Bosco Public School

Sunder Vihar, Paschim Vihar, New

Delhi www.boscoschool.com

CLASS XI COMMERCE

SYLLABUS (2023-24)

ENGLISH

General Objectives:

- To listen and comprehend live as well as record in writing oral presentations on a variety of topics.
- To develop greater confidence and proficiency in the use of language skills necessary for social and academic purposes.
- To participate in group discussions, interviews by making a short oral presentation on given topics.
- To perceive the overall meaning and organization of the text (i.e. the relationships of the different 'chunks' in the text to each other).
- To identify the central/main point and supporting details etc. to build communicative competence in various skills of English.
- To promote advanced language skills with an aim to develop the skills of reasoning, drawing inferences, etc. through meaningful activities.
- To develop the ability and knowledge required in order to engage in independent reflection inquiry.
- To familiarize students with the use of basic imagery and figurative language.

Marks Division

Section	Marks
Reading Comprehension	26
Creative Writing Skills and Grammar	16 + 7
Textbooks and Supplementary Reading Text	31
	80
ASL and Project File	10 + 10
Total	**100**

APRIL-MAY
Reading	:	Unseen Passage
Writing	:	Classified Advertisements
Grammar	:	Integrated Exercises – Reordering Sentences
Literature	:	Hornbill

- Chapter - 1 The Portrait of a Lady
- A Photograph (Poem)

JULY
Reading	:	Unseen Passage
Writing	:	Speech
	Grammar	:Integrated Exercises – Reordering Sentences
Literature	:	Hornbill

- Chapter - 3 Discovering Tut
  Snapshots
- Chapter - 1 The Summer of the Beautiful White Horse

AUGUST
Reading	:	Unseen Passage, Note Making & Summary
Writing	:	Posters
Grammar	:	Integrated Exercises – Tenses
Literature	:	Hornbill

- Chapter -7 Adventure
- Chapter -2 We're Not Afraid to Die…
- The Laburnum Top (Poem)
  Assessment of Listening and Speaking Skills

SEPTEMBER: Revision and Half Yearly Examination

OCTOBER
Reading   :   Unseen Passage, Note Making & Summary
Writing   :   Debate
Grammar   :   Integrated Exercises – Clauses
Literature   :   Hornbill
- Father to Son (Poem)
  Snapshots
- Chapter - 5 Mother's Day

NOVEMBER
Reading   :   Unseen Passage
Writing   :   Posters (Revision)
Grammar   :   MCQs on Gap Filling and Transformation of Sentences
Literature   :   Hornbill
- The Voice of the Rain (Poem)
- Childhood (Poem)

DECEMBER
Reading   :   Unseen Passage
Writing   :   Debate (Revision)
Grammar   :   Integrated Exercises - Transformation of Sentences
Literature   :   Snapshots
- Chapter -7 Birth
  Hornbill
- Chapter - 8 Silk Road

JANUARY
Literature   :   Snapshots
- Chapter - 8 The Tale of Melon City
   Revision
   Assessment of Listening and Speaking Skills
   Project Work

FEBRUARY- MARCH
   Revision and Final Examination

SYLLABUS FOR EXAMINATION

Unit Test 1	**Reading** : Unseen Passage **Writing** : Classified Advertisements **Grammar**: Integrated Exercises – Sentence Reordering **Literature**: • Ch- 3 Discovering Tut • Ch -1 The Portrait of a Lady • A Photograph (Poem)

Half Yearly Examination	**Reading** : Unseen Passage, Note Making & Summary **Writing** : Classified Advertisements, Speech, Posters **Grammar** :Integrated Exercises - Reordering Sentences , Tenses **Literature**: Hornbill - Ch-3 Discovering Tut - Ch-1 The Portrait of a Lady - A Photograph (Poem) - Ch -7 Adventure - Ch -2 We're Not Afraid to Die… - The Laburnum Top (Poem) Snapshots - Ch- 2 The Address - Ch -1 The Summer of the Beautiful White Horse
Unit Test 2	**Reading** : Unseen Passage, Note Making and Summarisation **Writing** : Poster Making , Debate **Grammar**: Integrated Exercises - Tenses **Literature**: - Father to Son (Poem) - Ch- 5 Mother's Day
Final Term Examination	Complete syllabus

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MATHEMATICS

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General Objectives:

- To acquire a precise knowledge and critical understanding of the basic concepts
- To develop a positive attitude towards thinking
- To articulate and analyse logically
- To become precise and logical.

Marks Distribution

S.No	UNITS	MARKS
1	Sets and Function	23
2	Algebra	25
3	Coordinate Geometry	12
4	Calculus	8
5	Statistics and Probability	12
Total		**80**
Internal Assessment		**20**

APRIL-MAY

- **Chapter 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

- **Chapter 2: Relations and 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 (upto R x R x 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.

- **Chapter 4: Complex numbers and Quadratic Equations**

  Need for complex numbers, especially, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane

  ## JULY

- **Chapter-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 $\sin 2x + \cos 2x = 1$, for all x. Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing *sin (x±y)* and *cos (x±y)* in terms of sin*x*, sin*y*, cos*x* & cos*y* and their simple applications.

- **Chapter 8: 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.

AUGUST
- **Chapter 8: Sequence and series(Continued)**
  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.
- **Chapter 9: 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.

SEPTEMBER
Revision and Half Yearly Examination

OCTOBER
- **Chapter 13: Statistics**
  Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped   data.

NOVEMBER
- **Chapter 5: Linear inequalities**
  Linear inequalities.   Algebraic solutions of linear inequalities in one variable and their representation on the number line.
- **Chapter 6: Permutation and Combination**
  Fundamental   principle   of counting.   Factorial *n.* (n!) Permutations and combinations, derivation of Formulae for ^nP_r and ^nC_r and their connections, simple applications.
- **Chapter 7: Binomial theorem**
  Historical perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, simple   applications.

DECEMBER
- **Chapter 10: Conic section**
  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.
- **Chapter 11: Introduction to three-dimensional geometry**
  Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points.
- **Chapter 12: 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 scope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

JANUARY
- **Chapter 14: 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.

Syllabus for examination

EXAMINATION	CHAPTERS
Unit Test-1	• Ch.1.Sets • Ch.2 : Relation and Function • Ch.3: Trigonometric functions
Half-Yearly Examination	• Ch.1: Sets • Ch.2: Relation and Function • Ch.3 : Trigonometric functions • Ch.4: Complex numbers and Quadratic Equations • Ch.8: Sequence and series • Ch.9 : Straight lines
Unit Test-2	• Ch.13 : Statistics • Ch.6: Permutation and combination
Final Examination	• Complete Syllabus

General Objectives:

- To familiarize students with new and emerging areas in the preparation and presentation of financial statements.
- To familiarize the students with accounting as an information system;
- To acquaint the students with basic concepts of accounting and accounting standards;
- To develop the skills of using accounting equation in processing business transactions;
- To develop an understanding about recording of business transactions and preparation of financial statements;

UNITS		MARKS
PART A	**Financial Accounting-I**	
1	Theoretical Framework	12
2	Accounting Process	44
	Total	**56**
PART B	**Financial Accounting-II**	
3	Financial Statements of Sole Proprietorship	24
	Total	**24**
PART C	**Project Work**	**20**
	TOTAL (A+B+C)	**100**

APRIL - MAY

Part A: Financial Accounting - I
Unit 1: Theoretical Framework
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 concepts: Business Entity, Money Measurement, Going Concern, 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

JULY

Theory Base of Accounting
- Accounting Standards; Applicability in Ind AS

8

- Goods and Services Tax (GST): Characteristics and Advantages.

Unit 2: Accounting Process
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

AUGUST

Unit 2: Accounting Process
Recording of Business Transactions
- Special Purpose books: Cash Book: Simple, cash book with bank column and petty Cashbook, Purchases book, 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

PROJECT WORK
- Collection of Source Documents, Preparation of Vouchers, and Recording of Transactions with the help of vouchers.

SEPTEMBER
Revision and Half-Yearly Examination

OCTOBER
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 recording depreciation
  i) Charging to asset account
  ii) Creating provision for depreciation/accumulated depreciation account,
- Treatment for disposal of asset
- Provisions and Reserves: Difference, Types of Reserves: i. Revenue reserve ii. Capital reserve iii. General reserve iv. Specific reserve v. Secret Reserve
- Difference between capital and revenue reserve

NOVEMBER

Trial Balance and Rectification of Errors
- Trial balance: Objectives, Meaning and Preparation (Balance method only)
- Errors: types-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 that affect the rial balance
- preparation of suspense account

DECEMBER

Part B: Financial Accounting - II

Unit 3: Financial Statements of Sole Proprietorship
- Financial Statements: Meaning, objective, and importance.
- Revenue and Capital Receipts; Revenue and Capital Expenditure; Deferred Revenue Expenditure. Opening journal entries, Trading and Profit and loss Account, preparation
- Profit and loss account: gross profit, operating profit, and net profit.
- Balance Sheet: need, grouping, marshaling of assets and liabilities, Preparation.

Part C: Project Work
- Comprehensive project starting with journal entries regarding any sole proprietorship business. Posting them to the ledger and preparation of Trial balance. The students will then prepare a Trading and Profit and Loss Account on the basis of the prepared trial balance. Expenses, incomes and profit (loss) are to be depicted using a pie chart/bar diagram.

JANUARY

Unit 3: Financial Statements of Sole Proprietorship
- 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 sole proprietorship with adjustments.
- Incomplete Records: Features, reasons and limitations. Ascertainment of Profit/Loss by Statement of Affairs method. (excluding conversion method)

FEBRUARY – MARCH
Revision and Final Examination

Syllabus for Examination

Unit Test - 1	Unit-1
Half-Yearly Exam	Unit- 1 and 2 (till Ledger)
Unit Test - 2	Unit-2 (Bank Reconciliation Statement & Depreciation)
Final Exam	Complete syllabus

BUSINESS STUDIES

General Objectives:

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

UNITS		MARKS
PART A	**Foundations of Business**	
1	Evolution and Fundamentals 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**
PART C	**Project Work (One)**	**20**
	TOTAL (A+B+C)	**100**

MAY
PART A: FOUNDATION OF BUSINESS
Unit 1: Evolution and Fundamentals of Business

- 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.
- Business - meaning and characteristics
- Business, profession and employment- Concept
- Objectives of business,
- Classification of business activities - Industry and Commerce
- Industry-types: primary, secondary, tertiary:- Meaning and subgroups
- Commerce-trade: (types-internal, external; wholesale and retail) and auxiliaries to trade; (banking, insurance, transportation, warehousing, communication, and advertising) – meaning
- Business risk-Concept

JULY
Unit 2: Forms of Business organizations
- Sole Proprietorship - Concept, merits and limitations.
- Partnership - Concept, types, merits and limitations of partnership, registration of a partnership firm, partnership deed and Types of partners.
- Hindu Undivided Family Business:- Concept
- Cooperative Societies - Concept, merits, and limitations
- Company - Concept, merits and limitations; Types: Private, Public and One Person Company – Concept.
- Formation of company - stages, important documents to be used in formation of a company
- Choice of form of business organization

AUGUST
Unit 3: Public, Private and Global Enterprises
- Public sector and private sector enterprises – Concept
- Forms of public sector enterprises: Departmental Undertakings, Statutory Corporations and Government Company.
- Global Enterprises- Features.
- Joint venture,
- Public private partnership- Concept

Unit 4: Business Services
- Business services – meaning and types.
- Banking: Types of bank accounts- savings, current, recurring, fixed deposit and multiple option deposit account.
- Banking services with particular reference to Bank Draft, Bank Overdraft, cash credit. E-Banking - meaning, Types of digital payments
- Insurance-: Principles, Types – life, health, fire and marine insurance – concept
- Postal Service-Mail, Registered Post, Parcel, Speed Post, Courier-meaning.

SEPTEMBER
- Revision and Half-Yearly Examination

OCTOBER
Unit 5: Emerging Modes of Business
- E-business: concept, scope and benefits

Unit 6: Social Responsibility of Business and Business Ethics
- Concept of social responsibility
- Case for social responsibility
- Responsibility towards owners, investors, consumers, employees, government and community.
- Role of business in environment protection
- Business Ethics - Concept and Elements

PART B: FINANCE AND TRADE
NOVEMBER
Unit 7: Sources of Business Finance
- Concept of business finance
- Owners' funds - equity shares, preference shares, retained earnings,

- Borrowed funds: debentures and bonds, loans from financial institutions and commercial banks, public deposits, trade credit, Inter Corporate Deposits (ICD).

DECEMBER
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
- Small scale enterprise as defined by MSMED Act 2006 (Micro, Small and Medium Enterprise Development Act)
- Role of small business in India with special reference to rural areas.
- 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.

Unit 9: Internal Trade
- Internal trade - meaning and types
- Services rendered by a wholesaler and a retailer
- Types of retail-trade-Itinerant and small scale fixed shop retailers
- Large scale retailers-Departmental stores, chain stores - concept
- GST (Goods and Services Tax): Concept and key-features

Unit 11: Project Work
　　　As per CBSE guidelines

JANUARY
Unit 10: International Trade
- International trade: concept and benefits
- Export trade- Meaning and procedure
- Import Trade- Meaning and procedure
- Documents involved in International Trade; indent, letter of credit, shipping order, shipping bills, mate's receipt(DA/DP),
- World Trade Organization (WTO) - meaning and objectives

Syllabus for Examination

Unit Test - I	Unit-1 Evolution and Fundamentals of Business
Half- Yearly Exam	Unit-1 Evolution and Fundamentals of Business Unit-2 Forms of Business Organisations Unit-3 Public private and Global Enterprises Unit-4 Business Services
Unit Test – II	Unit -5 Emerging modes of Business Unit -6 Social Responsibilities of Business and Business Ethics
Final Examination	Complete Syllabus (Unit 1-10)

General 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.

Units	Part A	Marks
	Statistics for Economics	
1	Introduction	
2	Collection, Organization and Presentation of Data	15
3	Statistical Tools and Interpretation	25
	Total	40
Units	**Part B**	**Marks**
	Introductory Microeconomics	
4	Introduction	4
5	Consumer's Equilibrium and Demand	14
6	Producer Behaviour and Supply	14
7	Forms of Market and Price Determination under perfect competition with simple applications	8
	Total	40
Part C	**Project Work**	20
Total(A+B+C)		100

APRIL-MAY

Part A: Statistics for Economics
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).

JULY

Unit 3: Statistical Tools and Interpretation
Measures of Central Tendency- Arithmetic mean, median and mode

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
Concept of Production Possibility Frontier and opportunity cost.

AUGUST

Part B: Introductory Microeconomics
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.

 Project Work

OCTOBER
Part A: Statistics for Economics
Unit 3: Statistical Tools and Interpretation
Correlation – meaning and properties, scatter diagram; Measures of correlation - Karl
Pearson's method (two variables ungrouped data) Spearman's rank correlation

Project Work
SEPTEMBER
   • Revision and Half-Yearly Examination

NOVEMBER

Part A: Statistics for Economics
Unit 3: Statistical Tools and Interpretation
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 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, average and marginal revenue - meaning and their relationship.
Producer's Equilibrium : meaning and its conditions in terms of marginal revenue and 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.

Project Work

DECEMBER

Unit 7: Forms of Market and Price Determination under Perfect Competition with simple applications.
Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply.
Simple Applications of Demand and Supply: Price ceiling, price floor.
Project Work

Syllabus for Examination

Examination	Topic
Unit Test – 1	Part A – Unit-1 Unit-2 (Collection of Data)
Unit Test – 2	Part B – Unit-6
Half-Yearly Exam	Part A – Unit – 1,2&3 (Measures of Central Tendency) Part B – Unit – 4&5
Final Exam	Complete syllabus

<div style="text-align: center; border: 2px solid black; display: inline-block; padding: 10px;">**INFORMATICS PRACTICES**</div>

General Objectives:

- Identify the components of Computer System.
- Create Python programs using different data types, lists and dictionaries.
- Explain 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.

Marks Distribution (Theory)

Unit No.	Unit Name	Marks
1	Introduction to Computer System	10
2	Introductory Python Programming	25
3	Database concepts and the Structured Query Language	30
4	Introduction to Emerging Trends	5
	Total	70

APRIL-MAY

UNIT 1: Introduction of Computer System

Computer System

- Introduction
- Basic Components of Computer System
- Data Representation in Memory
- Input/Output Devices
- Basic operations of Operating System
- Basic concept of Data Representation: Binary, ASCII, Unicode

UNIT 2: Introductory Python Programming

Brief Overview of Python

- Need of Python
- Features of Python
- Downloading and installing Python
- Python- Command line and IDLE
- Programs using Python Script Mode
- Python Character set
- Tokens

JULY

UNIT 2: Introductory Python Programming

Brief Overview of Python (contd..)

- Python as a calculator
- Stylistic guideline of python scripts
- Variables and Types
- Keywords in Python
- Expressions
- User Input
- Indentation in Python
- Tokens and Comments
- Conditional statements
- Types of loops
- For and while loops
- For loop (range(),else statement and nested loops)

PRACTICAL

Program based on simple input/ output, conditional statements and loops.

AUGUST

Working with List and Dictionary

- Introduction
- Various uses on Lists
- List Functions and Methods
- Traversing a List
- List Methods and Built-in Functions
- Introduction to dictionary
- Various uses on dictionary
- Dictionary function
- Traversing a Dictionary
- Dictionary Methods and Built-in Functions
- Manipulating Dictionaries

PRACTICAL:

Programs based on Python lists and Dictionary.

SEPTEMBER

Revision for Half Yearly Examination

OCTOBER

UNIT 3: Data Management

- **Database Concepts**
  - 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, foreign key.

PRACTICAL

- Programs based on Python dictionaries and basics SQL commands

NOVEMBER

- **Introduction to Structured Query language**
  - 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 Table, Drop Table, Alter Table.

PRACTICAL:

- Working with SQL Commands

DECEMBER

- **Introduction to Structural Query Language (contd.)**
  - Operators: Distinct, Like, Between and
  - Data Query: Select, From, Where. Order By
  - Data Manipulation: Insert, Update, Delete

JANUARY

- **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:

- Make a Power Point Presentation on any topic based on Emerging Trends
- Working with SQL Commands

<u>FEBURARY-MARCH</u>

Revision and Final Examination

Syllabus for Examination

Unit Test I	Ch 1: Computer System Ch 3: Basic Overview of Python
Half Yearly (Theory) Practical (30)	Ch 1: Computer System Ch 3: Basic Overview of Python Ch 4: Working with List and Dictionary in Python Python programming
Unit Test II	Ch 7: Database Concepts Ch 8: Introduction to Structural Query Language
Final Examination (Theory)	Ch 1: Computer System Ch 2: Emerging Trends Ch 3: Basic Overview of Python Ch 4: Working with List and Dictionary in Python Ch 7: Database Concepts Ch 8: Introduction to Structural Query Language
Practical (30)	Python programming SQL Commands

PHYSICAL EDUCATION

General Objectives:

- Awareness regarding the importance of physical fitness in individual and social life including life skills.
- Bring the overall awareness of values with regards to personal health and fitness and to inculcate among students the desired habit and attitude toward health to raise their health status.
- To make the pupil physically, mentally and emotionally fit and to develop such person and social qualities that will help them to be good human being.
- Individually and collectively to protect and promote (own health) (health of family member) and (heath of the surrounding communities and seeking help when required from available community resources.
- To develop interest in exercise sports and games for self-satisfaction and make it a part of a life
- Will an individual to enhance in a qualities self must re discipline courage confidence and efficiency
- To Enable and individual to display a sense of responsibility, patriotism, self-sacrifice and services to the community.

Marks Distribution (Practical)

S.No.	Practical	Marks
1.	Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT)	6
2.	Proficiency in Games and Sports - (Skill of any one IOA recognised Sport/Game of Choice)	7
3.	Yogic Practices	7
4.	Record File	5
5.	Viva Voce (Health/ Games & Sports/ Yoga	5

APRIL-MAY

Unit I Changing Trends & Career in Physical Education

- Concept, Aims & Objectives of Physical Education
- Development of Physical Education in India – Post Independence
- Changing Trends in Sports- playing surface, wearable gears and sports equipment, technological advancements
- Career Options in Physical Education
- Khelo-India and Fit-India Program

Unit II Olympism

- Olympism – Concept and Olympics Values (Excellence, Friendship & Respect)
- Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind
- Ancient and Modern Olympics
- Olympics - Symbols, Motto, Flag, Oath, and Anthem
- Olympic Movement Structure - IOC, NOC, IFS, Other members

JULY

Unit III Yoga

- Meaning & Importance of Yoga
- Introduction to Ashtanga Yoga
- Introduction to Yogic Kriyas (Shat Karma)
- Pranayama and its types.
- Active Lifestyle and stress management through Yoga

AUGUST

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

- Concept of Disability and Disorder
- Types of Disability, its causes & nature (Intellectual disability, Physical disability)
- Disability Etiquette
- Aim & Objective of Adaptive Physical Education
- Role of various professionals for children with special needs (Counsellor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist & Special Educator)

Unit V Physical Fitness, Health and Wellness

- Meaning and Importance of Wellness, Health and Physical Fitness
- Components/Dimensions of Wellness, Health and Physical Fitness
- Traditional Sports & Regional Games for promoting wellness
- Leadership through Physical Activity and Sports

SEPTEMBER

Revision and Half-yearly Examination

OCTOBER

Unit VI Test, Measurement & Evaluation

- Define Test, Measurements and Evaluation.
- Importance of Test, Measurements and Evaluation in Sports.
- Calculation of BMI, Waist – Hip Ratio, Skin fold measurement (3-site)
- Somato Types (Endomorphy, Mesomorphy & Ectomorphy)
- Measurements of health-related fitness

NOVEMBER

Unit VII Fundamentals of Anatomy, Physiology in Sports

- Definition and Importance of Anatomy and Physiology in exercise and sports
- Functions of Skeletal system, classification of bone and types of joints.
- Properties and Functions of Muscles.
- Function and Structure of Circulatory system and heart.
- Function and Structure of Respiratory system.

Unit VIII Fundamentals of Kinesiology and Biomechanics in Sports

- Definition and Importance of Kinesiology and Biomechanics in sports
- Principles of Biomechanics
- Kinetics and Kinematics in Sports
- Types of Body Movements - Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation
- Axis and Planes – Concept and its application in body movements

DECEMBER

Unit IX Psychology & Sports

- Definition & Importance of Psychology in Physical Education & Sports
- Developmental Characteristics at Different Stages of Development
- Adolescent Problems & Their Management
- Team Cohesion and Sports
- Introduction to Psychological Attributes: Attention, Resilience, Mental Toughness

JANUARY

Unit X Training and Doping in Sports

- Concept and Principles of Sports Training
- Training Load: Over Load, Adaptation, and Recovery
- Warming-up & Limbering Down – Types, Method & Importance Concept of Skill,
- Technique, Tactics & Strategies
- Concept of Doping and its disadvantages

FEBRUARY – MARCH
Revision and Final Examination

Syllabus for Examination

Unit Test- I	Unit I Changing Trends & Career in Physical Education
	Unit II Olympism
Half- Yearly Examination	Unit I Changing Trends & Career in Physical Education
	Unit II Olympism
	Unit III Yoga
	Unit IV Physical Education & Sports for CWSN (Children with Special Needs - Divyang)
	Unit V Physical Fitness, Health and Wellness
Unit Test- II	Unit VI Test, Measurement & Evaluation
	Unit VII Fundamentals of Anatomy, Physiology in Sports
Final Examination	Complete Syllabus