

**Class Manual**  
**Class XI Session 2022-23**  
**English**

**TERM I**

Hornbill

L-1 The Portrait Of A Lady

Activity: Students will undertake a project on audio recording the life story of their family members

L: 2 We Are Not Afraid to Die .....If We Can All Be together

Activity: Collect information about the seas you would like to navigate. Study their specific features and write the kind of practice and preparation required to navigate them.

Poetry: A Photograph

Activity: Imagine yourself as Shirley Toulson and develop a dialogue between you and your daughter about the Photograph

Snapshots

L:1 The Summer of the Beautiful White Horse

Activity: Narrate to the class an incident that changed you from doing wrong to right

Reading Comprehension

Writing: Business and Official letters

Grammar : Determiners

**Unit Test 1**

Hornbill

L:3 Discovering Tut: The Saga Continues

Activity: Archaeology is a field of study that employs technology and is a lot more interesting than we may think. It is much more than just digging. Find out how archaeologists carry out studies and researches at many ancient sites that have been discovered recently

Snapshots

L: 2 The Address

Activity: Narrative Technique Dialogue form of the lesson, Choose a scene and attempt a script writing on it.

L:4 Albert Einstein At School

Activity: Write an article on the ideas and opinions of Einstein about education in 125 -150 words

Poetry: The Voice of Rain

Activity: Write a short poem on your feeling when you get wet in the rain

Reading: Note Making

Writing: Speech Writing

Grammar: Tenses

**Term II**

Hornbill

L: 4 The Ailing Planet

Activity:

Imagine yourself as a reporter from a leading newspaper and a friend of yours as the earth. Imagine an interview with the Earth wherein the Earth shares its ailing condition.

L: 5 Mother's Day

Activity: Role Play

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L:6 The Browning Version

Activity

Debate: Reading plays is more interesting than studying science.

Poetry: Childhood

Activity: Compose a poem on Childhood

Writing Debate Writing, Poster

Grammar: Reordering / Transformation of sentences

### **Unit Test II**

Flamingo

My Mother at Sixty Six

Keeping Quiet

Aunt Jennifer's Tigers

Writing: Letter to the school or college authorities regarding admission and school issues

### **Terminal Examination II**

Entire Syllabus and L:1 The last lesson ( Flamingo)

L-2 The Tiger King(Vistas)

## **HOME SCIENCE**

### **Term - I**

Ch 1. HEFS: Evolution of the Discipline and its Relevance to Quality of Life

Ch 2. Understanding the Self

A. What makes me I?

B. Development and Characteristics of the Self

C. Influence of Identity

How do we Develop a Sense of Self?

Ch 3. Food, Nutrition, Health and Fitness

Ch 4. Management of Resources

Ch 5. Fabrics around us

Ch 6. Media and Communication Technology

Ch 7. Effective Communication & Killo

Ch 8. Living and Working in a Global Society

Ch 9. Relationships and Interactions with 'significant others'

A. Family

B. School: Peers and Educators

C. Community and Society

### **Term - II**

Ch 10. Concerns and Needs in Diverse Context

A. Nutrition, Health and Hygiene

B. Work, Worker and Workplace

C. Resource Availability and Management  
D. Learning, Education and Extension  
E. Textile Traditions  
Ch 11. Survival Growth and Development  
Ch 12. Nutrition, Health and Wellbeing  
Ch 13. Care and Education  
Ch 14. Our Apparel  
Ch 15. Health and Wellness  
Ch 16. Financial Management and Planning  
Ch 17. Care and Maintenance of Fabrics  
Ch 18. Perspectives in communication  
Ch 19. Individual Responsibilities and Rights

## Painting

### Term I

#### Unit I

Prehistoric rock paintings

Introduction, Period and Location

i) Wizard's Dance, Bhimbetka

Indus Valley Civilization

Introduction, Period and Location

Traces of Artistic Things

Sculptures : i) Dancing Girl, ii) Male Torso, iii) Mother Goddess, iv) Bull Seal

Practical : Sketching (Pencil Shading)

Unit Test I

#### Unit II

Buddhist, Jain and Hindu Art

General Introduction to art during the Shunga, Kushana (Gandhara and Mathura styles) and Gupta period

Sculptures : i) Lion Capital from Sarnath, ii) Chauri bearer from Didarganj,

iii) Seated Buddha from Katra mound, Mathura, iv) Jain Tirthankar

Ajanta Paintings

Introduction, Period, Location, Number of caves, Subject matter and technique

Practical : Still Life and Composition

Terminal Examination I

### Term II

#### Unit III

Indian Temple sculpture : Introduction

i) Descent of Ganga, ii) Trimurti, iii) Lakshmi Narayan temple

iv) Cymbal Player, Sun Temple, v) Mother and child

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Bronzes : Introduction and Method of casting

i)Nataraj

Artistic aspects of the Indo Islamic Architecture : Introduction

i) Qutub Minar, Delhi, ii) Gol Gumbad, Bijapur

Practical :Still Life and Composition

### **Unit Test II**

Revision of Entire Syllabus

### **Terminal Examination II**

Practical

i) Nature and object study

ii) Painting composition

iii) Portfolio Assessment

\*For Portfolio (30 sheets)\* (10 still life, 10 composition , 1 monochrome scheme, 2 Caricature, 2 Folk art, 5 designs)

## **Psychology**

Term 1

Ch. 1 Introduction to Psychology

Ch. 2 Methods in Psychology

Ch. 3 Bases of Human Behaviour

Ch. 4 Human Development

Ch. 5 Sensory and Perceptual Processes

UT 1- Chapter 1,2 and 3

Term 1 - Chapters 1 to 5

Activity - Ice-breaking and Social communication

Term 2-

Ch. 6 Learning

Ch. 7 Human Memory

Ch. 8 Thinking

Ch. 9 Motivation and Emotion

UT 2- Chapter 6and 7

Term 2- Whole syllabus

Practical- Human Memory

Activity- Learning based models

Project- One case study profile.

## **ECONOMICS**

## Term-I

Introduction of Micro Economics.

Consumer's Equilibrium and Demand.

Introduction of Statistics.

Measures of Central Tendency Median and Mode.

Census and Sample Methods of Collection of Data.

Terminal 1 - all the topics covered from both the books

## Term-II

Production Behaviours and Supply

Forms of Market and Price Determination

Index Numbers

Organization of Data

Presentation of Data - Textual, Tabular, Diagrammatic and Graphic Presentation.

Terminal 2 Examination

Full Syllabus of Terminal I & II. (80 Marks)

Project work – 20 marks (topics will be allotted by the teacher)

Field trip – visit to commercial bank.

## ACCOUNTANCY

### Unit Test I

1. Meaning & Objectives of Accounting
2. Basic Accounting Terms
3. Accounting Principles
4. Journal

### Term-I

- 1 Meaning & Objectives of Accounting
2. Basic Accounting Terms
3. Accounting Principles
4. Journal
5. Cash Book
6. Ledger
7. Trial Balance and Errors
8. Bank Reconciliation Statement

### Terminal Exam I

Entire Syllabus of Term-1

### Unit Test II

1. Depreciation
2. Financial Statements
3. Financial Statements-with Adjustments

### **Term II**

1. Depreciation
2. Provisions & Reserves
3. Bills of Exchange
4. Rectification of Errors
5. Financial Statements
6. Financial Statements - with Adjustments
7. Computerised Accounting System

### **Terminal Exam II**

Entire Syllabus of Term 1 and 2

Comprehensive Project Work in December

## **Biology**

### **Term-I**

Chapter : 1. Living World  
Biological Classification  
Plant Kingdom

### **Unit Test- I**

Chapter : 4. Animal Kingdom  
8. Cell-Unit of Life

### **Terminal Examination I**

Chapter : 9. Biomolecules  
10. Cell cycle & cell division  
Breathing and Exchange of Gases  
Body Fluids and Circulation

### **Unit Test-II**

Chapter : 19 Excretory products & their Elimination  
20 Locomotion and movement  
21 Neural control & co-ordination  
22. Chemical co-ordination and Integration  
Photosynthesis in higher plants  
Respiration in Plants

### **Terminal Examination II**

Practical Exams - Entire Syllabus

# Maths

## Unit-I: Sets and Functions

### 1. Sets

(20) Periods

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

### 2. Relations & Functions

(20) Periods

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  $\mathbb{R} \times \mathbb{R} \times \mathbb{R}$ ). 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 quotient of functions.

### 3. Trigonometric Functions

(20) Periods

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:

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

1

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

$$\begin{aligned} \sin \alpha \pm \sin \beta &= 2 \sin \frac{\alpha \pm \beta}{2} \cos \frac{\alpha \mp \beta}{2} \\ \cos \alpha + \cos \beta &= 2 \cos \frac{\alpha + \beta}{2} \cos \frac{\alpha - \beta}{2} \\ \cos \alpha - \cos \beta &= -2 \sin \frac{\alpha + \beta}{2} \sin \frac{\alpha - \beta}{2} \end{aligned}$$



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

(10) Periods

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

(15) Periods

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 and polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations (with real coefficients) in the complex number system. Square root of a complex number.

### 3. Linear Inequalities

(15) Periods

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.

### 4. Permutations and Combinations

(10) Periods

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

### 5. Binomial Theorem

(10) Periods

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

### 6. Sequence and Series

(10) Periods

Sequence and Series. Arithmetic Progression (A.P.). 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. Formulae for the following special sums.

$$\sum_{k=1}^n k, \sum_{k=1}^n k^2 \text{ and } \sum_{k=1}^n k^3$$

## Unit-III: Coordinate Geometry

### **1. Straight Lines (10) Periods**

Brief recall of two dimensional geometry from earlier classes. Shifting of origin. 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 and normal form. General equation of a line. Equation of family of lines passing through the point of intersection of two lines. Distance of a point from a line.

### **2. Conic Sections (20) Periods**

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 (10) Periods**

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

## **Unit-IV: Calculus**

### **1. Limits and Derivatives (30) Periods**

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. Derivatives of polynomial and trigonometric functions.

## **Unit-V: Mathematical Reasoning**

### **1. Mathematical Reasoning (10) Periods**

Mathematically acceptable statements. Connecting words/phrases-consolidating the understanding of "if and only if (necessary and sufficient) condition", "implies", "and/or", "implied by", "and", "or", "there exists" and their use through variety of examples related to real life and Mathematics. Validating the statements involving the connecting words, difference among contradiction, converse and contrapositive.

## **Unit-VI: Statistics and Probability**

### **1. Statistics (15) Periods**

Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped data. Analysis of frequency distributions with equal means but different variances.

### **2. Probability (15) Periods**

Random experiments; outcomes, sample spaces (set representation). 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.

# **Biology**

## **Term-I**

Chapter : 1. Living World

Biological Classification

Plant Kingdom

## **Unit Test- I**

Chapter : 4. Animal Kingdom

8. Cell-Unit of Life

## **Terminal Examination I**

Chapter : 9. Biomolecules

10. Cell cycle & cell division

Breathing and Exchange of Gases

Body Fluids and Circulation

## **Unit Test-II**

Chapter : 19 Excretory products & their Elimination

20 Locomotion and movement

21 Neural control & co-ordination

22. Chemical co-ordination and Integration

Photosynthesis in higher plants

Respiration in Plants

## **Terminal Examination II**

Practical Exams - Entire Syllabus

# Physics

## Term-I

Unit-1 Physical World and Measurement

Unit-II Kinematics

Practical

i) Use of Vernier Calliper to measure various Dimensions

a) For spherical bob

b) For rectangular body

c) Beaker

Unit-III Laws of Motion

Practical:

Use of screw gauge to measure thickness of a paper, radius of wire, volume of an irregular lamina.

## Unit Test-I

Unit-IV

Work, Power & Energy

Practical

Use of spherometer to find radius of curvature of convex lens

Unit-V

Rotational Mechanics

Practical

Use of simple pendulum to establish relation between L & T

Ist Terminal Examination (Syllabus upto Sept.)

## Term - II

Unit-VI

Gravitational

Practical:

Establish law of parallelogram vector addition

Unit-VII Property of Bulk Matter

Practical:

To find co-efficient of friction in a horizontal plane.

## Unit Test-II

Unit-VIII Thermodynamics

Practical

Experimental demonstration of Hook's Law

Unit-IX Kinetic Theory of Gases

Unit-X Oscillations and Waves

## IInd Terminal Examination (Entire Syllabus)

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# Chemistry

## Term - I

Unit-I Some Basic Concepts in Chemistry

Demonstration-based activity to explain different concentrations of solution

Unit-II Structure of Atom

Activity: Chemistry quiz

Unit-III Classification of Elements and Periodic Properties

Activity: Mnemonics to crack periodic table

## Unit Test I

Unit-IV Chemical Bonding and Molecular Structure

Activity: Ball and stick model

Unit-V States of Matter,

Activity: Balloon and syringe

Unit-VI Thermodynamics

Activity: Mixing Simulation

## Terminal Examination I

Unit-VII Chemical equilibrium, Ionic equilibrium

Activity: Baking soda and vinegar volcano

Unit-VIII Redox reactions

Worksheet

Unit-IX Hydrogen

Activity: To Study the comparative cleansing capacity of a sample of soap in-soft and hard water

## Term-II

Unit-X S-block elements

Activity: Demonstration of flame test of different elements in the Chemistry Lab

Unit-XI P-block elements

Flashcard activity

## Unit Test II

Unit-XII Organic Chemistry - Some basic principles and Qualitative analysis

Activity: Detection of different elements present in given organic compound

Unit-XIII Hydrocarbons

Activity: To test aliphaticity and aromaticity of organic compounds

Unit-XIV Environment Chemistry

Activity: To determine the biochemical oxygen demand of water

## Terminal Examination II

# **BUSINESS STUDIES**

## **Term 1**

### **Unit Test-1**

1. Nature and Purpose of Business
- 2 Forms of Business Organizations
- 3 Public, Private and Global Enterprises

### **Ist Terminal Exam**

Entire Syllabus of Term 1

1. Nature and Purpose of Business
2. Forms of Business Organizations
3. Public, Private and Global Enterprises
4. Business Services
5. Emerging Modes of Business

## **Term 2**

### **Unit Test 2**

1. Social Responsibilities and Business Ethics of Business
2. Sources of Business Finance
3. Small Business

### **Terminal Exam - II**

1. Social Responsibilities and Business Ethics of Business
  2. Sources of Business Finance - Topic deleted - Borrowed funds inter corporate depositors
  3. Role of Small Scale Industries
  4. Internal Trade
  5. International Trade
- And syllabus of Term 1 also.

Field trip – Visit to commercial bank

# Legal Studies

## **Term I**

Unit-I Concept of State/Nation  
Organs of Govt.  
Separation of Powers  
Constitutional Framework of India

## **Unit Test I**

Unit-II Legislation  
Case Law  
Authoritative Sources  
Custom  
Law Reform

## ACTIVITIES

Visit to district court of Mohali  
Debate on Ancient law practice and Contemporary law practices  
Poster making competition on different Kinds of Government

**Terminal Exam I** : Entire Syllabus of Term I

Project Work

## **Term II**

Unit-III Ancient Indian Law  
Administration of Justice in British India Making of Indian Constitution

## **Unit Test II**

Unit-IV Judiciary: Constitutional, Civil and Criminal Courts Processes  
Unit-V Family Justice System

## ACTIVITIES

Poster making competition on different Kinds of Government  
Debate on National law and International law regarding Human Rights  
Make a report on most popular Civil Case of the year in India by using the cuttings of News paper

**Terminal Exam II: Entire Syllabus**

# Physical Education

## **Term - I**

Unit-I Changing trends and career in physical education.

Unit-II Olympic value education.

Unit-III Physical fitness, wellness and life style.

### **Unit Test-I**

Unit-IV Physical Education and sports for CWSN.

Unit-V Yoga

Activities:

1. Practical Activity: Athletics ( Track and field Events)

2. BMI Test

### **Terminal Examination-I**

(Entire syllabus of Term-I)

## **Term-II**

Unit-VI Physical activity and leadership Training

Unit-VII Test Measurement and evaluation

Unit-VIII Fundamentals of anatomy, physiology

### **Unit Test-II**

Unit-IX Kinesiology in sports. Psychology and sports

Unit-X Training and Doping in Sports

Revision of entire syllabus

Activities:

1. Physical Activity : Knowledge about game /sports ( Badminton, Boxing, Chess, Judo, Shooting , Skating , Taekwondo , Tennis , Table Tennis )

2. Yoga Activities

### **Terminal Examination-II**



# Computer Science

## **Term - I**

### **Unit Test-I**

Unit-I Computer System and Organization (Part-I)

Activity: Make a scrapbook on the topic “Number System”. Explain different types of Number system

### **Terminal Examination-I**

Syllabus of Unit Test-I

Unit-I Computer System and Organization (Part-2)

Project: Make a Report file on the topic “Different generation of Computer Languages”.

## **Term-II**

### **Unit Test-II**

Unit-II Computational Thinking and programming-1

Activity: Create a menu driven program using python

### **Terminal Examination II**

Syllabus of Unit Test II

Unit-III Society Law and Ethics

Project: Make a Report file Containing 15 different programs of Python language