

**CURRICULUM 2020-21**

**CLASS 12- COMMERCE**

**ENGLISH CORE (CODE NO. 301)**

**PART A 40 MARKS**

**Reading Comprehension 20 Marks**

**I.** Multiple Choice questions based on one unseen passage to assess comprehension, interpretation and inference. Vocabulary and inference of meaning will also be assessed. The passage may be factual, descriptive or literary. Ten out of eleven questions to be done. **(10x1=10 Marks)**

**II.** Multiple Choice questions based on one unseen **case-based** factual passage with verbal/visual inputs like statistical data, charts, newspaper report etc. Ten out of eleven questions to be done. **(10x1=10 Marks)**

Note: The combined word limit for both the passages will be 700-750 words.

**Literature 20 Marks**

**III.** Multiple Choice Questions based on two prose extracts, one each from the books **Flamingo and Vistas**, to assess comprehension and appreciation. Refer to the lines to answer questions based on the given extract. Any 2 out of 3 extracts to be done. **(8x1=8)**

**IV.** Multiple Choice Questions based on a poetry extract from the book **Flamingo** to assess comprehension, analysis and inference. Refer to the lines to answer questions based on the given extract. Any 1 out of 2 extracts to be done. **(4x1=4)**

**VI.** Text based questions to assess comprehension, analysis, inference and interpretation from the books **Flamingo and Vistas**. Eight out of ten questions to be done. **(8x1=8)**

**PART B (SUBJECTIVE QUESTIONS) - 40  
MARKS**

**Writing Section: 16 Marks**

Q1. Short writing task –Notice/Advertisement up to 50 words. One out of the two given questions to be answered.(3 Marks: Format : 1 / Content : 1 / Expression : 1).

Q2. Short writing task –Formal/Informal Invitation and Reply up to 50 words.One out of the two given questions to be answered.(3 Marks: Format : 1 / Content : 1 / Expression : 1)

Q3. Letters based on verbal/visual input, to be answered in approximately 120-150 words. Letter types include application for a job, Letters to the editor (giving suggestions or opinion on issues of public interest) . One out of the two given questions to be answered (5 Marks :Format: 1 / Content: 2 / Expression: 2)

Q4. Article/ Report Writing, descriptive and analytical in nature, based on verbal inputs, to be answered in 120-150 words. One out of the two given questions to be answered (5Marks:Format : 1 / Content : 2 / Expression : 2)

**Literature Section: 24 Marks**

Q6. **Five** Short answer type question, **out of six, from Prose and Poetry from the book Flamingo**, to be answered in 30-40 words. Questions should elicit inferential responses through critical thinking.(5x2=10)

Q7. **Two** Short answer type question ,out of three, from **Prose (Vistas)**, to be answered in 30-40 words. Questions should elicit inferential responses through critical thinking. (2x2=4)

Q 8. **One** Long answer type question, from **Prose/poetry (Flamingo)**, to be answered in 120-150 words to assess global comprehension and extrapolation beyond the text. Questions to provide evaluative and analytical responses using incidents, events, themes as reference points. Any 1 out of 2 questions to be done.(1x5=5)

**Q.9 One** Long answer type question, based on the chapters from the book **Vistas**, to be answered in 120-150 words to assess global comprehension and extrapolation beyond the text. Questions to provide evaluative and analytical responses using incidents, events, themes as reference points. Any 1 out of 2 questions to be done.(1x5=5)

## ACCOUNTANCY

### Part A: Accounting for Not-for-Profit Organizations, Partnership Firms and Companies

#### Unit 1: Financial Statements of Not-for-Profit Organizations

| Units/Topics   | Learning Outcomes  |
|--|--|
| <ul style="list-style-type: none"><li data-bbox="240 550 766 583">• Not-for-profit organizations: concept.</li></ul> | <b>After going through this Unit, the students will be</b> |

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| <ul style="list-style-type: none"> <li>• Receipts and Payments Account: features and preparation.</li> <li>• Income and Expenditure Account: features, preparation of income and expenditure account and balance sheet from the given receipts and payments account with additional information.</li> </ul> <p><b>Scope:</b></p> <p><i>(i) Adjustments in a question should not exceed 3 or 4 in number and restricted to subscriptions, consumption of consumables, funds and sale of assets/ old material/funds.</i></p> <p><i>(ii) Entrance/admission fees and general donations are to be treated as revenue receipts.</i></p> <p><i>(iii) Trading Account of incidental activities is not to be prepared.</i></p> | <p><b>able to:</b></p> <ul style="list-style-type: none"> <li>• state the meaning of a Not-for-profit organisation and its distinction from a profit making entity.</li> <li>• state the meaning of receipts and payments account, and understanding its features.</li> <li>• develop the understanding and skill of preparing receipts and payments account.</li> <li>• state the meaning of income and expenditure account and understand its features.</li> <li>• develop the understanding and skill of preparing income and expenditure account and balance sheet of a not-for-profit organisation with the help of given receipts and payments account and additional information.</li> </ul> |
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## Unit 2: Accounting for Partnership Firms

| Units/Topics | Learning Outcomes |
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|--------------|-------------------|

- Partnership: features, Partnership Deed.
- Provisions of the Indian Partnership Act 1932 in the absence of partnership deed.
- Fixed v/s fluctuating capital accounts. Preparation of Profit and Loss Appropriation account- division of profit among partners, guarantee of profits.
- Past adjustments (relating to interest on capital, interest on drawing, salary and profit sharing ratio).
- Goodwill: nature, factors affecting and methods of valuation - average profit, super profit and capitalization.

*Note: Interest on partner's loan is to be treated as a charge against profits.*

Goodwill to be adjusted through partners capital/ current account (AS 26)

### **Accounting for Partnership firms - Reconstitution**

**After going through this Unit, the students will be able to:**

- state the meaning of partnership, partnership firm and partnership deed.
- describe the characteristic features of partnership and the contents of partnership deed.
- discuss the significance of provision of Partnership Act in the absence of partnership deed.
- differentiate between fixed and fluctuating capital, outline the process and develop the understanding and skill of preparation of Profit and Loss Appropriation Account.
- develop the understanding and skill of preparation profit and loss appropriation account involving guarantee of profits.
- develop the understanding and skill of making past adjustments.
- state the meaning, nature and factors affectin

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| <p><b>and Dissolution.</b></p> <ul style="list-style-type: none"> <li>• <b>Change in the Profit Sharing Ratio</b> among the existing partners - sacrificing ratio, gaining ratio, accounting for revaluation of assets and reassessment of liabilities and treatment of reserves and accumulated profits. Preparation of revaluation account and balance sheet.</li> <li>• <b>Admission of a partner</b> - effect of admission of a partner on change in the profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and re- assessment of liabilities, treatment of reserves and accumulated profits</li> <li>• <b>Retirement and death of a partner:</b> effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and reassessment of liabilities, adjustment of accumulated profits and reserves and preparation of balance sheet.</li> <li>• Calculation of deceased partner's share of profit till the date of death.</li> <li>• <b>Dissolution of a partnership firm:</b> meaning of dissolution of partnership and partnership firm, types of dissolution of a firm. Settlement of accounts - preparation of realization account, and other related accounts: capital accounts of partners and cash/bank a/c (excluding memorandum</li> </ul> | <p>goodwill</p> <ul style="list-style-type: none"> <li>• develop the understanding and skill of valuation of goodwill using different methods.</li> <li>• state the meaning of sacrificing ratio, gaining ratio and the change in profit sharing ratio among existing partners.</li> <li>• develop the understanding of accounting treatment of revaluation assets and reassessment of liabilities and treatment of reserves and accumulated profits by preparing revaluation account and balance sheet.</li> <li>• explain the effect of change in profit sharing ratio on admission of a new partner.</li> <li>• develop the understanding and skill of treatment of goodwill as per AS-26, treatment of revaluation of assets and re-assessment of liabilities, treatment of reserves and accumulated profits, adjustment of capital accounts and preparation of balance sheet of the new firm.</li> <li>• explain the effect of retirement / death of a partner on change in profit sharing ratio.</li> <li>• develop the understanding of accounting treatment of goodwill, revaluation of assets and re- assessment of liabilities and adjustment of accumulated profits and reserves on retirement of a</li> </ul> |
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balance sheet, piecemeal distribution, sale to a company and insolvency of partner(s)).

**Note:**

- (i) The realized value of each asset must be given at the time of dissolution.
- (ii) In case, the realization expenses are borne by a partner, clear indication should be given regarding the payment thereof.

partner.

- develop the skill of calculation of deceased partner's share till the time of his death.
- discuss the preparation of the capital accounts of the remaining partners and the balance sheet of the firm after retirement / death of a partner.
- understand the situations under which a partnership firm can be dissolved.
- develop the understanding of preparation of

realisation account and other related accounts.

### Unit - 3 Accounting for Companies

| Units/ Topics  | Learning Outcomes   |
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| <p><b>Accounting for Share Capital</b></p> <ul style="list-style-type: none"> <li>• Share and share capital: nature and types.</li> <li>• Accounting for share capital: issue and allotment of equity and preferences shares. Public subscription of shares - over subscription and under subscription of shares; issue at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash.</li> <li>• Concept of Private Placement and Employee Stock Option Plan (ESOP).</li> <li>• Accounting treatment of forfeiture and re- issue of shares.</li> <li>• Disclosure of share capital in the Balance Sheet of a company.</li> </ul> <p><b>Accounting for Debentures</b></p> <ul style="list-style-type: none"> <li>• Debentures: Issue of debentures at par, at a premium and at a discount. Issue of debentures for consideration other than cash; Issue of debentures with terms of redemption; debentures as collateral security- concept, interest on debentures. Writing off discount / loss on issue of debentures.</li> </ul> <p>Note: Discount or loss on issue of debentures to be written off in the year debentures are allotted from Security Premium Reserve (if it</p> | <p><b>After going through this Unit, the students will be able to:</b></p> <ul style="list-style-type: none"> <li>• state the meaning of share and share capital and differentiate between equity shares and preference shares and different types of share capital.</li> <li>• understand the meaning of private placement of shares and Employee Stock Option Plan.</li> <li>• explain the accounting treatment of share capital transactions regarding issue of shares.</li> <li>• develop the understanding of accounting treatment of forfeiture and re-issue of forfeited shares.</li> <li>• describe the presentation of share capital in the balance sheet of the company as per schedule III part I of the Companies Act 2013.</li> <li>• explain the accounting treatment of different categories of transactions related to issue of debentures.</li> <li>• develop the understanding and skill of writing off discount / loss on issue of debentures.</li> <li>• understand the concept of collateral security and its presentation in balance sheet.</li> <li>• develop the skill of calculating interest on debentures and its accounting treatment.</li> </ul> |



exists) and then from Statement of Profit and Loss as Financial Cost (AS 16).

*Note: Related sections of the Companies Act, 2013*

*will apply.*

- state the meaning of redemption of debentures.

## Part B: Financial Statement Analysis

### Unit 4: Analysis of Financial Statements

| Units/Topics   | Learning Outcomes  |
|--|--|
| <p data-bbox="186 417 800 451"><b>Financial statements of a Company:</b></p> <p data-bbox="186 464 800 657">Statement of Profit and Loss and Balance Sheet in prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013)</p> <p data-bbox="186 678 800 825"><b>Note:</b> <i>Exceptional items, extraordinary items and profit (loss) from discontinued operations are excluded.</i></p> <ul data-bbox="235 846 800 2022" style="list-style-type: none"><li data-bbox="235 846 800 982">• <b>Financial Statement Analysis:</b> Objectives, importance and limitations.</li><li data-bbox="235 1003 800 1203">• <b>Tools for Financial Statement Analysis:</b> Comparative statements, common size statements, cash flow analysis, ratio analysis.</li><li data-bbox="235 1224 800 1360">• <b>Accounting Ratios:</b> Meaning, Objectives, classification and computation.</li><li data-bbox="235 1381 800 1476">• <b>Liquidity Ratios:</b> Current ratio and Quick ratio.</li><li data-bbox="235 1497 800 1696">• <b>Solvency Ratios:</b> Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and Interest Coverage Ratio.</li><li data-bbox="235 1717 800 1959">• <b>Activity Ratios:</b> Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio and Working Capital Turnover Ratio.</li><li data-bbox="235 1980 800 2022">• <b>Profitability Ratios:</b> Gross Profit</li></ul> | <p data-bbox="824 417 1419 510"><b>After going through this Unit, the students will be able to:</b></p> <ul data-bbox="873 531 1429 2022" style="list-style-type: none"><li data-bbox="873 531 1429 783">• develop the understanding of major headings and sub-headings (as per Schedule III to the Companies Act, 2013) of balance sheet as per the prescribed norms / formats.</li><li data-bbox="873 804 1429 940">• state the meaning, objectives and limitations of financial statement analysis.</li><li data-bbox="873 961 1429 1098">• discuss the meaning of different tools of 'financial statements analysis'.</li><li data-bbox="873 1119 1429 1266">• develop the understanding and skill of preparation of comparative and common size financial statements.</li><li data-bbox="873 1287 1429 1423">• state the meaning, objectives and significance of different types of ratios.</li><li data-bbox="873 1444 1429 1581">• develop the understanding of computation of current ratio and quick ratio.</li><li data-bbox="873 1602 1429 1801">• develop the skill of computation of debt equity ratio, total asset to debt ratio, proprietary ratio and interest coverage ratio.</li><li data-bbox="873 1822 1429 2022">• develop the skill of computation of inventory turnover ratio, trade receivables and trade payables ratio and working capital turnover ratio.</li></ul> |

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| <p>Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.</p> | <ul style="list-style-type: none"> <li>develop the skill of computation of gross profit ratio, operating ratio, operating profit ratio, net profit ratio and return on investment.</li> </ul> |
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**Note:** Net Profit Ratio is to be calculated on the basis of profit before and after tax.

***Unit 5: Cash Flow Statement***

| <b>Units/Topics</b>   | <b>Learning Outcomes</b>   |
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| <ul style="list-style-type: none"> <li>Meaning, objectives and preparation (as per AS 3 (Revised) (Indirect Method only)</li> </ul> | <p><b>After going through this Unit, the students will be able to:</b></p> <ul style="list-style-type: none"> <li>state the meaning and objectives of cash flow</li> </ul> |

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| <p><b>Note:</b></p> <p><i>(i) Adjustments relating to depreciation and amortization, profit or loss on sale of assets including investments, dividend (both final and interim) and tax.</i></p> <p><i>(ii) Bank overdraft and cash credit to be treated as short term borrowings.</i></p> <p><i>(iii) Current Investments to be taken as Marketable securities unless otherwise specified.</i></p> | <p>statement.</p> <ul style="list-style-type: none"> <li>• develop the understanding of preparation of Cash Flow Statement using indirect method as per AS 3 with given adjustments.</li> </ul> |
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**Note:** Previous years' Proposed Dividend to be given effect, as prescribed in AS-4, Events occurring after the Balance Sheet date. Current years' Proposed Dividend will be accounted for in the next year after it is declared by the shareholders.

## Project Work

From session 2020-21 onwards, there would be only ONE project (specific) to be prepared.

Note: Kindly refer to the related Guidelines published by the CBSE.

OR

## Part B: Computerised Accounting

### Unit 3: Computerised Accounting

#### Overview of Computerised Accounting System

- Introduction: Application in Accounting.
- Features of Computerised Accounting System.
- Structure of CAS.
- Software Packages: Generic; Specific; Tailored.

#### *Accounting Application of Electronic Spreadsheet.*

- Concept of electronic spreadsheet.
- Features offered by electronic spreadsheet.
- Application in generating accounting information - bank reconciliation statement; asset accounting; loan repayment of loan schedule, ratio analysis
- Data representation- graphs, charts and diagrams.

#### *Using Computerized Accounting System.*

- Steps in installation of CAS, codification and Hierarchy of account heads, creation of accounts.
- Data: Entry, validation and verification.
- Adjusting entries, preparation of balance sheet, profit and loss account with closing entries and opening entries.
- Need and security features of the system.

#### *Database Management System (DBMS)*

- Concept and Features of DBMS.
- DBMS in Business Application.
- Generating Accounting Information - Payroll.

## Part C: Practical Work

Please refer to the guidelines published by CBSE.

#### *Prescribed Books:*

|                         |           |                   |
|-------------------------|-----------|-------------------|
| Financial Accounting -I | Class XI  | NCERT Publication |
| Accountancy -II         | Class XI  | NCERT Publication |
| Accountancy -I          | Class XII | NCERT Publication |
| Accountancy -II         | Class XII | NCERT Publication |

Guidelines for Project Work in Accounting and Practical work in computerised Accounting Class XII CBSE Publication

## BUSINESS STUDIES

### Part A: Principles and Functions of Management

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

| Concept  | After going through this unit, the student/ learner would be able to:   |
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| Management - concept, objectives, and importance                               | <ul style="list-style-type: none"> <li>• Understand the concept of management.</li> <li>• Explain the meaning of 'Effectiveness and Efficiency.</li> <li>• Discuss the objectives of management.</li> <li>• Describe the importance of management.</li> </ul> |
| Management as Science, Art and Profession                                      | <ul style="list-style-type: none"> <li>• Examine the nature of management as a science, art and profession.</li> </ul>  |
| Levels of Management   | <ul style="list-style-type: none"> <li>• Understand the role of top, middle and lower levels of management</li> </ul>   |
| Management functions-planning, organizing, staffing, directing and controlling | <ul style="list-style-type: none"> <li>• Explain the functions of management</li> </ul>   |
| Coordination- concept and importance   | <ul style="list-style-type: none"> <li>• Discuss the concept and characteristics of coordination.</li> <li>• Explain the importance of coordination.</li> </ul>   |

#### Unit 2: Principles of Management

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| Principles of Management- concept and significance | <ul style="list-style-type: none"> <li>• Understand the concept of principles of management.</li> <li>• Explain the significance of management principles.</li> </ul> |
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| Fayol's principles of management                          | <ul style="list-style-type: none"> <li>• Discuss the principles of management developed by Fayol.</li> </ul>          |
| Taylor's Scientific management- principles and techniques | <ul style="list-style-type: none"> <li>✚ Explain the principles and techniques of 'Scientific Management'.</li> </ul> |

### Unit 3: Business Environment

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| Business Environment- concept and importance   | <ul style="list-style-type: none"> <li>• Understand the concept of 'Business Environment'.</li> <li>• Describe the importance of business environment</li> </ul> |
| Dimensions of Business Environment- Economic, Social, Technological, Political and Legal | <ul style="list-style-type: none"> <li>• Describe the various dimensions of 'Business Environment'.</li> </ul>   |

### Unit 4: Planning

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| Planning: Concept, importance and limitation | <ul style="list-style-type: none"> <li>• Understand the concept of planning.</li> <li>• Describe the importance of planning.</li> <li>• Understand the limitations of planning.</li> </ul> |
| Planning process                             | <ul style="list-style-type: none"> <li>• Describe the steps in the process of planning.</li> </ul>   |

### Unit 5: Organising

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| Organising: Concept and importance                           | <ul style="list-style-type: none"> <li>• Understand the concept of organizing as a structure and as a process.</li> <li>• Explain the importance of organising.</li> </ul>   |
| Organising Process   | <ul style="list-style-type: none"> <li>• Describe the steps in the process of organizing</li> </ul>  |
| Structure of organisation- functional and divisional concept | <ul style="list-style-type: none"> <li>• Describe functional and divisional structures of organisation.</li> </ul>   |
| Delegation: concept, elements and importance                 | <ul style="list-style-type: none"> <li>• Understand the concept of delegation.</li> <li>• Describe the elements of delegation.</li> <li>• Appreciate the importance of Delegation.</li> </ul>                            |
| Decentralization: concept and importance                     | <ul style="list-style-type: none"> <li>• Understand the concept of decentralisation.</li> <li>• Explain the importance of decentralisation.</li> <li>• Differentiate between delegation and decentralisation.</li> </ul> |

### Unit 6: Staffing

|                                  |  |
|----------------------------------|--|
| Staffing: Concept and importance | <ul style="list-style-type: none"> <li>• Understand the concept of staffing.</li> <li>• Explain the importance of staffing</li> </ul>                              |
| Staffing process                 | <ul style="list-style-type: none"> <li>• Describe the steps in the process of staffing</li> </ul>  |
| Recruitment process              | <ul style="list-style-type: none"> <li>• Understand the meaning and steps in the process of recruitment.</li> <li>• Discuss the sources of recruitment.</li> </ul> |
| Selection - process              | <ul style="list-style-type: none"> <li>• Understand the meaning of selection.</li> <li>• Describe the steps involved in the process of selection.</li> </ul>       |

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| Training and Development - Concept and importance, Methods of training - on the job and off the job - vestibule training, apprenticeship training and internship training | <ul style="list-style-type: none"> <li>• Understand the concept of training and development.</li> <li>• Appreciate the importance of training to the organisation and to the employees.</li> <li>• Discuss on the job and off the job methods of training.</li> <li>• Discuss the meaning of vestibule training, apprenticeship training and internship training.</li> <li>• Differentiate between training and development.</li> </ul> |
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### Unit 7: Directing

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| Directing: Concept and importance   | <ul style="list-style-type: none"> <li>• Describe the concept of directing.</li> <li>• Discuss the importance of directing</li> </ul>  |
| Elements of Directing   | <ul style="list-style-type: none"> <li>• Describe the various elements of directing</li> </ul>   |
| Motivation - concept, Maslow's hierarchy of needs, Financial and non-financial incentives | <ul style="list-style-type: none"> <li>• Understand the concept of motivation.</li> <li>• Develop an understanding of Maslow's Hierarchy of needs.</li> <li>• Discuss the various financial and non-financial incentives.</li> </ul> |
| Leadership - concept, styles - authoritative, democratic and laissez faire                | <ul style="list-style-type: none"> <li>• Understand the concept of leadership.</li> <li>• Understand the various styles of leadership.</li> </ul>  |
| Communication - concept, formal and informal communication;                               | <ul style="list-style-type: none"> <li>• Understand the concept of communication</li> <li>• Discuss the concept of formal and informal communication.</li> <li>• Discuss the various barriers to effective communication.</li> </ul> |

### Unit 8: Controlling

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|--------------------------------------|--|
| Controlling - Concept and importance | <ul style="list-style-type: none"> <li>• Understand the concept of controlling.</li> <li>• Explain the importance of controlling.</li> </ul> |
| Steps in process of control          | <ul style="list-style-type: none"> <li>• Discuss the steps in the process of controlling.</li> </ul>   |

## Part B: Business Finance and Marketing

### Unit 9: Financial Management

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|--|---|
| Financial Management: Concept, role and objectives                                     | <ul style="list-style-type: none"> <li>• Understand the concept of financial management.</li> <li>• Explain the role of financial management in an organisation.</li> <li>• Discuss the objectives of financial management</li> </ul> |
| Financial decisions: investment, financing and dividend- Meaning and factors affecting | <ul style="list-style-type: none"> <li>• Discuss the three financial decisions and the factors affecting them.</li> </ul>   |
| Financial Planning - concept and importance  | <ul style="list-style-type: none"> <li>• Describe the concept of financial planning.</li> </ul>   |



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|  | <ul style="list-style-type: none"> <li>• Explain the importance of financial planning.</li> </ul>   |
| Capital Structure – concept and factors affecting capital structure          | <ul style="list-style-type: none"> <li>• Understand the concept of capital structure.</li> <li>• Describe the factors determining the choice of an appropriate capital structure of a company.</li> </ul> |
| Fixed and Working Capital - Concept and factors affecting their requirements | <ul style="list-style-type: none"> <li>• Understand the concept of fixed and working capital.</li> <li>• Describe the factors determining the requirements of fixed and working capital.</li> </ul>       |

## Unit 10: Financial Markets

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| Financial Markets: Concept, Functions and types   | <ul style="list-style-type: none"> <li>• Understand the concept of financial market.</li> <li>• Explain the functions of financial market.</li> <li>• Understand capital market and money market as types of financial markets.</li> </ul>   |
| Money market and its instruments  | <ul style="list-style-type: none"> <li>• Understand the concept of money market.</li> <li>• Describe the various money market instruments.</li> </ul>  |
| Capital market: Concept, types (primary and secondary), methods of floatation in the primary market | <ul style="list-style-type: none"> <li>• Discuss the concept of capital market.</li> <li>• Explain primary and secondary markets as types of capital market.</li> <li>• Differentiate between capital market and money market.</li> <li>• Discuss the methods of floating new issues in the primary market.</li> <li>• Distinguish between primary and secondary markets.</li> </ul> |
| Stock Exchange – Meaning, Functions and trading procedure   | <ul style="list-style-type: none"> <li>• Give the meaning of a stock exchange.</li> <li>• Explain the functions of a stock exchange.</li> <li>• Discuss the trading procedure in a stock exchange.</li> <li>• Give the meaning of depository services and demat account as used in the trading procedure of securities.</li> </ul>   |
| Securities and Exchange Board of India (SEBI) - objectives and functions                            | <ul style="list-style-type: none"> <li>• State the objectives of SEBI.</li> <li>• Explain the functions of SEBI.</li> </ul>  |

## Unit 11: Marketing

|   |  |
|---|--|
| Marketing – Concept, functions and philosophies – Product, Price and Standard | <ul style="list-style-type: none"> <li>• Understand the concept of marketing.</li> <li>• Discuss the functions of marketing.</li> <li>• Explain the marketing philosophies.</li> </ul> |
| Marketing Mix – Concept and elements  | <ul style="list-style-type: none"> <li>• Understand the concept of marketing mix.</li> <li>• Describe the elements of marketing mix.</li> </ul>  |

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| Product - branding, labelling and packaging –<br>Concept | <ul style="list-style-type: none"><li>• Understand the concept of product as an element of marketing mix.</li><li>• Understand the concepts of branding, labelling and packaging.</li></ul> |
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| Price - Concept, Factors determining price  | <ul style="list-style-type: none"> <li>• Understand the concept of price as an element of marketing mix.</li> <li>• Describe the factors determining price of a product.</li> </ul>  |
| Physical Distribution – concept   | <ul style="list-style-type: none"> <li>• Understand the concept of physical distribution.</li> </ul>   |
| Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations | <ul style="list-style-type: none"> <li>• Understand the concept of promotion as an element of marketing mix.</li> <li>• Describe the elements of promotion mix.</li> <li>• Understand the concept of advertising and personal selling</li> <li>• Understand the concept of sales promotion.</li> <li>• Discuss the concept of public relations.</li> </ul> |

### Unit 12: Consumer Protection

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|---|--|
| Consumer Protection: Concept  | <ul style="list-style-type: none"> <li>• Understand the concept of consumer protection.</li> </ul>   |
| Consumer Protection Act 1986:<br>Meaning of consumer<br>Rights and responsibilities of consumers Who can file a complaint?<br>Redressal machinery<br>Remedies available | <ul style="list-style-type: none"> <li>• Understand the concept of a consumer according to the Consumer protection Act 1986.</li> <li>• Discuss the scope of Consumer Protection Act, 1986</li> <li>• Explain the consumer rights</li> <li>• Understand the responsibilities of consumers</li> <li>• Understand who can file a complaint and against whom?</li> <li>• Discuss the legal redressal machinery under Consumer protection Act 1986.</li> <li>• Examine the remedies available to the consumer under Consumer protection Act 1986.</li> </ul> |

### Unit 13: Project Work

## **PROJECT WORK IN BUSINESS STUDIES FOR CLASS XI AND XII**

### **Introduction**

The course in Business Studies is introduced at Senior School level to provide students with a sound understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society. Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. With the purpose to help them understand the framework within which a business operates, and its interaction with the social, economic, technological and legal environment, the CBSE has introduced Project Work in the Business Studies Syllabus for Classes XI and XII. The projects have been designed to allow students to appreciate that business is an integral component of society and help them develop an understanding of the social and ethical issues concerning them.

The project work also aims to empower the teacher to relate all the concepts with what is happening around the world and the student's surroundings, making them appear more clear and contextual. This will enable the student to enjoy studies and use his free time effectively in observing what's happening around.

By means of Project Work the students are exposed to life beyond textbooks giving them opportunities to refer materials, gather information, analyze it further to obtain relevant information and decide what matter to keep.

### **Objectives**

After doing the Project Work in Business Studies, the students will be able to do the following:

- develop a practical approach by using modern technologies in the field of business and management;
- get an opportunity for exposure to the operational environment in the field of business management and related services;
- inculcate important skills of team work, problem solving, time management, information collection, processing, analysing and synthesizing relevant information to derive meaningful conclusions
- get involved in the process of research work; demonstrate his or her capabilities while working independently and
- make studies an enjoyable experience to cherish.

**The teacher should help students to identify any one project from the given topics.**

#### **1. Project One: Field Visit**

The objective of introducing this project among the students is to give a first hand experience to them regarding the different types of business units operating in their surroundings, to observe their features and activities and relate them to the theoretical knowledge given in their text books. The students should select a place of field visit from the following: – (Add more as per local area availability.)

1. Visit to a Handicraft unit.
2. Visit to an Industry.
3. Visit to a Whole sale market (vegetables, fruits, flowers, grains, garments, etc.)
4. Visit to a Departmental store.
5. Visit to a Mall.

The following points should be kept in mind while preparing this visit.

1. Select a suitable day free from rush/crowd with lean business hours.
2. The teacher must visit the place first and check out on logistics. It's better to seek permission from the concerned business- incharge.
3. Visit to be discussed with the students in advance. They should be encouraged to prepare a worksheet containing points of observation and reporting.
4. Students may carry their cameras (at their own risk) with prior permission for collecting evidence of their observations.

### **1. Visit to a Handicraft Unit**

The purpose of visiting a Handicraft unit is to understand nature and scope of its business, stake holders involved and other aspects as outlined below

- a) The raw material and the processes used in the business: People /parties/firms from which they obtain their raw material.
- b) The market, the buyers, the middlemen, and the areas covered. c) The countries to which exports are made.
- d) Mode of payment to workers, suppliers etc.
- e) Working conditions.
- f) Modernization of the process over a period of time.
- g) Facilities, security and training for the staff and workers.
- h) Subsidies available/ availed.
- i) Any other aspect that the teachers deem fit.

### **2. Visit to an Industry.**

The students are required to observe the following:

- a) Nature of the business organisation.
- b) Determinants for location of business unit.

- c) Form of business enterprise: Sole Proprietorship, Partnership, Undivided Hindu Family, Joint Stock Company (a Multinational Company).
- d) Different stages of production/process
- e) Auxiliaries involved in the process.
- f) Workers employed, method of wage payment, training programmes and facilities available.
- g) Social responsibilities discharged towards workers, investors, society, environment and government.
- h) Levels of management.
- i) Code of conduct for employers and employees.
- j) Capital structure employed- borrowed v/s owned.
- k) Quality control, recycling of defective goods.
- l) Subsidies available/availed.
- m) Safety Measures employed.
- n) Working conditions for labour in observation of Labour Laws.
- o) Storage of raw material and finished goods.
- p) Transport management for employees, raw material and finished goods.
- q) Functioning of various departments and coordination among them (Production, Human Resource, Finance and Marketing)
- r) Waste Management.
- s) Any other observation.

### **3. Visit to a whole sale market: vegetables/fruits/flowers/grains/garments etc.**

The students are required to observe the following:

- a) Sources of merchandise.
- b) Local market practices.
- c) Any linked up businesses like transporters, packagers, money lenders, agents, etc.
- d) Nature of the goods dealt in.
- e) Types of buyers and sellers.
- f) Mode of the goods dispersed, minimum quantity sold, types of packaging employed.
- g) Factors determining the price fluctuations.
- h) Seasonal factors (if any) affecting the business.
- i) Weekly/ monthly non-working days.
- j) Strikes, if any- causes thereof.
- k) Mode of payments.
- l) Wastage and disposal of dead stock.
- m) Nature of price fluctuations, reason thereof.
- n) Warehousing facilities available\availed.
- o) Any other aspect.

### **4. Visit to a Departmental store**

The students are required to observe the following:

- a) Different departments and their lay out.
- b) Nature of products offered for sale.
- c) Display of fresh arrivals.
- d) Promotional campaigns.
- e) Spaces and advertisements.
- f) Assistance by Sales Personnel.
- g) Billing counter at store – Cash, Credit Card/ Debit Card, swipe facility. Added attractions and facilities at the counter.
- h) Additional facilities offered to customers
- i) Any other relevant aspect.

## 5. Visit to a Mall.

The students are required to observe the following:

- a) Number of floors, shops occupied and unoccupied.
- b) Nature of shops, their ownership status
- c) Nature of goods dealt in: local brands, international brands,
- d) Service business shops- Spas, gym, saloons etc.
- e) Rented spaces, owned spaces,
- f) Different types of promotional schemes.
- g) Most visited shops.
- h) Special attractions of the Mall- Food court, Gaming zone or Cinema etc.
- i) Innovative facilities.
- j) Parking facilities. Teachers may add more to the list.

## II. Project Two: Case Study on a Product

- a) Take a product having seasonal growth and regular demand with which students can relate. For example,
  - Apples from Himachal Pradesh, Kashmir.
  - Oranges from Nagpur,
  - Mangoes from Maharashtra/U.P./Bihar/Andhra Pradesh etc.
  - Strawberries from Panchgani,
  - Aloe vera from Rajasthan,
  - Walnuts/almonds from Kashmir,
  - Jackfruit from South,
  - Guavas from Allahabad,
  - Pineapples from North East India,
  - Tea from Assam,
  - Orchids from Sikkim and Meghalaya,
  - Pottery of Manipur,
  - Fishes from coastal areas.

Students may develop a Case Study on the following lines:

- (i) Research for change in price of the product. For example, apples in Himachal Pradesh during plucking and non plucking season.
- (ii) Effect on prices in the absence of effective transport system.
- (iii) Effect on prices in the absence of suitable warehouse facilities.
- (iv) Duties performed by the warehouses.
- (v) Demand and supply situation of the product during harvesting season, prices near the place of origin and away.

Students may be motivated to find out the importance of producing and selling these products and their processed items along with the roles of Transport, Warehousing, Advertising, Banking, Insurance, Packaging, Wholesale selling, Retailing, Co-operative farming, Co-operative marketing etc.

The teacher may develop the points for other projects on similar lines for students to work on.

The teacher may assign this project as 'group' project and may give different products to different groups. It could conclude in the form of an exhibition.

## III. Project Three: Aids to Trade

Taking any one AID TO TRADE, for example Insurance and gathering information on following aspects



1. History of Insurance Lloyd's contribution.
  2. Development of regulatory Mechanism.
  3. Insurance Companies in India
  4. Principles of Insurance.
  5. Types of Insurance. Importance of insurance to the businessmen.
  6. Benefits of crop, orchards, animal and poultry insurance to the farmers.
  7. Terminologies used (premium, face value, market value, maturity value, surrender value) and their meanings.
  8. Anecdotes and interesting cases of insurance. Reference of films depicting people committing fraudulent acts with insurance companies.
  9. Careers in Insurance.
- Teachers to develop such aspects for other aids to trade.

#### **IV. Project Four: Import /Export Procedure**

Any one from the following

##### 1. Import /Export procedure

The students should identify a product of their city/country which is imported /exported. They are required to find the details of the actual import/export procedure. They may take help from the Chambers of Commerce, Banker, existing Importers/Exporters, etc.

They should find details of the procedure and link it with their Text knowledge.

The specimens of documents collected should be pasted in the Project file with brief description of each. They may also visit railway godowns/dockyards/ transport agencies and may collect pictures of the same.

Presentation and submission of project report.

At the end of the stipulated term, each student will prepare and submit his/her project report.

Following essentials are required to be fulfilled for its preparation and submission.

1. The total project will be in a file format, consisting of the recordings of the value of shares and the graphs.
2. The project will be handwritten.
3. The project will be presented in a neat folder.
4. The project report will be developed in the following sequence-

Cover page should project the title, student information, school and year.

List of contents.

Acknowledgements and preface (acknowledging the institution, the news papers read, T.V. channels viewed, places visited and persons who have helped).

Introduction.

Topic with suitable heading.

Planning and activities done during the project, if any.

Observations and findings while conducting the project.

News paper clippings to reflect the changes of share prices.

Conclusions (summarised suggestions or findings, future scope of study).

Appendix (if needed).

Teachers report.

Teachers will initial preface page.

At the completion of the evaluation of the project, it will be punched in the centre so that the report cannot be reused but is available for reference only.

The projects will be returned after evaluation. The school may keep the best projects.

## **V. Project Five: A visit to any State Emporium (other than your school state).**

The purpose of this project is that it leads to -

Development of deeper understanding of the diversity of products in the states like Assam, Tripura, Nagaland, Mizoram, Manipur, Meghalaya, Sikkim, Arunachal Pradesh, Jammu and Kashmir, Kerala, Chhatisgarh, Telangana, Andhra Pradesh and other states of the country.

Sensitization and orientation of students about other states, their trade, business and commerce,

Understanding the cultural and socio-economic aspects of the state by the students,

Developing the understanding of role of folk art, artisanship and craftsmanship of the state in its growth and economic development

Understanding the role of gifts of nature and natural produce in the development of trade, business and commerce

Understanding the role of vocational skills and abilities on the livelihood of artisans/

craftsman Understanding of entrepreneurial skills and abilities of the artisans/craftsman

Understanding of the unemployment problem of the state and role of art and craft of the state in generating employment opportunities

Value aspect -

Sense of gratitude - by appreciating the contributions made by others in the betterment of our lives

Appreciating the dignity of work

Sensitivity towards social, cultural, ethnical and religious differences Benefits of social harmony and peace

Understanding and appreciating the unity in diversity in India

Appreciating differences in race, skin colour, languages, religion, habits, festivals, clothing coexistence

## **Presentation and Submission of Project Report**

At the end of the stipulated term, each student will prepare and submit his/her project report.

Following essentials are required to be fulfilled for its preparation and submission.

1. Nature of the business organisation (emporium)
2. Determinants for location of the concerned emporium
3. Is the space rented or owned
4. Nature of the goods dealt in
5. Sources of merchandise of the emporium
6. Role of co-operative societies in the manufacturing and/or marketing of the merchandise
7. Role of gifts of nature or natural produce in the development of goods/merchandise
8. Types of buyers and sellers
9. Modes of goods dispersed, minimum quantity sold and type of carrying bag or package used for delivery of the products sold
10. Factors determining the pricing at the emporium
11. Comparison between the prices of goods available at the emporium with the prices in the open market. Also highlight probable causes of variations if any.
12. Kind of raw material available naturally, used in making the products
13. The technique used in making the products i.e., hand made or machine made
14. Has the child labour being used in making the products sold at the emporium
15. Are the products eco-friendly, in terms of manufacturing, disposal and packing
16. Seasonal factors if any affecting the business of the emporium
17. Weekly/ Monthly non-working days
18. Mode of billing and payments - Cash, Credit Card/ Debit Card, Swipe facility.
19. Does the emporium sell its merchandise in installment / deferred payment basis
20. Do they provide home delivery and after sales services.
21. Different types of promotional campaigns / schemes
22. Assistance by Sales Personnel

23. Export orientation of this emporium and procedure used

24. Policies related to damaged/ returned goods
25. Any government facility available to the emporium
26. Warehousing facilities available / availed
27. Impact of tourism on the business of emporium
28. Additional facility offered to customers
29. Any Corporate Social Responsibility (CSR) assumed by the emporium
30. Contribution made by the emporium to its locality

## **ECONOMICS**

### **Part A: Introductory Macroeconomics**

#### **Unit 1: National Income and Related Aggregates**

What is Macroeconomics?

Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

Aggregates related to National Income:

Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP.

GDP and Welfare

#### ***Unit 2: Money and Banking***

Money - meaning and supply of money - Currency held by the public and net demand deposits held by commercial banks.

Money creation by the commercial banking system.

Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit

### ***Unit 3: Determination of Income and Employment***

Aggregate demand and its components.

Propensity to consume and propensity to save (average and marginal).

Short-run equilibrium output; investment multiplier and its mechanism.

Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

### ***Unit 4: Government Budget and the Economy***

Government budget - meaning, objectives and components.

Classification of receipts - revenue receipts and capital receipts; classification of expenditure – revenue expenditure and capital expenditure.

Measures of government deficit - revenue deficit, fiscal deficit, primary deficit their meaning.

### ***Unit 5: Balance of Payments***

Balance of payments account - meaning and components;

Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

## **Part B: Indian Economic Development**

### ***Unit 6: Development Experience (1947-90) and Economic Reforms since 1991:***

A brief introduction of the state of Indian economy on the eve of independence.

Indian economic system and common goals of Five Year Plans.

Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.

***Economic Reforms since 1991:***

Features and appraisals of liberalisation, globalisation and privatisation (LPG policy);  
Concepts of demonetization and GST

**Unit 7: Current challenges facing Indian Economy**

**Poverty**- absolute and relative; Main programmes for poverty alleviation: A critical assessment;

**Human Capital Formation:** How people become resource; Role of human capital in economic development;

**Rural development:** Key issues - credit and marketing - role of cooperatives; agricultural diversification;

**Employment:** Growth and changes in work force participation rate in formal and informal sectors; problems and policies

**Infrastructure:** Meaning and Types: Case Studies: Health: Problems and Policies- A critical assessment;

**Sustainable Economic Development:** Meaning, Effects of Economic Development on Resources and Environment, including global warming

***Unit 8: Development Experience of India:***

A comparison with neighbours

India and Pakistan

India and China

Issues: economic growth, population, sectoral development and other Human Development

Indicators

**Part C: Project in Economics**

## MATHEMATICS

### Unit-I: Relations and Functions

#### 1. Relations and Functions

Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.

#### 2. Inverse Trigonometric Functions

Definition, range, domain, principal value branch.

### Unit-II: Algebra

#### 1. Matrices

Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices, Invertible matrices; (Here all matrices will have real entries).

#### 2. Determinants

Determinant of a square matrix (up to  $3 \times 3$  matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

### Unit-III: Calculus

#### 1. Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivative of inverse trigonometric functions, derivative of implicit functions. Concept of exponential and logarithmic functions.

Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.

#### 2. Applications of Derivatives

Applications of derivatives: increasing/decreasing functions, tangents and normals, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

### 3. Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + b}}$$

$$\int \frac{px}{bx + c} dx, \int \frac{px + q}{\sqrt{ax^2 + bx + c}} dx, \int \frac{dx}{\sqrt{a^2 \pm x^2}}, \int \frac{dx}{\sqrt{x^2 - a^2}}$$



Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

#### **4. Applications of the Integrals**

Applications in finding the area under simple curves, especially lines, parabolas; area of circles /ellipses (in standard form only) (the region should be clearly identifiable).

#### **5. Differential Equations**

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree of the type:  $\frac{dy}{dx} = f(y/x)$ . Solutions of linear differential equation

of the type:

$$\frac{dy}{dx} + py = q, \text{ where } p \text{ and } q \text{ are functions of } x \text{ or constant.}$$

### **Unit-IV: Vectors and Three-Dimensional Geometry**

#### **1. Vectors**

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

#### **2. Three - dimensional Geometry**

Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Distance of a point from a plane.

## **Unit-V: Linear Programming**

### **1. Linear Programming**

Introduction, related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems. graphical method of solution for problems in two variables, feasible and infeasible regions (bounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

## **Unit-VI: Probability**

### **1. Probability**

Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution.

## **INFORMATICS PRACTICES**

### **1. Unit Wise syllabus**

#### **Unit 1: Data Handling using Pandas -I**

Introduction to Python libraries- Pandas, Matplotlib. Data structures in Pandas - Series and Data Frames.

Series: Creation of Series from – ndarray, dictionary, scalar value; mathematical operations; Head and Tail functions; Selection, Indexing and Slicing.

Data Frames: creation - from dictionary of Series, list of dictionaries, Text/CSV files; display; iteration; Operations on rows and columns: add, select, delete, rename; Head and Tail functions; Indexing using Labels, Boolean Indexing;

Importing/Exporting Data between CSV files and Data Frames.

## **Data Visualization**

Purpose of plotting; drawing and saving following types of plots using Matplotlib – line plot, bar graph, histogram

Customizing plots: adding label, title, and legend in plots.

## **Unit 2: Database Query using SQL**

Math functions: POWER (), ROUND (), MOD ().

Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM ().

Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME ().

Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using

COUNT (\*). Querying and manipulating data using Group by, Having, Order by.

## **Unit 3: Introduction to Computer Networks**

Introduction to networks, Types of network: LAN, MAN,

WAN. Network Devices: modem, hub, switch, repeater,

router, gateway Network Topologies: Star, Bus, Tree, Mesh.

Introduction to Internet, URL, WWW, and its applications- Web, email, Chat, VoIP.

Website: Introduction, difference between a website and webpage, static vs dynamic web page, web server and hosting of a website.

Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug-ins,

cookies.

#### **Unit 4: Societal Impacts**

Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act.

E-waste: hazards and management.

Awareness about health concerns related to the usage of technology.

#### **Project Work**

The aim of the class project is to create tangible and useful IT application. The learner may identify a real-world problem by exploring the environment. e.g. Students can visit shops/business places, communities or other organizations in their localities and enquire about functioning of the organization, and how data are generated, stored, and managed.

The learner can take data stored in csv or database file and analyze using Python libraries and generate appropriate charts to visualize.

If an organization is maintaining data offline, then the learner should create a database using MySQL and store the data in tables. Data can be imported in Pandas for analysis and visualization.

Learners can use Python libraries of their choice to develop software for their school or any other social good. Learners should be sensitized to avoid plagiarism and violation of copyright issues while working on projects.

Teachers should take necessary measures for this. Any resources (data, image etc.) used in the project must be suitably referenced.

The project can be done individually or in groups of 2 to 3 students. The project should be started by students at least 6 months before the submission deadline.

#### **Practical Marks Distribution**

| <b>S.No.</b> | <b>Unit Name</b>                     | <b>Marks</b> |
|--------------|--------------------------------------|--------------|
| 1            | Programs using Pandas and Matplotlib | 8            |

|   |  |    |
|---|--|----|
| 2 | SQL Queries  | 7  |
| 3 | Practical file (minimum of 15 programs based on Pandas, 4 based on Matplotlib and 15 SQL queries must be included) | 5  |
| 4 | Project Work (using concepts learned in class XI and XII)  | 5  |
| 5 | Viva-Voce  | 5  |
|   | TOTAL  | 30 |

## 2. Suggested Practical List

### Data Handling

1. Create a panda's series from a dictionary of values and a ndarray
2. Given a Series, print all the elements that are above the 75th percentile.
3. Create a Data Frame quarterly sales where each row contains the item category, item name, and expenditure. Group the rows by the category and print the total expenditure per category.
4. Create a data frame for examination result and display row labels, column labels data types of each column and the dimensions
5. Filter out rows based on different criteria such as duplicate rows.
6. Importing and exporting data between pandas and CSV file

### Visualization

1. Given the school result data, analyses the performance of the students on different parameters, e.g subject wise or class wise.
2. For the Data frames created above, analyze, and plot appropriate charts with title and legend.
3. Take data of your interest from an open source (e.g. data.gov.in), aggregate and summarize it. Then plot it using different plotting functions of the Matplotlib library.

### Data Management

1. Create a student table with the student id, name, and marks as attributes where the student id is the primary key.
2. Insert the details of a new student in the above table.
3. Delete the details of a student in the above table.
4. Use the select command to get the details of the students with marks more than 80.
5. Find the min, max, sum, and average of the marks in a student marks table.
6. Find the total number of customers from each country in the table (customer ID, customer Name, country) using group by.
7. Write a SQL query to order the (student ID, marks) table in descending order of the marks.

## FINE ARTS

|                |  |
|----------------|--|
| <b>Unit 1</b>  | <b>Nature and Object study</b><br>Studies on the basis of exercises done in class XI with two or three objects and two draperies (in different colours) for background and foreground. Exercises in pencil with light and shade and in full colour from a fixed point of view. |
| <b>Unit 2:</b> | <b>Painting Composition</b><br>Imaginative painting based on subjects from Life and Nature in water and poster colours with colour values.   |
| <b>Unit 3:</b> | <b>Portfolio Assessment</b>  |
| <b>a)</b>      | Record of the entire year's performance from sketch to finished product.   |
| <b>b)</b>      | Four selected nature and object study exercises in any media done during the session   |
| <b>c)</b>      | Two selected works of paintings composition done by the candidate during the year  |
| <b>d)</b>      | One selected works based on any Indian Folk Art (Painting)   |

**1. (A) Instructions for the selection of the objects for Nature and Object Study:**

1. The examiners (Internal and External) are to select/decide two or three suitable objects in such a way so that natural and geometrical forms may be covered in the group of objects:

- (i) Natural-forms-large size foliage and flowers, fruits, and vegetables, etc.
  - (ii) Geometrical forms made of wood/plastic/paper/metal/earthen, etc., such as cube, cone, prism, cylinder and sphere.
2. Objects should be selected generally of large (suitable) size. 3. An object relating to nature, according to the season and location of the examination centre, must be included in the group of objects. The natural-objects should be purchased/arranged only on the day of the examination so that its freshness may be maintained. 4. Two draperies in different colours (one in dark and other in light tone) are also to be included for background and foreground, keeping in view the colours and tones of the objects.

**(A) Instructions to decide the subjects for Painting-Composition:**

1. The examiners (Internal and External) are to select/decide five subjects suitable for painting – composition
2. The subjects should be so designed that the candidates may get clear-cut ideas of the subjects and they can exercise their imagination freely, because it is not important what you do, but how you do it.
3. The examiners (Internal and External) jointly are free to select/decide the subjects, but these should be according to the standard of Class XII and environment of the school/candidates.

Some identified areas of the subjects for painting-composition are given below, in which some more areas may also be added:

- (i) Affairs of family friends and daily life.
- (ii) Affairs of family professionals.
- (iii) Games and sports activities.
- (iv) Nature
- (v) Fantasy

National, religious, cultural, historical and social events and celebrations.

**PHYSICAL EDUCATION**

**Unit I Planning in Sports**

- ☐ Meaning & Objectives Of Planning
- ☐ Various Committees & its Responsibilities (pre; during & post)
- ☐ Tournament – Knock-Out, League Or Round Robin & Combination
- ☐ Procedure To Draw Fixtures – Knock-Out (Bye & Seeding) & League (Staircase & Cyclic)

**Unit II Sports & Nutrition**

- ☐ Balanced Diet & Nutrition: Macro & Micro Nutrients
- ☐ Nutritive & Non-Nutritive Components Of Diet
- ☐ Eating For Weight Control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance & Food Myths

**Unit III Yoga & Lifestyle**

- ☐ Asanas as preventive measures
- ☐ Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, Ardh Matsyendrasana
- ☐ Diabetes: Procedure, Benefits & contraindications for Bhujangasana, Paschimottasana, Pavan Muktasana, Ardh Matsyendrasana
- ☐ Asthema: Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana
- ☐ Hypertension: Tadasana, Vajrasana, Pavan Muktasana, Ardha Chakrasana,

**Unit IV Physical Education & Sports for CWSN (Children With Special Needs - Divyang)**

- Concept of Disability & Disorder
- Types of Disability, its causes & nature (cognitive disability, intellectual disability, physical disability)
- Types of Disorder, its cause & nature (ADHD, SPD, ASD, ODD, OCD)
- Disability Etiquettes
- Strategies to make Physical Activities assessable for children with special need.

**Unit V Children & Women in Sports**

- Motor development & factors affecting it
- Exercise Guidelines at different stages of growth & Development
- Common Postural Deformities - Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scoliosis and their corrective measures
- Sports participation of women in India

**Unit VI Test & Measurement in Sports**

- o Motor Fitness Test – 50 M Standing Start, 600 M Run/Walk, Sit & Reach, Partial Curl Up, Push Ups (Boys), Modified Push Ups (Girls), Standing Broad Jump, Agility – 4x10 M Shuttle Run
- o Measurement of Cardio Vascular Fitness – Harvard Step Test/Rockport Test - Computation of Fitness Index:  $\frac{\text{Duration of the Exercise in Seconds} \times 100}{5.5 \times \text{Pulse count of 1-1.5 Min after Exercise}}$
- o Rikli & Jones - Senior Citizen Fitness Test
  1. Chair Stand Test for lower body strength
  2. Arm Curl Test for upper body strength
  3. Chair Sit & Reach Test for lower body flexibility
  4. Back Scratch Test for upper body flexibility
  5. Eight Foot Up & Go Test for agility
  6. Six Minute Walk Test for Aerobic Endurance



### **Unit VII Physiology & Injuries in Sports**

- Physiological factor determining component of Physical Fitness
- Effect of exercise on Cardio Respiratory System
- Effect of exercise on Muscular System
- Sports injuries: Classification (Soft Tissue Injuries:(Abrasion, Contusion, Laceration, Incision, Sprain & Strain) Bone & Joint Injuries: (Dislocation, Fractures: Stress Fracture, Green Stick, Communated, Transverse Oblique & Impacted) Causes, Prevention& treatment
- First Aid – Aims & Objectives

### **Unit VIII Biomechanics & Sports**

- Meaning and Importance of Biomechanics in Sports
- Types of movements (Flexion, Extension, Abduction & Adduction)
- Newton’s Law of Motion & its application in sports

### **Unit IX Psychology & Sports**

- Personality; its definition & types – Trait & Types (Sheldon & Jung Classification) & Big Five Theory
- Motivation, its type & techniques
- Meaning, Concept & Types of Aggressions in Sports

### **Unit X Training in Sports**

- Strength – Definition, types & methods of improving Strength – Isometric, Isotonic & Isokinetic
- Endurance - Definition, types & methods to develop Endurance – Continuous Training, Interval Training & Fartlek Training
- Speed – Definition, types & methods to develop Speed – Acceleration Run & Pace Run
- Flexibility – Definition, types & methods to improve flexibility
- Coordinative Abilities – Definition & types

### **Practical**

**Max. Marks 30**

- |   |           |
|---|-----------|
| 01. Physical Fitness Test   | - 6 Marks |
| 02. Proficiency in Games and Sports (Skill of any one Game of choice from the given list*)- 7 Marks |           |
| 03. Yogic Practices   | - 7 Marks |
| 04. Record File **  | - 5 Marks |
| 05. Viva Voce (Health/ Games & Sports/ Yoga)  | - 5 Marks |

\* Basketball, Football, Kabaddi, Kho-Kho, Volleyball, Handball, Hockey, Cricket, Bocce & Unified Basketball [CWSN (Children With Special Needs - Divyang)]

**\*\*Record File shall include:**

*Practical-1: Fitness tests administration for all items.*

*Practical-2: Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.*

*Practical-3: Any one game of your choice out of the list above. Labelled diagram of field &*

*equipment (Rules, Terminologies & Skill)*