

CBSE | DEPARTMENT OF SKILL EDUCATION CURRICULUM FOR SESSION 2026-2027

MARKETING (SUBJECT CODE-812) JOB ROLE: MARKETING EXECUTIVE

CLASS–XI

COURSE OVERVIEW:

This is the basic course in Marketing where students will get the exposure of Marketing. The subject gives them a vast and wide insight of the traditional and contemporary aspects in Marketing. The input of basic fundamentals, coupled with the practical knowledge will be given to the students to help them in understanding of contemporary marketing tactics and strategies.

OBJECTIVES OF THE COURSE:

Followings are the main objectives of this course.

- To understand the classical marketing perspectives and contrasts these with newer views from relational and service-based schools of marketing
- To understand the dynamics of various environmental factors on marketing so that students can think about a feasible marketing plan (process)
- To understand the utility of STP of marketing (i.e. segmentation, targeting, positioning)
- To have an elementary knowledge of marketing mix, consumer behavior, and other preliminary concepts and roles of marketing in society
- Familiarize the students regarding various dimensions of retail management and career opportunities available in these fields.

SALIENT FEATURES:

- To views from relational and service-based schools of marketing
- To understand the dynamics of various environmental factors on marketing so that students can think about a feasible marketing plan (process)
- To understand the utility of STP of marketing (i.e. segmentation, targeting, positioning)
- To have an elementary knowledge of marketing mix, consumer behavior, and other preliminary concepts and roles of marketing in society.
- This course will empower the students to gain insights into what marketing practitioners actually do and the decisions they have to make in day to day marketing. This course is an effort to teach marketing in more creative and visual way with the coverage of advances in new technology and the social web and how to take advantage of these in marketing context. This course will also recognize the need to go further than the traditional 4P's approach and reflect on newer perspective, covering both the classical and modern theories of marketing.

LIST OF EQUIPMENT AND MATERIALS:

The list given below is suggestive and an exhaustive list should be prepared by the skill teacher. Only basic tools, equipment and accessories should be procured by the Institution so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience.

Material Required for:

1. Chart paper and Sketch pens

Teaching/Training Aids:

1. Computer
2. LCD Projector

CAREER OPPORTUNITIES:

This basic course of marketing will teach the students to learn how to analyse consumer demand and promote products to consumers. This course will allow students to work in many different areas of sales and marketing. While all teach marketing concept, this course is tailored for particular objective in order to most effectively prepare the students for their marketing career, which can range from marketing executive to other upper ladder in marketing domain

VERTICAL MOBILITY:

This course will assist the participating students to further update their career by vertically moving either to B.Com BBA, BBA (marketing) and Diploma in sales and marketing and other marketing oriented applied undergraduate courses of different university or they may also move to their corporate career by starting at M-1 level of corporate ladder in role of marketing executives to different sector. After completing these marketing courses after 12th. students can land into a wide range of job opportunities in high and reputed profile such as marketing manager, brand manager, marketing research analyst etc.

CURRICULUM:

This course is a planned sequence of instructions consisting of Units meant for developing employability and Skills competencies of students of Class XI opting for Skills subject along with other subjects.

MARKETING (SUBJECT CODE-812)
CURRICULUM FOR CLASS-XI (SESSION 2025-26)
Total Marks: 100 (Theory-60 + Practical-40)

	UNITS	NO. OF HOURS for Theory and Practical	MAX. MARKS for Theory and Practical
Part A	Employability Skills		
	Unit 1 : Communication Skills-III	13	2
	Unit 2 : Self-Management Skills-III	07	2
	Unit 3 : ICT Skills-III	13	2
	Unit 4 : Entrepreneurial Skills-III	10	2
	Unit 5 : Green Skills-III	07	2
	Total	50	10
Part B	Subject Specific Skills		
	Unit 1: Introduction to Marketing	25	10
	Unit 2: Marketing Environment	25	10
	Unit 3: Marketing Segmentation, Targeting & Positioning	40	10
	Unit 4: Fundamentals of Marketing Mix	25	10
	Unit 5: Consumer Behaviour	35	10
	Total	150	50
Part C	Practical Work		
	Project		10
	Viva		10
	Practical File		10
	Demonstration of skill competency via Lab Activities	60	10
	Total		40
	GRAND TOTAL	260	100

NOTE: The detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

PART B SUBJECT SPECIFIC SKILL-CLASS 11

UNIT	SESSION/ TOPIC	ACTIVITY/ PRACTICAL
1. Introduction to marketing	Concept of marketing, Meaning /definition, Marketing philosophies Selling Vs Marketing, Objectives, scope and importance	Visit in group to different marketing organisations in nearby localities and making a report to find marketing activities performed by the wholesaler, producers retailers and distributors etc.
2. Marketing Environment	Meaning, importance of marketing environment. Internal and external environment determinants .Meaning of ETOP and environmental scanning. Micro and macro environment and its impact on business	Developing case studies of Growth of companies like Patanjali, Adani etc. Role of macro environmental factor in their growth. Listing of micro and macro environmental factor Affecting business. Role of political and regulatory environment
3. Segmentation targeting and positioning	Meaning of segmentation , Basis of segmentation and its importance. Understanding targeting, types of targeting. Positioning : meaning and basis of positioning	Case study of NANO car by TATA and case study of Positioning of Wagon R by MARUTI in SUV market

4. Fundamentals of Marketing Mix	Introduction of marketing mix characteristics of marketing mix. Identify different marketing mix of Product / service Marketing mix for consumer goods and services. 4 P'S to 4 C's	Develop marketing mix for different products. Visit different organisation and find the stages involved in developing marketing mix. Prepare list of 5 products in each categories on the basis of usage, durability and tangibility. Preparing
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		marketing mix of prominent consumer goods and service providers
5 Consumer behaviour	Meaning of consumer behaviour. Importance of consumer behaviour. Factors influencing consumer behaviour. Stages of consumer behaviour	Undertaking role play of different buyeys in buying process by students. Collecting information about various factors influencing consumer behaviour in a shopping mall

PRACTICAL GUIDELINES FOR CLASS - XI

Assessment of performance:

The two internal examiners, assigned for the conduct and assessment of Practical Examinations each in **Senior Secondary School Curriculum (Under NSQF)**. Question for the viva examinations should be conducted by both the examiners. Question to be more of General nature, project work or the curriculum. Investigatory Project especially those that show considerable amount of effort and originality, on the part of the student, should get suitable high marks, while project of a routine or stereotyped nature should only receive MEDIOCRE marks.

Procedure for Record of Marks in the Practical answer-books:

The examiner will indicate separately marks of practical examination on the title page of the answer-books under the following heads:-

Project -10 marks

Projects for the final practical is given below .Student may be assigned

Viva based on Project – 10 marks

The teacher conducting the final practical examination may ask verbal questions related to the project, if any, done by the student. Alternatively, if no project has been assigned to the students, viva may be based on questions of practical nature from the field of subject as per the Curriculum

Practical File -10 Marks

Students to make a power point presentation / assignment / practical file / report. Instructor shall assign them any outlet to study the elements in retailing.

Suggested list of Practical –

1. Prepare a practical file by collecting print advertisements and analysing the message conveyed in marketing of goods, services people, ideas, experience, events, places, properties, organisations and information. Suggest an alternative mode of communication to the firm and create an advertisement for the same.
2. Visit in a group to different marketing organisations in your locality (distributors, wholesalers, retailers). Make a detailed project report to find the marketing activities of each of them respectively. Also identify different activities followed in selling and marketing.
3. Prepare a project report on macro environmental scanning of a firm or an industry of your choice.
4. Identify a firm of your choice and prepare a detailed file on its micro environment.

5. Prepare a project report by visiting your nearby market and find how many SHREE ANNA/Millets) brands are available? Which brand is targeting which segment of the market and why? Also discuss targeting and positioning strategy of the brand. Suggest alternative strategies and justify.
6. Prepare a detailed report of the marketing mix of a prominent consumer good and a service provider, for its multiple brands. Or marketing mix of solar panels/chargers to sustain environment. Suggest alternative sources of energy and new products which protect and promote sustainability of environment.
7. Interview your friends, parents, relatives for a recent purchase made by them of environmental friendly products. Prepare a detailed project report on the same
8. In today's context, take example of at least 10 industries working in different sectors for their ETOP profit.
 - How the price crude oil and politics play a role in the establishment and survival of own industry.

Selling Vs. Marketing:

- Why is selling a part of marketing?
- Suggest with suitable example of different companies with their brands.
- How is the marketing concept applied in those different companies.
- Compare the concept of selling with marketing.

Concept/ Philosophies of Marketing

- Collection of name of different companies with their product.
- Classify their products and identify the marketing concept/ Philosophy used by the company to be in the market.

Demonstration of skill competency in Lab Activities -10 marks

Guidelines for Project Preparation:

The final project work should encompass chapters on:

- a) Introduction,
- b) Identification of core and advance issues,
- c) Learning and understanding and
- d) Observation during the project period.

ACCOUNTANCY (Subject Code 055)

Class XI-XII (2026-27)

Rationale

The course in accountancy is introduced at plus two stage of senior second of school education, as the formal commerce education is provided after ten years of schooling. With the fast changing economic scenario, accounting as a source of financial information has carved out a place for itself at the senior secondary stage. Its syllabus content provide students a firm foundation in basic accounting concepts and methodology and also acquaint them with the changes taking place in the preparation and presentation of financial statements in accordance to the applicable accounting standards and the Companies Act 2013.

The course in accounting put emphasis on developing basic understanding about accounting as an information system. The emphasis in Class XI is placed on basic concepts and process of accounting leading to the preparation of accounts for a sole proprietorship firm. The students are also familiarized with basic calculations of Goods and Services Tax (GST) in recording the business transactions. The accounting treatment of GST is confined to the syllabus of class XI.

The increased role of ICT in all walks of life cannot be overemphasized and is becoming an integral part of business operations. The learners of accounting are introduced to Computerized Accounting System at class XI and XII. Computerized Accounting System is a compulsory component which is to be studied by all students of commerce in class XI; whereas in class XII it is offered as an optional subject to Company Accounts and Analysis of Financial Statements. This course is developed to impart skills for designing need based accounting database for maintaining book of accounts.

The complete course of Accountancy at the senior secondary stage introduces the learners to the world of business and emphasize on strengthening the fundamentals of the subject.

Objectives:

1. To familiarize students with new and emerging areas in the preparation and presentation of financial statements.
2. To acquaint students with basic accounting concepts and accounting standards.
3. To develop the skills of designing need based accounting database.
4. To appreciate the role of ICT in business operations.
5. To develop an understanding about recording of business transactions and preparation of financial statements.
6. To enable students with accounting for Not-for-Profit organizations, accounting for Partnership Firms and company accounts.

Accountancy (Subject Code 055)

Class-XI (2026-27)

Theory: 80 Marks

3 Hours

Project: 20 Marks

Units	Marks
Part A: Financial Accounting-1	
Unit-1: Theoretical Framework	12
Unit-2: Accounting Process	44
Part B: Financial Accounting-II	
Unit-3: Financial Statements of Sole Proprietorship	24
Part C: Project Work	20

PART A: FINANCIAL ACCOUNTING - I

Unit-1: Theoretical Frame Work

Units/Topics	Learning Outcomes
Introduction to Accounting - Accounting- concept, meaning, as a source of information, objectives, advantages and limitations, types of accounting information; users of accounting information and their needs. Qualitative Characteristics of Accounting Information. Role of Accounting in Business. - Basic Accounting Terms- Entity, Business Transaction, Capital, Drawings. Liabilities (Non Current and Current). Assets (Non Current, Current); Expenditure (Capital and Revenue), Expense, Revenue, Income, Profit, Gain, Loss, Purchase, Sales, Goods, Stock, Debtor, Creditor, Voucher, Discount (Trade discount and Cash Discount) Theory Base of Accounting - Fundamental accounting assumptions: GAAP: Concept - Basic Accounting Concept : Business Entity, Money Measurement, Going Concern,	After going through this Unit, the students will be able to: - describe the meaning, significance, objectives, advantages and limitations of accounting in the modern economic environment with varied types of business and non-business economic entities. - identify / recognise the individual(s) and entities that use accounting information for serving their needs of decision making. - explain the various terms used in accounting and differentiate between different related terms like current and non-current, capital and revenue. - give examples of terms like business transaction, liabilities, assets, expenditure and purchases. - explain that sales/purchases include both cash and credit sales/purchases relating to the accounting year. - differentiate among income, profits and gains.

Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition, Matching, Full Disclosure, Consistency, Conservatism, • Materiality and Objectivity • System of Accounting. Basis of Accounting: cash basis and accrual basis • Accounting Standards: Applicability of Accounting Standards (AS) and Indian Accounting Standards (IndAS) • Goods and Services Tax (GST): Characteristics and Advantages.	• state the meaning of fundamental accounting assumptions and their relevance in accounting. • describe the meaning of accounting assumptions and the situation in which an assumption is applied during the accounting process. • explain the meaning, applicability, objectives, advantages and limitations of accounting standards. • appreciate that various accounting standards developed nationally and globally are in practice for bringing parity in the accounting treatment of different items. • acknowledge the fact that recording of accounting transactions follows double entry system. • explain the bases of recording accounting transaction and to appreciate that accrual basis is a better basis for depicting the correct financial position of an enterprise. • Explain the meaning, advantages and characteristic of GST.
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Unit-2: Accounting Process

Units/Topics	Learning Outcomes
Recording of Business Transactions • Voucher and Transactions: Source documents and Vouchers, Preparation of Vouchers, Accounting Equation Approach: Meaning and Analysis, Rules of Debit and Credit. • Recording of Transactions: Books of Original Entry- Journal • Special Purpose books: • Cash Book: Simple, cash book with bank column and petty cashbook • Purchases book	After going through this Unit, the students will be able to: • explain the concept of accounting equation and appreciate that every transaction affects either both the sides of the equation or a positive effect on one item and a negative effect on another item on the same side of accounting equation. • explain the effect of a transaction (increase or decrease) on the assets, liabilities, capital, revenue and expenses. • appreciate that on the basis of source

• Sales book • Purchases return book • Sales return book • Journal proper Note: Including trade discount, freight and cartage expenses for simple GST calculation. • Ledger: Format, Posting from journal and subsidiary books, Balancing of accounts Bank Reconciliation Statement: • Need and preparation, Bank Reconciliation Statement Depreciation, Provisions and Reserves • Depreciation: Meaning, Features, Need, Causes, factors • Other similar terms: Depletion and Amortisation • Methods of Depreciation: i. Straight Line Method (SLM) ii. Written Down Value Method (WDV) Note: Excluding change of method • Difference between SLM and WDV; Advantages of SLM and WDV • Method of recoding depreciation i. Charging to asset account ii. Creating provision for depreciation/accumulated depreciation account • Treatment of disposal of asset • Provisions, Reserves, Difference Between Provisions and Reserves. • Types of Reserves: i. Revenue reserve ii. Capital reserve iii. General reserve iv. Specific reserve v. Secret Reserve • Difference between capital and revenue reserve Trial balance and Rectification of Errors	documents, accounting vouchers are prepared for recording transaction in the books of accounts. • develop the understanding of recording of transactions in journal and the skill of calculating GST. • explain the purpose of maintaining a Cash Book and develop the skill of preparing the format of different types of cash books and the method of recording cash transactions in Cash book. • describe the method of recording transactions other than cash transactions as per their nature in different subsidiary books . • appreciate that at times bank balance as indicated by cash book is different from the bank balance as shown by the pass book / bank statement and to reconcile both the balances, bank reconciliation statement is prepared. • develop understanding of preparing bank reconciliation statement. • appreciate that for ascertaining the position of individual accounts, transactions are posted from subsidiary books and journal proper into the concerned accounts in the ledger and develop the skill of ledger posting. • explain the necessity of providing depreciation and develop the skill of using different methods for computing depreciation. • understand the accounting treatment of providing depreciation directly to the concerned asset account or by creating provision for depreciation account. • appreciate the method of asset disposal through the concerned asset account or by preparing asset disposal account. • appreciate the need for creating reserves and also making provisions for events which may
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• Trial balance: objectives, meaning and preparation (Scope: Trial balance with balance method only) • Errors: classification-errors of omission, commission, principles, and compensating; their effect on Trial Balance. • Detection and rectification of errors; (i) Errors which do not affect trial balance (ii) Errors which affect trial balance • preparation of suspense account.	belong to the current year but may happen in next year. • appreciate the difference between reserve and reserve fund. • state the need and objectives of preparing trial balance and develop the skill of preparing trial balance. • appreciate that errors may be committed during the process of accounting. • understand the meaning of different types of errors and their effect on trial balance. • develop the skill of identification and location of errors and their rectification and preparation of suspense account.
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Part B: Financial Accounting - II

Unit 3: Financial Statements of Sole Proprietorship

Units/Topics	Learning Outcomes
Financial Statements Meaning, objectives and importance; Revenue and Capital Receipts; Revenue and Capital Expenditure; Deferred Revenue expenditure. Opening journal entry. Trading and Profit and Loss Account: Gross Profit, Operating profit and Net profit. Preparation. Balance Sheet: need, grouping and marshalling of assets and liabilities. Preparation. Adjustments in preparation of financial statements with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation, bad debts, provision for doubtful debts, provision for discount on debtors, Abnormal loss, Goods taken for personal use/staff welfare, interest on capital and managers commission. Preparation of Trading and Profit and Loss account and Balance Sheet of a sole proprietorship with adjustments. Incomplete Records	After going through this Unit, the students will be able to: • state the meaning of financial statements the purpose of preparing financial statements. • state the meaning of gross profit, operating profit and net profit and develop the skill of preparing trading and profit and loss account. • explain the need for preparing balance sheet. • understand the technique of grouping and marshalling of assets and liabilities. • appreciate that there may be certain items other than those shown in trial balance which may need adjustments while preparing financial statements. • develop the understanding and skill to do adjustments for items and their presentation in financial statements like depreciation, closing stock, provisions, abnormal loss etc. • develop the skill of preparation of trading and profit and loss account and balance sheet.

Features, reasons and limitations. Ascertainment of Profit/Loss by Statement of Affairs method. (excluding conversion method)	
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Part C: Project Work (Any One)

1. Collection of source documents, preparation of vouchers, recording of transactions with the help of vouchers.
2. Preparation of Bank Reconciliation Statement with the given cash book and the pass book with twenty to twenty-five transactions.
3. Comprehensive project of any sole proprietorship business. This may state with journal entries and their ledgering, preparation of Trial balance. Trading and Profit and Loss Account and Balance Sheet. Expenses, incomes and profit (loss), assets and liabilities are to be depicted using pie chart / bar diagram. This may include simple GST related transactions.

PROJECT WORK

It is suggested to undertake this project after completing the unit on preparation of financial statements. The student(s) will be allowed to select any business of their choice or develop the transaction of imaginary business. The project is to run through the chapters and make the project an interesting process. The amounts should emerge as more realistic and closer to reality.

Specific Guidelines for Teachers

Give a list of options to the students to select a business form. You can add to the given list:

- | | | |
|-------------------------|-------------------------------|--------------------------|
| 1. A beauty parlour | 10. Men's wear | 19. A coffee shop |
| 2. Men's saloon | 11. Ladies wear | 20. A music shop |
| 3. A tailoring shop | 12. Kiddies wear | 21. A juice shop |
| 4. A canteen | 13. A Saree shop | 22. A school canteen |
| 5. A cake shop | 14. Artificial jewellery shop | 23. An ice cream parlour |
| 6. A confectionery shop | 15. A small restaurant | 24. A sandwich shop |
| 7. A chocolate shop | 16. A sweet shop | 25. A flower shop |
| 8. A dry cleaner | 17. A grocery shop | |
| 9. A stationery shop | 18. A shoe shop | |

After selection, advise the student(s) to visit a shop in the locality (this will help them to settle on a realistic amounts different items. The student(s) would be able to see the things as they need to invest in furniture, decor, lights, machines, computers etc.

A suggested list of different item is given below.

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|--|---|
| 1. Rent | 19. Wages and Salary |
| 2. Advance rent [approximately three months] | 20. Newspaper and magazines |
| 3. Electricity deposit | 21. Petty expenses |
| 4. Electricity bill | 22. Tea expenses |
| 5. Electricity fitting | 23. Packaging expenses |
| 6. Water bill | 24. Transport |
| 7. Water connection security deposit | 25. Delivery cycle or a vehicle purchased |
| 8. Water fittings | 26. Registration |
| 9. Telephone bill | 27. Insurance |
| 10. Telephone security deposit | 28. Auditors fee |
| 11. Telephone instrument | 29. Repairs & Maintenance |
| 12. Furniture | 30. Depreciations |
| 13. Computers | 31. Air conditioners |
| 14. Internet connection | 32. Fans and lights |
| 15. Stationery | 33. Interior decorations |
| 16. Advertisements | 34. Refrigerators |
| 17. Glow sign | 35. Purchase and sales |
| 18. Rates and Taxes | |

At this stage, performas of bulk of originality and ledger may be provided to the students and they may be asked to complete the same.

In the next step the students are expected to prepare the trial balance and the financial statements.

Suggested Question Paper Design
Accountancy (Subject Code 055)

Theory: 80 Marks
Project: 20 Marks

Class XI (2026-2027)

3 hrs.

S N	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	32	40%
3	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	24	30%
4	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	24	30%
	TOTAL	80	100%

Accountancy (Subject Code 055)

Class-XII (2026-27)

Theory: 80 Marks

3 Hours

Project: 20 Marks

Units			Marks
Part A	Accounting for Partnership Firms and Companies		
	Unit 1. Accounting for Partnership Firms		36
	Unit 2. Accounting for Companies		24
			60
Part B	Financial Statement Analysis		
	Unit 3. Analysis of Financial Statements		12
	Unit 4. Cash Flow Statement		8
			20
Part C	Project Work		20
	Project work will include:		
	Project File	12 Marks	
	Viva Voce	8 Marks	
Or			
Part B	Computerized Accounting		
	Unit 4. Computerized Accounting		20
Part C	Practical Work		20
	Practical work will include:		
	Practical File 12 Marks		
	Viva Voce 8 Marks		

Part A: Accounting for Partnership Firms and Companies

Unit 1: Accounting for Partnership Firms

Units/Topics	Learning Outcomes
- 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: meaning, 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: meaning, factors affecting, need for valuation, methods for calculation (average profits, super profits and capitalization), adjusted through partners capital/ current account. Accounting for Partnership firms - Reconstitution and Dissolution. Change in the Profit Sharing Ratio among the existing partners - sacrificing ratio, gaining ratio, accounting for revaluation of assets and reassessment of liabilities and treatment of reserves, accumulated profits and losses. Preparation of revaluation account and balance sheet. Admission of a partner - 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, accumulated profits and losses,	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 affecting goodwill - develop the understanding and skill of valuation of goodwill using different methods. - state the meaning of sacrificing ratio, gaining ratio and the change in profit sharing ratio among existing partners. - 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. - explain the effect of change in profit sharing ratio on admission of a new partner. - develop the understanding and skill of

adjustment of capital accounts and preparation of capital, current account and balance sheet. • Retirement and death of a partner: 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, losses and reserves, adjustment of capital accounts and preparation of capital, current account and balance sheet. Preparation of loan account of the retiring partner. • Calculation of deceased partner's share of profit till the date of death. Preparation of deceased partner's capital account and his executor's account. • Dissolution of a partnership firm: 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 piecemeal distribution, sale to a company and insolvency of partner(s)). Note: (i) If the realized value of tangible assets is not given it should be considered as realized at book value itself. (ii) If the realized value of intangible assets is not given it should be considered as nil (zero value). (ii) In case, the realization expenses are borne by a partner, clear indication should be given regarding the payment thereof.	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 capital, current account and balance sheet of the new firm. • explain the effect of retirement / death of a partner on change in profit sharing ratio. • develop the understanding of accounting treatment of goodwill, revaluation of assets and re-assessment of liabilities and adjustment of accumulated profits, losses and reserves on retirement / death of a partner and capital adjustment. • develop the skill of calculation of deceased partner's share till the time of his death and prepare deceased partner's and executor's account. • 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.
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Unit-3 Accounting for Companies

Units/Topics	Learning Outcomes
Accounting for Share Capital • Features and types of companies. • Share and share capital: nature and types.	After going through this Unit, the students will be able to: • state the meaning of share and share capital

- 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. - Concept of Private Placement and Employee Stock Option Plan (ESOP), Sweat Equity. - Accounting treatment of forfeiture and re-issue of shares. - Disclosure of share capital in the Balance Sheet of a company. Accounting for Debentures - Debentures: Meaning, types, 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 (concept of TDS is excluded). Writing off discount / loss on issue of debentures. Note: Discount or loss on issue of debentures to be written off in the year debentures are allotted from Security Premium Reserve (if it exists) and then from Statement of Profit and Loss as Financial Cost (AS 16)	and differentiate between equity shares and preference shares and different types of share capital. - understand the meaning of private placement of shares and Employee Stock Option Plan. - explain the accounting treatment of share capital transactions regarding issue of shares. - develop the understanding of accounting treatment of forfeiture and re-issue of forfeited shares. - describe the presentation of share capital in the balance sheet of the company as per schedule III part I of the Companies Act 2013. - explain the accounting treatment of different categories of transactions related to issue of debentures. - develop the understanding and skill of writing off discount / loss on issue of debentures. - understand the concept of collateral security and its presentation in balance sheet. - develop the skill of calculating interest on debentures and its accounting treatment. - state the meaning of redemption of debentures.
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Part B: Financial Statement Analysis

Unit 4: Analysis of Financial Statements

Units/Topics	Learning Outcomes
Financial statements of a Company: Meaning, Nature, Uses and importance of financial Statement. Statement of Profit and Loss and Balance Sheet in	After going through this Unit, the students will be able to: develop the understanding of major headings and sub-headings (as per Schedule III to the

prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013) Note: <i>Exceptional items, extraordinary items and profit (loss) from discontinued operations are excluded.</i> • Financial Statement Analysis: Meaning, Significance Objectives, importance and limitations. • Tools for Financial Statement Analysis: Comparative statements, common size statements, Ratio analysis, Cash flow analysis. • Accounting Ratios: Meaning, Objectives, Advantages, classification and computation. • Liquidity Ratios: Current ratio and Quick ratio. • Solvency Ratios: Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and Interest Coverage Ratio. Debt to Capital Employed Ratio. • Activity Ratios: Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio, Fixed Asset Turnover Ratio, Net Asset Turnover Ratio and Working Capital Turnover Ratio. • Profitability Ratios: Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.	Companies Act, 2013) of balance sheet as per the prescribed norms / formats. • state the meaning, objectives and limitations of financial statement analysis. • discuss the meaning of different tools of 'financial statements analysis'. • develop the skill of preparation of preparation of comparative and common size statement, understand their uses and difference between the two. • state the meaning, objectives and significance of different types of ratios. • develop the understanding of computation of current ratio and quick ratio. • develop the skill of computation of debt equity ratio, total asset to debt ratio, proprietary ratio and interest coverage ratio. • develop the skill of computation of inventory turnover ratio, trade receivables and trade payables ratio and working capital turnover ratio and others. • develop the skill of computation of gross profit ratio, operating ratio, operating profit ratio, net profit ratio and return on investment.
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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

Units/Topics	Learning Outcomes
• Meaning, objectives Benefits, Cash and Cash Equivalents, Classification of Activities and preparation (as per AS 3 (Revised) (Indirect Method only)	After going through this Unit, the students will be able to: • state the meaning and objectives of cash flow statement.

Note: <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> <i>(ii) Bank overdraft and cash credit to be treated as short term borrowings.</i> <i>(iii) Current Investments to be taken as Marketable securities unless otherwise specified.</i>	• develop the understanding of preparation of Cash Flow Statement using indirect method as per AS 3 with given adjustments.
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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

One specific project based on financial statement analysis of a company covering any two aspects from the following:

1. Comparative and common size financial statements
2. Accounting Ratios
3. Segment Reports
4. Cash Flow Statements

OR

Part B: Computerised Accounting

Unit 4: 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.

Part C: Practical Work

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
Accountancy – Computerised Accounting System	Class XII	NCERT Publication

Suggested Question Paper Design
Accountancy (Subject Code 055)
Class XII (2026-27)

Theory: 80 Marks
Project: 20 Marks

3 hrs.

S N	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	32	40%
3	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	24	30%
4	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	24	30%
	TOTAL	80	100%

BIOLOGY
Subject Code – 044
Classes XI - XII (2026–27)

The present curriculum provides the students with updated concepts along with an extended exposure to contemporary areas of the subject. The curriculum also aims at emphasizing the underlying principles that are common to animals, plants and microorganisms as well as highlighting the relationship of Biology with other areas of knowledge. The format allows a simple, clear, sequential flow of concepts. It links the discoveries and innovations in biology to everyday life such as environment, industry, health and agriculture. The Biology curriculum is expected to enable the students to:

- develop capacities for observation, experimentation, documentation, and familiarity with quantitative reasoning and multi-disciplinary approaches.
- engender sensitivity towards biological issues (environment, health) in their surroundings and be aware of how citizens can contribute to their local communities and to science.
- be aware of bioethical concerns that arise in biology today.
- understand the integration of different fields of biology and highlight the interconnections between these fields.
- be exposed to diverse careers in the life sciences.

This curriculum of Biology will help in achieving the following curricular goals and competencies delineated in the National Curriculum Framework for School Education 2023:

CG-3 Explores the structure and function of the living world at the cellular level	C-3.1 Explains the role of cellular components (nucleus, mitochondria, endoplasmic reticulum, vacuoles, chloroplast, cell wall), including the semi permeability of cell membrane in making cell the structural basis of living organisms and functional basis of life processes C-3.2 Analyses similarities and differences in the life processes involved in nutrition (photosynthesis in plants; absorption of nutrients in fungi; digestion in animals), transport (transport of water in plants; circulation in animals), exchange of materials (respiration and excretion), and reproduction C-3.3 Describes mechanisms of heredity (in terms of DNA, genes, chromosomes) and variation (as changes in the sequence of DNA)
CG-4 Explores interconnectedness between organisms and their	C-4.1 Applies the knowledge of cellular diversity in organisms along with the ecological role organisms play (autotrophic/ heterotrophic nutrition) to classify them into five-kingdoms

environment	C-4.2 Illustrates different levels of organisations of living organisms (from molecules to organisms) C-4.3 Analyses different levels of biological organisation from organisms to ecosystems and biomes along with interactions that take place at each level C-4.4 Analyses patterns of inheritance of traits in terms of Mendel's laws and its consequences at a population level (using models and/or simulations) C-4.5 Analyses evidences of biological evolution demonstrating the consequences of the process of natural selection in terms of changes — in allele frequency in population, structure, and function of organisms
CG-5 Draws linkages between scientific knowledge and knowledge across other curricular areas	C-5.3 Applies scientific principles to explain phenomena in other subjects (sound pitch, octave, and amplitude in music; use of muscles in dance form and sports)
CG-6 Understands and appreciates the contribution of India through history and the present times to the overall field of Science, including the disciplines that constitute it	C-6.1 Knows and explains the significant contributions of India to all matters (concepts, explanations, methods) that are studied within the curriculum in an integrated manner
CG-7 Develops awareness of the most current discoveries, ideas, and frontiers in all areas of scientific knowledge in order to appreciate that Science is ever evolving, and that there are still many unanswered questions	C-7.1 States concepts that represent the most current understanding of the matter being studied — ranging from mere familiarity to conceptual understanding of the matter as appropriate to the developmental stage of the students C-7.2 States questions related to matters in the curriculum for which current scientific understanding is well-recognised to be inadequate
CG-8 Explores the nature of Science by doing Science	C-8.1 Develops accurate and appropriate models (including geometric, mathematical, graphical) to represent real-life events and phenomena using scientific principles and use these models to manipulate variables and predict results C-8.2 Designs and implements a plan for scientific inquiry (formulates hypotheses, makes predictions, identifies variables, accurately uses scientific instruments, represents data — primary and secondary — in multiple modes, draws inferences based on data and understanding of scientific concepts, theories, laws, and principles, communicates findings using scientific terminology)

It is expected that the students would get an exposure to various branches of Biology in the curriculum in a more contextual and systematic manner as they study its various units. (NCFSE-2023)

Attainment of the competencies shall be done through transaction of the curriculum using appropriate pedagogy; these shall be assessed through an integrated evaluation scheme.

**COURSE STRUCTURE
CLASS XI (2026-27)
(THEORY)**

Time: 03 Hours

Max. Marks: 70

Unit	Title	Marks
I	Diversity of Living Organisms	15
II	Structural Organization in Plants and Animals	10
III	Cell: Structure and Function	15
IV	Plant Physiology	12
V	Human Physiology	18
	Total	70

Unit-I Diversity of Living Organisms

Chapter-1: The Living World

Biodiversity; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature

Chapter-2: Biological Classification

Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.

Chapter-3: Plant Kingdom

Classification of plants into major groups; Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnospermae and Angiosperms.

Chapter-4: Animal Kingdom

Salient features and classification of animals, non-chordates up to phyla level and chordates upto class level (salient features and at a few examples of each category).

(No live animals or specimen should be displayed.)

Unit-II Structural Organization in Plants and Animals

Chapter-5: Morphology of Flowering Plants

Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed. Description of family Solanaceae

Chapter-6: Anatomy of Flowering Plants

Anatomy and functions of tissue systems in dicots and monocots.

Chapter-7: Structural Organisation in Animals

Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of frog.

Unit-III Cell: Structure and Function

Chapter-8: Cell-The Unit of Life

Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system, endoplasmic reticulum, golgi bodies, lysosomes, vacuoles, mitochondria, ribosomes, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus.

Chapter-9: Biomolecules

Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, and nucleic acids; Enzyme - types, properties, enzyme action. (Topics excluded: Nature of Bond Linking Monomers in a Polymer, Dynamic State of Body Constituents Concept of Metabolism, Metabolic Basis of Living, The Living State)

Chapter-10: Cell Cycle and Cell Division

Cell cycle, mitosis, meiosis and their significance

Unit-IV Plant Physiology

Chapter-11: Photosynthesis in Higher Plants

Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C₃ and C₄ pathways; factors affecting photosynthesis.

Chapter-12: Respiration in Plants

Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient.

Chapter-13: Plant - Growth and Development

Seed germination; phases of plant growth and plant growth rate; conditions of growth; differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; plant growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA.

Unit-V Human Physiology

Chapter-14: Breathing and Exchange of Gases

Respiratory organs in animals (recall only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration - asthma, emphysema, occupational respiratory disorders.

Chapter-15: Body Fluids and Circulation

Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure.

Chapter-16: Excretory Products and their Elimination

Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system – structure and function; urine formation, osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH and diabetes insipidus; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant.

Chapter-17: Locomotion and Movement

Types of movement - ciliary, flagellar, muscular; skeletal muscle, contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal systems - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.

Chapter-18: Neural Control and Coordination

Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse

Chapter- 19: Chemical Coordination and Integration

Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goitre, diabetes, Addison's disease.

The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. This reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

Digestion and Absorption (Please Refer to CBSE Reading Material)

Alimentary canal and digestive glands, role of digestive enzymes and gastrointestinal hormones; Peristalsis, digestion, absorption and assimilation of proteins, carbohydrates and fats; calorific values of proteins, carbohydrates and fats; egestion; nutritional and digestive disorders - PEM, indigestion, constipation, vomiting, jaundice, diarrhea.

PRACTICALS

Time: 03 Hours

Max. Marks: 30

Evaluation Scheme		Marks
One Major Experiment Part A (Experiment No- 1,3,7,8)		5 Marks
One Minor Experiment Part A (Experiment No- 6,9,10,11,12,13)		4 Marks
Slide Preparation Part A (Experiment No- 2,4,5)		5 Marks
Spotting Part B		7 Marks
Practical Record + Viva Voce	(Credit to the student's work over the academic session may be given)	4 Marks
Project Record + Viva Voce		5 Marks
Total		30 Marks

A: List of Experiments

1. Study and describe locally available common flowering plants, from family Solanaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams), type of root (tap and adventitious); type of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study of osmosis by potato osmometer.
4. Study of plasmolysis in epidermal peels (e.g. Rhoeo/lily leaves or flashy scale leaves of onion bulb).
5. Study of distribution of stomata on the upper and lower surfaces of leaves.
6. Comparative study of the rates of transpiration in the upper and lower surfaces of

leaves.

7. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.
8. Separation of plant pigments through paper chromatography.
9. Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.
10. Test for presence of urea in urine.
11. Test for presence of sugar in urine.
12. Test for presence of albumin in urine.
13. Test for presence of bile salts in urine.

B. Study and Observe the following (spotting):

1. Parts of a compound microscope.
2. Specimens/slides/models and identification with reasons - Bacteria, *Oscillatoria*, *Spirogyra*, *Rhizopus*, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.
3. Virtual specimens/slides/models and identifying features of - *Amoeba*, *Hydra*, liver fluke, *Ascaris*, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
4. Mitosis in onion root tip cells and animal's cells (grasshopper) from permanent slides.
5. Types of inflorescence (cymose and racemose).
6. Human skeleton and different types of joints with the help of virtual images/models only.

Practical Examination for Visually Impaired Students Class XI

Note: The 'Evaluation schemes' and 'General Guidelines' for visually impaired students as given for Class XII may be followed.

A. Items for Identification/Familiarity with the apparatus /equipment /animal and plant material / chemicals for assessment in practicals (All experiments)

B. Equipment - compound microscope, test tube, petri dish, chromatography paper, chromatography chamber, beaker, scalpel

Chemical – alcohol

Models – Model of Human skeleton to show – Ball and socket joints of girdles and limbs, Rib cage, Honeycomb, Mollusc shell, Pigeon and Star fish, cockroach

Specimen/Fresh Material – mushroom, succulents such as *Aloe vera*/ kalenchoe, raisins, potatoes, seeds of monocot and dicot- maize and gram or any other plant, plants of Solanaceae - Brinjal, Petunia, any other

C. List of Practicals

1. Study locally available common flowering plants of the family – Solanaceae and identify type of stem (Herbaceous or Woody), type of leaves (Compound or Simple).
2. Study the parts of a compound microscope- eye piece and objective lens, mirror, stage, coarse and fine adjustment knobs.
3. Differentiate between monocot and dicot plants on the basis of venation patterns.
4. Study the following parts of human skeleton (Model): Ball and socket joints of thigh and shoulder
5. Rib cage
6. Study honeybee/butterfly, snail/sheik snail through shell, Starfish, Pigeon (through models).
7. Identify the given specimen of a fungus – mushroom, gymnosperm-pine cone.
8. Identify and relate the experimental set up with the aim of experiment: For Potato Osmometer/endosmosis in raisins.

Note: The above practicals may be carried out in an experiential manner rather than only recording observations.

Prescribed Books:

1. Biology Class-XI, Published by NCERT
2. Other related books and manuals brought out by NCERT (including multimedia).
3. Biology supplementary Material (Revised). Available on CBSE Website.
4. Reading Material Biology Class XI.

COURSE STRUCTURE
CLASS XII (2026 - 27)
(THEORY)

Time: 03 Hours

Max. Marks: 70

Unit	Title	Marks
VI	Reproduction	16
VII	Genetics and Evolution	20
VIII	Biology and Human Welfare	12
IX	Biotechnology and its Applications	12
X	Ecology and Environment	10
	Total	70

Unit-VI Reproduction

Chapter-1: Sexual Reproduction in Flowering Plants

Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; out breeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

Chapter-2: Human Reproduction

Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis -spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).

Chapter-3: Reproductive Health

Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).

Unit-VII Genetics and Evolution

Chapter-4: Principles of Inheritance and Variation

Heredity and variation: Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in humans, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans - thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Chapter-5: Molecular Basis of Inheritance

Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting.

Chapter-6: Evolution

Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); Darwin's contribution, modern synthetic theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy- Weinberg's principle; adaptive radiation; human evolution.

Unit-VIII: Biology and Human Welfare

Chapter-7: Human Health and Diseases

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

Chapter-8: Microbes in Human Welfare

Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.

Unit-IX Biotechnology and its Applications

Chapter-9: Biotechnology - Principles and Processes

Genetic Engineering (Recombinant DNA Technology).

Chapter-10: Biotechnology and its Applications

Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.

Unit-X Ecology and Environment

Chapter-11: Organisms and Populations

Population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.

Chapter-12: Ecosystem

Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy.

Chapter-13: Biodiversity and its Conservation

Biodiversity-Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. The reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

Environmental Issues (available as a part of CBSE Reading Material):

Air pollution and its control, Water pollution and its control, Solid Wastes, Agro-chemicals and their effects, Radioactive wastes, Greenhouse effect and global warming, Ozone depletion in the stratosphere, Degradation by improper resource utilization and maintenance, deforestation.

PRACTICALS

Time allowed: 3 Hours

Max. Marks: 30

Evaluation Scheme		Marks
One Major Experiment	5	5
One Minor Experiment	2 & 3	4
Slide Preparation	1 & 4	5
Spotting		7
Practical Record + Viva Voce	(Credit to the student's work over the academic session may be given)	4
Investigatory Project and its Project Record + Viva Voce		5
Total		30

A. List of Experiments

1. Prepare a temporary mount to observe pollen germination.
2. Study the plant population density by quadrat method.
3. Study the plant population frequency by quadrat method.
4. Prepare a temporary mount of onion root tip to study mitosis.
5. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, banana etc.

B. Study and observe the following (Spotting):

1. Flowers adapted to pollination by different agencies (wind, insects, birds).
2. Pollen germination on stigma through a permanent slide or scanning electron micrograph.
3. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
4. Meiosis in onion bud cell or grasshopper testis through permanent slides.
5. T.S. of blastula through permanent slides (Mammalian).
6. Mendelian inheritance using seeds of different colour/sizes of any plant.
7. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.
8. Controlled pollination - emasculation, tagging and bagging.
9. Common disease causing organisms like *Ascaris*, *Entamoeba*, *Plasmodium*, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause.

10. Models specimens showing symbiotic association in lichens, root nodules of leguminous plants, and parasitic mode of nutrition shown by *Cuscuta* on host.
11. Flash cards / models showing examples of homologous and analogous organs.

Practical Examination for Visually Impaired Students of Classes XI and XII
Evaluation Scheme

Time: 02 Hours

Max. Marks: 30

Topic	Marks
Identification/Familiarity with the apparatus	5
Written test (Based on given / prescribed practicals)	10
Practical Records	5
Viva	10
Total	30

General Guidelines

- The practical examination will be of two-hour duration. A separate list of ten experiments is included here.
- The written examination in practicals for these students will be conducted at the time of practical examination of all other students.
- The written test will be of 30 minutes duration.
- The question paper given to the students should be legibly typed. It should contain a total of 15 practical skill based very short answer type questions. A student would be required to answer any 10 questions.
- A writer may be allowed to such students as per CBSE examination rules.
- All questions included in the question paper should be related to the listed practicals. Every question should require about two minutes to be answered.
- These students are also required to maintain a practical file. A student is expected to record at least five of the listed experiments as per the specific instructions for each subject. These practicals should be duly checked and signed by the internal examiner.
- The format of writing any experiment in the practical file should include aim, apparatus required, simple theory, procedure, related practical skills, precautions etc.

- Questions may be generated jointly by the external/internal examiners and used for assessment.
- The viva questions may include questions based on basic theory / principle / concept, apparatus / materials / chemicals required, procedure, precautions, sources of error etc.

Class XII

A. Items for Identification/ familiarity with the apparatus for assessment in practicals (All experiments) Beaker, flask, petriplates, soil from different sites - sandy, clayey, loamy, small potted plants, aluminium foil, paint brush, test tubes, starch solution, iodine, ice cubes, Bunsen burner/spirit lamp/water bath, large flowers, Maize inflorescence, model of developmental stages highlighting morula and blastula of frog, beads/seeds of different shapes/size/texture *Ascaris*, Cactus/*Opuntia* (model).

B. List of Practicals

1. Study of flowers adapted to pollination by different agencies (wind, insects).
2. Identification of T.S of morula or blastula of frog (Model).
3. Study of Mendelian inheritance pattern using beads/seeds of different sizes/texture.
4. Preparation of pedigree charts of genetic traits such as rolling of tongue, colour blindness.
5. Study of emasculation, tagging and bagging by trying out an exercise on controlled pollination.
6. Identify common disease causing organisms like *Ascaris* (model) and learn some common symptoms of the disease that they cause.
7. Comment upon the morphological adaptations of plants found in xerophytic conditions.

Note: The above practicals may be carried out in an experiential manner rather than recording observations.

Prescribed Books:

1. Biology, Class-XII, Published by NCERT.
2. Other related books and manuals brought out by NCERT (includes multimedia).
3. Biology Supplementary Material (Revised). Available on CBSE website.
4. Reading Material Biology Class XII.

Question Paper Design (Theory)

Class XII (2026 - 27)

Biology (044)

Competencies	Total
Demonstrate Knowledge and Understanding	50 %
Application of Knowledge / Concepts	30 %
Analyse, Evaluate and Create	20 %

Note:

- Typology of questions: VSA including MCQs, Assertion – Reasoning type questions; SA; LA-I; LA-II; Source-based/ Case-based/ Passage-based/ Integrated assessment questions.
- An internal choice of approximately 33% would be provided.

Suggestive verbs for various competencies

- **Demonstrate, Knowledge and Understanding**
State, name, list, identify, define, suggest, describe, outline, summarize, etc.
- **Application of Knowledge/Concepts**
Calculate, illustrate, show, adapt, explain, distinguish, etc.
- **Analyze, Evaluate and Create**
Interpret, analyse, compare, contrast, examine, evaluate, discuss, construct, etc.

BUSINESS STUDIES (Subject Code 054)

Class XI-XII (2026-27)

Rationale

The courses in Business Studies and Accountancy are introduced at + 2 stage of Senior Secondary Education as formal commerce education is provided after first ten years of schooling. Therefore, it becomes necessary that instructions in these subjects are given in such a manner that students have a good 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. To understand the framework in which a business operates, a detailed study of the organisation and management of business processes and its interaction with the environment is required. Globalisation has changed the way organizations transact their business.

Information Technology is becoming a part of business operations in more and more organisations. Computerised systems are fast replacing other systems. E-business and other related concepts are picking up fast which need to be emphasized in the curriculum.

The course in Business Studies prepares students to analyse, manage, evaluate and respond to changes which affect business. It provides a way of looking at and interacting with the business environment. It recognizes the fact that business influences and is influenced by social, political, legal and economic forces.

It allows students to appreciate that business is an integral component of society and develops an understanding of many social and ethical issues.

Therefore, to acquire basic knowledge of the business world, a course in Business Studies would be useful. It also informs students of a range of study and work options and bridges the gap between school and work.

Objectives:

- To inculcate business attitude and develop skills among students to pursue higher education, world of work including self employment.
- To develop students with an understanding of the processes of business and its environment;
- To acquaint students with the dynamic nature and inter-dependent aspects of business;
- To develop an interest in the theory and practice of business, trade and industry;
- To familiarize students with theoretical foundations of the process of organizing and managing the operations of a business firm;
- To help students appreciate the economic and social significance of business activity and the social cost and benefits arising there from;
- To acquaint students with the practice of managing the operations and resources of business;
- To enable students to act more effectively and responsibly as consumers, employers, employees and citizens;

BUSINESS STUDIES (Subject Code 054)**Class-XI (2026-27)****Theory: 80 Marks****Project: 20 Marks****3 Hours**

Units		Marks
Part A	Foundations of Business	
1	Nature and Purpose of Business	16
2	Forms of Business Organisations	
3	Public, Private and Global Enterprises	14
4	Business Services	
5	Emerging Modes of Business	10
6	Social Responsibility of Business and Business Ethics	
	Total	40
Part B	Finance and Trade	
7	Sources of Business Finance	20
8	Small Business	
9	Internal Trade	20
10	International Business	
	Total	40
	Project Work (One)	20

Part A: Foundation of Business

Concept includes meaning and features

Unit 1: Evolution and Fundamentals of Business

Content	After going through this unit, the student/ learner would be able to:
History of Trade and Commerce in India: Indigenous Banking System, Rise of Intermediaries, Transport, Trading Communities: Merchant Corporations, Major Trade Centres, Major Imports and Exports, Position of Indian Sub-Continent in the World Economy	To acquaint the History of Trade and Commerce in India
Business – meaning and characteristics	- Understand the meaning of business with special reference to economic and non-economic activities. - Discuss the characteristics of business.
Business, profession and employment – Concept	- Understand the concept of business, profession and employment. - Differentiate between business, profession and employment.

Objectives of business	• Appreciate the economic and social objectives of business. • Examine the role of profit in business.
Classification of business activities - Industry and Commerce	• Understand the broad categories of business activities- industry and commerce.
Industry-types: primary, secondary, tertiary Meaning and subgroups	• Describe the various types of industries.
Commerce-trade: (types-internal, external; wholesale and retail) and auxiliaries to trade; (banking, insurance, transportation, warehousing, communication, and advertising) – meaning	• Discuss the meaning of commerce, trade and auxiliaries to trade. • Discuss the meaning of different types of trade and auxiliaries to trade. • Examine the role of commerce-trade and auxiliaries to trade.
Business risk-Concept	• Understand the concept of risk as a special characteristic of business. • Examine the nature and causes of business risks.

Unit 2: Forms of Business organizations

Sole Proprietorship-Concept, merits and limitations	• List the different forms of business organizations and understand their meaning. • Identify and explain the concept, merits and limitations of Sole Proprietorship.
Partnership-Concept, types, merits and limitation of partnership, registration of a partnership firm, partnership deed. Types of partners	• Identify and explain the concept, merits and limitations of a Partnership firm. • Understand the types of partnership on the basis of duration and on the basis of liability. • State the need for registration of a partnership firm. • Discuss types of partners –active, sleeping, secret, nominal and partner by estoppel.
Hindu Undivided Family Business: Concept	• Understand the concept of Hindu Undivided Family Business.
Cooperative Societies-Concept, merits, and limitations.	• Identify and explain the concept, merits and limitations of Cooperative Societies. • Understand the concept of consumers, producers, marketing, farmers, credit and housing co-operatives.

Company - Concept, merits and limitations; Types: Private, Public and One Person Company – Concept	• Identify and explain the concept, merits and limitations of private and public companies. • Understand the meaning of one person company. • Distinguish between a private company and a public company.
Formation of company - stages, important documents to be used in formation of a company	• Highlight the stages in the formation of a company. • Discuss the important documents used in the various stages in the formation of a company.
Choice of form of business organization	• Distinguish between the various forms of business organizations. • Explain the factors that influence the choice of a suitable form of business organization.

Unit 3: Public, Private and Global Enterprises

Public sector and private sector enterprises – Concept	• Develop an understanding of Public sector and private sector enterprises
Forms of public sector enterprises: Departmental Undertakings, Statutory Corporations and Government Company	• Identify and explain the features, merits and limitations of different forms of public sector enterprises
Global Enterprises – Feature Joint venture Public private partnership – concept	• Develop an understanding of global enterprises, public private partnership by studying their meaning and features.

Unit 4: Business Services

Business services – meaning and types. Banking: Types of bank accounts - savings, current, recurring, fixed deposit and multiple option deposit account	• Understand the meaning and types of business services. • Discuss the meaning and types of Business service Banking • Develop an understanding of difference types of bank account.
Banking services with particular reference to Bank Draft, Bank Overdraft, Cash credit. E-Banking: meaning, types of digital payments	• Develop an understanding of the different services provided by banks
Insurance – Principles. Types – life, health, fire and marine insurance – concept	• Recall the concept of insurance • Understand Utmost Good Faith, Insurable Interest, Indemnity, Contribution, Doctrine of Subrogation and Causa Proxima as principles of insurance • Discuss the meaning of different

	types of insurance-life, health, fire, marine insurance.
Postal Service - Mail, Registered Post, Parcel, Speed Post, Courier - meaning	Understand the utility of different telecom services

Unit 5: Emerging Modes of Business

E - business: concept, scope and benefits	- Give the meaning of e-business. - Discuss the scope of e-business. - Appreciate the benefits of e-business - Distinguish e-business from traditional business.
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Unit 6: Social Responsibility of Business and Business Ethics

Concept of social responsibility	State the concept of social responsibility.
Case of social responsibility	Examine the case for social responsibility.
Responsibility towards owners, investors, consumers, employees, government and community	Identify the social responsibility towards different interest groups.
Role of business in environment protection	Appreciate the role of business in environment protection.
Business Ethics - Concept and Elements	- State the concept of business ethics. - Describe the elements of business ethics.

Part B: Finance and Trade

Unit 7: Sources of Business Finance

Concept of business finance	State the meaning, nature and importance of business finance.
Owners' funds- equity shares, preferences share, retained earnings	- Classify the various sources of funds into owners' funds. - State the meaning of owners' funds.
Borrowed funds: debentures and bonds, loan from financial institution and commercial banks, public deposits, trade credit, Inter Corporate Deposits (ICD)	- State the meaning of borrowed funds. - Discuss the concept of debentures, bonds, loans from financial institutions and commercial banks, Trade credit and inter corporate deposits. - Distinguish between owners' funds and borrowed funds.

Unit 8: Small Business and Enterprises

Entrepreneurship Development (ED): Concept, Characteristics and Need. Process of Entrepreneurship Development: Start-up India Scheme, ways to fund start-up. Intellectual Property Rights and Entrepreneurship	• Understand the concept of Entrepreneurship Development (ED), Intellectual Property Rights
Small scale enterprise as defined by MSMED Act 2006 (Micro, Small and Medium Enterprise Development Act)	• Understand the meaning of small business
Role of small business in India with special reference to rural areas	• Discuss the role of small business in India
Government schemes and agencies for small scale industries: National Small Industries Corporation (NSIC) and District Industrial Centre (DIC) with special reference to rural, backward areas	• Appreciate the various Government schemes and agencies for development of small scale industries. NSIC and DIC with special reference to rural, backward area.

Unit 9: Internal Trade

Internal trade - meaning and types services rendered by a wholesaler and a retailer	• State the meaning and types of internal trade. • Appreciate the services of wholesalers and retailers.
Types of retail-trade-Itinerant and small scale fixed shops retailers	• Explain the different types of retail trade.
Large scale retailers-Departmental stores, chain stores – concept	• Highlight the distinctive features of departmental stores, chain stores and mail order business.
GST (Goods and Services Tax): Concept and key-features	• Understand the concept of GST

Unit 10: International Trade

International trade: concept and benefits	• Understand the concept of international trade. • Describe the scope of international trade to the nation and business firms.
Export trade – Meaning and procedure	• State the meaning and objectives of export trade. • Explain the important steps involved in executing export trade.
Import Trade - Meaning and procedure	• State the meaning and objectives

	of import trade. • Discuss the important steps involved in executing import trade.
Documents involved in International Trade; indent, letter of credit, shipping order, shipping bills, mate's receipt (DA/DP)	• Develop an understanding of the various documents used in international trade. • Identify the specimen of the various documents used in international trade. • Highlight the importance of the documents needed in connection with international trade transactions
World Trade Organization (WTO) meaning and objectives	• State the meaning of World Trade Organization. • Discuss the objectives of World Trade Organization in promoting international trade.

Unit 11: Project Work

As per CBSE guidelines.

Suggested Question Paper Design
Business Studies (Subject Code 054)
Class XI (2026-27)

Marks: 80

Duration: 3 hrs.

SN	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	32	40%
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way	24	30%
3	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	24	30%
	Total	80	100%

Business Studies (Subject Code 054)

Class-XII (2026-27)

Theory: 80 Marks

3 Hours

Project: 20 Marks

Units		Marks
Part A	Principles and Functions of Management	
1.	Nature and Significance of Management	16
2	Principles of Management	
3	Business Environment	
4	Planning	14
5	Organising	
6	Staffing	20
7	Directing	
8	Controlling	
	Total	50
Part B	Business Finance and Marketing	
9	Financial Management	15
10	Financial Markets	
11	Marketing Management	15
12	Consumer Protection	
	Total	30
Part C	Project Work (One)	20

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:
Management - concept, objectives, and importance	- Understand the concept of management. - Explain the meaning of 'Effectiveness and Efficiency. - Discuss the objectives of management. - Describe the importance of management.
Management as Science, Art and Profession	Examine the nature of management as a science, art and profession.
Levels of Management	Understand the role of top, middle and lower levels of management
Management functions-planning, organizing, staffing, directing and controlling	Explain the functions of management
Coordination- concept and importance	Discuss the concept and

	characteristics of coordination. • Explain the importance of coordination.
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Unit 2: Principles of Management

Principles of Management - concept and significance	• Understand the concept of principles of management. • Explain the significance of management principles.
Fayol's principles of management	• Discuss the principles of management developed by Fayol.
Taylor's Scientific management - principles and techniques	• Explain the principles and techniques of 'Scientific Management'. • Compare the contributions of Fayol and Taylor.

Unit 3: Business Environment

Business Environment- concept and importance	• Understand the concept of 'Business Environment'. • Describe the importance of business environment
Dimensions of Business Environment - Economic, Social, Technological, Political and Legal	• Describe the various dimensions of 'Business Environment'. • Understand the concept of demonetization
Demonetization - concept and features	

Unit 4: Planning

Planning: Concept, importance and limitation	• Understand the concept of planning. • Describe the importance of planning. • Understand the limitations of planning.
Planning process	• Describe the steps in the process of planning.
Single use and Standing Plans. Objectives, Strategy, Policy, Procedure, Method, Rule, Budget and Programme	• Develop an understanding of single use and standing plans • Describe objectives, policies, strategy, procedure, method, rule, budget and programme as types of plans.

Unit 5: Organising

Organising: Concept and importance	• Understand the concept of organizing as a structure and as a
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	process. • Explain the importance of organising.
Organising Process	• Describe the steps in the process of organizing
Structure of organisation- functional and divisional concept. Formal and informal organization - concept	• Describe functional and divisional structures of organisation. • Explain the advantages, disadvantages and suitability of functional and divisional structure. • Understand the concept of formal and informal organisation. • Discuss the advantages, disadvantages of formal and informal organisation.
Delegation: concept, elements and importance	• Understand the concept of delegation. • Describe the elements of delegation. • Appreciate the importance of Delegation.
Decentralization: concept and importance	• Understand the concept of decentralisation. • Explain the importance of decentralisation. • Differentiate between delegation and decentralisation.

Unit 6: Staffing

Staffing: Concept and importance of staffing	• Understand the concept of staffing. • Explain the importance of staffing
Staffing as a part of Human Resource Management concept	• Understand the specialized duties and activities performed by Human Resource Management
Staffing process	• Describe the steps in the process of staffing
Recruitment process	• Understand the meaning of recruitment. • Discuss the sources of recruitment. • Explain the merits and demerits of internal and external sources of recruitment.
Selection – process	• Understand the meaning of selection. • Describe the steps involved in the process of selection.
Training and Development - Concept and importance, Methods of training - on the	• Understand the concept of training and development.

job and off the job - vestibule training, apprenticeship training and internship training	• Appreciate the importance of training to the organisation and to the employees. • Discuss the meaning of induction training, vestibule training, apprenticeship training and internship training. • Differentiate between training and development. • Discuss on the job and off the job methods of training.
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Unit 7: Directing

Directing: Concept and importance	• Describe the concept of directing. • Discuss the importance of directing
Elements of Directing	• Describe the various elements of directing
Motivation - concept, Maslow's hierarchy of needs, Financial and non-financial incentives	• Understand the concept of motivation. • Develop an understanding of Maslow's Hierarchy of needs. • Discuss the various financial and non-financial incentives.
Leadership - concept, styles - authoritative, democratic and laissez faire	• Understand the concept of leadership. • Understand the various styles of leadership.
Communication - concept, formal and informal communication; barriers to effective communication, how to overcome the barriers?	• Understand the concept of communication • Understand the elements of the communication process. • Discuss the concept of formal and informal communication. • Discuss the various barriers to effective communication. • Suggest measures to overcome barriers to communication.

Unit 8: Controlling

Controlling - Concept and importance	• Understand the concept of controlling. • Explain the importance of controlling.
Relationship between planning and controlling	• Describe the relationship between planning and controlling
Steps in process of control	• Discuss the steps in the process of controlling.

Part B: Business Finance and Marketing

Unit 9: Financial Management

Financial Management: Concept, role and objectives	• Understand the concept of financial management. • Explain the role of financial management in an organisation. • Discuss the objectives of financial management
Financial decisions: investment, financing and dividend - Meaning and factors affecting	• Discuss the three financial decisions and the factors affecting them.
Financial Planning - concept and importance	• Describe the concept of financial planning and its objectives. • Explain the importance of financial planning.
Capital Structure – concept and factors affecting capital structure	• Understand the concept of capital structure. • Describe the factors determining the choice of an appropriate capital structure of a company.
Fixed and Working Capital - Concept and factors affecting their requirements	• Understand the concept of fixed and working capital. • Describe the factors determining the requirements of fixed and working capital.

Unit 10: Financial Markets

Financial Markets: Concept	• Understand the concept of financial market.
Money Market: Concept	• Understand the concept of money market.
Capital market and its types (primary and secondary)	• Discuss the concept of capital market. • Explain primary and secondary markets as types of capital market. • Differentiate between capital market and money market. • Distinguish between primary and secondary markets.
Stock Exchange - Functions and trading procedure	• Give the meaning of a stock exchange. • Explain the functions of a stock exchange. • Discuss the trading procedure in a stock exchange.

	• Give the meaning of depository services and demat account as used in the trading procedure of securities.
Securities and Exchange Board of India (SEBI) - objectives and functions	• State the objectives of SEBI. • Explain the functions of SEBI.

Unit 11: Marketing

Marketing – Concept, functions and philosophies	• Understand the concept of marketing. • Explain the features of marketing. • Discuss the functions of marketing. • Explain the marketing philosophies.
Marketing Mix – Concept and elements	• Understand the concept of marketing mix. • Describe the elements of marketing mix.
Product – branding, labelling and packaging – Concept	• Understand the concept of product as an element of marketing mix. • Understand the concept of branding, labelling and packaging.
Price - Concept, Factors determining price	• Understand the concept of price as an element of marketing mix. • Describe the factors determining price of a product.
Physical Distribution – concept, components and channels of distribution	• Understand the concept of physical distribution. • Explain the components of physical distribution. • Describe the various channels of distribution.
Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations	• Understand the concept of promotion as an element of marketing mix. • Describe the elements of promotion mix. • Understand the concept of advertising. • Understand the concept of sales promotion. • Discuss the concept of public relations.

Unit 12: Consumer Protection

Consumer Protection: Concept and importance	• Understand the concept of consumer protection. • Describe the importance of
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	consumer protection. • Discuss the scope of Consumer Protection Act, 2019
The Consumer Protection Act, 2019: Source: http://egazette.nic.in/WriteReadData/2019/210422.pdf Meaning of consumer Rights and responsibilities of consumers Who can file a complaint? Redressal machinery Remedies available	• Understand the concept of a consumer according to the Consumer Protection Act, 2019. • Explain the consumer rights • Understand the responsibilities of consumers • Understand who can file a complaint and against whom? • Discuss the legal redressal machinery under Consumer Protection Act, 2019. • Examine the remedies available to the consumer under Consumer Protection Act, 2019.
Consumer awareness - Role of consumer organizations and Non-Governmental Organizations (NGOs)	• Describe the role of consumer organizations and NGOs in protecting consumers' interests.

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.

CLASS XI: GUIDELINES FOR TEACHERS

This section provides some basic guidelines for the teachers to launch the projects in Business Studies. It is very necessary to interact, support, guide, facilitate and encourage students while assigning projects to them.

The teachers must ensure that the project work assigned to the students whether individually or in group are discussed at different stages right from assignment to drafts review and finalization. Students should be facilitated in terms of providing relevant

materials or suggesting websites, or obtaining required permissions from business houses, malls etc for their project. The periods assigned to the Project Work should be suitably spaced throughout the academic session. The teachers MUST ensure that the students actually go through the rigors and enjoy the process of doing the project rather than depending on any readymade material available commercially.

The following steps might be followed:

1. Students must take any one topic during the academic session of Class XI.
2. The project may be done in a group or individually.
3. The topic should be assigned after discussion with the students in the class and should then be discussed at every stage of submission of the draft/final project work.
4. The teacher should play the role of a facilitator and should closely supervise the process of project completion.
5. The teachers must ensure that the student's self esteem should go up, and he /she should be able to enjoy this process.
6. The project work for each term should culminate in the form of Power Point Presentation/Exhibition/ Skit before the entire class. This will help in developing ICT and communication skills among them.

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

I. 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

ASSESSMENT

The marks will be allocated on the following heads.

1	Initiative, cooperativeness and participation	2 Mark
2	Creativity in presentation	2 Mark
3	Content, observation and research work	4 Marks
4	Analysis of situations	4 Marks
5	Viva	8 Marks
	Total	20 Marks

CLASS XII: GUIDELINES FOR TEACHERS

Students are supposed to select one unit out of four and are required to make only **ONE project** from the selected unit. (Consist of one project of 20 marks)

1. Help students to select any ONE Topic for the entire year.
2. The topic should be assigned after discussion with the students in the class and should then be discussed at every stage of the submission of the project.

The teacher should play the role of a facilitator and should closely supervise the process of project completion. The teachers must ensure that the project work assigned to the students whether individually or in group are discussed at different stages right from assignment to drafts review and finalization. Students should be facilitated in terms of providing relevant materials or suggesting websites, or obtaining required permissions from business houses, malls etc for their project. The periods assigned to the Project Work should be suitably spaced throughout the academic session. The teachers **MUST** ensure that the student actually go through the rigors and enjoy the process of doing the project rather than depending on any readymade material available outside.

3. The students must make a presentation of the project before the class.
4. The teachers must ensure that the student's self-esteem and creativity is enhanced and both the teacher and the student enjoy this process.
5. The teachers should feel pride in the fact that they have explored the different dimensions of the project in an innovative way and their students have put in genuine work.

I. Project One: Elements of Business Environment

The teachers should help the students in selecting any one element of the following:

1. Changes witnessed over the last few years on mode of packaging and its economic impact. The teacher may guide the students to identify the following changes:

- a) The changes in transportation of fruits and vegetables such as cardboard crates being used in place of wooden crates, etc. Reasons for above changes.
- b) Milk being supplied in glass bottles, later in plastic bags and now in tetra-pack and through vending machines.
- c) Plastic furniture [doors and stools] gaining preference over wooden furniture.
- d) The origin of cardboard and the various stages of changes and growth.
- e) Brown paper bags packing to recycled paper bags to plastic bags and cloth bags.
- f) Re use of packaging [bottles, jars and tins] to attract customers for their products.
- g) The concept of pyramid packaging for milk.
- h) Cost being borne by the consumer/manufacturer.
- i) Packaging used as means of advertisements.

2. The reasons behind changes in the following:

Coca – Cola and Fanta in the seventies to Thums up and Campa Cola in the eighties to Pepsi and Coke in nineties.

The teacher may guide the students to the times when India sold Coca Cola and Fanta which were being manufactured in India by the foreign companies.

The students may be asked to enquire about

- a) Reasons of stopping the manufacturing of the above mentioned drinks in India THEN.
- b) The introduction of Thums up and Campa cola range.
- c) Re entry of Coke and introduction of Pepsi in the Indian market.
- d) Factors responsible for the change.
- e) Other linkages with the above.
- f) Leading brands and the company having the highest market share.
- g) Different local brands venturing in the Indian market.
- h) The rating of the above brands in the market.
- i) The survival and reasons of failure in competition with the international brands.
- j) Other observations made by the students

The teacher may develop the following on the above lines

3. Changing role of the women in the past 25 years relating to joint families, nuclear families, women as a bread earner of the family, changes in the requirement trend of mixers, washing machines, micro wave and standard of living.

4. The changes in the pattern of import and export of different Products.

5. The trend in the changing interest rates and their effect on savings.

6. A study on child labour laws, its implementation and consequences.

7. The state of 'anti plastic campaign,' the law, its effects and implementation.

8. The laws of mining /setting up of industries, rules and regulations, licences required for running that business.

9. Social factors affecting acceptance and rejection of an identified product. (Dish washer, Atta maker, etc)

10. What has the effect of change in environment on the types of goods and services?

The students can take examples like:

- a) Washing machines, micro waves, mixers and grinder.
- b) Need for crèche, day care centre for young and old.
- c) Ready to eat food, eating food outside, and tiffin centres.

11. Change in the man-machine ratio with technological advances resulting in change of cost structure.
12. Effect of changes in technological environment on the behaviour of employee.

II. Project Two: Principles of Management

The students are required to visit any one of the following:

1. A departmental store.
2. An Industrial unit.
3. A fast food outlet.
4. Any other organisation approved by the teacher.

They are required to observe the application of the general Principles of management advocated by Fayol.

Fayol's principles

1. Division of work.
2. Unity of command.
3. Unity of direction.
4. Scalar chain
5. Espirit de corps
6. Fair remuneration to all.
7. Order.
8. Equity.
9. Discipline
10. Subordination of individual interest to general interest.
11. Initiative.
12. Centralisation and decentralisation.
13. Stability of tenure.
14. Authority and Responsibility

OR

They may enquire into the application of scientific management techniques by F.W. Taylor in the unit visited.

Scientific techniques of management.

1. Functional foremanship.
2. Standardisation and simplification of work.
3. Method study.
4. Motion Study.
5. Time Study.
6. Fatigue Study
7. Differential piece rate plan.

Tips to teacher

- (i) The teacher may organize this visit.
- (ii) The teacher should facilitate the students to identify any unit of their choice and guide them to identify the principles that are being followed.
- (iii) Similarly they should guide the students to identify the techniques of scientific management implemented in the organisation.
- (iv) It may be done as a group activity.

(v) The observations could be on the basis of

- ☐ The different stages of division of work resulting to specialisation.
- ☐ Following instructions and accountability of subordinates to higher authorities.
- ☐ Visibility of order and equity in the unit.
- ☐ Balance of authority and responsibility.
- ☐ Communication levels and pattern in the organisation.
- ☐ Methods and techniques followed by the organisation for unity of direction and coordination amongst all.
- ☐ Methods of wage payments followed. The arrangements of fatigue study.
- ☐ Derivation of time study.
- ☐ Derivation and advantages of method study.
- ☐ Organisational chart of functional foremanship.
- ☐ Any other identified in the organisation

vi. It is advised that students should be motivated to pick up different areas of visit. As presentations of different areas in the class would help in better understanding to the other students.

vii. The students may be encouraged to develop worksheets. Teachers should help students to prepare observation tools to be used for undertaking the project.

Examples; worksheets, questionnaire, interviews and organisational chart etc.

III. Project Three: Stock Exchange

The purpose of this project is to teach school students the values of investing and utilising the stock market. This project also teaches important lessons about the economy, mathematics and financial responsibility.

The basis of this project is to learn about the stock market while investing a specified amount of fake money in certain stocks. Students then study the results and buy and sell as they see fit.

This project will also guide the students and provide them with the supplies necessary to successfully monitor stock market trends and will teach students how to calculate profit and loss on stock.

The project work will enable the students to:

- ☐ understand the topics like sources of business finance and capital market
- ☐ understand the concepts used in stock exchange
- ☐ inculcate the habit of watching business channels, reading business journals/newspapers and seeking information from their elders.

The students are expected to:

- a) Develop a brief report on History of Stock Exchanges in India. (your country)
- b) Prepare a list of at least 25 companies listed on a Stock Exchange.
- c) To make an imaginary portfolio totalling a sum of Rs. 50,000 equally in any of the 5 companies of their choice listed above over a period of twenty working days.

The students may be required to report the prices of the stocks on daily basis and present it diagrammatically on the graph paper.

- ☐ They will understand the weekly holidays and the holidays under the Negotiable Instruments Act.

They will also come across with terms like closing prices, opening prices, etc.

- During this period of recording students are supposed to distinctively record the daily and starting and closing prices of the week other days under the negotiable instrument act so that they acquire knowledge about closing and opening prices.
- The students may conclude by identifying the causes in the fluctuations of prices. Normally it would be related to the front page news of the a business journal, for example,
 - Change of seasons.
 - Festivals.
 - Spread of epidemic.
 - Strikes and accidents
 - Natural and human disasters.
 - Political environment.
 - Lack of faith in the government policies.
 - Impact of changes in government policies for specific industry.
 - International events.
 - Contract and treaties at the international scene.
 - Relations with the neighbouring countries.
 - Crisis in developed countries, etc.

The students are expected to find the value of their investments and accordingly rearrange their portfolio. The project work should cover the following aspects;

1. Graphical presentation of the share prices of different companies on different dates.
2. Change in market value of shares due to change of seasons, festivals, natural and human disasters.
3. Change in market value of shares due to change in political environment/ policies of various countries/crisis in developed countries or any other reasons
4. Identify the top ten companies out of the 25 selected on the basis of their market value of shares.

It does not matter if they have made profits or losses.

IV. Project Four: Marketing

- | | |
|-------------------------|---------------------|
| 1. Adhesives | 20. Cutlery |
| 2. Air conditioners | 21. Cycle |
| 3. Baby diapers | 22. DTH |
| 4. Bathing Soap | 23. Eraser |
| 5. Bathroom cleaner | 24. e-wash |
| 6. Bike | 25. Fairness cream |
| 7. Blanket | 26. Fans |
| 8. Body Spray | 27. Fruit candy |
| 9. Bread | 28. Furniture |
| 10. Breakfast cereal | 29. Hair Dye |
| 11. Butter | 30. Hair Oil |
| 12. Camera | 31. Infant dress |
| 13. Car | 32. Inverter |
| 14. Cheese spreads | 33. Jams |
| 15. Chocolate | 34. Jeans |
| 16. Coffee | 35. Jewellery |
| 17. Cosmetology product | 36. Kurti |
| 18. Crayons | 37. Ladies bag |
| 19. Crockery | 38. Ladies footwear |

39. Learning Toys
40. Lipstick
41. Microwave oven
42. Mixers
43. Mobile
44. Moisturizer
45. Music player
46. Nail polish
47. Newspaper
48. Noodles
49. Pen
50. Pen drive
51. Pencil
52. Pickles
53. Razor
54. Ready Soups
55. Refrigerator
56. RO system
57. Roasted snacks
58. Salt

59. Sarees
60. Sauces/ Ketchup
61. Shampoo
62. Shaving cream
63. Shoe polish
64. Shoes
65. Squashes
66. Suitcase/ airbag
67. Sunglasses
68. Tea
69. Tiffin Wallah
70. Toothpaste
71. Wallet
72. Washing detergent
73. Washing machine
74. Washing powder
75. Water bottle
76. Water storage tank
77. Wipes

Any more as suggested by the teacher.

The teacher must ensure that the identified product should not be items whose consumption/use is discouraged by the society and government like alcohol products/pan masala and tobacco products, etc.

Identify one product/service from the above which the students may like to manufacture/provide [pre-assumption].

Now the students are required to make a project on the identified product/service keeping in mind the following:

1. Why have they selected this product/service?
2. Find out '5' competitive brands that exist in the market.
3. What permission and licences would be required to make the product?
4. What are your competitors Unique Selling Proposition.[U.S.P.]?
5. Does your product have any range give details?
6. What is the name of your product?
7. Enlist its features.
8. Draw the 'Label' of your product.
9. Draw a logo for your product.
10. Draft a tag line.
11. What is the selling price of your competitor's product?
 - (i) Selling price to consumer
 - (ii) Selling price to retailer
 - (iii) Selling price to wholesaler

What is the profit margin in percentage to the

- ☐ Manufacturer.
- ☐ Wholesaler.
- ☐ Retailer.

12. How will your product be packaged?
 13. Which channel of distribution are you going to use? Give reasons for selection?
 14. Decisions related to warehousing, state reasons.
 15. What is going to be your selling price?
 - (i) To consumer
 - (ii) To retailer
 - (iii) To wholesaler
 16. List 5 ways of promoting your product.
 17. Any schemes for
 - (i) The wholesaler
 - (ii) The retailer
 - (iii) The consumer
 18. What is going to be your 'U.S.P'?
 19. What means of transport you will use and why?
 20. Draft a social message for your label.
 21. What cost effective techniques will you follow for your product.
 22. What cost effective techniques will you follow for your promotion plan.
- At this stage the students will realise the importance of the concept of marketing mix and the necessary decision regarding the four P's of marketing.
- ☐ Product
 - ☐ Place
 - ☐ Price
 - ☐ Promotion

On the basis of the work done by the students the project report should include the following:

1. Type of product /service identified and the (consumer/industries) process involve there in.
2. Brand name and the product.
3. Range of the product.
4. Identification mark or logo.
5. Tagline.
6. Labeling and packaging.
7. Price of the product and basis of price fixation.
8. Selected channels of distribution and reasons thereof.
9. Decisions related to transportation and warehousing. State reasons.
10. Promotional techniques used and starting reasons for deciding the particular technique.
11. Grading and standardization.

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 length of the project will be of 25 to 30 pages.
2. The project should be handwritten.
3. The project should be presented in a neat folder.
4. The project report should be developed in the following sequence-
 - ☐ Cover page should include the title of the Project, student information, school and year.

- ☐ List of contents.
- ☐ Acknowledgements and preface (acknowledging the institution, the places visited and the persons who have helped).
- ☐ Introduction.
- ☐ Topic with suitable heading.
- ☐ Planning and activities done during the project, if any.
- ☐ Observations and findings of the visit.
- ☐ Conclusions (summarized suggestions or findings, future scope of study).
- ☐ Photographs (if any).
- ☐ Appendix
- ☐ Teacher's observation.
- ☐ Signatures of the teachers.
- ☐ At the completion of the evaluation of the project, it should be punched in the centre so that the report may not be reused but is available for reference only.
- ☐ The project will be returned after evaluation. The school may keep the best projects.

ASSESSMENT

Allocation of Marks = 20 Marks

The marks will be allocated under the following heads:

1	Initiative, cooperativeness and participation	2 Mark
2	Creativity in presentation	2 Mark
3	Content, observation and research work	4 Marks
4	Analysis of situations	4 Marks
5	Viva	8 Marks
	Total	20 Marks

**Suggested Question Paper Design
Business Studies (Subject Code 054)**

Class XII (2026-27)

Marks: 80

Duration: 3 hrs.

SN	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	32	40%
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way	24	30%
3	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	24	30%
	Total	80	100%

CHEMISTRY
SUBJECT CODE: 043
CLASSES XI-XII (2026-27)

Rationale

The second phase of Secondary stage is the most crucial stage of school education because at this juncture specialised discipline based, content oriented courses are introduced. Students reach this stage after 10 years of general education and opt for Chemistry with a purpose of pursuing their career in basic sciences or professional courses like medicine, engineering, technology and to study courses in applied areas of science and technology at tertiary level. Therefore, there is a need to provide the learners with sufficient conceptual background of Chemistry, which will make them competent to meet the challenges of academic and professional courses after this stage.

The new and updated curriculum is based on a disciplinary approach with rigour and depth ensuring that the syllabus is not heavy and at the same time it is comparable to that at the international level. The pedagogy of Chemistry has undergone tremendous changes in recent times. To keep pace with the developments in Chemistry, many new areas like green chemistry, material science, biomolecules, and industrial chemistry deserve to be an integral part of the chemistry syllabus at this stage. In addition, the nomenclature of elements and compounds; symbols, and units of physical quantities, recommended by scientific bodies like IUPAC and CGPM also need to be incorporated in the updated syllabus. The proposed syllabus takes due care to address these issues.

Objectives

The curriculum of Chemistry at the second phase of Secondary stage has been designed to:

- equip the learners with tools to understand the working of Chemistry rather than mere facts of it;
- develop the necessary conceptual foundations of chemistry and ability to apply them to real life situations;
- enable the learners to represent chemical phenomena at macroscopic, molecular, and symbolic levels;
- make the learners identify patterns and form connections that underlie various chemical phenomena;
- prepare the learners to contribute to frontier research areas related to climate change, environmental issues, materials science, biology and medicine etc.;
- inculcate problem solving skills in the learners and integrate life skills and values in the context of chemistry; and
- apprise learners of the interface of chemistry with other disciplines of science such as physics, biology, geology, engineering etc.

COURSE STRUCTURE
CLASS XI
THEORY

Time: 3 Hours

Total Marks: 70

S. No	UNIT	Marks
1	Some Basic Concepts of Chemistry	7
2	Structure of Atom	9
3	Classification of Elements and Periodicity in Properties	6
4	Chemical Bonding and Molecular Structure	7
5	Chemical Thermodynamics	9
6	Equilibrium	7
7	Redox Reactions	4
8	Organic Chemistry: Some basic Principles and Techniques	11
9	Hydrocarbons	10
	TOTAL	70

Unit 1: Some Basic Concepts of Chemistry

Importance of Chemistry, Nature of Matter, Properties of Matter and their Measurement, Uncertainty in Measurement, Laws of Chemical Combination, Dalton's Atomic Theory, Atomic and Molecular Masses, Mole Concept and Molar Masses, Percentage Composition, Stoichiometry and Stoichiometric Calculations.

Unit 2: Structure of Atom

Discovery of Sub-atomic Particles, Atomic Models, Developments Leading to the Bohr's Model of Atom, Bohr's Model for Hydrogen Atom, Towards Quantum Mechanical Model of the Atom, Quantum Mechanical Model of Atom.

Unit 3: Classification of Elements and Periodicity in Properties

Why we Need to Classify Elements? Genesis of Periodic Classification, Modern Periodic Law and the Present Form of Periodic Table, Nomenclature of Elements with Atomic Number > 100, Electronic Configuration of Elements and the Periodic Table, Electronic Configuration of Elements and Types of Elements: s-, p-, d-, f- Blocks, Periodic Trends in Properties of Elements.

Unit 4: Chemical Bonding and Molecular Structure

Kossel-Lewis Approach to Chemical Bonding, Ionic or Electrovalent Bond, Bond Parameters, The Valence Shell Electron Pair Repulsion (VSEPR) Theory, Valence Bond Theory, Hybridisation, Molecular Orbital Theory, Bonding in Some Homonuclear Diatomic Molecules, Hydrogen Bonding.

Unit 5: Thermodynamics

Thermodynamic Terms, Applications, Measurement of ΔU and ΔH : Calorimetry, Enthalpy Change, and ΔH of a Reaction – Reaction Enthalpy, Enthalpies for Different Types of Reactions, Spontaneity, Gibbs Energy Change and Equilibrium.

Unit 6: Equilibrium

Equilibrium in Physical Processes, Equilibrium in Chemical Processes – Dynamic Equilibrium, Law of Chemical Equilibrium and Equilibrium Constant, Homogeneous Equilibria, Heterogeneous Equilibria, Applications of Equilibrium Constants, Relationship between Equilibrium Constant K , Reaction Quotient Q and Gibbs Energy G , Factors Affecting Equilibria, Ionic Equilibrium in Solution, Acids, Bases and Salts, Ionization of Acids and Bases, Buffer Solutions, Solubility Equilibria of Sparingly Soluble Salts.

Unit 7: Redox Reactions

Classical Idea of Redox Reactions – Oxidation and Reduction Reactions, Redox Reactions in Terms of Electron Transfer Reactions, Oxidation Number, Redox Reactions and Electrode Processes.

Unit 8: Organic Chemistry – Some Basic Principles and Techniques

General Introduction, Tetravalence of Carbon: Shapes of Organic Compounds, Structural Representations of Organic Compounds, Classification of Organic Compounds, Nomenclature of Organic Compounds, Isomerism, Fundamental Concepts in Organic Reaction Mechanism, Methods of Purification of Organic Compounds, Qualitative Analysis of Organic Compounds, Quantitative Analysis

Unit 9: Hydrocarbons

Classification, Alkanes, Alkenes, Alkynes, Aromatic Hydrocarbon, Carcinogenic and Toxicity.

Note: The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. This reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

1. s & p Block Elements

Electronic configuration, atomic & ionic radii, Ionization Enthalpy, Hydration Enthalpy and general trends in physical and chemical properties of s and p block elements across the periods and down the groups; unique behavior of the first element in each group.

2. The Gaseous State

Qualitative treatment of Gas laws, Ideal gas equation and deviations from it.

PRACTICAL

Evaluation Scheme for Examination	Marks
Volumetric Analysis	08
Salt Analysis	08
Content Based Experiment	06
Project Work	04
Class record and viva	04
Total	30

PRACTICAL SYLLABUS

Micro-chemical methods are available for several of the practical experiments, wherever possible such techniques should be used.

A. Basic Laboratory Techniques

1. Cutting glass tube and glass rod
2. Bending a glass tube
3. Drawing out a glass jet
4. Boring a cork

B. Characterization and Purification of Chemical Substances

1. Determination of melting point of an organic compound.
2. Determination of boiling point of an organic compound.
3. Crystallization of impure sample of any one of the following: Alum, Copper Sulphate, Benzoic Acid.

C. Experiments based on pH

1. Any one of the following experiments:
 - Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
 - Comparing the pH of solutions of strong and weak acids of same concentration.
 - Study the pH change in the titration of a strong base using a universal indicator.
2. Study the pH change by common-ion in case of weak acids and weak bases.

D. Chemical Equilibrium

Any one of the following experiments:

- Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.
- Study the shift in equilibrium between $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$ and chloride ions by changing the concentration of either of the ions.

E. Quantitative Estimation

1. Using a mechanical balance/electronic balance.
2. Preparation of standard solution of Oxalic acid.
3. Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid.
4. Preparation of standard solution of Sodium carbonate.
5. Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

F. Qualitative Analysis

1. Determination of one anion and one cation in a given salt

Cations: Pb^{2+} , Cu^{2+} , Al^{3+} , Fe^{3+} , Mn^{2+} , Ni^{2+} , Zn^{2+} , Co^{2+} , Ca^{2+} , Sr^{2+} , Ba^{2+} , Mg^{2+} , NH_4^+

Anions: CO_3^{2-} , S^{2-} , SO_3^{2-} , NO_3^- , NO_2^- , Cl^- , Br^- , I^- , SO_4^{2-} , PO_4^{3-} , CH_3COO^-

(Note: Insoluble salts excluded)

2. Detection of -Nitrogen, Sulphur, Chlorine in organic compounds.

PROJECTS

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested Projects

- a) Checking the bacterial contamination in drinking water by testing sulphide ion
- b) Study of the methods of purification of water
- c) Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).
- d) Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it
- e) Study the acidity of different samples of tea leaves.
- f) Determination of the rate of evaporation of different liquids
- g) Study the effect of acids and bases on the tensile strength of fibers.
- h) Study of acidity of fruit and vegetable juices.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

Practical Examination for Visually Challenged Students Class XI

Note: Same Evaluation scheme and general guidelines for visually challenged students as given for Class XII may be followed.

List of apparatus for identification for assessment in practicals (All experiments)

Beaker, tripod stand, wire gauze, glass rod, funnel, filter paper, Bunsen burner, test tube, test tube stands, dropper, test tube holder, ignition tube, china dish, tongs, standard flask, pipette, burette, conical flask, clamp stand, dropper, wash bottle

- Odor detection in qualitative analysis.
- Procedure/Setup of the apparatus.

List of Experiments

A. Characterization and Purification of Chemical Substances

Crystallization of an impure sample of any one of the following: copper sulphate, benzoic acid.

B. Experiments based on pH

1. Determination of pH of some solutions obtained from fruit juices, solutions of known and varied concentrations of acids, bases and salts using pH paper.
2. Comparing the pH of solutions of strong and weak acids of same concentration.

C. Chemical Equilibrium

1. Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either ions.
2. Study the shift in equilibrium between $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$ and chloride ions by changing the concentration of either of the ions.

D. Quantitative estimation

1. Preparation of standard solution of oxalic acid.
2. Determination of molarity of a given solution of sodium hydroxide by titrating it against standard solution of oxalic acid.

E. Qualitative Analysis

1. Determination of one anion and one cation in a given salt

Cations - NH_4^+

Anions: CO_3^{2-} , S^{2-} , SO_3^{2-} , Cl^- , CH_3COO^-

(Note: insoluble salts excluded)

2. Detection of Nitrogen in the given organic compound.
3. Detection of Halogen in the given organic compound.

Note: *The above practical may be carried out in an experiential manner rather than recording observations.*

Prescribed Books:

1. Chemistry Part – I, Class-XI, Published by NCERT.
2. Chemistry Part – II, Class-XI, Published by NCERT.
3. Manual of Microscale Chemistry laboratory kit, Published by NCERT

Links for NCERT textbooks:

1. <https://ncert.nic.in/textbook.php?kech1=0-6>
2. <https://ncert.nic.in/textbook.php?kech2=0-3>
3. https://ncert.nic.in/division/dek/pdf/Manual_01.pdf

COURSE STRUCTURE
CLASS XII
THEORY

Time: 3 Hours

Total Marks: 70

S. No.	Title	Marks
1	Solutions	7
2	Electrochemistry	9
3	Chemical Kinetics	7
4	d -and f -Block Elements	7
5	Coordination Compounds	7
6	Haloalkanes and Haloarenes	6
7	Alcohols, Phenols and Ethers	6
8	Aldehydes, Ketones and Carboxylic Acids	8
9	Amines	6
10	Biomolecules	7
	Total	70

Unit 1: Solutions

Types of Solutions, Expression of Concentration of Solutions, Solubility, Vapour Pressure of Liquid Solutions, Ideal and Non –Ideal Solutions, Colligative Properties and Determination of Molar Mass, Abnormal Molecular Masses.

Unit 2: Electrochemistry

Electrochemical Cells, Galvanic Cells, Nernst Equation, Conductance of Electrolytic solutions, Electrolytic Cells and Electrolysis, Batteries, Fuel Cells, Corrosion.

Unit 3: Chemical Kinetics

Rate of a Chemical reaction, factors influencing rate of reaction, integrated rate equations, Temperature Dependence of the rate of a reaction, Collision theory of Chemical Reactions

Unit 4: d and f Block Elements

Position in the Periodic Table, Electronic configuration of the d-Block Elements, General properties of the Transition Elements (d-Block), Some Important Compounds of Transition Elements, The Lanthanoids, The Actinoids, Some Applications of d- and f- Block Elements.

Unit 5: Coordination Compounds

Werner's Theory of Coordination Compound, Definition of Some important terms pertaining to Coordination Compounds, Nomenclature of Coordination Compounds. Isomerism in Coordination Compounds, Bonding in coordination compounds, Bonding in Metal Carbonyls, Importance and Applications of Coordination Compounds.

Unit 6: Haloalkanes and Haloarenes

Classification, Nomenclature, Nature of C–X bond, Methods of Preparation of Haloalkanes, Preparation of Haloarenes, Physical Properties, Chemical Reactions, Polyhalogen Compounds.

Unit 7: Alcohols, Phenols and Ethers

Classification, Nomenclature, Structures of Functional Groups, Alcohols and Phenols, Some commercially Important Alcohols, Ethers.

Unit 8: Aldehydes, Ketones and Carboxylic Acids

Nomenclature and Structure of Carbonyl Group, Preparation of Aldehydes and Ketones, Physical Properties and Chemical Reactions, Uses of Aldehydes and Ketones

Nomenclature Structure of Carboxyl Group, Methods of Preparation of Carboxylic Acids, Physical Properties and Chemical Reactions, Uses of Carboxylic Acids.

Unit 9: Amines

Structure of Amines, Classification, Nomenclature, Preparation of Amines, Physical Properties, Chemical Reactions, Methods of Preparation of Diazonium Salts, Physical Properties, Chemical Reactions, Chemical Reactions Importance of Diazonium Salts in Synthesis of Aromatic Compounds.

Unit 10: Biomolecules

Carbohydrates. Proteins, Enzymes, Vitamins Nucleic Acids, Hormones

Note: The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. This reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

1. **Surface Chemistry** - Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids, colloidal state distinction between true solutions, colloids and suspension; lyophilic, lyophobic properties of colloids; coagulation, emulsion - types of emulsions.
2. **General Principles and Processes of Isolation of Elements** - Principles and methods of extraction - concentration, oxidation, reduction - electrolytic method and refining
3. **Polymers** – Polymerisation, Homopolymers and copolymer with few examples
4. **Chemistry in Everyday life** - Chemicals in medicines - analgesics, tranquilizers antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines. Chemicals in food - preservatives, artificial sweetening agents, antioxidants.

PRACTICAL

Evaluation Scheme for Examination	Marks
Volumetric Analysis	08
Salt Analysis	08
Content Based Experiment	06
Project Work	04
Class record and viva	04
Total	30

PRACTICAL SYLLABUS

Micro-chemical methods are available for several of the practical experiments, wherever possible such techniques should be used.

A. Surface Chemistry

1. Preparation of one lyophilic and one lyophobic sol
Lyophilic sol - starch, egg albumin and gum
Lyophobic sol – aluminum hydroxide, ferric hydroxide, arsenous sulphide.
2. Dialysis of sol-prepared in (a) above.
3. Study of the role of emulsifying agents in stabilizing the emulsion of different oils.

B. Chemical Kinetics

1. Effect of concentration and temperature on the rate of reaction between Sodium Thiosulphate and Hydrochloric acid.
2. Study of reaction rates of any one of the following:
 - Reaction of Iodide ion with Hydrogen Peroxide at room temperature using different concentration of Iodide ions.
 - Reaction between Potassium Iodate, (KIO_3) and Sodium Sulphate: (Na_2SO_3) using starch solution as indicator (clock reaction).

C. Thermochemistry

Any one of the following experiments

- Enthalpy of dissolution of Copper Sulphate or Potassium Nitrate.
- Enthalpy of neutralization of strong acid (HCl) and strong base (NaOH).
- Determination of enthalpy change during interaction (Hydrogen bond formation) between Acetone and Chloroform.

D. Electrochemistry

Variation of cell potential in $\text{Zn}/\text{Zn}^{2+}||\text{Cu}^{2+}/\text{Cu}$ with change in concentration of electrolytes (CuSO_4 or ZnSO_4) at room temperature.

E. Chromatography

1. Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of R_f values.
2. Separation of constituents present in an inorganic mixture containing two cations only (constituents having large difference in R_f values to be provided).

F. Preparation of Inorganic Compounds

1. Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum.
2. Preparation of Potassium Ferric Oxalate.

G. Preparation of Organic Compounds

Preparation of any one of the following compounds

1. Acetanilide
2. Di-benzal acetone
3. p-Nitroacetanilide
4. Aniline yellow or 2 - Naphthol Aniline dye.

H. Tests for the functional groups present in organic compounds

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

I. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.

J. Determination of concentration/ molarity of KMnO_4 solution by titrating it against a standard solution of:

1. Oxalic acid,
 2. Ferrous Ammonium Sulphate
- (Students will be required to prepare standard solutions by weighing themselves).

K. Qualitative analysis

Determination of one anion and one cation in a given salt

Cations: $\text{Pb}^{2+}, \text{Cu}^{2+}, \text{Al}^{3+}, \text{Fe}^{3+}, \text{Mn}^{2+}, \text{Ni}^{2+}, \text{Zn}^{2+}, \text{Co}^{2+}, \text{Ca}^{2+}, \text{Sr}^{2+}, \text{Ba}^{2+}, \text{Mg}^{2+}, \text{NH}_4^+$

Anions: $\text{CO}_3^{2-}, \text{S}^{2-}, \text{SO}_3^{2-}, \text{NO}_3^-, \text{NO}_2^-, \text{Cl}^-, \text{Br}^-, \text{I}^-, \text{SO}_4^{2-}, \text{PO}_4^{3-}, \text{CH}_3\text{COO}^-, \text{C}_2\text{O}_4^{2-}$

(Note: Insoluble salts excluded)

PROJECTS

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested Projects

- Study of the presence of oxalate ions in guava fruit at different stages of ripening.
- Study of quantity of casein present in different samples of milk.
- Preparation of soybean milk and its comparison with the natural milk with respect to curd formation, effect of temperature, etc.
- Study of the effect of Potassium Bisulphate as food preservative under various conditions (temperature, concentration, time, etc.)
- Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
- Comparative study of the rate of fermentation of following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
- Extraction of essential oils present in Saunf (aniseed), Ajwain (carom), Illaichi (cardamom).
- Study of common food adulterants in fat, oil, butter, sugar, turmeric powder, chili powder and pepper.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

Practical Examination for Visually Challenged Learners Classes XI and XII

Evaluation Scheme	Marks
Identification/Familiarity with the apparatus	5
Written test (based on given/prescribed practical's)	10
Practical Record	5
Viva	10
Total	30

General Guidelines

- The practical examination will be of two-hour duration.
- A separate list of ten experiments is included here.
- The written examination in practicals for these students will be conducted at the time of practical examination of all other students.
- The written test will be of 30 minutes' duration.
- The question paper given to the students should be legibly typed. It should contain a total of 15 practical skill based very short answer type questions. A student would be required to answer any 10 questions.
- A writer may be allowed to such students as per CBSE examination rules.
- All questions included in the question papers should be related to the listed practicals
- Every question should require about two minutes to be answered.
- These students are also required to maintain a practical file. A student is expected to record at least five of the listed experiments as per the specific instructions for each subject. These practicals should be duly checked and signed by the internal examiner.
- The format of writing any experiment in the practical file should include aim, apparatus required, simple theory, procedure, related practical skills, precautions etc.
- Questions may be generated jointly by the external/internal examiners and used for assessment.
- The viva questions may include questions based on basic theory/principle/concept, apparatus/materials/ chemicals required, procedure, precautions, sources of error etc.

List of apparatus for identification/familiarity for assessment in practical (All experiments)

Beaker, glass rod, tripod stand, wire gauze, Bunsen burner, Whatman filter paper, gas jar, capillary tube, pestle and mortar, test tubes, tongs, test tube holder, test tube stand, burette, pipette, conical flask, standard flask, clamp stand, funnel, filter paper.

Hands-on Assessment

- Identification/familiarity with the apparatus
- Odour detection in qualitative analysis

List of Experiments

The experiments have been divided into two sections: Section A and Section B. The experiments mentioned in Section B are mandatory.

SECTION A

A. Surface Chemistry

1. Preparation of one lyophilic and one lyophobic sol
 - i. Lyophilic sol - starch, egg albumin and gum
 - ii. Lyophobic sol – Ferric hydroxide

B. Chromatography

Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of R_f values (distance values may be provided).

C. Tests for the functional groups present in organic compounds

1. Alcoholic and Carboxylic groups
2. Aldehyde and Ketonic groups

D. Characteristic tests of carbohydrates and proteins in the given foodstuffs.

E. Preparation of Inorganic Compounds- Potash Alum

SECTION B (Mandatory)

F. Quantitative analysis

1. (a) Preparation of a given volume of the standard solution of Oxalic acid.
(b) Determination of molarity of KMnO_4 solution by titrating it against a standard solution of Oxalic acid.
2. The above exercise [F 1 (a) and (b)] to be conducted using Ferrous ammonium sulphate (Mohr's salt)

G. Qualitative Analysis

Determination of one anion and one cation in a given salt

Cation - NH_4^+

Anions: CO_3^{2-} , S^{2-} , SO_3^{2-} , Cl^- , CH_3COO^-

(Note: insoluble salts excluded)

Note: The above practical may be carried out in an experiential manner rather than recording observations.

Prescribed Books:

1. Chemistry Part – I, Class-XII, Published by NCERT.
2. Chemistry Part – II, Class-XII, Published by NCERT.
3. Manual of Microscale Chemistry Laboratory Kit, Published by NCERT.

Links for NCERT textbooks:

1. <https://ncert.nic.in/textbook.php?lech1=0-5>
2. <https://ncert.nic.in/textbook.php?lech2=0-5>
3. https://ncert.nic.in/division/dek/pdf/Manual_01.pdf

QUESTION PAPER DESIGN CLASSES XI & XII

S. No	Domains	Total Marks	%
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.	28	40
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	21	30
3	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	21	30

1. No chapter wise weightage is provided, however, care to be taken to cover all the chapters.
2. Suitable internal variations may be made for generating various templates.
3. There will be no overall choice in the question paper.
4. However, 33% internal choices will be given in all the sections.

COMPUTER SCIENCE

Subject Code - 083

Class XI (2026-27)

1. Learning Outcomes

Students should be able to:

- a) develop basic computational thinking
- b) explain and use data types
- c) appreciate the notion of algorithms
- d) develop a basic understanding of computer systems- architecture and operating system
- e) explain cyber ethics, cyber safety, and cybercrime
- f) understand the value of technology in societies along with consideration of gender and disability issues.

2. Distribution of Marks

Unit No.	Unit Name	Marks
1	Computer Systems and Organisation	10
2	Computational Thinking and Programming -1	45
3	Society, Law, and Ethics	15
	Total	70

3. Unit wise Syllabus

Unit 1: Computer Systems and Organisation

- Basic computer organisation: Introduction to Computer System, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (bit, byte, KB, MB, GB, TB, PB)
- Types of software: System software (Operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler, and interpreter), application software
- Operating System(OS): functions of the operating system, OS user interface
- Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth tables and De Morgan's laws, Logic circuits
- Number System: Binary, Octal, Decimal and Hexadecimal number system;

- conversion between number systems
- Encoding Schemes: ASCII, ISCII, and Unicode (UTF8, UTF32)

Unit 2: Computational Thinking and Programming - I

- Introduction to Problem-solving: Steps for Problem-solving (Analyzing the problem, developing an algorithm, coding, testing, and debugging), representation of algorithms using flowchart and pseudocode, decomposition
- Familiarization with the basics of Python programming: Introduction to Python, Features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens(keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments
- Knowledge of data types: Number(integer, floating point,complex), boolean, sequence(string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.
- Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in)
- Expressions, statement, type conversion, and input/output: precedence of operators, expression, evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output.
- Errors- syntax errors, logical errors, and run-time errors
- Flow of Control: introduction, use of indentation, sequential flow, conditional and iterative flow
- Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number.
- Iterative Statement: for loop, range(), while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc.
- Strings: introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods—len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(),lstrip(), rstrip(), strip(), replace(), join(), partition(), split()
- Lists: introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/methods—len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list.
- Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods — len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple; suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear

search on a tuple of numbers, counting the frequency of elements in a tuple.

- Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions/methods — len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted(); Suggested programs: count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them.
- Introduction to Python modules: Importing module using 'import <module>' and using from statement, importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan()); random module (random(), randint(), randrange()), statistics module (mean(), median(), mode()).

Unit 3: Society, Law and Ethics

- Digital Footprints
- Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes
- Data Protection: Intellectual property rights (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source software and licensing (Creative Commons, GPL and Apache)
- Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying
- Cyber safety: safely browsing the web, identity protection, confidentiality
- Malware: viruses, trojans, adware
- E-waste management: proper disposal of used electronic gadgets.
- Information Technology Act (IT Act)
- Technology and society: Gender and disability issues while teaching and using computers

4. Practical

S.No.	Unit Name	Marks (Total=30)
1.	Lab Test (12 marks)	
	Python program (60% logic + 20% documentation + 20% code quality)	12
2.	Report File + Viva (10 marks)	
	Report file: Minimum 20 Python programs	7
	Viva voce	3
3.	Project (that uses most of the concepts that have been learnt)	8

5. Suggested Practical List

Python Programming

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.
- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loops:

Pattern-1	Pattern-2	Pattern-3
* ** *** **** *****	12345 1234 123 12 1	A AB ABC ABCD ABCDE

- Write a program to input the value of x and n and print the sum of the following series:
 - $1 + x + x^2 + x^3 + x^4 + \dots x^n$
 - $1 - x + x^2 - x^3 + x^4 - \dots x^n$
 - $x + \frac{x^2}{2} + \frac{x^3}{3} + \frac{x^4}{4} + \dots \frac{x^n}{n}$
 - $x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots \frac{x^n}{n!}$
- Determine whether a number is a perfect number, an Armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have marks above 75.

6. Suggested Reading Material

- NCERT Textbook for Computer Science (Class XI)
- Support Material on CBSE website

COMPUTER SCIENCE

Subject Code – 083

Class XII (2026-27)

1. Prerequisites

Computer Science- Class XI

2. Learning Outcomes

Student should be able to

- a) apply the concept of function.
- b) explain and use the concept of file handling.
- c) use basic data structure: Stacks
- d) explain basics of computer networks.
- e) use Database concepts, SQL along with connectivity between Python and SQL.

3. Distribution of Marks:

Unit No.	Unit Name	Marks
1	Computational Thinking and Programming – 2	40
2	Computer Networks	10
3	Database Management	20
	Total	70

4. Unit wise Syllabus

Unit 1: Computational Thinking and Programming – 2

- Revision of Python topics covered in Class XI.
- Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope)
- Exception Handling: Introduction, handling exceptions using try-except-finally blocks
- Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths

- Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(), seek and tell methods, manipulation of data in a text file
- Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file
- CSV file: import csv module, open / close csv file, write into a csv file using writer(), writerow(), writerows() and read from a csv file using reader()
- Data Structure: Stack, operations on stack (push & pop), implementation of stack using list.

Unit 2: Computer Networks

- Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)
- Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
- Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves)
- Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
- Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)
- Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP
- Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting

Unit 3: Database Management

- Database concepts: introduction to database concepts and its need
- Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)
- Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join
- Interface of python with an SQL database: connecting SQL with Python, performing

insert, update, delete queries using cursor, display data by using connect(), cursor(), execute(), commit(), fetchone(), fetchall(), rowcount, creating database connectivity applications, use of %s format specifier or format() to perform queries

5. Practical

S.No	Unit Name	Marks (Total=30)
1	Lab Test: 1. Python program (60% logic + 20% documentation + 20% code quality)	8
	2. SQL queries (4 queries based on one or two tables)	4
2	Report file: • Minimum 15 Python programs. • SQL Queries – Minimum 5 sets using one table / two tables. • Minimum 4 programs based on Python – SQL connectivity	7
3	Project (using concepts learnt in Classes 11 and 12)	8
4	Viva voce	3

6. Suggested Practical List:

Python Programming

- Read a text file line by line and display each word separated by a #.
- Read a text file and display the number of vowels/consonants/uppercase/lowercase characters in the file.
- Remove all the lines that contain the character 'a' in a file and write it to another file.
- Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.
- Create a binary file with roll number, name and marks. Input a roll number and update the marks.
- Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).
- Write a Python program to implement a stack using list.
- Create a CSV file by entering user-id and password, read and search the password for given userid.

Database Management

- Create a student table and insert data. Implement the following SQL commands on the student table:
 - ALTER table to add new attributes / modify data type / drop attribute
 - UPDATE table to modify data
 - ORDER By to display data in ascending / descending order
 - DELETE to remove tuple(s)
 - GROUP BY and find the min, max, sum, count and average
- Similar exercise may be framed for other cases.
- Integrate SQL with Python by importing suitable module.

7. Suggested Reading Material

- NCERT Textbook for COMPUTER SCIENCE (Class XII)
- Support Materials on the CBSE website.

8. Project

The aim of the class project is to create something that is tangible and useful using Python file handling/ Python-SQL connectivity. This should be done in groups of two to three students and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve.

Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, of course to do some of these projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves.

The students should be sensitized to avoid plagiarism and violations of copyright issues while working on projects. Teachers should take necessary measures for this.

ECONOMICS (Subject Code 030)

Class XI-XII (2026-27)

Rationale

Economics is one of the social sciences, which has great influence on every human being. As economic life and the economy go through changes, the need to ground education in children's own experience becomes essential. While doing so, it is imperative to provide them opportunities to acquire analytical skills to observe and understand the economic realities.

At senior secondary stage, the learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage, the learners are exposed to the rigour of the discipline of economics in a systematic way.

The economics courses are introduced in such a way that in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day life and also from issues, which are broader and invisible in nature. The academic skills that they learn in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

Objectives:

- Understanding of some basic economic concepts and development of economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.
- Realisation of learners' role in nation building and sensitivity to the economic issues that the nation is facing today.
- Equipment with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond senior secondary stage.
- Development of understanding that there can be more than one view on any economic issue and necessary skills to argue logically with reasoning.

ECONOMICS (Subject Code 030)

Class - XI (2026-27)

Theory: 80 Marks

3 Hours

Project: 20 Marks

Units		Marks
Part A	Statistics for Economics	
	Introduction	15
	Collection, Organisation and Presentation of Data	
	Statistical Tools and Interpretation	25
		40
Part B	Introductory Microeconomics	
	Introduction	04
	Consumer's Equilibrium and Demand	14
	Producer Behaviour and Supply	14
	Forms of Market and Price Determination under perfect competition with simple applications	08
		40
Part C	Project Work	20

Part A: Statistics for Economics

In this course, the learners are expected to acquire skills in collection, organisation and presentation of quantitative and qualitative information pertaining to various simple economic aspects systematically. It also intends to provide some basic statistical tools to analyse, and interpret any economic information and draw appropriate inferences. In this process, the learners are also expected to understand the behaviour of various economic data.

Unit 1: Introduction

What is Economics?

Meaning, scope, functions and importance of statistics in Economics

Unit 2: Collection, Organisation and Presentation of data

Collection of data - sources of data - primary and secondary; how basic data is collected with concepts of Sampling; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation.

Organisation of Data: Meaning and types of variables; Frequency Distribution.

Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data:
(i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and Ogive) and (iii) Arithmetic line graphs (time series graph).

Unit 3: Statistical Tools and Interpretation

For all the numerical problems and solutions, the appropriate economic interpretation may be attempted. This means, the students need to solve the problems and provide interpretation for the results derived.

Measures of Central Tendency- Arithmetic mean, Median and Mode

Correlation – meaning and properties, scatter diagram; measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation (Non-Repeated Ranks and Repeated Ranks).

Introduction to Index Numbers - meaning, types - Wholesale Price Index, Consumer Price Index and index of industrial production, uses of index numbers; Inflation and Index Numbers, Simple Aggregative Method.

Part B: Introductory Microeconomics

Unit 4: Introduction

Meaning of microeconomics and macroeconomics; positive and normative economics

What is an economy? Central problems of an economy: what, how and for whom to produce; concepts of Production Possibility Frontier and Opportunity Cost.

Unit 5: Consumer's Equilibrium and Demand

Consumer's equilibrium - meaning of Utility, Marginal Utility, Law of Diminishing Marginal Utility, conditions of consumer's equilibrium using marginal utility analysis.

Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.

Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand – percentage-change method and total expenditure method.

Unit 6: Producer Behaviour and Supply

Meaning of Production Function – Short-Run and Long-Run

Total Product, Average Product and Marginal Product.

Returns to a Factor

Cost – Short run costs - Total Cost, Total Fixed Cost, Total Variable Cost; Average Cost; Average Fixed Cost, Average Variable Cost and Marginal Cost - meaning and their relationships.

Revenue – Total Revenue, Average Revenue and Marginal Revenue - meaning and their relationship.

Producer's Equilibrium - meaning and its conditions in terms of Marginal Revenue-Marginal Cost.

Supply, market supply, determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - percentage-change method.

Unit 7: Perfect Competition - Price Determination and simple applications.

Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply. (Short Run Only)

Simple Applications of Demand and Supply: Price ceiling, Price floor.

Part C: Project in Economics

Guidelines as given in Class XII curriculum

Suggested Question Paper Design
Economics (Subject Code 030)
Class XI (2026-27)
March 2026 Examination

Marks: 80

Duration: 3 hrs.

SN	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	32	40%
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	24	30%
3	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	24	30%
	Total	80	100%

ECONOMICS (Subject Code 030)

Class - XII (2026-27)

Theory: 80 Marks

3 Hours

Project: 20 Marks

Units		Marks
Part A	Introductory Macroeconomics	
	National Income and Related Aggregates	10
	Money and Banking	06
	Determination of Income and Employment	12
	Government Budget and the Economy	06
	Balance of Payments	06
		40
Part B	Indian Economic Development	
	Development Experience (1947-90) and Economic Reforms since 1991	12
	Current Challenges facing Indian Economy	20
	Development Experience of India – A Comparison with Neighbours	08
	Theory Paper (40+40 = 80 Marks)	40
Part C	Project Work	20

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 Deflator, GDP and Welfare

Unit 2: Money and Banking

Money – meaning and functions, 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 through Bank Rate, Cash Reserve Ratio (CRR), Statutory Liquidity Ratio (SLR), Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

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.

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.

Balanced, Surplus and Deficit Budget – measures of government deficit.

Unit 5: Balance of Payments

Balance of payments account - meaning and components;

Balance of payments – Surplus and Deficit

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

Determination of exchange rate in a free market, Merits and demerits of flexible and fixed exchange rate.

Managed Floating exchange rate system

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

Human Capital Formation: How people become resource; Role of human capital in economic development; Growth of Education Sector in India

Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming

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

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

Prescribed Books:

1. Statistics for Economics, NCERT
2. Indian Economic Development, NCERT
3. Introductory Microeconomics, NCERT
4. Macroeconomics, NCERT
5. Supplementary Reading Material in Economics, CBSE

Note: The above publications are also available in Hindi Medium.

Suggested Question Paper Design
Economics (Subject Code 030)
Class XII (2026-27)
March 2026 Examination

Marks: 80

Duration: 3 hrs.

SN	Typology of Questions	Marks	Percentage
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	Total	80	100%

Guidelines for Project Work in Economics (Class XI and XII)

The **objectives** of the project work are to enable learners to:

- probe deeper into theoretical concepts learnt in classes XI and XII
- analyse and evaluate real world economic scenarios using theoretical constructs and arguments
- demonstrate the learning of economic theory
- follow up aspects of economics in which learners have interest
- develop the communication skills to argue logically

The **expectations** of the project work are that:

- learners will complete only **ONE** project in each academic session
- project should be of 3,500-4,000 words (excluding diagrams & graphs), preferably hand-written
- it will be an independent, self-directed piece of study

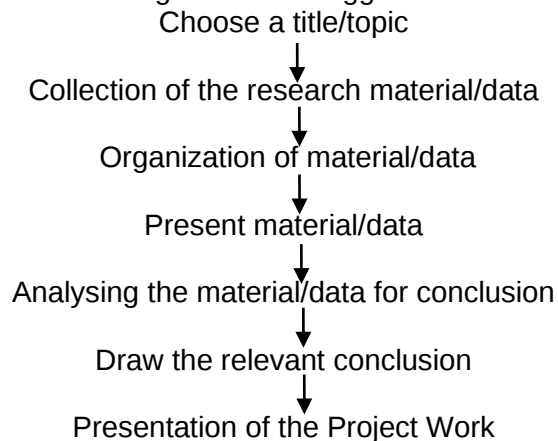
Role of the teacher:

The teacher plays a critical role in developing thinking skills of the learners. A teacher should:

- help each learner select the topic based on recently published extracts from the news media, government policies, RBI bulletin, NITI Aayog reports, IMF/World Bank reports etc., after detailed discussions and deliberations of the topic
- play the role of a facilitator and supervisor to monitor the project work of the learner through periodic discussions
- guide the research work in terms of sources for the relevant data
- educate learner about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work
- prepare the learner for the presentation of the project work
- arrange a presentation of the project file

Scope of the project:

Learners may work upon the following lines as a suggested flow chart:



Expected Checklist:

- Introduction of topic/title
- Identifying the causes, consequences and/or remedies
- Various stakeholders and effect on each of them
- Advantages and disadvantages of situations or issues identified
- Short-term and long-term implications of economic strategies suggested in the course of research
- Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is succinct and coherent in project file
- *Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.*

Mode of presentation/submission of the Project:

At the end of the stipulated term, each learner will present the research work in the Project File to the External and Internal examiner. **The questions should be asked from the Research Work/ Project File of the learner. The Internal Examiner should ensure that the study submitted by the learner is his/her own original work.** In case of any doubt, authenticity should be checked and verified.

Marking Scheme:

Marks are suggested to be given as –

S. No.	Heading	Marks Allotted
1.	Relevance of the topic	3
2.	Knowledge Content/Research Work	6
3.	Presentation Technique	3
4.	Viva-voce	8
	Total	20 Marks

Suggestive List of Projects:

Class XI	
• Effect on PPC due to various government policies	• Invisible Hand (Adam Smith)
• Opportunity Cost as an Economic Tool (taking real life situations)	• Effect of Price Change on a Substitute Good (taking prices from real life visiting local market)
• Effect on Equilibrium Prices in Local Market (taking real life situation or recent news)	• Effect of Price Change on a Complementary Good (taking prices from real life visiting local market)
• Solar Energy, a Cost-Effective Comparison with Conventional Energy Sources	• Bumper Production- Boon or Bane for the Farmer
• Any other newspaper article and its evaluation on basis of economic principles	• Any other topic

Class XII	
• Micro and Small Scale Industries	• Food Supply Channel in India
• Contemporary Employment situation in India	• Disinvestment policy of the government
• Goods and Services Tax Act and its Impact on GDP	• Health Expenditure (of any state)
• Human Development Index	• Inclusive Growth Strategy
• Self-help group	• Trends in Credit availability in India
• Monetary Policy Committee and its functions	• Role of RBI in Control of Credit
• Government Budget & its Components	• Trends in budgetary condition of India
• Exchange Rate determination – Methods and Techniques	• Currency War – reasons and repercussions
• Livestock – Backbone of Rural India	• Alternate fuel – types and importance
• Sarva Shiksha Abhiyan – Cost Ratio Benefits	• Golden Quadrilateral- Cost ratio benefit
• Minimum Support Prices	• Relation between Stock Price Index and Economic Health of a Nation
• Waste Management in India – Need of the hour	• Minimum Wage Rate – Approach and Application
• Digital India- Step towards the future	• Rain Water Harvesting – A solution to water crisis
• Vertical Farming – An alternate way	• Silk Route- Revival of the past
• Make in India – The way ahead	• Bumper Production- Boon or Bane for the farmer
• Rise of Concrete Jungle- Trend Analysis	• Organic Farming – Back to the Nature
• <i>Aatmanirbhar</i> Bharat	• e-Rupee (e- ₹)
• Sri Lanka's Economic Crisis	• Sustainable Development Goals (SDG's)
• Environmental Crisis	• Comparative Study of Economies (Maximum three economies)
• New Education Policy (NEP) 2020: A Promise for a New Education System	• G-20: Inclusive and Action Oriented
• Amrit Kaal: Empowered and Inclusive Economy	• Cashless Economy
• Any other newspaper article and its evaluation on basis of economic principles	• Any other topic

ENGINEERING GRAPHICS

Subject Code – 046

Classes XI – XII (2026-27)

Study of engineering graphics is defined as the set of graphic communication techniques used to convey the ideas, designs, concepts and information using proper standards. Since ages, professionals like Architects, Draftsmen, Surveyors, and even technocrats have been extensively using concepts and ideas of Engineering Graphics. The subject of 'Engineering Graphics' is an indispensable tool for all the branches of Engineering. This is necessary for the design, construction or analysis of machines, structures, and various systems even digitally. This subject is also useful for various designers like prototype designer, product designer, tool & die designer, apparel designer, footwear designer and interior designer. It is expected that the knowledge gained through the study of different topics and the skills acquired through the prescribed practical work will make the learners to meet the challenges of academic, professional courses and practical applications like design and development of vehicles, industrial products, aircrafts, dental implant fixtures, surgical planning of knee replacement etc. after studying the subject at Senior Secondary Stage.

Objectives:

The study of the subject of Engineering Graphics at Senior School Level aims at helping the learner to:

- Develop clear concept and perception of different objects.
- Reinforcing the related mathematical concepts.
- Develop a clear understanding of plane geometry, solid geometry, and machine drawing to apply the same in relevant practical fields such as technology and industry.
- Develop analytical, visual, and spatial skills.
- Develop the skill of expressing two-dimensional and three-dimensional objects into professional language and vice versa.
- Acquire speed and accuracy in use of drawing instruments.
- Acquire the ability to readily draw neat sketches, often needed in "On-job situations".
- Use digital technology (CAD) in designing and developing isometric and orthographic projections of simple objects.

COURSE STRUCTURE

CLASS XI (2026-27)

One Paper (Theory): 3 Hours

70 Marks

One paper (Practical): 3 Hours

30 Marks

S. No.	Unit	Marks
I	PLANE GEOMETRY 1. Introduction 2. Lines, angles, and rectilinear figures 3. Circles, inscribing and circumscribing of circles	10
II	SOLID GEOMETRY 4. Orthographic projection of points and lines 5. Orthographic projection of regular plane figures 6. Orthographic projection of right regular solids 7. Section of solids	30
III	MACHINE DRAWING 8. Orthographic projections of simple machine blocks 9. Isometric projection of laminae (plane figures)	30
	Practical	30
	Total Marks	100

THEORY

I. PLANE GEOMETRY

Unit 1: Introduction: English alphabets (capital and small) and numerals in standard proportions; Unidirectional/aligned system of dimensioning and conventions as per SP 46:2003 (Revised); Engineering drawing instruments.

Unit 2: Construction of lines, angles, and their divisions. Simple questions based on triangles, square, rhombus, regular polygons-pentagon, and hexagon.

Unit 3: Construction of circles, inscribing and circumscribing of circles in equilateral triangle, square, rhombus, regular polygons-pentagon, and hexagon.

Introduction to Engineering Curves: Definition and applications of Ellipse, Parabola, Hyperbola, Involute, Helix, Cycloids and Sine Curve (FOR INTERNAL ASSESSMENT ONLY).

II. SOLID GEOMETRY

- Unit 4: Orthographic projection: dimensioning and conventions strictly as per SP 46:2003 (Revised). Orthographic projection of points and lines.
- Unit 5: Orthographic projection of regular plane figures - triangle, square, pentagon, hexagon, circle, and semi-circle.
- Unit 6: Orthographic projection of right regular solids such as cube; prisms and pyramids (triangular, square, pentagonal, and hexagonal); cone; cylinder; sphere; hemi-sphere; frustum of pyramids and cone, when they are kept with their axis (a) perpendicular to HP/VP (b) parallel to HP and VP both.
- Unit 7: Section of right regular solids such as cubes; prisms and pyramids (square, triangular, pentagonal, and hexagonal); cones; cylinders; spheres, kept with their axis perpendicular to HP/VP, made by a vertical cutting plane.

III. MACHINE DRAWING

- Unit 8: Orthographic projection of simple machine blocks.
- Unit 9: Isometric Projection - Construction of isometric scale showing main divisions of 10 mm and smaller divisions of 1 mm each. Isometric projection (drawn to isometric scale) of regular plane figures - triangle, square, pentagon, hexagon, circle, and semi-circle with their surface parallel to HP or VP (keeping one side either parallel or perpendicular to HP/VP).

Isometric View (drawn to full size scale) of regular plane figures (FOR INTERNAL ASSESSMENT ONLY)

PRACTICAL

1. Making different types of graphic designs/murals for interior/exterior decorations in colour using the knowledge of geometrical figures or 3D solids with the use of any Computer Software such as CollabCAD or any equivalent pertinent software.
2. Drawing the following engineering curve through activities - ellipse (by trammel & thread method) on the ground/drawing sheet/plywood/cardboard etc.
3. Developing the following solids with the help of cardboard/ thick paper.
 - a) cube, cuboid
 - b) prisms & pyramids (triangular, square, pentagonal, and hexagonal)
 - c) right circular cylinder and cone
4. Preparing the section of solids (prisms, pyramids, sphere, etc.) with clay, soap- cake, plasticine, wax or with the 3D printing technology. When the cutting plane is: parallel to the base, perpendicular to the base or inclined to the base.

5. Preparing the top-view (plan) of a class-room/lab, home (Drawing Room/Bedroom/ Study Room, Kitchen) drawing different objects therein.

Note:

- I. 15 practical (minimum three each from aforementioned five points) are to be assessed.
- II. In all the practical, drawing/sketching of the views should be incorporated and evaluated accordingly.
- III. The scheme of evaluation is as follows:

(a)	Practical (2)	15 Marks
(b)	Drawing/ Sketch	05 Marks
(c)	Viva-voce	05 Marks
(d)	Sessional Work	05 Marks
Total		30 Marks

ACTIVITY

Industrial Visits (Two) to any industry/manufacturing plant/higher educational institute to acquaint the students with the present - day methods & technology for better conceptual understanding.

COURSE STRUCTURE

CLASS XII (2026-27)

One Paper (Theory): 3 Hours

70 Marks

One paper (Practical): 3 Hours

30 Marks

S. No.	Unit Name	Marks
I	Isometric Projections of Solids	25
II	Machine Drawing A. Drawing of Machine parts B. Assembly Drawing and Dis-assembly drawings 1. Bearings 2. Rod joints 3. Tie-rod and Pipe joint	45
Practical		30
Total Marks		100

THEORY

Unit I: Isometric Projection of Solids

- (i) Construction of isometric scale showing main divisions of 10mm and smaller divisions of 1 mm, also showing the leading angles. Drawing helping view/s such as triangles, pentagon, hexagon, etc., using isometric scale.

- (ii) Isometric projection (drawn to isometric scale) of right regular solids such as cubes; prisms and pyramids (triangular, square, pentagonal and hexagonal); cone; cylinder; sphere; hemi-sphere; when they are kept with their axis (a) perpendicular to HP/VP (b) parallel to HP and VP both.
- (iii) Combination of any two above mentioned solids keeping the base side parallel or perpendicular to HP/VP and placed centrally together (Axis of both the solids should not be given parallel to HP).

Note:

1. Hidden lines are not required in isometric projection.
2. Indicate the direction of viewing.

Unit II: Machine Drawing (as per SP46: 2003)

A. Drawing of machine parts

- (i) Drawing to full size scale with instruments.

(Internal choice will be given between any two of the following).

Introduction of threads: Standard profiles of screw threads - Square, Knuckle, B.S.W., Metric (external and internal); Bolts – Square head, hexagonal head; Nuts – Square head, Hexagonal head; Plain washer, Combination of nut and bolt with or without washer for assembling two parts together;

- (ii) Free-hand sketches

Conventional representation of external and internal threads; Types of studs – Plain stud, Square-neck stud, Collar stud; Screws (round-head, cheese- head, 90° flat counter sunk-head, hexagonal socket head and grub-screw); Types of rivets – Snap head, Pan head (without tapered neck), Flat head, 60° countersunk flat head.

B. Assembly drawings and Dis-Assembly drawings

(Internal choice will be given between an Assembly drawing and a Dis-Assembly drawing).

1. Bearings
 - (i) Open-Bearing
 - (ii) Bush- Bearing
2. Rod-Joints
 - (i) Cotter-joints for round-rods (Sleeve and cotter joint)
 - (ii) Cotter-joints for square rods (Gib and cotter-joint)
3. Tie-rod and Pipe-joint
 - (i) Turnbuckle
 - (ii) Flange pipe joint

Note:

1. *In all Assembly drawings, half sectional front view will be asked. Side/End view or Top View/Plan will be drawn without section.*
2. *In all Dis-assembly drawings, only two orthographic views (one of the two views may be half in section or full in section) will be asked of any two parts only.*

3. (a) *In all sectional views, hidden lines/ edges are not to be shown.*
 (b) *In all full views, hidden lines/edges are to be shown.*

PRACTICALS

(i) To perform the following tasks (for One only) from the given views of the prescribed fifteen (15) machine blocks in **ANNEXURE-I**.

Value-Points

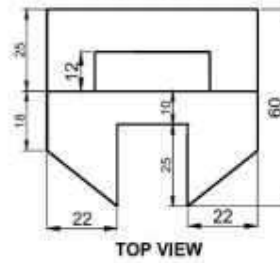
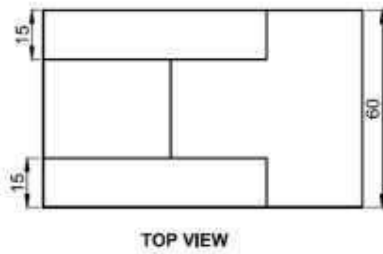
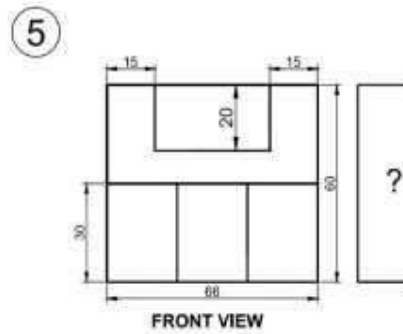
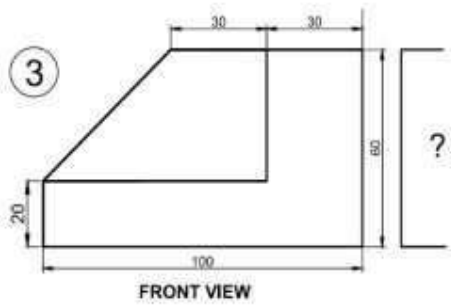
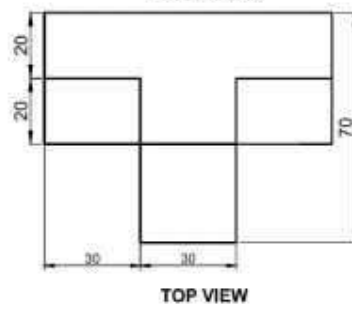
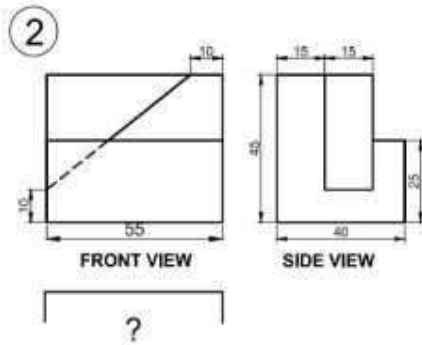
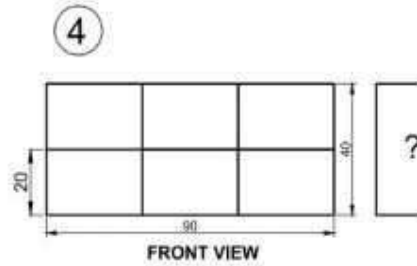
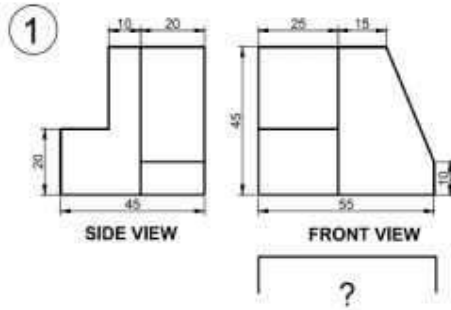
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|--|----|
| 1. Copy the given views | 1 |
| 2. Drawing the missing view with hidden lines | 2 |
| 3. Sketching the Isometric view without hidden edges | 5 |
| 4. To make the machine block of the above in three dimensions. (Not to scale but approximately proportionately drawn with Any medium i.e., Soap-cake, plasticine, clay, wax, floral foam brick (available with florists), etc. | 7 |
| (ii) Computer Aided Design (CAD) – Project | 10 |
| Project file to be submitted on the simple solids or machine blocks as prescribed in part-I by using the CollabCAD software or any equivalent pertinent software. | |
| (iii) (a) Sessional work relating to machine blocks as prescribed. | 3 |
| (b) Viva-voce based on part-I and part-II | 2 |

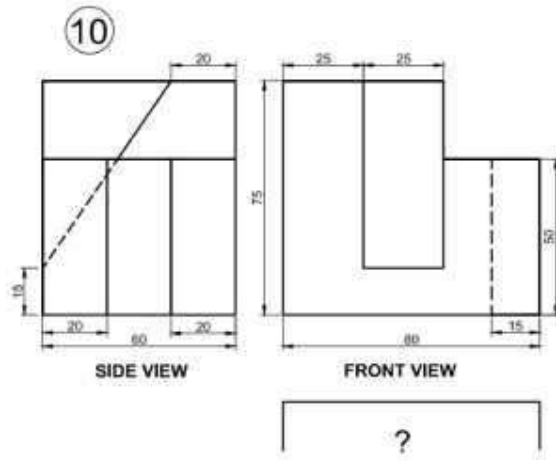
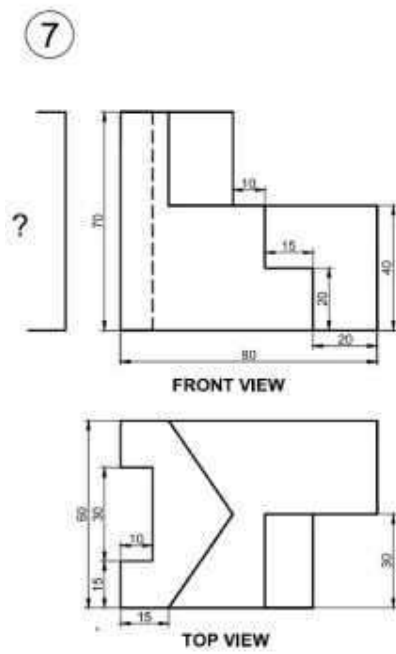
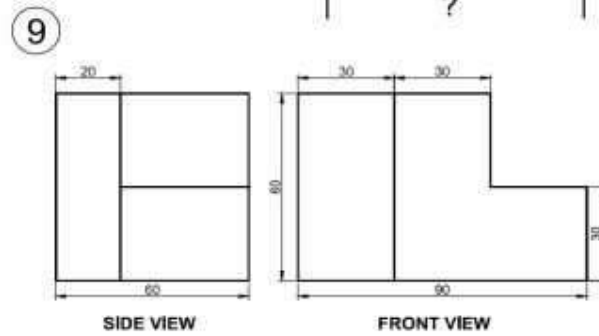
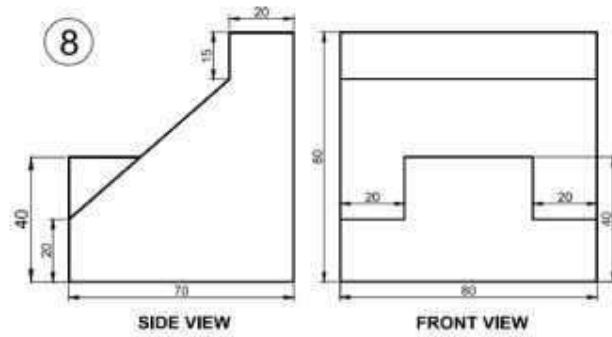
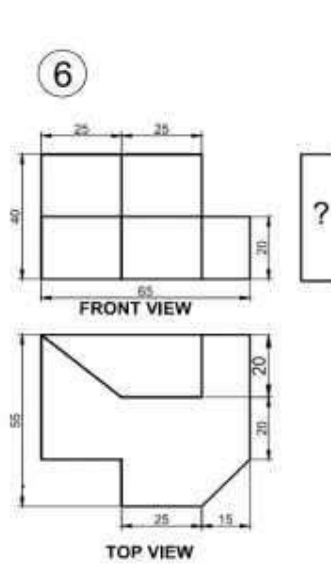
Total Marks 30

ACTIVITY

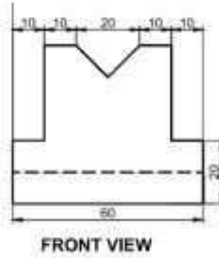
Industrial Visits (Two) to any industry/manufacturing plant/higher educational institute to acquaint the students with the present - day methods & technology for better conceptual understanding.

ANNEXURE -- 1



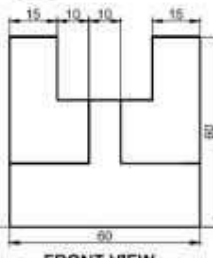


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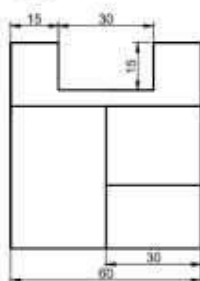
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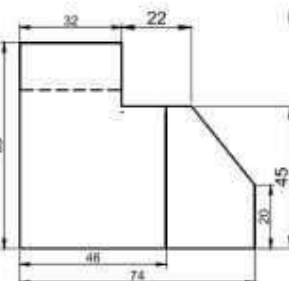
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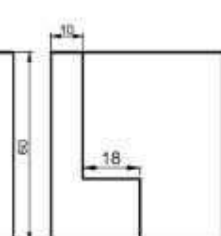
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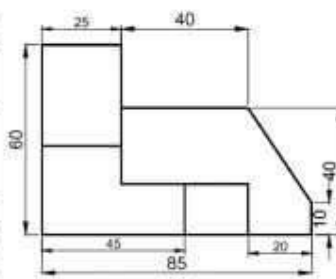
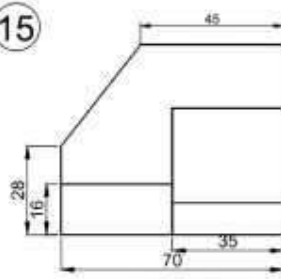
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ENTREPRENEURSHIP (Subject Code 066)

Class XI-XII (2026-27)

Rationale

School curriculum is a dynamic process. It continuously evolves itself reflecting the needs and aspirations of learners. In recent times, our society is influenced by knowledge creation and technological advancements. Competencies affecting Innovation and creativity have become important in all walks of life, including business context. This makes entrepreneurship education even more important for enhancing quality of life.

Entrepreneurship plays an influential role in the economic growth and development of the country. As the world economy is changing so is the dynamism of the business world. The aim of this course is to instill and kindle the spirit of Entrepreneurship amongst students. The idea of this course is to create “job providers rather than job seekers”.

Objectives:

- To develop Entrepreneurial mindset among Higher Secondary School children.
- To encourage school children to opt for self-employment as a viable option for earning dignified means of living.
- To enable students to appreciate the dynamic changes happening in the economy.
- To acquaint the students about the role of Entrepreneurship in the growth and economic development of the nation.
- To promote Entrepreneurship as life-skills to improve quality of life, skills of creation and management of entrepreneurial pursuits.

ENTREPRENEURSHIP (Subject Code 066)

Class-XI (2026-27)

Theory Paper

Time: 3 hours

Maximum marks: 70

S. No.	Unit	Marks
Unit 1	Entrepreneurship: Concept and Functions	15
Unit 2	An Entrepreneur	
Unit 3	Entrepreneurial Journey	20
Unit 4	Entrepreneurship as Innovation and Problem Solving	
Unit 5	Understanding the Market	15
Unit 6	Business Finance and Arithmetic	20
Unit 7	Resource Mobilization	
	PROJECT WORK	30
	Total	100

COURSE CONTENT

Unit 1: Entrepreneurship: Concept and Functions	
Competencies- Vision, Decision making, Logical, Critical and Analytical Thinking, Managing Skills	
Contents	Learning Outcomes
• Entrepreneurship – Concept, Functions and Need • Why Entrepreneurship for You • Myths about Entrepreneurship • Advantage and Limitations of Entrepreneurship • Process of Entrepreneurship • Entrepreneurship – The Indian Scenario	After going through this unit, the student/ learner would be able to: • Understand the concept of Entrepreneurship • Explain the functions of an Entrepreneur • Appreciate the need for Entrepreneurship in our economy • Assess how entrepreneurship can help shape one's career • State the myths, advantages and limitations of Entrepreneurship • Discuss the steps in the process of Entrepreneurship • Describe the current scenario of Entrepreneurial activity in India
Unit 2: An Entrepreneur	
Competencies: Need Achievement, Motivation, Ethics, opportunity seeking, Passion, Independence	
Contents	Learning Outcomes
• Why be an Entrepreneur • Types of Entrepreneurs • Competencies and characteristics • Entrepreneurial Values, Attitudes and Motivation • Intrapreneur: Meaning and Importance	After going through this unit, the student/ learner would be able to: • Understand the motivation to become an entrepreneur • Differentiate between various types of entrepreneurs • Explain the competencies of an Entrepreneur • Appreciate the importance of Ethical Entrepreneurship • Appreciate the difference between Entrepreneur and Intrapreneur

Unit 3: Entrepreneurship Journey	
Competencies: Scanning the environment; Information seeking; creativity; Innovativeness; divergent thinking; Perseverance	
Contents	Learning Outcomes
• Idea generation. • Feasibility Study and opportunity assessment • Business Plan: meaning, purpose and elements • Execution of Business Plan	After going through this unit, the student/ learner would be able to: • Understand ways of idea generation. • Discuss the concept of types of feasibility study • Draft a basic business plan • Understand the reasons for success and failure of business plan
Unit 4: Entrepreneurship as Innovation and Problem Solving	
Competencies: Risk taking; Determination; Initiative; problem solving ability; Adaptability to changing technologies	
Contents	Learning Outcomes
• Entrepreneurs as problem solvers • Innovations and Entrepreneurial Ventures – Global and Indian • Role of Technology – E-commerce and Social Media • Social Entrepreneurship - Concept	After going through this unit, the student/ learner would be able to: • Understand the role of entrepreneurs as problem solvers • Appreciate the role of global and Indian innovations in entrepreneurial ventures • Understand the use of technology and digitization for new businesses. • Discuss the concept of social entrepreneurship

Unit 5: Understanding the Market	
Competencies: Task oriented, Opportunity seeking, resourcefulness, organizational skills, Analytical and logical reasoning	
Contents	Learning Outcomes
• Market: Concept, Types • Micro and Macro Market Environment • Market Research - Concept, Importance and Process • Marketing Mix	After going through this unit, the student/ learner would be able to: • Scan the market environment • Learn how to conduct market research • Understand the elements of marketing mix
Unit 6: Business Finance and Arithmetic	
Competencies: Arithmetic skills, critical analysis, decision making, self-confidence, problem solving	
Contents	Learning Outcomes
• Unit of Sale, Unit Price and Unit Cost - for single product or service • Types of Costs - Start up, Variable and Fixed • Break Even Analysis - for single product or service	After going through this unit, the student/ learner would be able to: • Discuss - Unit Cost, Unit of Sale, Unit Price of a product or service • Understand the components of COST - Start-up and operational costs • Calculate break even of single product and service

Unit 7: Resource Mobilization	
Competencies: Resourcefulness; Collaboration; Managing Risk; Organizational Skills; Informed Decision Making	
Contents	Learning Outcomes
• Types of Resources – Physical, Human, Financial and Intangible. • Selection and utilization of human resources and professionals like Accountants, Lawyers, Auditors, Board Members, etc.	After going through this unit, the student/ learner would be able to: • Identify the different types of resource tools – Physical and material, Human, Financial, Intangibles

PROJECT WORK

Students have to do **TWO projects** in the entire academic session.

Assessment details for the project work:

- 10 Marks each for 02 Projects
- 5 Marks for Numerical Assessment
- 5 marks for Viva Voce

TOPICS FOR THE PROJECT:

1. Visit of the District Industries Centre and prepare a report of activities and programs undertaken by them
2. Conduct a case study of any entrepreneurial venture in your nearby area.
3. Field Visit: Visit any business firm near your locality; interact with the owner of the business firm and prepare a field report on parameters like: type of business, scale of business, product/service dealing in, target customer, problems faced and measures to solve the faced challenges.
4. Learn to Earn
5. Know your State Handicraft and Handlooms as a means of economic activity for the livelihood of people and intellectual property rights attached to them for the promotion of local specific skills.

1. The objectives of the project work:

Objectives of project work are to enable learners to:

- probe deeper into personal enquiry, initiate action and reflect on knowledge and skills, views etc. acquired during the course of class XI-XII.
- analyse and evaluate real world scenarios using theoretical constructs and arguments
- demonstrate the application of critical and creative thinking skills and abilities to produce an independent and extended piece of work
- follow up aspects in which learners have interest
- develop the communication skills to argue logically

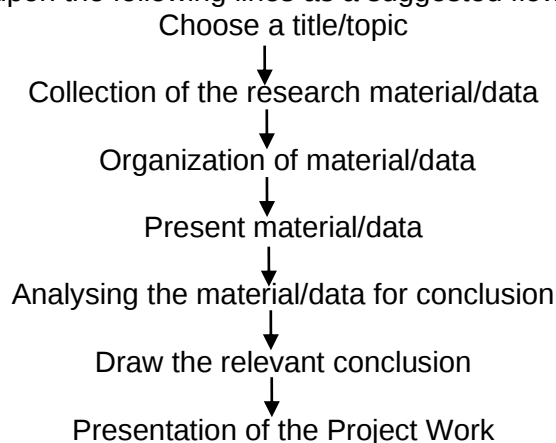
2. Role of the teacher:

The teacher plays a critical role in developing thinking skills of the learners. A teacher should:

- help each learner select the topic after detailed discussions and deliberations of the topic;
- play the role of a facilitator to support and monitor the project work of the learner through periodic discussions;
- guide the research work in terms of sources for the relevant data;
- ensure that students must understand the relevance and usage of primary evidence and other sources in their projects and duly acknowledge the same;
- ensure that the students are able to derive a conclusion from the content; cite the limitations faced during the research and give appropriate references used in doing the research work.
- educate learner about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work.
- prepare the learner for the presentation of the project work.
- arrange a presentation of the project file.

3. Steps involved in the conduct of the project:

Students may work upon the following lines as a suggested flow chart:



4. Expected Checklist for the Project Work:

- Introduction of topic/title
- Identifying the product/service/entrepreneur
- Identify the State handicraft
- Various stakeholders and effect on each of them
- Use of different tools for market assessment and it's analysis
- Calculation of various costs involved in the selling process
- Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is succinct and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

5. Viva-Voce

- At the end of the academic session, each learner will present the research work in the Project File to the Internal examiner.
- The questions should be asked from the Research Work/ Project File of the learner.
- The Internal Examiner should ensure that the study submitted by the learner is his/her own original work.
- In case of any doubt, authenticity should be checked and verified.

Note: Students need to complete two projects. Guidelines for project are given in the CBSE Textbook.

ENTREPRENEURSHIP (Subject Code 066)
QUESTION PAPER DESIGN
Class-XI (2026-27)

S N	Competencies	Total Marks	% Weightage
1.	Remembering: Exhibit memory of previously learned material by recalling facts, listing elements, terms and basic concepts Understanding: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	20	28.5%
2.	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in different ways.	30	43%
3.	Analysing and Evaluating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations, integrated learning; Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Creating: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions	20	28.5%
	TOTAL	70	100%

ENTREPRENEURSHIP (Subject Code 066)

Class XII (2026-27)

Time: 3 hours

Maximum marks: 70

S.No.	Unit	Marks
Unit 1	Entrepreneurial Opportunity	30
Unit 2	Entrepreneurial Planning	
Unit 3	Enterprise Marketing	20
Unit 4	Enterprise Growth Strategies	
Unit 5	Business Arithmetic	20
Unit 6	Resource Mobilization	
	Total	70
	Project Work	30
	Total	100

COURSE CONTENT

Unit 1: Entrepreneurial Opportunity	
Competencies: Scanning the environment; Analytical and logical thinking; Innovation and creativity; Decision making; self-confidence.	
Contents	Learning Outcomes
• Sensing Entrepreneurial Opportunities • Environment Scanning • Problem Identification • Idea fields • Spotting Trends • Creativity and Innovation • Selecting the Right Opportunity	After going through this unit, the student/ learner would be able to: • Comprehend the concept and elements of business opportunity • Discuss the process of sensing opportunities • Understand the need to scan the environment • Enlist the various forces affecting business environment • Identify the different idea field

	• Understand the concept of opportunity and market assessment • Appreciate the ways in which trends can be spotted • Understand the process of creativity and innovation • Transform ideas into business opportunities
Unit 2: Entrepreneurial Planning	
Competencies: Analytical and critical thinking; personal responsibility; determination; Resourceful; collaboration	
Contents	Learning Outcomes
• Forms of business organization- Sole proprietorship, Partnership, Company • Business Plan: concept, format. • Components: Organisational plan; Operational plan; Production plan; Financial plan; Marketing plan; Human Resource plan	After going through this unit, the student/ learner would be able to: • Recall the meaning of the various forms of business organization • Understand the characteristics of the various forms of business organization • Understand the difference between a Public and Private Company • Appreciate the reasons for a private company being more desirable • Appreciate the concept and importance of a Business Plan • Describe the various components of Business plan • Differentiate among the various components of Business plan • Develop a Business Plan
Unit 3: Enterprise Marketing	
Competencies: Persistence, Negotiation, Collaboration, Ethical behavior, team spirit;	
Contents	Learning Outcomes

• Marketing and Sales Strategy • Branding, Logo, Tagline • Promotion Strategy	After going through this unit, the student/ learner would be able to: • Discuss the various marketing strategies used in a business • Explain Marketing Mix. • Understand the concept of Branding, Packaging and Labeling • Describe the various methods of Pricing • Discuss the various factors affecting the channels of distribution • Understand the concept and types of sales strategy • Discuss different tools of promotion • Appreciate the objectives and different modes of Advertising • Understand the concept of personal selling, sales promotion, public relations • Discuss the various techniques of sales promotion
Unit 4: Enterprise Growth Strategies	
Competencies: Need for achievement, Initiative, Analytical thinking, risk vs reward, collaboration, synergy, leadership,	
Contents	Learning Outcomes
• Franchising: Concept and types • Franchising: Advantages and limitations to franchisor and franchisee. • Mergers and Acquisition: Concept, reasons and types. • Reasons for mergers and acquisitions	After going through this unit, the student/ learner would be able to: • Understand the concept of growth & development of an enterprise • Discuss the concept, types, advantages and limitations of franchising • Appreciate growth of business through mergers and acquisitions • Discuss the different types of mergers and acquisitions • Discuss the reasons for mergers and acquisitions
Unit 5: Business Arithmetic	
Competencies: Arithmetic skills, critical analysis, decision making, self-confidence, problem solving.	
Contents	Learning Outcomes

• Unit of Sale, Unit Cost for multiple products or services • Break even Analysis for multiple products or services • Computation of Working Capital • Inventory Control and EOQ • Return on Investment (ROI) and Return on Equity (ROE)	After going through this unit, the student/ learner would be able to: • Understand the concept of Unit Cost and Unit Price • Calculate Break-even point for Multiple products and services. • Understand the concept of Inventory Control • Compute the working capital of a business. • Calculate Return on Investment; Return on Equity and Economic Order Quantity
Unit 6: Resource Mobilization	
Competencies: Risk taking, Communication, Persuasion, Networking, Ethical behavior	
Contents	Learning Outcomes
• Capital Market: Concept • Primary market: Concept, methods of issue • Angel Investor: Features • Venture Capital: Features, funding.	After going through this unit, the student/ learner would be able to: • Understand the need of finance in Business • Discuss the various sources of funds required for a firm • Understand the ways of raising funds in primary market • Appreciate the Angel Investors and Venture Capitalists as a source of business finance.

PROJECT WORK

Students have to do **TWO projects** in the entire academic session.

TOPICS FOR THE PROJECT:

1. Business Plan
 2. Market Survey
- 10 Marks each for 02 Projects
 - 5 Marks for Numerical Assessment
 - 5 Marks for Viva

Note: Students need to complete both the projects. Guidelines for both projects are given in the CBSE Textbook.

1.The objectives of the project work:

Objectives of project work are to enable learners to:

- probe deeper into personal enquiry, initiate action and reflect on knowledge and skills, views etc. acquired during the course of class XI-XII.
- analyse and evaluate real world scenarios using theoretical constructs and arguments
- demonstrate the application of critical and creative thinking skills and abilities to produce an independent and extended piece of work
- follow up aspects in which learners have interest
- develop the communication skills to argue logically

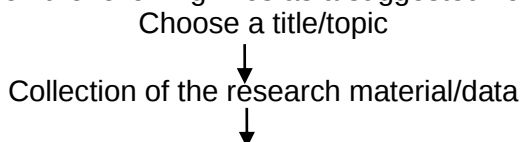
2. Role of the teacher:

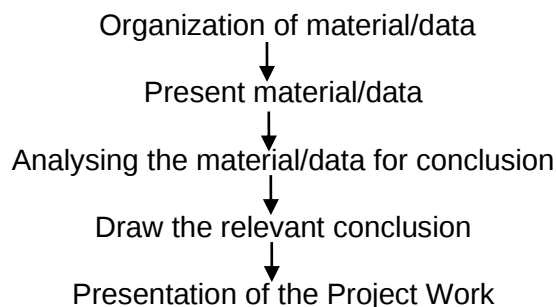
The teacher plays a critical role in developing thinking skills of the learners. A teacher should:

- help each learner select the topic after detailed discussions and deliberations of the topic;
- play the role of a facilitator to support and monitor the project work of the learner through periodic discussions;
- guide the research work in terms of sources for the relevant data;
- ensure that students must understand the relevance and usage of primary evidence and other sources in their projects and duly acknowledge the same;
- ensure that the students are able to derive a conclusion from the content; cite the limitations faced during the research and give appropriate references used in doing the research work.
- educate learner about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work.
- prepare the learner for the presentation of the project work.
- arrange a presentation of the project file.

3. Steps involved in the conduct of the project:

Students may work upon the following lines as a suggested flow chart:





4. **Expected Checklist for the Project Work:**

- Introduction of topic/title
- Identifying the product/service
- Various stakeholders and effect on each of them
- Use of different tools for market assessment and its analysis
- Implication of 4P's in the process of marketing
- Calculation of various costs involved in the business planning process
- Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is succinct and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

5. **Viva-Voce**

- At the end of the academic session, each learner will present the research work in the Project File to the External examiner.
- The questions should be asked from the Research Work/ Project File of the learner.
- The Internal Examiner should ensure that the study submitted by the learner is his/her own original work.
- In case of any doubt, authenticity should be checked and verified.

Guidelines to do the project is given in the textbook

Prescribed Books:

1. Entrepreneurship - Class XI- C.B.S.E, Delhi
2. Entrepreneurship - Class XII - C.B.S.E., Delhi
3. Udyamita (in Hindi) by Dr. MMP. Akhouri and S.P Mishra, pub. By National Institute for Entrepreneurship and Small Business Development (NIESBUD), NSIC-PATC Campus, Okhla

Magazines

1. Udyamita Samachar Patra (Monthly, Hindi), Pub. By Centre for Entrepreneurship Development, M.P. (CEDMAP), 60 Jail Road, Jhangerbad, Bhopal-462008.
2. Science Tec. Entrepreneur (A Bi Monthly Publication), Centre for Entrepreneurship Development, M.P (CEDMAP), 60 Jail Road, Jhangerbad, Bhopal -462008
3. Laghu Udyog Samachar
4. Project Profile by DCSSI

ENTREPRENEURSHIP (Subject Code 066)
Class XII (2026-27)
QUESTION PAPER DESIGN

SN	Competencies	Total Marks	% Weightage
1.	Remembering: Exhibit memory of previously learned material by recalling facts, listing elements, terms and basic concepts Understanding: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	20	28.5%
2.	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in different ways.	30	43%
3.	Analysing and Evaluating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations, integrated learning; Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Creating: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions	20	28.5%
	TOTAL	70	100%

INFORMATICS PRACTICES
Subject Code - 065
Class XI (2026-27)

1. Prerequisite. None

2. Learning Outcomes

At the end of this course, students will be able to:

- Identify the components of computer system.
- Create Python programs using different data types, lists and dictionaries.
- Understand database concepts and Relational Database Management Systems.
- Retrieve and manipulate data in RDBMS using Structured Query Language
- Identify the Emerging trends in the fields of Information Technology.

3. Distribution of Marks and Periods

Unit No	Unit Name	Marks
1	Introduction to computer system	10
2	Introduction to Python	25
3	Database concepts and the Structured Query Language	30
4	Introduction to Emerging Trends	5
	Practical	30
	Total	100

4. Unit Wise syllabus

Unit 1: Introduction to Computer System

Introduction to computer and computing: evolution of computing devices, components of a computer system and their interconnections, Input/output devices.

Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns.

Software: purpose and types – system and application software, generic and specific purpose software.

Unit 2: Introduction to Python

Basics of Python programming, execution modes: - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operator, precedence of operators, data types, mutable and immutable data types, statements, expression evaluation, comments, input and output statements, data type conversion, debugging.

Control Statements: if-else, if-elif-else, while loop, for loop

Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions – len(),list(),append(),insert(), count(),index(),remove(), pop(), reverse(), sort(), min(),max(),sum()

Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions – dict(), len(), keys(), values(), items(), update(), del(), clear()

Introduction to NumPy: Introduction, Creation of NumPy Arrays from List

Unit 3: Database concepts and the Structured Query Language

Database Concepts: Introduction to database concepts and its need, Database Management System.

Relational data model: Concept of domain, tuple, relation, candidate key, primary key, alternate key

Advantages of using Structured Query Language, Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL, creating a database using MySQL, Data Types

Data Definition: CREATE DATABASE, CREATE TABLE, DROP, ALTER

Data Query: SELECT, FROM, WHERE with relational operators, BETWEEN, logical operators, IS NULL, IS NOT NULL

Data Manipulation: INSERT, DELETE,UPDATE

Unit 4: Introduction to the Emerging Trends

Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.

Practical Marks Distribution

S.No.	Unit Name	Marks
1	Problem solving using Python programming language	11
2	Creating database using MySQL and performing Queries	7
3	Practical file (minimum of 14 python programs, and 14 SQL queries)	7
4	Viva-Voce	5
	Total	30

5. Suggested Practical List

5.1 Programming in Python

1. To find average and grade for given marks.
2. To find sale price of an item with given cost and discount (%).
3. To calculate perimeter/circumference and area of shapes such as triangle, rectangle, square and circle.
4. To calculate Simple and Compound interest.
5. To calculate profit-loss for given Cost and Sell Price.
6. To calculate EMI for Amount, Period and Interest.
7. To calculate tax - GST / Income Tax.
8. To find the largest and smallest numbers in a list.
9. To find the third largest/smallest number in a list.
10. To find the sum of squares of the first 100 natural numbers.
11. To print the first 'n' multiples of given number.
12. To count the number of vowels in user entered string.
13. To print the words starting with an alphabet in a user entered string.
14. To print number of occurrences of a given alphabet in each string.
15. Create a dictionary to store names of states and their capitals.
16. Create a dictionary of students to store names and marks obtained in 5 subjects.
17. To print the highest and lowest values in the dictionary.

5.2 Data Management: SQL Commands

1. To create a database
2. To create student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.

3. To insert the details of at least 10 students in the above table.
4. To display the entire content of table.
5. To display Rno, Name and Marks of those students who are scoring marks more than 50.
6. To display Rno, Name, DOB of those students who are born between '2005- 01-01' and '2005-12-31'.

Suggested material

NCERT Informatics Practices - Text book for class - XI (ISBN- 978-93-5292-148-5)

INFORMATICS PRACTICES
Subject Code - 065
Class XII (2026-27)

1. **Prerequisite:** Informatics Practices – Class XI

2. **Learning Outcomes**

At the end of this course, students will be able to:

- Create Series, Data frames and apply various operations.
- Visualize data using relevant graphs.
- Design SQL queries using aggregate functions.
- Import/Export data between SQL database and Pandas.
- Learn terminology related to networking and internet.
- Identify internet security issues and configure browser settings.
- Understand the impact of technology on society including gender and disability issues

3. **Distribution of Marks and Periods**

Unit No	Unit Name	Marks
1	Data Handling using Pandas and Data Visualization	25
2	Database Query using SQL	25
3	Introduction to Computer Networks	10
4	Societal Impacts	10
	Project	-
	Practical	30
	Total	100

4. **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

Revision of database concepts and SQL commands covered in class XI

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.

Working with two tables using equi-join

Unit 3: Introduction to Computer Networks

Introduction to networks, Types of network: PAN, 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 the 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.

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

S. No.	Unit Name	Marks
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

5. Suggested Practical List

5.1 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

5.2 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.

5.3 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.

Mathematics
Subject Code – 041
Classes XI-XII (2026 – 27)

The Syllabus in the subject of Mathematics has undergone changes from time to time in accordance with growth of the subject and emerging needs of the society. Senior Secondary stage is a launching stage from where the students go either for higher academic education in Mathematics or for professional courses like Engineering, Physical and Biological science, Commerce or Computer Applications. The present revised syllabus has been designed in accordance with National Curriculum Framework 2005 and as per guidelines given in Focus Group on Teaching of Mathematics 2005 which is to meet the emerging needs of all categories of students. Motivating the topics from real life situations and other subject areas, greater emphasis has been laid on application of various concepts.

Objectives

The broad objectives of teaching Mathematics at senior school stage intend to help the students:

- to acquire knowledge and critical understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles, symbols and mastery of underlying processes and skills.
- to feel the flow of reasons while proving a result or solving a problem.
- to apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method.
- to develop positive attitude to think, analyze and articulate logically.
- to develop interest in the subject by participating in related competitions.
- to acquaint students with different aspects of Mathematics used in daily life.
- to develop an interest in students to study Mathematics as a discipline.
- to develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases.
- to develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics.

COURSE STRUCTURE

CLASS XI (2026-27)

Three Hours

Max Marks: 80

No.	Units	Marks
I.	Sets and Functions	23
II.	Algebra	25
III.	Coordinate Geometry	12
IV.	Calculus	08
V.	Statistics and Probability	12
	Total	80
	Internal Assessment	20

*No chapter/unit-wise weightage. Care to be taken to cover all the chapters.

Unit-I: Sets and Functions

1. Sets

Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real numbers especially intervals (with notations). Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement.

2. Relations & Functions

Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself (up to $\mathbb{R} \times \mathbb{R} \times \mathbb{R}$). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Sum, difference, product and quotients of functions.

3. Trigonometric Functions

Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2 x + \cos^2 x = 1$, for all x . Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\sin y$, $\cos x$ & $\cos y$ and their simple applications. Deducing identities like the following:

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \tan y}, \cot(x \pm y) = \frac{\cot x \mp \cot y}{\cot y \pm \cot x}$$

$$\sin \alpha \pm \sin \beta = 2 \sin \frac{1}{2}(\alpha \pm \beta) \cos \frac{1}{2}(\alpha \mp \beta)$$

$$\cos \alpha + \cos \beta = 2 \cos \frac{1}{2}(\alpha + \beta) \cos \frac{1}{2}(\alpha - \beta)$$

$$\cos \alpha - \cos \beta = -2 \sin \frac{1}{2}(\alpha + \beta) \sin \frac{1}{2}(\alpha - \beta)$$

Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$ and $\tan 3x$.

Unit-II: Algebra

1. Complex Numbers and Quadratic Equations

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane.

2. Linear Inequalities

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.

3. Permutations and Combinations

Fundamental principle of counting. Factorial n . $(n!)$ Permutations and combinations, derivation of Formulae for ${}^n P_r$, ${}^n C_r$ and their connections, simple applications.

4. Binomial Theorem

Historical perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, simple applications.

5. Sequence and Series

Sequence and Series. Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M

Unit-III: Coordinate Geometry

1. Straight Lines

Brief recall of two-dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form, two-point form, intercept form. Distance of a point from a line.

2. Conic Sections

Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

3. Introduction to Three-dimensional Geometry

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points.

Unit-IV: Calculus

1. Limits and Derivatives

Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions of polynomial and trigonometric functions.

Unit-V Statistics and Probability

1. Statistics

Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped data.

2. Probability

Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.

MATHEMATICS QUESTION PAPER DESIGN

CLASS – XI (2026-27)

Time: 3 hours

Max. Marks: 80

S. No.	Typology of Questions	Total Marks	% Weight age
1	Remembering: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Understanding: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	20	25
3	Analysing: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations Evaluating: Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Creating: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions	16	20
	Total	80	100

- No chapter wise weightage. Care to be taken to cover all the chapters*
- Suitable internal variations may be made for generating various templates keeping the overall weightage to different form of questions and typology of questions same.*

Choice(s):

There will be no overall choice in the question paper. However, 33% internal choices will be given in all the sections

INTERNAL ASSESSMENT	20 MARKS
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks

Note: Please refer the guidelines given under XII Mathematics Syllabus.

CLASS – XI (2026-27)

The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. This reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

S.No.	Content
Unit-I: Sets and Functions	
1.	Sets
	Practical problems on Union and Intersection of two sets.
2.	Relations and Functions
	Composition of Functions
3.	Trigonometric Functions
	General solution of trigonometric equations of the type $\sin y = \sin a$, $\cos y = \cos a$ and $\tan y = \tan a$.
Unit-II: Algebra	
1.	Principle of Mathematical Induction
	Process of the proof by induction, motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers. The principle of mathematical induction and simple applications.
2.	(Complex Numbers and) Quadratic Equations
	Polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations (with real coefficients) in the complex number system.
3.	Linear Inequalities
	Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.
4.	Binomial Theorem
	General and middle term in binomial expansion.
5.	Sequence and Series
	Formulae for the following special sums $\sum_{k=1}^n k, \sum_{k=1}^n k^2, \sum_{k=1}^n k^3$
Unit-III: Coordinate Geometry	
1.	Straight Lines
	Normal form. General equation of a line.
2.	Introduction to Three-dimensional Geometry
	Section formula.
Unit-IV: Calculus	
1.	Limits and Derivatives
	Derivatives of composite functions (Chain rule).
Unit-V Statistics and Probability	
1.	Probability
	Random experiments; outcomes, sample space (set representation).

COURSE STRUCTURE

CLASS – XII

(2026-27)

One Paper

Max. Marks: 80

No.	Units	Marks
I.	Relations and Functions	08
II.	Algebra	10
III.	Calculus	35
IV.	Vectors and Three - Dimensional Geometry	14
V.	Linear Programming	05
VI.	Probability	08
	Total	80
	Internal Assessment	20

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. Graphs of inverse trigonometric functions.

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. Operations on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non- commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

2. Determinants

Determinant of a square matrix (up to 3×3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, 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, chain rule, derivative of composite functions, derivatives of inverse trigonometric functions like $\sin^{-1} x$, $\cos^{-1} x$ and $\tan^{-1} x$, 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: rate of change of quantities, increasing/decreasing functions, 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.

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

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

4. Application of the Integrals

Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)

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. Solutions of linear differential equation of the type:

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

$$\frac{dx}{dy} + px = q, \text{ where } p \text{ and } q \text{ are functions of } y \text{ or constants.}$$

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, skew lines, shortest distance between two lines. Angle between two lines.

Unit-V: Linear Programming Problem

1. Linear Programming

Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), 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.

MATHEMATICS (Code No. – 041)**QUESTION PAPER DESIGN****CLASS – XII (2026-27)****Time: 3 hours****Max. Marks: 80**

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3	Analysing : Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations Evaluating: Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Creating: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions	16	20
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1. No chapter wise weightage. Care to be taken to cover all the chapters
2. Suitable internal variations may be made for generating various templates keeping the overall weightage to different form of questions and typology of questions same.

Choice(s):

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INTERNAL ASSESSMENT	20 MARKS
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks

Note: For activities NCERT Lab Manual may be referred.

Conduct of Periodic Tests:

Periodic Test is a Pen and Paper assessment which is to be conducted by the respective subject teacher. The format of periodic test must have questions items with a balance mix, such as, very short answer (VSA), short answer (SA) and long answer (LA) to effectively assess the knowledge, understanding, application, skills, analysis, evaluation and synthesis. Depending on the nature of subject, the subject teacher will have the liberty of incorporating any other types of questions too. The modalities of the PT are as follows:

- a) **Mode:** The periodic test is to be taken in the form of pen-paper test.
- b) **Schedule:** In the entire Academic Year, three Periodic Tests in each subject may be conducted as follows:

Test	Pre-Mid-term (PT-I)	Mid-Term (PT-II)	Post Mid-Term (PT-III)
Tentative Month	July-August	November	December-January

This is only a suggestive schedule and schools may conduct periodic tests as per their convenience. The winter bound schools would develop their own schedule with similar time gaps between two consecutive tests.

- c) **Average of Marks:** Once schools complete the conduct of all the three periodic tests, they will convert the weightage of each of the three tests into ten marks each for identifying best two tests. The best two will be taken into consideration and the average of the two shall be taken as the final marks for PT.
- d) The school will ensure simple documentation to keep a record of performance as suggested in detail circular no. Acad-05/2017.
- e) **Sharing of Feedback/Performance:** The students' achievement in each test must be shared with the students and their parents to give them an overview of the level of learning that has taken place during different periods. Feedback will help parents formulate interventions (conducive ambience, support materials, motivation and morale-boosting) to further enhance learning. A teacher, while sharing the feedback with student or parent, should be empathetic, non- judgmental and motivating. It is recommended that the teacher share best examples/performances of IA with the class to motivate all learners

Assessment of Activity Work:

Throughout the year any 10 activities shall be performed by the student from the activities given in the NCERT Laboratory Manual for the respective class (XI or XII) which is available on the link:

<http://www.ncert.nic.in/exemplar/labmanuals.html> a record of the same may be kept by the student. An year end test on the activity may be conducted

The weightage are as under:

- The activities performed by the student throughout the year and record keeping: 5 marks
- Assessment of the activity performed during the year end test: 3 marks
- Viva-voce: 2 marks

Prescribed Books:

- 1) Mathematics Textbook for Class XI, NCERT Publications
- 2) Mathematics Part I - Textbook for Class XII, NCERT Publication
- 3) Mathematics Part II - Textbook for Class XII, NCERT Publication
- 4) Mathematics Exemplar Problem for Class XI, Published by NCERT
- 5) Mathematics Exemplar Problem for Class XII, Published by NCERT
- 6) Mathematics Lab Manual class XI, published by NCERT
- 7) Mathematics Lab Manual class XII, published by NCERT

Physical Education (Subject Code 048)

Class XI-XII (2026-27)

RATIONALE

Sri Aurobindo believed, “For the body to be effective physical education must be rigorous and detailed, far-sighted and methodological. This will be translated into habits. These habits should be controlled and disciplined while remaining flexible enough to adapt themselves to circumstances and to the needs of growth and development of the being”.

Physical education programs at all levels help students develop the knowledge, skills, attitudes, values, and behaviours to initiate and maintain a physically active lifestyle that will continue into and through adulthood. Students are encouraged to use physical activity to develop personal initiative, responsibility, and caring about others and the community.

A positive, supportive environment is essential to the success of the physical education program. This inclusive learning environment allows students to experience positive, challenging, and enjoyable physical activity while learning the benefits and importance of such action. Such an environment accommodates a variety of individual differences such as cultural identity, previous movement experiences, fitness and skill levels, and intellectual, physical, and socio-emotional maturity.

Appropriate instruction in physical education incorporates best practices derived from research and experiences in teaching students. This physical education curriculum sets forth developmental and instructional proper rules in designing, implementing, and evaluating physical education programs.

Therefore, the Physical education committee created a tool, ‘The Physical Education Curriculum’ – which has been researched and designed to provide consistency, coherence, and rigor in the content and process of teaching physical education throughout the schools of the CBSE all over the world.

The Physical education curriculum provides all students with enjoyable and worthwhile learning opportunities where they develop the movement skills and competencies to participate and perform in various physical activities competently, confidently, and safely. It builds students’ motivation and commitment to physical activity and sports within and beyond school. It can encourage students to participate in leadership roles, irrespective of their previous experiences or ability in physical activity. The physical education program also prepares students to develop their careers in physical education and sports. It is one of the dynamic fields, providing numerous opportunities for diverse career options like being a teacher, coach, sports manager, and many more.

Looking into today’s context, physical education is the only subject that not only develops mental, physical, and social attributes among us but also contributes to our overall sense of well-being in our life.

LEARNING OBJECTIVES

1. Optimum Development of Child's Physical Growth, Including Intellectual Development, Emotional Development, Social Development, Personal Development, and Character Building.
2. Imparting and Development of Positive Approach among Children to opt for Physical Education as a Profession.
3. Developing Management Skills to Understand and Organize Sports Tournaments.
4. Learn and Understand the Motor Abilities like Strength, Speed, Endurance, Coordination, And Flexibility.
5. Acquire knowledge about the Human Body and Its Functioning and Effects on Physical Activities.
6. Understand the Process of Growth and Development and its Positive Relationship with Physical Activities.
7. Develop Socio-Psychological Aspects like Control of Emotions, Balanced Behavior, Development of Leadership and Followership Qualities, and Team Spirit.
8. Learn and Understand the Effect of Physical and Physiological Training on Women Athletes.
9. Develop the Habit of Practicing Yoga Asanas and Pranayama Daily to Minimize Hypokinetic Diseases.
10. Learning about Nutrition and the Importance of a Balanced Diet.
11. Understand the application of Laws and Principles of Physics in Sports and Games.
12. Understanding the Characteristics of Children with Special Needs (CWSN) and Learning the Importance of Physical Activities for them.
13. Learning the procedure and application of different Physical and Physiological tests for different Age Categories.
14. Learning and understanding different Games and Sports.

Physical Education (Subject Code 048)

Class XI (2026-27)

UNIT NO.	UNIT NAME	THE WEIGHTAGE (MARKS) ALLOTTED
UNIT 1	Changing Trends & Career in Physical Education	04 + 04 b*
UNIT 2	Olympic Value Education	05
UNIT 3	Yoga	06+01 b*
UNIT 4	Physical Education & Sports for CWSN	04+03 b*
UNIT 5	Physical Fitness, Wellness	05
UNIT 6	Test, Measurements & Evaluation	08
UNIT 7	Fundamentals of Anatomy and Physiology in Sports	08
UNIT 8	Fundamentals of Kinesiology and Biomechanics in Sports	04+04 b*
UNIT 9	Psychology and Sports	07
UNIT 10	Training & Doping in Sports	07
PRACTICAL (LAB)[#]	Including 3 Practical	30
TOTAL	Theory 10 + Practical 3	Theory 70 + Practical 30 = 100

Note: b*are the Concept based questions like Tactile diagram/data interpretation/ case base study for visually Impaired Child.

CLASS XI
COURSE CONTENT

Unit No.	Unit Name & Topics	Specific learning objectives	Suggested Teaching Learning process	Learning Outcomes with specific Competencies
Unit 1	Changing Trends and Careers in Physical Education 1. Concept, Aims & Objectives of Physical Education 2. Development of Physical Education in India – Post Independence 3. Changing Trends in Sports-playing surface, wearable gear and sports equipment, technological advancements 4. Career options in Physical Education 5. Khelo-India Program and Fit – India Program	- To make the students understand the meaning, aims, and objectives of Physical Education. - To Teach students about the development of physical education in India after Independence. - To educate students about the development of sports surfaces, wearable gear, sports equipment, and technology. - To make students know the different career options available in the field. - To make them know about the Khelo India Program	- Lecture-based instruction, - Technology-based learning, - Group learning, - Individual learning, - Inquiry-based learning, - Kinesthetic learning, - Game-based learning and - Expeditionary learning.	After completing the unit, the students will be able to: - Recognize the concept, aim, and objectives of Physical Education. - Identify the Post-independence development in Physical Education. - Categorize Changing Trends in Sports-playing surface, wearable gear, sports equipment, technological - Explore different career options in the field of Physical Education. - Make out the development of Khelo India and Fit India Program.

Unit 2	Olympism Value Education			After completing the unit, the students will be able to:
	1. Olympism – Concept and Olympics Values (Excellence, Friendship & Respect)	To make the students aware of Concepts and Olympics Values (Excellence, Friendship & Respect)	- Lecture-based instruction, - Technology-based learning, - Group learning,	Incorporate values of Olympism in your life.
	2. Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind	To make students learn about Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind	- Individual learning, - Inquiry-based learning, - Kinesthetic learning, - Game-based learning and - Expeditionary learning.	Differentiate between Modern and Ancient Olympic Games, Paralympics, and Special Olympic games
	3. Ancient and Modern Olympics	To make students understand ancient and modern Olympic games.		Identity the Olympic Symbol and Ideals
	4. Olympics - Symbols, Motto, Flag, Oath, and Anthem	To make the students aware of Olympics - Symbols, Motto, Flag, Oath, and Anthem		
	5. Olympic Movement Structure - IOC, NOC, IFS, Other members	To make students learn about the working and functioning of IOC, NOC and IFS, and other members.		Describe the structure of the Olympic movement structure

Unit 3	Yoga 1. Meaning and importance of Yoga 2. Introduction to Astanga Yoga 3. Yogic Kriyas (Shat Karma) 4. Pranayama and its types. 5. Active Lifestyle and stress management through Yoga	• To make the students aware of the meaning and importance of yoga • To make them learn about Astanga yoga. • To teach students about yogic kriya, specially shat karmas. • To make the learn and practice types of Pran • To make them learn the importance of yoga in stress management.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	After completing the unit, the students will be able to: • Recognize the concept of yoga and be aware of the importance ; of it • Identify the elements of yoga • Identify the Asanas, Pranayama's, meditation, and yogic kriyas • Classify various yogic activities for the enhancement of concentration • Know about relaxation techniques for improving concentration
Unit 4	Physical Education and Sports for Children with Special Needs 1. Concept of Disability and Disorder 2. Types of Disability, its causes & nature (Intellectual disability, Physical disability).	• To make the students aware concept of Disability and Disorder. • To make students aware of different types of disabilities. • To make students learn about Disability Etiquette	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	After completing the unit, the students will be able to: • Identify the concept of Disability and Disorder. • Outline types of disability and describe their causes and nature. • Adhere to

	3. Disability Etiquette 4. Aim and objectives of Adaptive physical Education 5. Role of various professionals for children with special needs (Counselor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist, and Special Educator)	- To make the students Understand the aims and objectives Adaptive Physical Education - To make students aware of role of various professionals for children with special needs.		and respect children with special needs by following etiquettes. - Identify possibilities and scope in adaptive physical education - Relate various types of professional support for children with special needs along with their roles and responsibilities.
Unit 5	Physical Fitness, Wellness, and Lifestyle 1. Meaning & importance of Wellness, Health, and Physical Fitness. 2. Components/ Dimensions of Wellness, Health, and Physical Fitness 3. Traditional Sports & Regional Games for	- To make the students understand the Meaning & importance of Wellness, Health, and Physical Fitness - To make students aware of the Components/ Dimensions of Wellness, Health, and Physical Fitness - To make students learn Traditional Sports & Regional Games to	- Lecture-based instruction, - Technology-based learning, - Group learning, - Individual learning, - Inquiry-based learning, - Kinesthetic learning, - Game-based learning and - Expeditionary learning.	After completing the unit, the students will be able to: - Explain wellness and its importance and define the components of wellness. - Classify physical fitness and recognize its importance in life. - Distinguish between skill-related and health-related

	promoting wellness 4. Leadership through Physical Activity and Sports 5. Introduction to First Aid – PRICE	promote wellness - To develop Leadership qualities through Physical Activity and Sports in students - To make students learn First Aid and its management skills		components of physical fitness. - Illustrate traditional sports and regional games to promote wellness. - Relate leadership through physical activity and sports - Illustrate the different steps used in first aid - PRICE.
Unit 6	Test, Measurement & Evaluation 1. Define Test, Measurements and Evaluation. 2. Importance of Test, Measurements and Evaluation in Sports. 3. Calculation of BMI, Waist – Hip Ratio, Skin fold measurement (3-site) 4. Somato Types (Endomorphy Mesomorphy & Ectomorphy)	- To Introduce the students with the terms like test, measurement and evaluation along with its importance - To Introducing them the methods of calculating BMI, Waist- hip ratio and Skin fold measurement. - To make the students aware of the different somatotypes. To make the students learn the method to measure health-related fitness.	- Lecture-based instruction, - Technology-based learning, - Group learning, - Individual learning, - Inquiry-based learning, - Kinesthetic learning, - Game-based learning and Expeditionary learning.	After completing the unit, the student s will be able to: - Define the terms test, measurement, and evaluation, - Differentiate norm and criterion referenced standards, - Differentiate formative and summative evaluation, - Discuss the importance of measurement and evaluation processes, - Understand

	5. Measurements of health-related fitness			BMI: A popular clinical standard and its computation Differentiate between Endomorphy, Mesomorphy & Ectomorphy and describe the procedure of Anthropometric Measurement
Unit 7	Fundamentals of Anatomy, Physiology in Sports - Definition and importance of Anatomy and Physiology in Exercise and Sports. - Functions of Skeletal System, Classification of Bones, and Types of Joints. - Properties and Functions of Muscles. - Structure and Functions of Circulatory System and Heart. - Structure and Functions of Respiratory System.	- The students will learn the meaning and definition & identify the importance of anatomy, physiology, and kinesiology. - Students will understand the main functions and Classification of Bone and the Types of Joints. - The students will learn the Properties and Functions of Muscles. - The students will learn the Structure and Functions of the Circulatory System and Heart. - The students will learn the Structure and Functions of Respiratory System.	- Lecture-based instruction, - Technology-based learning, - Group learning, - Individual learning, - Inquiry-based learning, - Kinesthetic learning, - Game-based learning and Expeditionary learning.	After completing the unit, the students will be able to: - Identify the importance of anatomy and physiology. - Recognize the functions of the skeleton. - Understand the functions of bones and identify various types of joints. - Figure out the properties and functions of muscles and understand how they work. - Understand the anatomy of the respiratory system and describe it's working. - Identify and analyses the layout and functions of Circulatory System.

Unit 8	Fundamentals Of Kinesiology And Biomechanics in Sports 1. Definition and Importance of Kinesiology and Biomechanics in Sports. 2. Principles of Biomechanics 3. Kinetics and Kinematics in Sports 4. Types of Body Movements - Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation 5. Axis and Planes – Concept and its application in body movements	• The students will learn the meaning and definition & identify the importance of Kinesiology and Biomechanics in sports. • To make the students learn the principles of biomechanics • To make the students understand the concept of Kinetics and Kinematics in Sports • To make the students learn about different types of body movements. • To make the students understand the concept of Axis and Planes and its application in body movements.	• Lecture-based instruction, • Technology-based learning, Group learning • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	After completing the unit, the students will be able to: • Understand Kinesiology and Biomechanics with their application in sports • Explain biomechanical principles and their utilization in sports and physical education. • Illustrate fundamental body movements and their basic patterns. • Learn about the Axis and Planes and their application with body movements
Unit 9	Psychology and Sports 1. Definition & Importance of Psychology in Physical Education & Sports; 2. Develop-	• The students will identify the definition and importance of Psychology in Physical Education and sports. • The students will	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning,	After completing the unit, the students will be able to: • Identify the role of Psychology in Physical Education and Sports

	mental Characteristics at Different Stages of Development. 3. Adolescent Problems & their Management; 4. Team Cohesion and Sports; 5. Introduction to Psychological Attributes: Attention, Resilience, Mental Toughness	be able to differentiate characteristics of growth and development at different stages. - Students will be able to identify the issues and management related to adolescents - The students will be able to understand the importance of team cohesion in sports - Students will distinguish different Psychological Attributes like Attention, Resilience, and Mental Toughness.	- Inquiry-based learning, - Kinesthetic learning, - Game-based learning and - Expeditionary learning	- Differentiate characteristics of growth and development at different stages. - Explain the issues related to adolescent behavior and Team Cohesion in Sports - Correlate the psychological concepts with the sports and athlete specific situations
Unit 10	Training & Doping in Sports 1. Concept and Principles of Sports Training 2. Training Load: Over Load, Adaptation, and Recovery 3. Warming-up & Limbering Down – Types, Method & Importance. 4. Concept of Skill, Technique, Tactics &	- To make the students aware about of concepts and principles of sports training. - To make students learn and understand the Training Load, Over Load, Adaptation, and Recovery concepts. - To make students Understand the importance of warning up and limbering down exercises. - To introduce the terms like Skills, Techniques, Tactics, and Strategies to the	- Lecture-based instruction, - Technology-based learning, - Group learning, - Individual learning, - Inquiry-based learning, - Kinesthetic learning, - Game-based learning and - Expeditionary learning	After completing the unit, the students will be able to: - Understand the concept and principles of sports training. - Summarise training load and its concept. - Understand the concept of warming up & limbering down in sports training and their types, method & importance.

	Strategies	students.		- Acquire the ability to differentiate between the skill, technique, tactics & strategies in sports training - Interpret concept of doping.
	5. Concept of Doping and its disadvantages	To make students aware of the doping substances and their disadvantages in sports.		

GUIDELINES FOR INTERNAL ASSESSMENT
(PRACTICAL/ PROJECTS ETC.)

PRACTICAL (Max. Marks 30)	
Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT)*	6 Marks
Proficiency in Games and Sports (Skill of any one IOA recognized Sport/Game of Choice)**	7 Marks
Yogic Practices	7 Marks
Record File ***	5 Marks
Viva Voce (Health/ Games & Sports/ Yoga)	5 Marks

- ❖ *Test for CWSN (any 4 items out of 27 items. One item from each component: Aerobic Function, Body Composition, Muscular strength & Endurance, Range of Motion or Flexibility)
 - ❖ **CWSN (Children with Special Needs – Divyang): Bocce/ Boccia, Sitting Volleyball, Wheel Chair Basketball, Unified Badminton, Unified Basketball, Unified Football, Blind Cricket, Goalball, Floorball, Wheel Chair Races and Throws, or any other Sport/Game of choice.
 - ❖ **Children with Special Needs can also opt any one Sport/Game from the list as alternative to Yogic Practices. However, the Sport/ Game must be different from Test - 'Proficiency in Games and Sports'
- ***Record File shall include:**
- **Practical-1:** Fitness tests administration. (SAI Khelo India Test)
 - **Practical-2:** Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.
 - **Practical-3:** Any one IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.

Physical Education (Subject Code 048)

Class XII (2026-27)

UNIT NO.	UNIT NAME	THE WEIGHTAGE (MARKS) ALLOTTED
UNIT 1	Management of Sporting Events	05 + 04 b*
UNIT 2	Children and Women in Sports	07
UNIT 3	Yoga as Preventive measure for Lifestyle Disease	06+01 b*
UNIT 4	Physical Education & Sports for (CWSN)	04+04 b*
UNIT 5	Sports & Nutrition	07
UNIT 6	Test and Measurement in Sports	08
UNIT 7	Physiology & Injuries in Sport	04+04 b*
UNIT 8	Biomechanics and Sports	10
UNIT 9	Psychology and Sports	07
UNIT 10	Training in Sports	09
PRACTICAL (LAB)[#]	Including 3 Practical	30
TOTAL	Theory 10 + Practical 3	Theory 70 + Practical 30 = 100
Note: b*are the Concept based questions like Tactile diagram/data interpretation/case base study for visually Impaired Child		

CLASS XII
COURSE CONTENT

Unit No.	Unit Name & Topics	Specific Learning Objectives	Suggested Teaching Learning process	Learning Outcomes with specific competencies
Unit 1	Management of Sporting Events			After completing the unit, the students will be able to:
	1. Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling)	To make the students understand the need and meaning of planning in sports, committees, and their responsibilities for conducting the sports event or tournament.	- Lecture-based instruction, - Technology-based learning, - Group learning, - Individual learning, - Inquiry-based learning, - Kinesthetic learning, - Game-based learning and - Expeditionary learning.	* Describe the functions of Sports Event management
	2. Various Committees & their Responsibilities (pre; during & post)	To teach them about the different types of tournaments and the detailed procedure of drawing fixtures for Knock Out, League Tournaments, and Combination tournaments.		* Classify the committees and their responsibilities in the sports event
	3. Fixtures and their Procedures – Knock- Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments	To make the students understand the need for the meaning and significance of intramural and extramural tournaments		* Differentiate the different types of tournaments. * Prepare fixtures of knockout, league & combination.
	4. Intramural & Extramural tournaments – Meaning, Objectives & Its Significance	To teach them about the different types of community sports and their importance in our society.		* Distinguish between intramural and extramural sports events
	5. Community sports program (Sports Day, Health Run, Run for Fun, Run for Specific Cause & Run for Unity)			* Design and prepare different types of community

Unit 2	Children & Women in Sports 1. Exercise guidelines of WHO for different age groups. 2. Common postural deformities- knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs and their respective corrective measures. 3. Women's participation in Sports- Physical, Psychological, and social benefits. 4. Special consideration (menarche and menstrual dysfunction) 5. Female athlete triad (osteoporosis, amenorrhea, eating disorders)	• To make students understand the exercise guidelines of WHO for different age groups • To make students aware of the common postural deformities • To make students aware of women's sports participation in India and about the special conditions of women • To make students understand menarche and menstrual dysfunction among women athletes. • To make them understand about female athlete triad.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning	After completing the unit, the students will be able to: • Differentiate exercise guidelines for different stages of growth and development. • Classify common postural deformities and identify corrective measures. • Recognize the role and importance of sports participation of women in India. • Identify special considerations relate to menarche and menstrual dysfunction. • Express female athlete triad according to eating disorders
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Unit 3	Yoga as Preventive measure for Lifestyle Disease 1. Obesity: Procedure, Benefits & Contraindications for Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottasana, Ardha – Matsyendrasana, Dhanurasana, Ushtrasana, Suryabedhan pranayama 2. Diabetes: Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana, Bhujangasana, Shalabhasana, Dhanurasana, Supta-vajarasana, Paschimottasana, Ardha-Mastendrasana, Mandukasana,	• To make students Understand about the main life style disease - Obesity, Hypertension, Diabetes, Back Pain and Asthma. • To teach about different Asanas in detail which can help as a preventive Measures for those Lifestyle Diseases.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	After completing the unit, the students will be able to: * Identify the asanas beneficial for different ailments and health problems. * Recognize importance of various asanas for preventive measures of obesity, diabetes, asthma, hypertension, back pain and arthritis * Describe the procedure for performing a variety of asanas for maximal benefits. * Distinguish the contraindications associated with performing different asanas. * Outline the role of yogic management for various health benefits and preventive measures.
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	Gomukasana, Yogmudra, Ushtrasana, Kapalabhati 3. Asthma: Procedure, Benefits & Contraindicat ions for Tadasana, Urdhwahasto ttansan a, UttanManduk asan- a, Bhujangasana , Dhanurasana, Ushtrasana, Vakrasana, Kapalbhati, Gomukhasana Matsyaasana, Anuloma- Viloma 4. Hypertension : Procedure, Benefits & Contraindicati ons for Tadasana, Katichakransa n, Uttanpadasan a, Ardha Halasana, Sarala Matyasana, Gomukhasana , UttanManduka san-a, Vakrasana, Bhujangasana , Makarasana, Shavasana,			
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	Nadi-shodhanapranayam, Sitlipranayam 5. Back Pain and Arthritis: Procedure, Benefits & Contraindications of Tadasan, Urdhawahastootansana, Ardh-Chakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrasana, Bhujangasana, Gomukhasana, Bhadrasana, Makarasana, Nadi-Shodhana pranayama.			
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Unit 4	Physical Education and Sports for CWSN (Children with Special Needs - Divyang) 1. Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics) 2. Concept of Classification and Divisioning in Sports. 3. Concept of Inclusion in sports, its need, and Implementation; 4. Advantages of Physical Activities for children with special needs. 5. Strategies to make Physical Activities assessable for children with special needs.	• To make students understand the concept of Disability and Disorder. • To teach students about the types of disabilities & disorders, their causes, and their nature. • To make them aware of Disability Etiquette. • To make the students Understand the advantage of physical activity for CWSN. • To make the students aware of different strategies for making physical activity accessible for Children with Special Needs	▪ Lecture-based instruction, ▪ Technology-based learning, ▪ Group learning, ▪ Individual learning, ▪ Inquiry-based learning, ▪ Kinesthetic learning, ▪ Game-based learning and • Expeditionary learning	After completing the unit, the students will be able to: * Value the advantages of physical activities for children with special needs * Differentiate between methods of categorization in sports for CWSN * Understand concepts and the importance of inclusion in sports * Create advantages for Children with Special Needs through Physical Activities * Strategies physical activities accessible for children with specialneeds
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Unit 5	Sports & Nutrition 1. Concept of balanced diet and nutrition 2. Macro and Micro Nutrients: Food sources & functions 3. Nutritive & Non-Nutritive Components of Diet 4. Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance, and Food Myths 5. Importance of Diet in Sports- Pre, During and Post competition Requirements	• To make the students understand the importance of a balanced diet • To clear the concept of Nutrition – Micro & Macro nutrients, Nutritive & non-Nutritive Components of diet • To make them aware of eating for weight loss and the results of the pitfalls of dieting. • To understand food intolerance & food myths	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	After completing the unit, the students will be able to: * Understand the concept of a balanced diet and nutrition. Classify Nutritive and Non- Nutritive components of the Diet * Identify the ways to maintain a healthy weight * Know about foods commonly causing food intolerance * Recognize the pitfalls of dieting and food myths
Unit 6	Test & Measurement in Sports 1. Fitness Test – SAI Khelo India Fitness Test in school:	• To make students Understand and conduct SAI KHELO INDIA Fitness Test and to make students Understand and conduct General MotorFitness Test	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic	After completing the unit, the students will be able to: * Perform SAI Khelo India Fitness Test in school [Age group 5-8

	Age group 5-8 years/ class 1-3: BMI, Flamingo Balance Test, Plate Tapping Test Age group 9-18yrs/ class 4-12: BMI, 50mt Speed test, 600mt Run/Walk, Sit & Reach flexibility test, Strength Test (Partial Abdominal Curl Up, Push-Ups for boys, Modified Push-Ups for girls). 2. Measurement of Cardio-Vascular Fitness – Harvard Step Test – Duration of the Exercise in Seconds $\times 100/5.5 \times$ Pulse count of 1-1.5 Min after Exercise 3. Computing Basal Metabolic Rate (BMR) 4. Rikli & Jones - Senior Citizen Fitness Test ○ Chair Stand Test for lower body strength ○ Arm Curl Test for upper body strength	• To make students to determine physical fitness Index through Harvard Step Test/Rockport Test • To make students to calculate Basal Metabolic Rate (BMR) • To measure the fitness level of Senior Citizens through Rikli and Jones Senior Citizen Fitness Test.	learning, • Game-based learning and Expeditionary learning	years/ (class 1-3) and Age group 9-18yrs/ (class 4-12) * Determine physical fitness Index through Harvard Step Test/Rock- port Test * Compute Basal Metabolic Rate (BMR) * Describe the procedure of Rikli and Jones - Senior Citizen Fitness Test
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	○ Chair Sit & Reach Test for lower body flexibility ○ Back Scratch Test for upper body flexibility ○ Eight Foot Up & Go Test for agility ○ Six-Minute Walk Test for Aerobic Endurance 5. Johnsen – Methney Test of Motor Educability (Front Roll, Roll, Jumping Half-Turn, Jumping full-turn)			
Unit 7	Physiology & Injuries in Sport 1. Physiological factors determining components of physical fitness 2. Effect of exercise on the Muscular System 3. Effect of exercise on the Cardio-Respiratory System 4. Physiological changes due to aging	• Understanding the physiological factors determining the components of physical fitness. • Learning the effects of exercises on the Muscular system. • Learning the effects of exercises on Cardiovascular system. • Learning the effects of exercises on the Respiratory system.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning	After completing the unit, the students will be able to: * Recognize the physiological factors determining the components of physical fitness. * Comprehend the effects of exercise on the Muscular system and cardiorespiratory systems. * Figure out the physiological changes due to ageing

	5. Sports injuries: Classification (Soft Tissue Injuries - Abrasion, Contusion, Laceration, Incision, Sprain & Strain Bone & Joint Injuries - Dislocation, Fractures - Green Stick, Comminuted, Transverse Oblique & Impacted)	• Learning the changes caused due to aging. • Understanding the Sports Injuries (Classification, Causes, and Prevention) • Understanding the Aims & Objectives of First Aid • Understanding the Management of Injuries		• Classify sports injuries with its Management.
Unit 8	Biomechanics and Sports 1. Newton's Law of Motion & its application in sports 2. Types of Levers and their application in Sports. 3. Equilibrium – Dynamic & Static and Centre of Gravity and its application in sports 4. Friction & Sports 5. Projectile in Sports	• Understanding Newton's Laws of Motion and their Application in Sports. • Make students understand the lever and its application in sports. • Make students understand the concept of Equilibrium and its application in sports. • Understanding Friction in Sports. • Understanding the concept of Projectile in sports.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning	After completing the unit, the students will be able to: * Understand Newton's Law of Motion and its application in sports * Recognize the concept of Equilibrium and its application in sports. * Know about the Centre of Gravity and will be able to apply it in sports * Define Friction and application in sports. * Understand the concept of Projectile in sports.

Unit 9	Psychology and Sports 1. Personality; its definition & types (Jung Classification & Big Five Theory) 2. Motivation, its type & techniques. 3. Exercise Adherence: Reasons, Benefits & Strategies for Enhancing it 4. Meaning, Concept & Types of Aggression s in Sports 5. Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self-Talk, Goal Setting	• To make students understand Personality & its classifications. • To make students understand motivation and its techniques. • To make students about Exercise Adherence and Strategies for enhancing Adherence to Exercise. • To make them aware of Aggression in sports and types. • To make students understand Psychological Attributes in Sports.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning	After completing the unit, the students will be able to: * Classify different types of personality and their relationship with sports performance. * Recognise the concept of motivation and identify various types of motivation. * Identify various reasons to exercise, its associated benefits and strategies to promote exercise adherence. * Differentiate between different types of aggression in sports. * Explain various psychological attributes in sports.
Unit 10	Training in Sports 1. Concept of Talent Identification and Talent Development in Sports	• Making the students understand the concept of talent identification and methods in sports • Making the students Understand sports	• Lecture-based instruction, • Technology-based learning, Group learning, • Individual learning, • Inquiry-based learning,	After completing the unit, the students will be able to: • understand the concept of talent identification and methods used

	2. Introduction to Sports Training Cycle – Micro, Meso, Macro Cycle. 3. Types & Methods to Develop – Strength, Endurance, and Speed. 4. Types & Methods to Develop – Flexibility and Coordinative Ability. 5. Circuit Training - Introduction & its importance	training and the different cycle in sports training. • Making the students Understand different types & methods of strengths, • endurance, and speed. • Making the students Understand different types & methods of flexibility and • coordinative ability. • Making the students understand Circuit training and its importance	• kinesthetic learning, • Game-based learning and • Expeditionary learning	for talent development in sports. • Understand sports training and the different cycle used in the training process. • Understand different types & methods to develop - strength, endurance, and speed in sports training • Understand different types & methods to develop – flexibility and coordinative ability. • Understand Circuit training and its importance
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**GUIDELINES FOR INTERNAL ASSESSMENT
(PRACTICAL/ PROJECTS ETC.)**

PRACTICAL	(Max. Marks 30)
Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT)*	6 Marks
Proficiency in Games and Sports (Skill of any one IOA recognized Sport/Game of Choice)**	7 Marks
Yogic Practices	7 Marks
Record File ***	5 Marks
Viva Voce (Health/ Games & Sports/ Yoga)	5 Marks

- *Test for CWSN (any 4 items out of 27 items. One item from each component: Aerobic Function, Body Composition, Muscular strength & Endurance, Range of Motion or Flexibility)
- **CWSN (Children With Special Needs – Divyang): Bocce/Boccia , Sitting Volleyball, Wheel Chair Basketball, Unified Badminton, Unified Basketball, Unified Football, Blind Cricket, Goalball, Floorball, Wheel Chair Races and Throws, or any other Sport/Game of choice.
- **Children with Special Needs can also opt any one Sport/Game from the list as alternative to Yogic Practices. However, the Sport/Game must be different from Test - 'Proficiency in Games and Sports'

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

- **Practical-1:** Fitness tests administration. (SAI Khelo India Test)
- **Practical-2:** Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.
- **Practical-3:** Any one IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Also, mention its Rules, Terminologies & Skills.

PRESCRIBED TEXTBOOKS (CLASS XI & XII)



CBSE Physical Education Class XI Text Book

https://cbseacademic.nic.in/web_material/Manuals/PhysicalEducation11_2022.pdf



CBSE Physical Education Class XII Text Book

https://cbseacademic.nic.in/web_material/Manuals/PhysicalEducation12_2022.pdf

PSYCHOLOGY
Subject Code – 037
Classes XI-XII (2026-27)

Psychology is introduced as an elective subject at the higher secondary level in school education. As a field, Psychology focuses on understanding human experiences, behaviors, and mental processes within a specific social, cultural, and historical context. This course aims to create interest and familiarize students with fundamental concepts, theories, and methods in Psychology.

The course encourages students to analyze behavior and mental processes. Students will learn to evaluate evidence and challenge assumptions, thereby developing critical thinking skills that are valuable in any field of study or career.

The course emphasizes the role of socio-cultural factors in behavior, helping students appreciate diversity and sensitivity that prepares them to be inclusive and empathetic global citizens.

It is recommended that teaching methods actively engage students, helping them develop their own understanding. To achieve this, the teaching learning processes should incorporate case studies, personal narratives, experiential exercises, and reflections on everyday experiences.

Objectives:

- To help students understand the nature of psychological knowledge and its relevance to different aspects of life.
- To encourage students to be observant, socially aware, and reflective.
- To reduce stigma and increase awareness of psychological well-being by educating students about mental health.
- To help students understand their own thoughts, emotions and behaviors fostering personal growth and resilience, preparing them to become responsible global members of society.

COURSE STRUCTURE
CLASS XI (2026-27)
Theory Paper

Time : 3 Hours

Marks: 70

Units	Topics	Marks
I	Understanding Psychology	11
II	Methods of Enquiry in Psychology	13
III	Human Development	11
IV	Sensory, Attentional and Perceptual Processes	8
V	Learning	9
VI	Human Memory	8
VII	Thinking	5
VIII	Motivation and Emotion	5
	Total	70

COURSE STRUCTURE

	Name of the Units
Unit I	Understanding Psychology <i>The topics in this unit are:</i> 1. Introduction 2. Nature of Psychology: ● Psychology as a Discipline ● Psychology as a Natural Science ● Psychology as a Social Science 3. Understanding Mind and Behaviour 4. Popular Notions about the Discipline of Psychology 5. Evolution of Psychology 6. Development of Psychology in India 7. Branches of Psychology 8. Psychology and Other Disciplines 9. Psychology in Everyday Life
Unit II	Methods of Enquiry in Psychology <i>The topics in this unit are:</i> 1. Introduction 2. Goals of Psychological Enquiry ● Steps in Conducting Scientific Research ● Alternative Paradigms of Research 3. Nature of Psychological Data

	4. Some Important Methods in Psychology ● Observational Method ● Experimental Method ● Correlational Research ● Survey Research ● Psychological Testing ● Case Study 5. Analysis of Data ● Quantitative Method ● Qualitative Method 6. Limitations of Psychological Enquiry 7. Ethical Issues
Unit III	Human Development <i>The topics in this unit are:</i> 1. Introduction 2. Meaning of Development ● Life-Span Perspective on Development 3. Factors Influencing Development 4. Context of Development 5. Overview of Developmental Stages ● Prenatal Stage ● Infancy ● Childhood ● Challenges of Adolescence ● Adulthood and Old Age
Unit IV	Sensory, Attentional and Perceptual Processes <i>The topics in this unit are:</i> 1. Introduction 2. Knowing the world 3. Nature and varieties of Stimulus 4. Sense Modalities ● Functional limitation of sense organs 5. Attentional Processes ● Selective Attention ● Sustained Attention 6. Perceptual Processes ● Processing Approaches in Perception 7. The Perceiver 8. Principles of Perceptual Organisation

	9. Perception of Space, Depth and Distance • Monocular Cues and Binocular Cues 10. Perceptual Constancies 11. Illusions 12. Socio-Cultural Influences on Perception
Unit V	Learning <i>The topics in this unit are:</i> 1. Introduction 2. Nature of Learning 3. Paradigms of Learning 4. Classical Conditioning • Determinants of Classical Conditioning 5. Operant/Instrumental Conditioning • Determinants of Operant Conditioning • Key Learning Processes 6. Observational Learning 7. Cognitive Learning 8. Verbal Learning 9. Skill Learning 10. Factors Facilitating Learning 11. Learning Disabilities
Unit VI	Human Memory <i>The topics in this unit are:</i> 1. Introduction 2. Nature of memory 3. Information Processing Approach : The Stage Model 4. Memory Systems : Sensory, Short-term and Long-term Memories 5. Levels of Processing 6. Types of Long-term Memory • Declarative and Procedural; Episodic and Semantic 7. Nature and Causes of Forgetting • Forgetting due to Trace Decay, Interference and Retrieval Failure 8. Enhancing Memory • Mnemonics using Images and Organisation
Unit VII	Thinking <i>The topics in this unit are:</i> 1. Introduction 2. Nature of Thinking

	● Building Blocks of Thought 3. The Processes of Thinking 4. Problem Solving 5. Reasoning 6. Decision-making 7. Nature and Process of Creative Thinking ● Nature of Creative Thinking ● Process and strategies of Creative Thinking 8. Thought and Language 9. Development of Language and Language Use
Unit VIII	Motivation and Emotion <i>The topics in this unit are:</i> 1. Introduction 2. Nature of Motivation 3. Types of Motives ● Biological Motives ● Psychosocial Motives 4. Maslow's Hierarchy of Needs 5. Nature of Emotions 6. Expression of Emotions ● Culture and Emotional Expression ● Culture and Emotional Labeling 7. Managing Negative Emotions 8. Enhancing Positive Emotions
Practical (Projects/small study, experiments, etc.) 30 marks The students shall be required to undertake one project /small study and conduct two experiments . The project/small study would involve the use of different methods of enquiry like observation, survey, interview, questionnaire related to the following topics: ● Bullying/Cyberbullying ● Mental health and wellbeing ● Impact of social media on the youth today ● Altruism and its impact on wellbeing ● Peer Pressure ● Anger management ● Sleep Hygiene ● Changing Gender roles and stereotypes ● Cooperation and Competition ● Compliance and Obedience	

You may also choose to do a project on any topic covered in the course (e.g., Human development, Learning, Memory, Motivation, Perception, Attention and Thinking). Experiments could focus on cause-and-effect relationships.

Practical Examination

● Practical (Experiments) file	05 Marks
● Project File	05 Marks
● Viva Voce (Project and experiment)	05 Marks
● One experiment (05 marks for conduction of experiment and 10 marks for reporting)	15 Marks
Total	30 Marks

QUESTION PAPER DESIGN
CLASS –XI (2026-27)

I. Theory : 70 Marks

Time: 3 Hours		Maximum Marks: 70	
S. No.	Competencies	Total Marks	% Weightage
1	Remembering and Understanding: Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers; Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas	35	50%
2	Applying: Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way	25	35%
3	Formulating, Analysing, Evaluating and Creating: Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions	10	15%
	Total	70	100%

II. Practical: 30 Marks

COURSE STRUCTURE
CLASS XII (2026-27)
Theory Paper

Time : 3 Hours

Marks: 70

Units	Topics	Marks
I	Variations in Psychological Attributes	13
II	Self and Personality	13
III	Meeting Life Challenges	9
IV	Psychological Disorders	12
V	Therapeutic Approaches	9
VI	Attitude and Social Cognition	8
VII	Social Influence and Group Processes	6
	Total	70

COURSE CONTENT

Unit I	Variations in Psychological Attributes <i>The topics in this unit are:</i> 1. Introduction 2. Individual Differences in Human Functioning 3. Assessment of Psychological Attributes 4. Intelligence 5. Psychometric Theories of Intelligence, Information Processing Theory: Planning, Attention-arousal and Simultaneous successive Model of Intelligence, Triarchic Theory of Intelligence; Theory of Multiple Intelligences. 6. Individual Differences in Intelligence 7. Culture and Intelligence 8. Emotional Intelligence 9. Special Abilities: Aptitude: Nature and Measurement 10. Creativity
Unit II	Self and Personality <i>The topics in this unit are:</i> 1. Introduction 2. Self and Personality 3. Concept of Self 4. Cognitive and Behavioural aspects of Self 5. Culture and Self 6. Concept of Personality 7. Major Approaches to the Study of Personality

	• Type Approaches • Trait Approaches • Psychodynamic Approach and Post Freudian Approaches • Behavioural Approach • Cultural Approach • Humanistic Approach 8. Assessment of Personality • Self-report Measures • Projective Techniques • Behavioural Analysis
Unit III	Meeting Life Challenges <i>The topics in this unit are:</i> 1. Introduction 2. Nature, Types and Sources of Stress 3. Effects of Stress on Psychological Functioning and Health • Stress and Health • General Adaptation Syndrome • Stress and Immune System • Lifestyle 4. Coping with Stress • Stress Management Techniques 5. Promoting Positive Health and Well-being • Life Skills • Positive Health
Unit IV	Psychological Disorders <i>The topics in this unit are:</i> 1. Introduction 2. Concepts of Abnormality and Psychological Disorders • Historical Background 3. Classification of Psychological Disorders 4. Factors Underlying Abnormal Behaviour 5. Major Psychological Disorders • Anxiety Disorders • Obsessive-Compulsive and Related Disorders • Trauma-and Stressor-Related Disorders • Somatic Symptom and Related Disorders • Dissociative Disorders • Depressive Disorder • Bipolar and Related Disorders

	● Schizophrenia Spectrum and Other Psychotic Disorders ● Neurodevelopmental Disorders ● Disruptive, Impulse-Control and Conduct Disorders ● Feeding and Eating Disorders ● Substance Related and Addictive Disorders
Unit V	Therapeutic Approaches <i>The topics in this unit are:</i> 1. Nature and Process of psychotherapy ● Therapeutic relationship 2. Types of Therapies ● Behaviour Therapy ● Cognitive Therapy ● Humanistic-Existential Therapy ● Alternative Therapies ● Factors contributing to healing in Psychotherapy ● Ethics in Psychotherapy 3. Rehabilitation of the Mentally Ill
Unit VI	Attitude and Social Cognition <i>The topics in this unit are:</i> 1. Introduction 2. Explaining Social Behaviour 3. Nature and Components of Attitudes 4. Attitude Formation and Change ● Attitude Formation ● Attitude Change ● Attitude-Behaviour Relationship 5. Prejudice and Discrimination 6. Strategies for Handling Prejudice
Unit VII	Social Influence and Group Processes <i>The topics in this unit are:</i> 1. Introduction 2. Nature and Formation of Groups 3. Type of Groups 4. Influence of Group on Individual Behaviour ● Social Loafing ● Group Polarisation

Practical**30 Marks**

- A. Development of case profile:
Using appropriate methods like interview, observation & psychological tests.
- B. Test administration:
Students are required to administer and interpret five psychological tests related to various psychological attributes like intelligence, aptitude, attitude, personality, etc.
- C. In the Practical examination, the student will be required to administer and interpret two psychological tests.

Distribution of Marks:

• Practical File and Case Profile	10 Marks
• Viva Voce (Case Profile & Two psychological tests)	05 Marks
• Two tests (5 marks for conducting the tests and 10 marks for reporting)	15 Marks
Total	30 Marks

QUESTION PAPER DESIGN
CLASS – XII (2026-27)

I. Theory : 70 Marks

Time: 3 Hours		Maximum Marks: 70	
S. No.	Competencies	Total Marks	% Weightage
1	Remembering and Understanding: Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers; Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas	35	50%
2	Applying: Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way	25	35%
3	Formulating, Analysing, Evaluating and Creating: Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of	10	15%

	ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions		
	Total	70	100%

II. Practical: 30 Marks

Prescribed Books:

1. Psychology, Class XI, Published by NCERT
2. Psychology, Class XII, Published by NCERT

Note: The above textbooks are also available in Hindi medium.

SOCIOLOGY
Subject Code-039
Class XI-XII (2026-27)

Rationale

Sociology is introduced as an elective subject at the senior secondary stage. The syllabus is designed to help learners to reflect on what they hear and see in the course of everyday life and develop a constructive attitude towards society in change; to equip a learner with concepts and theoretical skills for the purpose. The curriculum of Sociology at this stage should enable the learner to understand dynamics of human behavior in all its complexities and manifestations. The learners of today need answers and explanations to satisfy the questions that arise in their minds while trying to understand social world. Therefore, there is a need to develop an analytical approach towards the social structure so that they can meaningfully participate in the process of social change. There is scope in the syllabus not only for interactive learning, based on exercises and project work but also for teachers and students to jointly innovate new ways of learning.

- Sociology studies society. The child's familiarity with the society in which she /he lives in makes the study of Sociology a double edged experience. At one level Sociology studies institutions such as family and kinship, class, caste and tribe religion and region- contexts with which children are familiar of, even if differentially. For India is a society which is varied both horizontally and vertically. The effort in the books will be to grapple overtly with this both as a source of strength and as a site for interrogation.
- Significantly the intellectual legacy of Sociology equips the discipline with a plural perspective that overtly engages with the need for defamiliarisation, to unlearn and question the given. This interrogative and critical character of Sociology also makes it possible to understand both other cultures as well as relearn about one's own culture.

This plural perspective makes for an inbuilt richness and openness that not too many other disciplines in practice share. From its very inception, Sociology has had mutually enriching and contesting traditions of an interpretative method that openly takes into account 'subjectivity' and causal explanations that pay due importance to establishing causal correspondences with considerable sophistication. Not surprisingly its field work tradition also entails large scale survey methods as well as a rich ethnographic tradition. Indeed, Indian Sociology, in particular has bridged this distinction between what has often been seen as distinct approaches of Sociology and Social Anthropology. The syllabus provides ample opportunity to make the child familiar with the excitement of field work as well as its theoretical significance for the very discipline of Sociology.

- The plural legacy of Sociology also enables a bird's eye view and a worm's eye view of the society the child lives in. This is particularly true today when the local is inextricably defined and shaped by macro global processes.
- The syllabus proceeds with the assumption that gender as an organizing principle of society cannot be treated as an add on topic but is fundamental to the manner that all chapters shall be dealt with.
- The chapters shall seek for a child centric approach that makes it possible to connect the lived reality of children with social structures and social processes that Sociology studies.
- A conscious effort will be made to build into the chapters a scope for exploration of society that makes learning a process of discovery. A way towards this is to deal with sociological concepts not as givens but a product of societal actions humanly constructed and therefore open to questioning.

Objectives

- To enable learners to relate classroom teaching to their outside environment.
- To introduce them to the basic concepts of Sociology that would enable them to observe and interpret social life.
- To be aware of the complexity of social processes.
- To appreciate diversity in Indian Society and the world at large.
- To build the capacity of students to understand and analyze the changes in contemporary Indian society.

COURSE STRUCTURE

Class XI (2026-27)

Time: 3 Hours

Max. Marks: 80

Units		Marks
A	Introducing Sociology	
	1. Sociology, Society and its relationship with other Social Science disciplines	10
	2. Terms, concepts and their use in Sociology	10
	3. Understanding Social Institutions	12
	4. Culture and Socialization	12
	Total	44

B	Understanding Society	
	7. Social Change and Social order in Rural and Urban Society	12
	9. Introducing Western Sociologists	12
	10. Indian Sociologists	12
	Total	36
	Total	80
	Project Work	20

COURSE CONTENT

A.	INTRODUCING SOCIOLOGY	44 Marks
Unit 1	Sociology, Society and its Relationship with other Social Sciences - Introducing Society: Individuals and collectivities. Pluralities and Inequalities among societies. - Introducing Sociology: Emergence. Nature and Scope. - Relationship with other Social Science disciplines	
Unit 2	Terms, Concepts and their use in Sociology - Social Groups and Society - Social Stratification - Status and Role - Society & Social Control	
Unit 3	Understanding Social Institutions - Family, Marriage and Kinship - Work & Economic Life - Political Institutions - Religion as a Social Institution - Education as a Social Institution	
Unit 4	Culture and Socialization - Defining Culture - Dimensions of Culture - Socialization - Agencies of Socialisation & Sociology	

B.	UNDERSTANDING SOCIETY	36 Marks
Unit 7	Social Change and Social Order in Rural and Urban Society • Social Change: Types, Causes and Consequences • Social Order: Domination, Authority and Law; Contestation, Crime and Violence • Concepts: Village, Town and City • Social Order and Social Change in Rural and Urban Areas	
Unit 9	Introducing Western Sociologists • The Context of Sociology • Karl Marx on Class Conflict • Emile Durkheim: Division of Labour in society • Max Weber: Interpretive Sociology, Ideal Type & Bureaucracy	
Unit 10	Indian Sociologists • G.S. Ghurye on Caste and Race • D.P. Mukherjee on Tradition and Change • A.R. Desai on the State • M.N. Srinivas on the Village	

PROJECT WORK		
Max. Marks: 20		
A. Project undertaken during the academic year at school level 1. Introduction -2 Marks 2. Statement of Purpose – 2 Marks 3. Research Question – 2 Marks 4. Methodology – 3 Marks 5. Data Analysis – 4 Marks 6. Conclusion – 2 Marks		15 Marks
B. Viva – based on the project work		05 Marks

SOCIOLOGY
QUESTION PAPER DESIGN
Class XI (2026-27)

S.No.	Competencies	Total Marks	Weightage (%)
1	Knowledge & understanding Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	30	37.5%
2	Application of Knowledge and Concepts Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way. Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	32	40%
3	Formulate, Analyse , Evaluate & Create Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	18	22.5%
	Total	80	100%

COURSE STRUCTURE

Class XII (2026-27)

Time: 3 Hours

Max. Marks: 80

Units		Marks
A	Indian Society	
	1. Introducing Indian Society	Non- evaluative
	2. The Demographic Structure of Indian Society	10
	3. Social Institutions: Continuity and Change	10
	5. Patterns of Social Inequality and Exclusion	10
	6. The Challenges of Cultural Diversity	10
	7. Suggestions for Project Work	Non- evaluative
		40
B	Social Change and Development in India	
	8. Structural Change	5
	9. Cultural Change	5
	11. Change and Development in Rural Society	10
	12. Change and Development in Industrial Society	10
	15. Social Movements	10
		40
Total		80

COURSE CONTENT

A.	INDIAN SOCIETY	40 Marks
Unit 1	Introducing Indian Society Colonialism, Nationalism, Class and Community (Non- evaluative)	
Unit 2	The Demographic Structure of the Indian Society • Theories and concepts in demography • Rural-Urban Linkages and Divisions • Population Policy in India	

Unit 3	Social Institutions: Continuity and Change • Caste and the Caste System • Tribal Communities • Family and Kinship	
Unit 5	Patterns of Social Inequality and Exclusion • Social Inequality and Social Exclusion • Systems justifying and perpetuating Inequality - Caste, Tribe, the Other Backward Classes • Adivasi Struggles • The Struggle for Women's Equality and Rights • The struggles of the Differently Abled	
Unit 6	The Challenges of Cultural Diversity • Cultural communities and the nation state • Regionalism in the Indian context • The Nation state and religion related issues and identities • Communalism, secularism and the nation state • State and Civil Society	
Unit 7	Suggestions for Project Work	
B.	SOCIAL CHANGE AND DEVELOPMENT IN INDIA	40 Marks
Unit 8	Structural Change Understanding Colonialism, Industrialization, Urbanization	
Unit 9	Cultural Change • Social Reform Movements • Different Kinds of Social Change: Sanskritisation, Westernisation, Modernization, Secularization	
Unit 11	Change and Development in Rural Society • Agrarian Structure: Caste & class in Rural India • Land Reforms, Green Revolution and Emerging Agrarian society • Green revolution and its social consequences • Transformation in Rural Society • Circulation of labour • Globalization, Liberalization and Rural Society	

Unit 12	Change and Development in Industrial Society • From Planned Industrialization to Liberalization • How people find Jobs • Work Processes: How work is carried out, working conditions, home based work, Strikes and Unions
Unit 15	Social Movements • Concept of Social Movements • Theories and Classification of Social Movements • Environmental Movements • Class-Based Movements: Workers, Peasants • Caste-Based Movements: Dalit Movement, Backward Class/Castes, Trends in Upper Caste Responses • Tribal Movements • Women's Movements in Independent India

PROJECT WORK	
Max. Marks: 20	
C. Project undertaken during the academic year at school level 1. Introduction -2 Marks 2. Statement of Purpose – 2 Marks 3. Research Question – 2 Marks 4. Methodology – 3 Marks 5. Data Analysis – 4 Marks 6. Conclusion – 2 Marks	15 Marks
D. Viva – based on the project work	05 Marks

Prescribed Books:

1. Introducing Sociology, Class XI, Published by NCERT
2. Understanding Society, Class XI, Published by NCERT
3. Indian Society, Class XII, Published by NCERT
4. Social Change and Development in India, Class XII, published by NCERT

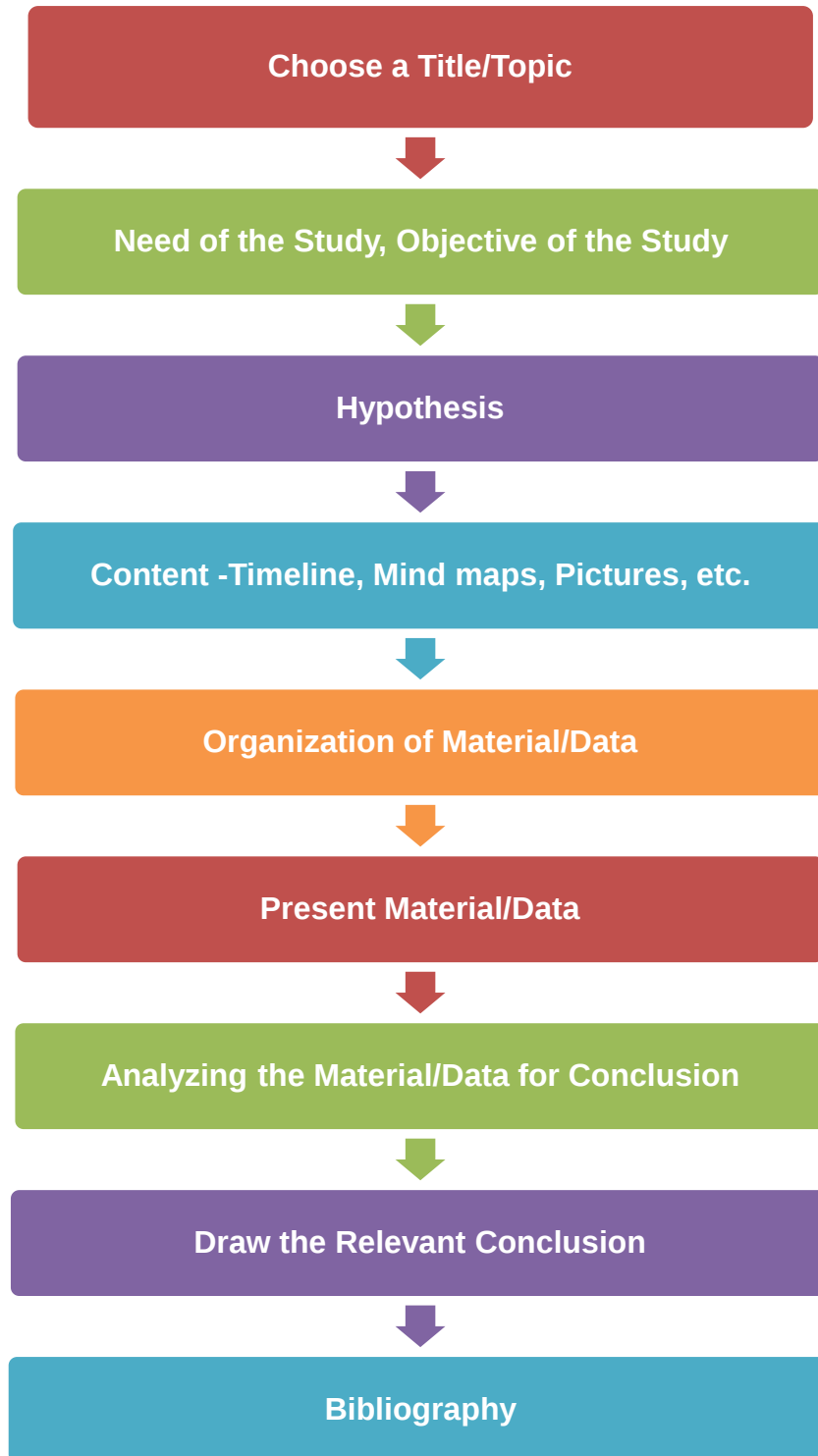
SOCIOLOGY
QUESTION PAPER DESIGN
Class XII (2026-27)

S. No.	Competencies	Total Marks	Weightage (%)
1	Knowledge & Understanding Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	30	37.5%
2	Application of Knowledge and Concepts Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way. Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	32	40%
3	Formulate, Analyse , Evaluate & Create Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	18	22.5%
	Total	80	100%
Note: Kindly refer to the guidelines on project work for class XI and XII given below: -			

Guidelines for Sociology Project Work: 20 Marks

One Project to be done throughout the session, as per the existing scheme.

- 1. Steps involved in the conduct of the project:** Students may work upon the following lines as a suggested flow chart:



2. Expected Checklist for the Project Work:

- Introduction of topic/title
- Identifying the causes, events, consequences and/or remedies
- Various stakeholders and effect on each of them
- Advantages and disadvantages of situations or issues identified
- Short-term and long-term implications of strategies suggested during research
- Validity, reliability, appropriateness, and relevance of data used for research work and for presentation in the project file
- Presentation and writing that is succinct and coherent in project file
- Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

3. Assessment of Project Work:

- Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation, Conclusion.
- The aspects of the project work to be covered by students can be assessed during the academic year.
- 20 marks assigned for Project Work can be divided in the following manner:

4. Viva-Voce

- At the end, each learner will present the research work in the Project File to the External and Internal examiner.
- The questions should be asked from the Research Work/ Project File of the learner.
- The Internal Examiner should ensure that the study submitted by the learner is his/her own original work.
- In case of any doubt, authenticity should be checked and verified. *****

PROJECT WORK: 20 MARKS

The teacher will assess the progress of the project work in the following manner:

Month	Periodic Work	Assessment Rubrics	Marks
April -July	Instructions about Project Guidelines, Background reading Discussions on Theme and Selection of the Final Topic, Initiation/ Synopsis	Introduction, Statement of Purpose/Need and objectives of the study, Hypothesis/Research Question, Review of Literature, Presentation of Evidence, Methodology, Questionnaire, Data Collection.	5
August - October	Planning and organization: forming an action plan, feasibility, or baseline study, Updating/ modifying the action plan, Data Collection	Significance and relevance of the topic; challenges encountered while conducting the research.	6
November - January	Content/data analysis and interpretation. Conclusion, Limitations, Suggestions, bibliography, Annexures and overall presentation of the project.	Content analysis and its relevance in the current scenario. Conclusion, Limitations, Bibliography, Annexures and Overall Presentation.	5
January- February	Final Assessment and VIVA by both Internal and External Examiners	External/ Internal Viva based on the project	4
		TOTAL	20