

Analysis of the structural items in the readers which are in use from Std. V to XI:

6.1 Parts of speech

6.2 Auxiliaries, prepositions, conjunctions

6.3 Tenses

6.4 Degrees of comparison

6.5 Reported speech

6.6 Active and passive voice

6.7 Question tags, gerunds, participles

6.8 Conditional clauses

6.9 Absolute construction

6.10 Transformation of sentences (simple, compound and complex)

SEMESTER II

PEDAGOGIC ANALYSIS OF MATHEMATICS

CORE COURSE : EDU 804.16
No. OF CREDITS : 4
CONTACT HOURS : 84
Modes of Transaction:

Lecture cum discussion, Individual assignments, Guided small group discussion, project work, seminars, Activity methods.

Course Outline:

Unit: I – Planning of Instruction in Mathematics (20 hrs)

1.1 Meaning, importance and purpose of planning
1.2. Year plan, unit plan and lesson plan

1.3) Approaches in lesson planning – Herbartian, constructivist approach

Unit: 2 – Evaluation in Mathematics (10 hrs)
2.1) Objective based Evaluation, competency based evaluation

2.2) construction of achievement test –design, blue print, writing of test items.

2.3) different types of test items – merits and demerits

2.4) Continuous and comprehensive evaluation – grading system

Unit – 3 Training in Teaching Skills(14hrs)

3.1) Micro Teaching Practice in three skills- Stimulus Variation, Questioning,Reinforcement

3.2) Teacher Evaluation – Criteria for evaluating Teaching Competence

Unit 4: Content Analysis of Select Topics

i Alegbra (10 hrs)

Commercial Mathematics, indices, ratio and proportion, interest, identities, equations, Polynomials, Progressions.

ii Trigonometry (5hrs)

Trigonometric ratios, trigonometric identities, heights and distances

iii Geometry (10 hrs)

Mathematical principles, mensuration of solids, Circles, Polygons, Similarity and Congruency, analytic and coordinate geometry.

iv Statistics (10 hrs)

Classification and Tabulation of data, graphical and diagrammatic representation of data, measures of central tendency, measures of dispersion, correlation.

v Calculus (5hrs)

Introduction to Differentiation & Integration

SEMESTER II

PEDAGOGIC ANALYSIS OF PHYSICAL SCIENCE

CORE COURSE : EDU 804. 17
No. OF CREDITS : 4
CONTACT HOURS : 84

Mode of transaction:
Lecture, demonstration, group discussion, project work, problem – solving sessions, brain storming, case study, seminars, assignments and other relevant techniques.

Course Outline

Unit: I – Planning of Instruction in Physical Science (20 Hrs)

1.1 Meaning,importance and purpose of planning
1.2. Year plan, unit plan and lesson plan

1.3 Approaches in lesson planning – Herbartian, constructivist approach

Unit: 2 – Evaluation in Physical Science (10 Hrs)
2.1 Objective based Evaluation, competency based evaluation

2.2 construction of achievement test –design, blue print, writing of test items.

2.3 different types of test items – merits and demerits

2.4 Continuous and comprehensive evaluation – grading system

Unit – 3 Training in Teaching Skills(14hrs)

3.1 Micro Teaching Practice in three skills- Stimulus Variation, Questioning,Reinforcement

3.2 Teacher Evaluation – Criteria for evaluating Teaching Competence

Unit 4 -Content Analysis (40 hrs)

2.1 Content Analysis of the existing Physics and Chemistry topics included in Standard VIII, IX and X textbooks of Kerala State Board syllabus.

2.2 Content Analysis of selected Physics and Chemistry Syllabus topics included in the Kerala Higher Secondary School Syllabus as listed below.

PHYSICS

I. Concept of Vectors, Basic vector operations (dot product and cross product).
II. Basic concepts of rotational motion -Concept of moment of inertia,,Center of mass Torque and angular momentum
III. Basic concepts of heat and thermo,dynamics,,Statement of Joule's law, Laws of thermodynamics
IV. Universe – basic ideas of astrophysics.

CHEMISTRY

I. Atomic structure, Hund'srule,Pauli's exclusion principle, Aufbau principle
II. Mole concept – an advanced view.
III. States of matter – classification, Gaseous state, Gas laws – graphical representation
IV. Solutions – methods of expressing concentration, Molarity, Molality,Normality,Mole fraction
V. Bonding and molecular structure, Hybridization – sp, sp2, sp3.
VI. Nuclear chemistry, Types of radiations,Group displacement law, Radioactive disintegration series Radiocarbon dating,Fission and fusion.

SEMESTER II

PEDAGOGIC ANALYSIS OF NATURAL SCIENCE

CORE COURSE : EDU 805.18
No. OF CREDITS : 4
CONTACT HOURS : 84
Course Outline

Unit: I – Planning of Instruction in Natural Science (20 hrs)

1.1 Meaning,importance and purpose of planning
1.2 Year plan, unit plan and lesson plan

1.3 Approaches in lesson planning – Herbartian, constructivist approach

Unit: 2 – Evaluation in Natural Science (10 hrs)

2.1 Objective based Evaluation, competency based evaluation

2.2 Construction of achievement test –design, blue print, writing of test items.

2.3 Different types of test items – merits and demerits

2.4 Continuous and comprehensive evaluation – grading system

Unit 3 Training in teaching skills (14 hrs)

3.1 Micro teaching - practice in 3 teaching skills

3.2 Teacher evaluation – Criteria for evaluating teaching manuals and teaching competencies

Unit 4 Content Analysis Select Topics up **to Higher Secondary Level (40hrs.)**

i Ecology

Biosphere and ecosystems, Biodiversity, Conservation of nature and natural resources Pollution and sustainable development, Population

ii. Agriculture:

Ancient and Modern agriculture practices, Agriculture and sustainable development Agro industries and environmental impact

iii Cytology, Genetics and **Evolution**:

Prokaryotes and eukaryotes, Cell theories, Cell Structure and function, Cell divisions 3.16 Mendel's laws and theories, Chromosomes, genes and genetic way, Protein synthesis and phenotypic characters, Genetic engineering

iv Physiology

Organization in the living world and continuity of life Basic life processes of the living world-Photosynthesis, Nutrition, Respiration, Transport of materials, Excretion, control and co-ordination, Movements and growth and reproduction.

Organ systems in animals, their structure, functions and malfunctions.

SEMESTER II

PEDAGOGIC ANALYSIS OF SOCIAL SCIENCE

CORE COURSE : EDU 804.19
No. OF CREDITS : 4
CONTACT HOURS : 84
Mode of Transaction

Lecture-cum-demonstration, Project work, Seminar, Assignment, Brain storming, Discussion, Group work, etc.

Course Outline

Unit: I – Planning of Instruction in Social Science (20 Hrs)

1.1 Meaning,importance and purpose of planning
1.2. Year plan, unit plan and lesson plan

1.3 Approaches in lesson planning – Herbartian, constructivist approach

Unit: 2 – Evaluation in Social Science (10 Hrs)
2.1) Objective based Evaluation, competency based evaluation

2.2) construction of achievement test –design, blue print, writing of test items.

2.3) different types of test items – merits and demerits

2.4) Continuous and comprehensive evaluation – grading system

Unit – 3 Training in Teaching Skills(14hrs)

3.1) Micro Teaching Practice in three skills- Stimulus Variation, Questioning,Reinforcement

3.2) Teacher Evaluation – Criteria for evaluating Teaching Competence

Unit - 4 Content Analysis of Select Topics

i. History (18 hrs.)

- Paleolithic Age, Neolithic Age - Harappan Culture, Egyptian Civilization
- First World War - Second World War -United Nations Organization
- Feudalism-Renaissance -Vedic age-Ashoka the Great -Administration of Akbar
- India's Freedom Struggle (1857-1947)-Malabar Rebellion-VaikomSathyagragha, GuruvayoorSathyagraha-Temple entry proclamation-SreeNarayana Guru-Ayyankali

ii. Geography (12 hrs.)

- Map Projection-The Structure of the Earth-Rotation and Revolution-The Solar System
- Solar and Lunar Eclipse-Lithosphere – Volcanoes, Major Land forms
- Atmosphere - Layers of atmosphere, Ozone green house effect, Types of Rain fall
- Hydrosphere - Neap Tide and Spring Tide-Biosphere – Food chain – Environmental Pollution

iii. Economics (5 hrs.)

- Functions of Money- Factors of Production - RBI and its functions - Functions of Commercial Banks, Modern Trends in Banking - Economic Systems-Capitalism, Socialism, Mixed-Economy

iv. Political Science (5 hrs.)

- Elements of State-Organs of government and its functions – Executive, Legislature and Judiciary.
- Supreme Court -Salient features of Indian Constitution-Rights and duties of an Indian Citizen

SEMESTER II

PEDAGOGIC ANALYSIS OF COMMERCE

CORE COURSE : EDU 804.20
No. OF CREDITS : 4
CONTACT HOURS : 84

Modes of Transaction:

Lecture cum discussion, Individual assignments, Guided small group discussion, project work, seminars, Activity methods.

Course Outline:

Unit: I – Planning of Instruction in Commerce (20 Hrs)

1.1 Meaning,importance and purpose of planning
1.2. Year plan, unit plan and lesson plan

1.3) Approaches in lesson planning – Herbartian, constructivist approach RCEM approach

Unit: 2 – Evaluation in Commerce (10 Hrs)

2.1) Objective based Evaluation, competency based evaluation

2.2) construction of achievement test –design, blue print, writing of test items.

2.3) different types of test items – merits and demerits

2.4) Continuous and comprehensive evaluation – grading system

Unit – 3 Training in Teaching Skills(14 hrs)

3.1 Micro Teaching Practice in Teaching Skills-Skill of Introduction, Questioning and Blackboard work

3.2 Teacher Evaluation – Criteria for evaluating Teaching Manuals, Criteria for evaluating Teaching Competence

Unit 4 : Content Analysis of Selected Topics

i. Business Studies(+1) (10 hrs)

Nature and purpose of business, Social responsibility of Business, Structure of business,Forms of Business organisations, Service sector undertakings, Sect oral organisations, Sources of Business finance Formation of Company, internal trade and External Trade.

ii. Business Studies(+2) (10hrs)

Business Environment, Nature and Significance of Management, Principles Function of Management, Financial Management, Marketing Management, Consumer Protection and Capital Market.

Iii Accountancy(+1) (10 hrs)

Accounting- Meaning, objective, Key concept, Theory bases of accounting, Trial balance, Rectification of errors, Financial statements ,Depreciation, reserves and provisions, Bills of exchange, Non- profit organizations, Date base design for accounting ,Accounting for incomplete records .

iv. Accountancy(+2) (10hrs)

Partnership-Admission, Retirement and Dissolution

Company accounts- Accounting for share capital, Computerized accounting, Financial