



# BIOCHEMISTRY

**Maximum Marks: 100**

**Theory: 70 marks**

**Time: 3 hours**

**Practical: 30 marks**

## UNIT I: METABOLISM IN BIOCHEMISTRY I:

### Chapter 01:

Carbohydrate Metabolism: ATP as energy currency of cell. Aerobic and Anaerobic Glycolysis. Mitochondrial reactions of TCA cycle, Various photosystems for electron transport chain. Elementary idea of Glycogenesis and Glycogenolysis. **(7 marks)**

### Chapter 02:

Amino acid metabolism: Deamination, Decarboxylation and Transamination of Amino acids. **(6 marks)**

## UNIT II: METABOLISM IN BIOCHEMISTRY II:

### Chapter 01:

Lipid Metabolism: Action of Lipases, beta oxidation of fatty acids, Activation of fatty acids. Atherosclerosis **(6 marks)**

### Chapter 02:

Elementary idea of salvage and de novo pathway of nucleotides. LeschNyhan Syndrome. **(4 marks)**

**Chapter 03: Metabolic Disorders:** Overview of metabolic disorders. Phenylketonuria, Alkaptonuria, Albinism, Tyrosinemia. **(4 marks)**

## UNIT III: CHEMICAL MESSANGERS:

### Chapter 01:

Introduction of Hormones. Nature and properties of Hormones. Classification of hormones on the basis of chemical nature. Physiological and Biochemical role of Cortisol, Cortisone, Aldosterone, Progesterone and Testosterone. **(7 marks)**

### Chapter 02:

Peptide hormones: Physiological and Biochemical role of Thyroxine (T3 & T4), Insulin and Glucagon. Role of Vassopresin. **(6 marks)**

## UNIT IV: PLANT BIOCHEMISTRY:

### Chapter 01:

Plant Hormones: Physiological and Biochemical role of Plant hormones, Auxins, Gibberlins and Cytokinins. **(5 marks)**

### Chapter 02:

Photosynthesis: Light phase (Cyclic and Non Cyclic Phosphorylation). C<sub>3</sub>, C<sub>4</sub> and CAM pathway. **(7 marks)**



## **UNIT V: MOLECULAR BIOLOGY AND IMMUNOLOGY:**

### **Chapter 01:**

Genomics: Replication of DNA. DNA polymerases and their function. Leading and lagging strand synthesis. Transcription. Initiation, elongation and termination. Activation of amino acids, aminoacyl tRNA. Initiation elongation and termination of translation. **(8 marks)**

### **Chapter 02:**

Introduction to immunology: Cells of immune system. Immunoglobulins and types (Elementary idea). Humoral and cell mediated immunity. **(4 marks)**

## **UNIT VI: APPLICATION AND SCOPE OF BIOCHEMISTRY:**

**(6 marks)**

Genetic engineering, Gene Cloning (Concept), Application of Genetic engineering in Fermentation, Forensic and clinical usage. Various non-communicable diseases like Cancer, AIDS.

## **PRACTICAL**

**30 marks**

### **I. Laboratory course:**

1. Handling of Biological samples for various tests and estimations.
2. Centrifugation: basic principles and separation of plasma.
3. Quantitative estimation of Glucose.
4. Paper chromatography of amino acids Alanine and Glycine.
5. Collection of blood samples aseptically.
6. Blood grouping.

### **II. Institutional visits:**

- Lab visits and get to know about the equipment's and lab conditions.
- Get to know about sampling of blood and tissue for various tests.
- The students will interact with the Scholars of the concerned Institutions, have an Interaction session and develop a write up of the interaction.

### **III. Project work:**

- a. Collection of blood samples and separation of plasma and sera using centrifugation.
- b. Quantitative estimation of
  - Serum Glucose
  - Serum Cholestrol
  - Serum Bilirubin.
- c. Separation of RBC Ghost cell.



# ENVIRONMENTAL SCIENCE

**Maximum Marks: 100**  
**Theory: 70 Marks**

**Time: 3 Hours.**  
**Practical: 30 Marks**

## **UNIT 1 : Air and Noise Pollution**

**(10 Marks)**

- Air pollution : sources and types
- Impact of air pollution on environment
- Control of air pollution (gaseous and particulate matter)
- Noise pollution : sources and effects on health
- Control of noise pollution

## **UNIT 2 : Water Pollution**

**(10 Marks)**

- Water pollution : sources and impacts
- Concept of eutrophication and bio magnification
- Marine pollution
- Water pollution control
- Sewage treatment (primary and secondary)

## **UNIT 3 : Soil Degradation**

**(10 Marks)**

- Soil composition and profile
- Soil types (Indian classification of soils)
- Soil erosion : causes, impacts and control
- Soil pollution : causes and impacts
- Control of soil pollution

## **UNIT 4 : Solid and Hazardous Waste Management**

**(10 Marks)**

- Solid Wastes: sources, generation and impacts.
- Disposal of solid wastes (composting, incineration, sanitary landfill)
- Management of solid waste.
- Hazardous waste : definition and characteristics
- Management of hazardous waste (deep well injection, plasma torch, incineration)

## **UNIT 5 : Biodiversity Management**

**(10 Marks)**

- Biodiversity and its levels
- Importance of biodiversity
- Threats to biodiversity : causes and impacts
- Concept of threatened species (as per IUCN : extinct, endangered, vulnerable, rare)
- Biodiversity conservation : in-situ, ex-situ



### **UNIT 6 : Global Environmental Issues**

**(10 Marks)**

- Climate change and global warming : causes, impacts and international efforts for combating global warming (Kyoto protocol)
- Ozone layer depletion: causes, impacts and global efforts for control (Montreal protocol)
- Acid rain: causes, impacts and control.
- Smog and its types.
- Desertification and its control.

### **UNIT 7 : Environmental Management and Legislation:**

**(10 Marks)**

- Concept of sustainable development
- Environmental Impact Assessment: Scope and Key Elements.
- Salient features of Water (Prevention and Control of Pollution) Act, 1974.
- Salient features of Air (Prevention and Control of Pollution) Act, 1981.
- Salient features of Environment Protection Act, 1986.

### **PRACTICALS:**

1. Determination of pH of different water and soil samples.
2. Determination of soil texture using feel method.
3. Documentation of macrophytic aquatic plants.
4. Visit to a nearby lake/wetland/river/hydropower plant and preparation of a field report.
5. Collection of data regarding different types of solid waste generated in your locality.
6. Compilation of names of different endangered and endemic plant and animal species of your locality.



## PHYSICAL EDUCATION

**Max. Marks 100**

**Theory: 60 Marks**

**Practical: 40 Marks (External: 25, Internal: 15)**

**Time: 2.30 hrs.**

### **THEORY**

#### **Unit I. PHYSICAL FITNESS**

**05 Marks**

- Meaning and importance of Physical Fitness
- Components and types of Physical Fitness
- Factors effecting Physical Fitness

#### **Unit II. TRAINING METHODS**

**10 Marks**

- Meaning and concept of training.
- Methods of training: Isometric and Iso-kinetic Exercise, Continuous Method, Interval Training and Fartlek, Circuit training, Acceleration Runs and Pace Races.

#### **Unit III. SOCIOLOGICAL ASPECTS OF PHYSICAL EDUCATION**

**10 Marks**

- Meaning of Sociology and its Importance in Physical Education and Sports.
- Games and Sports as man's cultural heritage.
- Development of leadership qualities and group dynamics through Physical Education.
- Value Education through Physical Education programmes.

#### **Unit IV. MORAL EDUCATION**

**05 Marks**

- Need and Importance of Moral Education.
- Moral Education through Physical Education.

#### **Unit V. SPORTS AND ENVIRONMENT**

**10 Marks**

- Concept of environment.
- Need of environment in physical education programme.
- Role of individual in improvement of environment for health promotion and prevention of sports related accidents.

#### **Unit VI. YOGA**

**05 Marks**

- Meaning and importance of yoga.
- Yoga and Indian heritage.
- Elements of Yoga.



### **Unit VII. CONCEPT OF MAJOR GAMES/ SPORTS**

**10 Marks**

- Cricket, Athletics, Basketball and Table Tennis.
- History of games (Above Games)
- Rules, measurement of the field/court. (Above Games)

### **Unit VIII. SPORTS MEDICINE FIRST AID REHABILITATION**

**05 Marks**

- Meaning and Importance of Sports Medicine
- Doping (meaning and drugs for doping)
- First Aid and Rehabilitation of the following sports injuries:
  - Acute injuries: such as dehydration, heat stroke and exercise-induced asthma.
  - Chronic injuries: such as aches and pain of unknown origin, tendinitis (swelling in the tendons), and stress fractures (hairline fractures of the bone due to overuse).

### **PRACTICAL:**

**40 Marks**

#### **Internal Assessment:**

**15 Marks**

Internal assessment shall comprise Games/ sports (kho-kho, badminton, shot put) and Project work.

The break up of the marks is as under:

- |   |          |
|---|----------|
| 1. Games/ Sports (kho-kho, badminton, shot put) | 10 Marks |
| 2. Trekking                                     | 05 Marks |

#### **External Assessment:**

**25 Marks**

External assessment shall comprise skill test of Games/ sports (any game/ sport of student's choice) and Record file (the students shall maintain the practical file by drawing the field/ court with measurement and rules of the games/sports. The break up of the marks is as under:

- |   |          |
|---|----------|
| 1. Skill test of Games/sports. (students choice game) | 15 Marks |
| 2. Record file  | 05 Marks |
| 3. Vivo-voce  | 05 Marks |



## BUDDHIST STUDIES

Max. Marks: 100 Marks

Time Allowed: 03 hours

|   |          |
|---|----------|
| I. Trisharanagamana (Refuge to Three Jewels)                | Marks 10 |
| II. Panchashila   | Marks 10 |
| III. Karma and Re-birth                                     | Marks 10 |
| IV. Post Gautama Buddha Preceptors                          | Marks 10 |
| V. Buddhism and Modern World                                | Marks 10 |
| VI. Introduction to Sacred Books of Buddhism                | Marks 10 |
| VII. Introduction to Sadalankara (Six Acharyas of Buddhism) | Marks 10 |
| VIII. Bodhichitta   | Marks 10 |
| IX. Paramita  | Marks 10 |
| X. Introduction to the Buddhist Art and Architecture        | Marks 10 |

### Unit I : Trisharanagamana

- (i) Definition of Taking Refuge
- (ii) Cause for Taking Refuge
- (iii) Literal Meaning of Jewel
- (iv) Precepts Concerning Taking Refuge
- (v) Benefits of Taking Refuge

### Unit II : Panchashila

- (I) Classification of Panchashila
- (II) Explanation of Panchashila

### Unit III : Karma and Rebirth

- (i) Definition of Karma
- (ii) Classification of Karma
- (iii) Concept of Re-birth

### Unit IV : Post Gautama Buddha Preceptors

- (i) Mahakashyapa
- (ii) Ananda
- (iii) Upagupta
- (iv) Shvenavastra
- (v) Dhindhika



- (vi) Krishna
- (vii) Sudarshana

#### **Unit V : Buddhism and Modern World**

- (i) Buddhism and World Peace
- (ii) Buddhism and Science
- (iii) Buddhism and Ecology

#### **Unit VI : Introduction to Sacred Books of Buddhism**

- (i) Tripitaka
- (ii) Kangyur
- (iii) Stangyur

#### **Unit VII : Introduction to Sadalankara (Six Acharyas of Buddhism)**

- (i) Nagarjuna
- (ii) Asanga
- (iii) Vasubandhu
- (iv) Aryadeva
- (v) Dinnaga
- (vi) Dharmakirti

#### **Unit VIII : Bodhichitta**

- (i) Definition of Bodhichitta
- (ii) Classification of Bodhichitta
- (iv) Cultivating of Bodhichitta
- (v) Benefits of Bodhichitta

#### **Unit IX : Paramita**

- (i) Definition of Paramita
- (ii) Classification of Paramita
- (iii) Practice of Paramita
- (iv) Benefits of Paramita

#### **Unit X : Introduction to the Buddhist Art and Architecture**

- (i) The Buddhist Art and Architecture of Kashmir
- (ii) The Buddhist Art and Architecture of Jammu
- (iii) The Buddhist Art and Architecture of Ladakh





## ELECTRONICS

**Total Marks : 100**

**Theory : 70 marks**

**Practicals : 30 marks**

**Internal Assessment: 10 marks**

**External Exam : 20 marks**

### UNIT - I

**(08 Marks)**

#### MEASUREMENT & PMMC MOVEMENT

Significance of measurement, methods of measurement (Direct and Indirect methods). Basic definitions of instruments, Performance parameters: Accuracy, Precision, Sensitivity, Resolution, Types of Errors, Significant figure, D'Arsonval movement, Construction and working, Conversion of PMMC to voltmeter & Ammeter.

### UNIT - II

**(08 Marks)**

#### Instruments:

Multi range voltmeter and ammeter. Series ohmmeter. Introduction to multimeter (qualitative treatment only). CRO: Construction (Electron Gun, Electrostatic focusing, deflection plates). Block diagram of CRO. Working of CRO, Measurement of voltage, Frequency and phase angle.

### UNIT-III

**(08 Marks)**

#### Transducers :

Classification of transducers (active and passive), types of transducers (temperature , pressure, light and displacement). Working of transducers - Strain gauge, gauge factor, thermocouple, LDR. Measurement of temperature and resistance

### UNIT — IV

**(16 Marks)**

#### Electronics communication :

Elements of communication system: transmitter, communication channel (various types), receiver. Function of each element with examples like telephone and Radio.



Types of Electronic Communication: Simplex, duplex, analog, digital, baseband and modulated.

Electromagnetic spectrum and Bandwidth: Idea of electromagnetic spectrum used in electronic communication, various frequency ranges used for communication\*, idea of band width, and its importance in limiting the number of communication channels.

Modulation: necessity, types (AM & FM only), Expression for amplitude modulation, basic wave forms. Modulation index and percentage of modulation. Idea of side bands. Basic principles of FM, idea of side bands. Merits/demerits of FM over AM.

Satellite Communication (qualitative treatment only): Geo synchronous satellite, idea of a transponder, application of satellite communication (TV, Telephony, surveillance, observation).

Students need not remember the values of there frequency ranges for the examination purpose.

#### UNIT –V

(12 Marks)

##### Number system and logic gates:

Number system- decimal, binary, octal, hexadecimal, inter conversion of various number systems. Binary Addition, subtraction, multiplication & division, 2's complement of a number, Boolean algebra & De-Morgan's Theorem, Logic gates, OR, AND, NOT, NAND, NOR EX-OR gates Truth Table & NAND/NOR as universal gates. Implementation of simple logic expressions using Logic Gates.

#### UNIT –VI

(10 Marks)

##### Combinational Logic circuits :

Half adder, full adder, half subtractor and full subtractor, comparator (2 bit), Multiplexer, Demultiplexer, Encoder, Decoder, Parity checker and generator.

#### UNIT—VII

(08 Marks )

##### Fundamentals of computer :

Block Diagram of computer (input-output, ALU, Control Unit, Main Memory, Secondary Memory, Control and Data Lines (busses). software, hardware, firmware. Classifications of computers (on the basis of type, data processing capability, word length and application). Input devices- keyboard, mouse, MICR, optical scanner; Output devices — Display, printers, plotter. Memory : RAM (Static and Dynamic), ROM, PROM, EPROM, EEPROM. Secondary Memory: Floppy Disk, Hard Disk, Compact Disk (CDROM), magnetic tape.

##### Recommended/ Suggested books

1. Electronic Instrumentation by Cooper Helfrick.
2. Basic Electronics by A.P.Godse & U.A. Bakhshi.



3. Electronic Communication by Dennis Roddy.
4. Digital electronics by R.P. Jain.
5. Principles of Electronics by V.K. Mehta & R. Mehta

### **PRACTICALS HSP II**

**Marks : 30**

**Marks Internal : 10 Marks**

**External: 20 Marks**

#### **Section I**

1. To construct a voltmeter using a galvanometer
2. To construct an ammeter using a galvanometer.
3. To extend the range of a voltmeter.
4. To extend the range of an ammeter.
5. To study and analyze Multimeter for various measurements.
6. To study front panel controls of CRO.
7. To calculate the amplitude, time period and frequency of a sinusoidal wave Using CRO.
8. To generate various waveforms using a waveform generator and study their characteristics. with the help of a CRO.
9. To generate an A.M wave and find the Modulation index using a CRO. Modulation Index =  $(E_{max} - E_{min}) / (E_{max} + E_{min})$

#### **Section II**

1. To Study OR gate using IC-7432.
2. To Study AND gate using IC-7408.
3. To Study NOT gate using IC-7404.
4. To Study NAND gate.
5. To Study NOR gate.
6. To Study Ex-OR gate.
7. To study half adder.
8. To study full adder.
9. To study half subtractor.
10. To study parity checker/generator.
11. To study NAND gate as a universal gate.
12. To study NOR gate as a universal gate.



## COMMERCE STREAM

### BUSINESS STUDIES

**Max Marks: 100**

**Time: 03 hours**

#### Part A: Principles and Functions of Management

##### Unit 1: Nature and Significance of Management

**Marks 07**

- Management - concept, objectives, importance
- Management as Science, Art, Profession.
- Levels of management
- Management functions - planning, organizing, staffing, directing and controlling
- Coordination - characteristics and importance

##### Unit 2: Principles of Management

**Marks 07**

- Principles of Management - concept, nature and significance
- Fayol's principles of management
- Taylor's Scientific Management - principles and techniques

##### Unit 3: Management and Business Environment

**Marks 05**

- Business Environment - importance
- Dimensions of Business Environment - Economic, Social, Technological, Political and Legal
- Economic Environment in India; Impact of Government policy changes on business and industry, with special reference to adoption of the policies of liberalization, privatization and globalisation.

##### Unit 4: Planning

**Marks 07**

- Concept, features, importance, limitations
- Planning process
- Types of Plans - Objectives, Strategy, Policy, Procedure, Method, Rule, Budget, programme.

##### Unit 5: Organising

**Marks 10**

- Concept and importance.
- Steps in the process of organizing.
- Structure of organization - functional and divisional.
- Formal and informal organization.



- Delegation: concept, elements and importance.
- Decentralization: concept and importance.
- Difference between delegation and Decentralization

#### **Unit 6: Staffing**

**Marks 08**

- Concept and importance of staffing
- Staffing as a part of Human Resource Management
- Staffing process
- Recruitment - meaning and sources
- Selection - process
- Training and Development - Concept and importance. Methods of training

#### **Unit 7: Directing**

**Marks 10**

- Concept and importance
- Elements of Directing
  - Supervision - concept and role
  - Motivation - concept, Maslow's hierarchy of needs; Financial and non-financial incentives.
  - Leadership - concept; qualities of a good leader
  - Communication - concept, formal and informal communication; barriers to effective communication.

#### **Unit 8: Controlling**

**Marks 06**

- Concept and importance
- Relationship between planning and controlling
- Steps in the process of control
- Techniques of controlling : budgetary control,

### **Part B : Business Finance and Marketing**

#### **Unit 9: Business Finance**

**Marks 12**

- Concept, importance, objectives of Business finance
- Financial decisions : factors affecting
- Financial planning - concept and importance.
- Capital Structure - concept and factors affecting
- Fixed and Working Capital - concept and factors affecting its requirements.
- Difference between Capital Market and Money Market.



#### **Unit 10: Financial Markets**

**Marks 08**

- Concept of Financial Market: Money Market and its instruments.
- Capital market and types - primary and secondary market.
- Stock Exchange - Functions, Trading Procedure, NSEI, OCTEI.
- Securities and Exchange Board of India (SEBI)- Objectives and Functions.

#### **Unit 11: Marketing Management**

**Marks 14**

- Marketing - meaning, functions and role, marketing and selling
- Marketing mix - elements
  - Product - nature, classification, branding, labeling and packaging
  - Price - Factors determining fixation of price
  - Physical distribution: Elements; Channels of distribution: types, function, choice of channels
  - Promotion-Elements of promotion mix; Advertising - role, limitations, objections against advertising.
- Personal selling - concept, importance; Sales promotion - merits, limitations, methods; Publicity - concept and role.
- Personal Setting
- Sales promotions

#### **Unit 12: Consumer Protection**

**Marks 06**

- Importance of consumer protection
- Consumer rights
- Consumer responsibilities
- Ways and means of consumer protection - Consumer awareness and legal redressal with reference to Consumer Protection Act.
- Role of consumer organizations and NGOs.

#### **Suggested textbook**

1. Business Studies published by NCERT, New Delhi



## ACCOUNTANCY

**Max Marks: 100**

**Time: 03 hours**

**Theory: 80 Marks**

**Project work: Marks 20**

**Internal : 05 Marks**

**External : 15 Marks**

**Part A: Accounting for partnership firms and companies**

**Marks 60**

**Unit-1: Accounting for partnership firms**

**A. Fundamentals and Admission of a partner**

**Marks 15**

1. Partnership features, partnership deed.
2. Provision of the Indian partnership Act 1932 in the absence of partnership deed.
3. Fixed vs Fluctuating capital accounts, preparation of profit and loss appropriation account, division of profit among partners.
4. Past adjustments (relating to interest on capitals interest as drawings, salary and profit sharing ratio)
5. Goodwill : Nature, factors affecting and methods of valuation, Average profit, super profit, weighted average profit and capitalization of average and super profit.
6. Calculation of sacrificing ratio and new profit sharing ratio. Treatment for revaluation of assets and reassessment profits, adjustments of capital accounts and preparation of balance sheet.

**B. Retirement and death of a partner.**

**Marks 10**

1. Calculation of Gaining ratio and new profit sharing ratio, treatment of goodwill as per AS-26, treatment for re-valuation of assets and re-assessment of liabilities, adjustment of accumulated profits and balance sheet, preparation of loan account of the retiring partner.
2. Calculation of deceased partners share of profit till the date of death, preparation of deceased partners capital account-executors account.

**C. Dissolution of Partnership firm:**

**Marks 10**

1. Types of dissolution of a firm, settlement of accounts, preparation of realization account and other related accounts: Capital Accounts of partners, cash / bank account.

**Unit-2 Accounting for Companies.**

**A. Accounting for share capital**

**Marks 15**

1. Share and share capital nature and types.
2. Disclosure of share capital in company's balance sheet.
3. Accounting for share capital Issue and allotment of equity and preference shares. Public subscription of shares, oversubscription and under subscription of shares, Issue of shares at par, at premium and at



discount, calls in advance and arrears, issue of shares in consideration other than cash, Meaning of private placement of shares, employees stock option, sweat equity shares and right issue.

4. Accounting treatment for forfeiture and reissue of shares.

### **B Accounting for Debentures**

**Marks 10**

1. Issue of debentures at par, at premium and at a discount, issue of debenture for consideration other than cash writing off discount and loss on issue of debentures, issue of debentures with terms of redemption.
2. Issue of debentures as collateral security journal entries for interest an debentures.
3. Sources of redemption of debentures-out of profit, out of capital and creation debenture redemption reserve.
4. Methods of redemption Lump sum method, draw of lots, purchase in open market and conversion into equity shares and new debentures.

### **Part B:**

#### **Unit-3 Financial Statement Analysis:**

**Marks 12**

1. Financial Statement of company-preparation of simple Balance sheet of a company in prescribed from as per schedule III to the Companies Act 2013, with major headings only.
2. Financials statement analysis- meaning, significance, limitations.
3. Accounting ratios - meaning and objectives.

#### **Types of ratios-**

**Liquidity ratios-** Current ratio, liquid ratio.

**Solvency ratios-** Debt to equity, proprietary ratio.

Total asset to debt ratio.

**Activity ratios-** Inventory turnover ratio, debtors turnover ratio, working capital turnover.

**Profitably ratio-** Gross profit ratio, net profit ratio, operating ratio, operating net profit ratio, return on investment.

#### **Unit 4 : Cash Flow statement**

**Marks 8**

1. Meaning, objective and preparations of cash flow statement (as per AS3 (revised) (Indirect method only)
2. Adjustment relating to depreciation, profit or loss on sale of assets, dividend and tax.

#### **Part C: Project Work**

1. Project file - 3 marks
2. Written Test - 9 marks (one hour)
3. Viva-voca - 3 marks





**Note:**

1. Written test of 9 marks should be from Part - B only (analysis of financial statement).
2. Project work should include one comprehensive problem and one specific problem.
3. Comprehensive problem should include full accounting process i.e. journal, posting trial balance, final accounts and its analysis (expressed in ratios)
4. One specific problem relating to the analysis of balance sheet of any multinational corporation or body corporate (Using comparative statement or common-size statements or ratio analysis)
5. Representation of data in the form of bar graphs, pie-diagram, tables or tally marks.

**Or**

**Part B: Computerized accounting**

**Unit-3 : Overview of computerized accounting system**

**Marks 5**

1. Concept of computer accounting system.
2. Features and types of computer accounting systems (Generic, specific, tailor-made)
3. Structure of a computerized accounting system.
4. Accounting software packages - tally, busy (latest version)

**Unit 4: Accounting using Database Management system (DBSM)**

**Marks 8**

1. Concept of DBSM.
2. DBSM in business application
3. Creating data tables for accounting.
4. Applications of DBSM in generating accounting information such as shareholders records, sales report, customer's profile, supplier's profile, payroll, employee's profile and petty cash register.

**Unit 5: Accounting Applications of Electronics Spread.**

**Marks 7**

1. Concept and features of electronic spreadsheet.
2. Applications of electronic in generating accounting information, preparing depreciation schedule, loan repayment schedule, payroll accounting and other such applications.

**Part C : Project Work**

4. **Project file - 3 marks**
5. **Written Test - 9 marks (one hour)**
6. **Viva -voce - 3 marks**



## **ENTREPRENEURSHIP**

**Maximum Marks: 100**

**Theory: 80**

**Practicals: 20**

**Internal: 05, Marks**

**External: 15 Marks**

**Time: - 3 Hours**

### **UNIT-I**

**20 Marks**

#### **ENTREPRENEURIAL OPPORTUNITIES & ENTERPRISE CREATION**

- I. Entrepreneurial Opportunities: Meaning & Objectives.
- II. Environment Scanning: Meaning & Importance.
- III. Market Assessment: Meaning & Steps in Market Assessment.
- IV. Factors affecting Identification of Entrepreneurial Opportunities.
- V. Factors in selection of an enterprise.
- VI. Steps in setting up of an enterprise.

### **UNIT-II**

**30 Marks**

#### **ENTERPRISE PLANNING & RESOURCING**

- I. Business Planning: Meaning, Importance & Steps in business planning.
- II. Preparation of a Project Report.
- III. Resource Assessment: Financial & Non Financial, Meaning, Definition & Importance.
- IV. Fixed & Working Capital requirement: Meaning, Factors affecting the estimation of fixed and working capital.
- V. Mobilising Financial & non-financial resources for setting up of an enterprise.

### **UNIT-III**

**30 Marks**

#### **ENTERPRISE MANAGEMENT**

- I. General Management: Basic Management Function.
- II. Managing Market: Meaning, Functions of marketing & Marketing Mix-Product, Price, Place, Promotion (Advertising & Sales promotion).
- III. Managing Finance: Sources of long term & Short term finances.
- IV. Human Resource Management: Meaning, objectives and functions.
- V. Managing Growth & Sustenance: Meaning & Importance of Modernisation, Expansion, Diversification, Franchising & Merger.
- VI. Entrepreneurial Discipline: Law of Land, Ecology, Consumer's concept, Adherence to contracts & credits.



## **PRACTICAL**

**Marks 15**

- |                                 |          |
|---------------------------------|----------|
| 1. Project Report/Survey Report | 09 Marks |
| 2. Viva-Voce on PW /SR          | 03 Marks |
| 3. Case Study                   | 03 Marks |

### **Guidelines for Project Report/Survey Report.**

#### **1. Project Report/Market Survey Report 09 Marks**

##### **a) Project Report:**

Preparation of a Project Report for an enterprise involving products/services

Students may be provided adequate guidance to choose a project based on their interests and availability of information and authentic inputs in the locality. The specimen proforma of project report given in the textbook may be used for preparing the report. However, mechanical preparation of the report by filling in the information in the proforma should be discouraged.

Further, as the students will be required to appear for a Viva-voce on the basis of their projects, sufficient care should be taken by the students to prepare the report after studying the various aspects involved thoroughly. In a nutshell, the project report should lead to viable enterprise.

##### **b) Market Survey Report**

Market research is the process and technique of finding out who your potential customers are and what they want. The survey may be on products and services already available in the market or students may also conduct surveys for new products and services. The report of the survey should be organised under the following broad headings:

1. Objectives.
2. Methods and tools (interviews, questionnaires etc.) to be used to collect information.
3. Records of data and information.
4. Analysis of data and information.
5. Interpretation and conclusion.

For example, a survey may be conducted to find out the choice of households in toiletry soap, tooth paste etc. The data may be analysed to establish a pattern that may be useful to an entrepreneur.

#### **Guidelines for assessment of Project Report / Survey Report**

1. Presentation: Format, Clarity, Use of graphs, tables and other visuals, organisation, methodical recording of data and information and general neatness of execution. **4 marks**
2. Originality and Creativity **3 marks**
3. Authenticity of information and correctness of calculations and general feasibility of the project/ sustainability of conclusion drawn in the survey. **2 marks**

#### **2. Viva Voce on the Project /Market Survey Report**

**03 Marks**

The questions should establish that the report is the original work of the student and that the student has a reasonably clear understanding of the work carried out by him/her. Entrepreneurial qualities such as leadership, self-belief, creativity, originality, initiative etc. may also be assessed by asking a variety of questions related to the report.



### 3. Case Study

03 marks

A case study is a focused research on an organization, enterprise, practice, behavior or person undertaken to highlight an aspect that the study attempts to examine. For instance, a case study may be conducted on the pollution control methods being employed by an industry. Or a successful industrialist may be chosen as a subject of a case study to analyze and understand the strategies that the industrialist adopted: to achieve success. Ideally, a case study should be conducted on subjects with the objectives of bringing to the fore beliefs, practices, strategies, values etc. that have made them what they are. Such studies help us to understand the way in which great minds think and operate. We may also conduct case studies on failures; why a company collapsed, how a service lost its market etc. From both the types of case study, we learn lessons; how to do something or how not to do something. They also provide valuable insight into the processes involved in an enterprise. A few topics are suggested for carrying out case studies:

- i) Drawing a profile of a successful entrepreneur.
- ii) Studying a public sector undertaking and highlighting its success/failure, by analyzing the factors responsible.
- iii) Studying a small scale unit in the locality to bring out the procedures and processes adopted by the unit to become a feasible business venture.
- iv) A study of competition in business by choosing two or more rivals in the market and analyzing their strengths and weaknesses.
- v) Take the school itself for a case study and analyze any two aspects of the school plant for chalking out a plan of action: infrastructure, academics, co-curricular activities etc.
- vi) A case study on a thriving fast food shop/restaurant in your locality. What makes it so popular?
- vii) A case study on the ways in which a business unit has mobilized its financial resources.
- viii) A case study on the enterprise management techniques adopted by a business house.
- ix) A case study on the marketing strategies of a successful consumer durable company.
- x) A case study on the financial management of a Public Limited Company.
- xi) A case study on any Specialized Institution that supports and guides the establishment of a small scale unit.
- xii) Studying the balance sheets of two big private companies to assess their trade and credit worthiness.
- xiii) Studying the inventory management of a large manufacturing industry to ascertain the processes involved for optimizing cost.
- xiv) Carrying out a case study on an established industrial house/company to find out the value system of the company and how it fulfils its social commitment/obligations.
- xv) Carrying out a case study on an established industry to ascertain the processes followed to reduce/prevent pollution.
- xvi) Study on environment friendly companies and their contribution to preservation.

#### Assessment of Case Studies

- i) Presentation: Format, accuracy, clarity, authenticity and general neatness
- ii) Analysis and Conclusions



## **TYPEWRITING AND SHORTHAND**

**Maximum Marks : 100**

**Time allowed : 3 hours**

**External : 60**

**Internal : 40**

### **Section A**

#### **(TYPEWRITING ON TYPE MACHINE/COMPUTER KEY BOARD)**

**External Examination : 30**

**Internal assessment : 20 marks**

There shall be one practical paper of 30 marks and 3 hours duration. The paper shall contain the following exercises :

- |                                       |                 |
|---------------------------------------|-----------------|
| i) Passage of 400 – 500 words (prose) | <b>10 Marks</b> |
| ii) A business letter                 | <b>08 Marks</b> |
| iii) A tabular statement              | <b>07 Marks</b> |
| iv) Viva – voce                       | <b>05 Marks</b> |

In viva-voce, knowledge of the following be tested :

- Key board of Typing machine/Computer.
- Function of different parts of machine, Type writer/Computer
- Table setting and
- Maintenance of typewriter shall be tested.

The length of the above material will be in accordance with the time allowed.

Accuracy and arrangement shall be given paramount importance.

The speed expected of the examinees shall be 30 words per minute.

Actual time taken by the examinees in typing out the passage shall be noted on the answer sheet.

#### **INTERNAL ASSESSEMENT : 20 Marks**

20 Marks allocated for internal assessment shall be awarded on the basis of two tests one of 10 marks and the other of 10 marks.

**1<sup>ST</sup> TEST : 10 Marks**

**SECOND TEST : 10 Marks**

### **Section B (SHORTHAND)**

**External Examination : 30 marks**

**Internal assessment : 20 marks**

#### **EXTERNAL EXAMINATION :**

The candidates shall be required to take down dictation in shorthand at speed of 60 words per minute. The material for shorthand may be a passage of 800 – 1000 words.



After taking down dictation students shall be required to transcribe the same in their own handwriting, in long hand.

The outline of the shorthand shall have to be attached by the candidate with the answer sheet. 7 marks are reserved for outline (shorthand).

|                            |          |
|----------------------------|----------|
| Outline                    | 07 Marks |
| Transcription in long hand | 18 marks |
| Viva-voce                  | 05 marks |

In Viva-voce, knowledge of consonants and vowels, Grammoalogues, Contractions, abbreviations, suffixes and prefixes, etc shall be tested.

### INTERNAL ASSESSMENT

Marks in internal assessment shall be awarded on the basis of two tests (internal) as given below:

|                      |          |
|----------------------|----------|
| 1 <sup>st</sup> Test | 10 marks |
| 2 <sup>nd</sup> Test | 10 marks |

**Note :** The school shall maintain a cumulative record card indicating marks awarded to candidates in the internal assessment both in typewriting and shorthand.



## HOME SCIENCE ( FULL STREAM) HUMAN DEVELOPMENT

**Maximum Marks : 100**

**Theory: 70 marks**

**Time: 3 Hours**

**Practicals: 30 Marks (External: 20; Internal:10)**

### UNIT I: GROWTH AND DEVELOPMENT

- Understanding the concept of child development, History and scope of child development.
- Child study and its Importance, methods of child study.
- Meaning and definition of growth and development.
- Principles & characteristics of growth & development.
- Heredity and environment: - Factors influencing hereditary and environment.
- Influence of hereditary and environment on the development of the child.

**Marks: 14  
Periods: 22**

### UNIT II: PRENATAL DEVELOPMENT

- The menstrual cycle.
- Preparatory process before life begins (maturation, ovulation and fertilization).
- Importance of Fertilization.
- Stages of prenatal development.
- Factors affecting prenatal development.
- Hazards during prenatal period.

**Marks: 14  
Periods: 22**

### UNIT III: POSTNATAL CARE

Post natal care of the mother.

Post natal care of the infant sleeping, bathing, clothing and feeding.

Immunization — Importance and immunization schedule.

Characteristics and changes in infancy and babyhood.



- Development of motor skills, developmental task from 0 to 2 yrs.
- Language development.

**Marks: 14**  
**Periods: 22**

#### **UNIT IV: DEVELOPMENT DURING EARLY CHILDHOOD**

- Characteristics and changes in early childhood.
- Needs of early childhood. Social and self help skill developed during early childhood.
- Play — Importance and types, factors affecting play in children, causes of imbalance in play.
- Creative activities: - Importance and need.
- Importance of story-telling and music.

**Marks: 14**  
**Periods: 22**

#### **UNIT V: DEVELOPMENT DURING LATE CHILDHOOD**

- Characteristics and changes in late childhood.
- Meaning and definition of socialization.
- Functions of socialization.
- Agents of socialization, family, school, peer group and community.
- Moral development — discipline, role of reward and punishment in maintaining the discipline.

**Marks: 14**  
**Periods: 22**

#### **PRACTICALS**

- 1) Visit to a Primary Health Care Center.
- 2) Visit to a baby clinic.
- 3) Preparing a kit for a new born baby.
- 4) Preparing of weaning foods.
- 5) Visit to a nursery school and observe the various play activities of children.
- 6) Prepare a packed lunch for a school going child (6 to 12 years)
- 7) Prepare a chart showing prenatal development in a tabular form.

**Marks: 30**  
**Periods: 24**





## **CLOTHING FOR THE FAMILY**

**Maximum Marks : 100**

**Theory: 70 marks**

**Time: 3 Hours**

**Practicals: 30 Marks (External: 20; Internal:10)**

### **UNIT I: CLOTHING**

- Clothing needs of the family with reference to climate, family income, age of family members, activity and fashion.
- The clothing budget, choice of textiles with reference to utility, durability and cost.

**Period: 15  
Marks: 10**

### **UNIT II: FABRIC CONSTRUCTIONS**

- Classification of Textile Fabric (Fibre).
- Characteristics, physical and chemical properties of cotton, wool, silk, rayon, polyester, Dacron and nylon.
- Various types of yarns and basic procedure of making yarn.
- Weaving—Construction of weaves—Plain, Basket, Twill sateen, Satin, Rib weave. A brief mention of special weaves pile and Jacquard weaves.
- Knitting and non woven fabrics, felting and bonding.

**Period: 30  
Marks: 20**

### **UNIT III: FABRIC FINISHES**

- Meaning and its importance.
- Classification of finishes: - Basic finishes— Calendaring, scouring, seinging, stiffening, tentering, bleaching.
- Special finishes—Mercerisation, shrinkage control, sanforizing, water proofing, dyeing and printing.

**Period: 18  
Mark: 15**

### **UNIT IV: WASHING AND FINISHING OF GARMENTS**

- Different method of washing: Friction, suction method, by kneading and squeezing, washing by machine.
- General methods for drying and ironing.
- Washing and finishing of cotton, wool, silk, rayon and nylon.
- Removal of common stains.

**Periods: 15  
Marks: 10**



### UNIT V: EQUIPMENT AND SUPPLIES USED IN CLOTHING CONSTRUCTION

- Their use and care with special reference to sewing machine and its accessories.
- A study of Anthropometry (Body measurement)
- Factors to be considered while taking body measurements — Round neck, round bust, round waist, round hip, Armhole line, waist front and back length, across back, across front and across shoulder, Arm length.
- Definition of drafting, important points to be considered while making draft.
- Drafting of Apron, Jangia, and baby frock.
- Basic principles involved in laying out pattern on cloth.
- Mending of cloth, darning and patching.
- Handlooms of Jammu and Kashmir.

Periods: 30  
Marks: 15

### PRACTICALS

- 1) Identification of fibres, microscopic appearance of fibres, physical and chemical test.
- 2) Washing and finishing of cotton, wool and silk.
- 3) Removal of common stains.
- 4) Ability to use following stitches.
  - a) Tacking
  - b) Running stitch
  - c) Back stitch
  - d) Hemming.
- Seams
  - a) Plain
  - b) French seam
  - c) Run and fell seam
- Hems — Straight and curved
- Fasteners—
  - a) Hook and eye
  - b) Button hole
  - c) Placket opening
  - d) Zippers
  - e) Press button
- Decorative stitches at least (6 to 8)
- 5) Methods of mending garments darning and patching.
- 6) Drafting of Jangia and apron.

M Marks: 30  
Periods: 25



## EXTENSION EDUCATION

**Maximum Marks: 100**

**Theory: Marks 70**

**Practicals: Marks 30**

**Time: 3 hours**

**External: 20, Internal : 10**

### UNIT I: CONCEPT OF HOME EXTENSION

- Meaning, philosophy and scope of Home science.
- Historical review of development of Home Science in India and Abroad.
- Meaning and scope of Extension Education. Its philosophy and Contribution to Women empowerment.
- Objectives of Home Science in relation to objectives of extension education.

**Period: 22**

**Marks: 14**

### UNIT II: INTERDISCIPLINARY NATURE OF HOME SCIENCE

- Branches of Home science – Food & Nutrition, Human Development and family resource, management of resources, clothing and textiles, extension education, the areas studied under these branches.
- The role of Home science scientist in the community.

**Period: 22**

**Marks: 14**

### UNIT III: METHODS OF TEACHING AND PLANNING

- Methods of Teaching Home science in formal and non-formal situation
- Steps in teaching Home Science extension.
- Extension teaching process - for any effective education prgm.
- Evaluation - meaning, importance, scope and types of evaluation.
- Qualities of a Good extension worker.
- Developmental programs in Home Science extension.

**Period: 22**

**Marks : 14**

### UNIT IV: DEVELOPMENT COMMUNICATION

- Concept, meaning, purpose of Communication, importance of communication and development.
- Types of Communication
  - Verbal and non-verbal



- Intra-personal & inter-personal
- Formal and informal
- Traditional and modern

Communication through mass media - Concept, Characteristic of mass communication, mass communication media, functions of mass Communication, advertising and effect of mass communication.

Period: 20

Marks: 14

#### UNITY: COMMUNICATION

- Mass Communication in Home science. Familiarity with various media for Communication: visual media, Audio media, Audio-visual media, Literature, books and journals.
- Learning to prepare a lesson for a class; realization/appreciation understanding of Home Science programs on radio, TV, articles or features in newspapers, magazines, etc. Preparing simple low-cost materials for communication purposes, charts, flip charts, exhibits, graphs, flash cards, radio and TV scripts writing & illustrating a story of children.
- Demonstration of the use of commonly available equipment.
- Approaches of Communication in development.
  - i) Individual – personal rents, phone calls, letters.
  - ii) Group lectures, Group discussions, demonstration, excursions and field trips.
  - iii) Audio-visual aids, meaning, classification, importance, advantages, limitations and use.

Period: 20

Marks: 14

#### PRACTICALS:

- 1) Prepare a chart to depict interdisciplinary nature of Home Science.
- 2) Prepare a chart showing scope of employment/self employment in the areas of Home Science.
- 3) Planning and organizing a shot extension program within the school itself.
- 4) Preparation of visual aids – charts, posters, flash cards, transparencies.
- 5) Displaying Material on bulletin board, Flannel graph board.
- 6) Practical experience in giving demonstration.
- 7) Preparation of folk media of J&K.
- 8) Organization of an exhibition displaying decorative items prepared out of waste material.
- 9) Preparation of printed material – leaflets, holders, pamphlets.

Marks: 30

Periods: 24



## हिंदी (Hindi)

समय 3 घंटे

पूर्णांक 100

पाठ्य क्रम एवं अंक विभाजन

अंक

|   |    |
|---|----|
| क निबंध लेखन  | 08 |
| ख काव्य भाग मानसर   | 24 |
| ग काव्य नाटक अंधा युग   | 24 |
| घ उपन्यास निर्मला   | 24 |
| ड हिंदी साहित्य का इतिहास   | 20 |
| ए (आधुनिक काल-द्विवेदी युग छायावाद तथा प्रगतिवाद) काल परिचय विशेषताएं एवं कवि ज्ञान<br>बी भाषा राज भाषा राष्ट्रभाषा एवं सम्पर्क भाषा (अंतर महत्व एवं हिंदी में स्थान) |    |

### खण्ड क

1. रचनात्मक लेखन (निबंध)  
विषय सामाजिक समस्याएं विज्ञान एवं तकनीक देश-प्रेम, अनुशासन, खेल संबंधी एक प्रश्न होगा? 08
2. काव्य भाग मानसर में से विकल्प सहित सप्रसंग व्याख्या संबंधी एक प्रश्न होगा? 05
3. काव्य भाग मानसर में से कविता सार साहित्य परिचय  
आलोचनात्मक एक प्रश्न पूछा जाएगा (विकल्प सहित) 05
4. हिंदी साहित्य का इतिहास में से विकल्प सहित एक प्रश्न पूछा जाएगा 05
5. काव्य नाटक अंधा युग में से विकल्प सहित एक सप्रसंग व्याख्या संबंधी प्रश्न पूछा जाएगा। 05
6. काव्य नाटक अंधा युग में से विकल्प सहित अंक सार चरित्र-चित्रण एवं आलोचनात्मक संबंधी प्रश्न पूछा जाएगा। 05
7. उपन्यास निर्मला में से विकल्प सहित चरित्र-चित्रण एवं आलोचनात्मक एक प्रश्न पूछा जाएगा। 05

### खण्ड (ख) (लघु उत्तरापेक्षी प्रश्न)

8. काव्य भाग मानसर में से कविता संबंधी 2 प्रश्न पूछे जाएंगे। (2Q×3M=6)
9. काव्य नाटक अंधा युग में से कविता संबंधी 2 प्रश्न पूछे जाएंगे (2Q×3M=6)
10. हिंदी साहित्य (आधुनिक काल 2 प्रश्न भाषा संबंधी 1 प्रश्न) में से 3 प्रश्न पूछे जाएंगे। (3Q×3M=9)
11. उपन्यास निर्मला में से 3 प्रश्न पूछे जाएंगे दो प्रश्न उपन्यास संबंधी होंगे तथा एक प्रश्न गद्यांश प्रश्नोत्तर संबंधी (3Q×3M=9)



### खण्ड ग (अति लघुतरोक्षी प्रश्न केवल बारह)

12. काव्य भाग मानसर में से कवि और कविता संबंधी 3 प्रश्न पूछे जाएंगे (3Q×2M=6)
13. हिंदी साहित्य का इतिहास में से इतिहास एवं भाषा संबंधी 2 प्रश्न पूछे जाएंगे। (2Q×2M=4)
14. काव्य नाटक अंधा युग में से नाटक कार एवं काव्य नाटक संबंधी 3 प्रश्न पूछे जाएंगे। (3Q×2M=6)
15. उपन्यास निर्मला में से उपन्यास एवं उपन्यास कार संबंधी 4 प्रश्न पूछे जाएंगे (4Q×2M=8)

### खण्ड घ

#### वस्तुनिष्ठ प्रश्न केवल

16. (क) काव्य भाग मानसर में से दो प्रश्न पूछे जाएंगे (2Q×1M=2)
- (आ) काव्य भाग अंधा युग में से दो प्रश्न पूछे जाएंगे (2Q×1M=2)
- (इ) उपन्यास निर्मला में से दो प्रश्न पूछे जाएंगे (2Q×1M=2)
- (ई) हिन्दी साहित्य का इतिहास में से दो प्रश्न पूछे जाएंगे (2Q×1M=2)

#### पाठ्यक्रम में निर्धारित पुस्तक

1. काव्य भाग 'मानसर' - जम्मू एवं कश्मीर राज्य विद्यालय शिक्षा बोर्ड द्वारा प्रकाशित
2. हिन्दी साहित्य का परिचयात्मक इतिहास भागीरथ मिश्र लेखक राष्ट्रीय शैक्षिक अनुसंधान विकास परिषद द्वारा प्रकाशित।
3. काव्य नाटक : 'अनुसंधान' लेखक डॉ धर्मवीर भारती - प्रकाशन महल इलाहाबाद द्वारा
4. उपन्यास 'निर्मला' लेख उपन्यासकार सम्राट मुंशी प्रेमचंद प्रकाशन कला मंदिर दिल्ली द्वारा

**नोट-** उपन्यास निर्मला में से सप्रसंग व्याख्या से संबंधित कोई प्रश्न नहीं पूछा जाएगा।

**नोट-** परीक्षा में प्रश्न-पत्र निर्माण हेतु मार्गदर्शन

|            |           |          |        |
|------------|-----------|----------|--------|
| प्र. 1     | 8 अंक     | 08 अंक   |        |
| प्र. 2-7   |           | 6×5      | 30 अंक |
| प्र. 8-17  |           | 10×3 अंक | 30 अंक |
| प्र. 18-29 | 12×2 अंक  | 24 अंक   |        |
| प्र. 30    | 8×1 अंक   | 08 अंक   |        |
|            | 30 प्रश्न | 100 अंक  |        |