



**-NILGIRI HILLS PUBLIC SCHOOL  
ANNUAL SYLLABUS (2023-24)  
CLASS: XII (SCIENCE)**

**ENGLISH CORE**

**Prescribed Books: 1. Flamingo 2. VISTAS**

**April**

**Flamingo:** The Last Lesson (prose), My Mother at sixty-six (Poem)

**Vistas:** The third Level

**Creative writing:** Notice, Article

**May**

**Flamingo:**

Lost Spring (prose), Keeping Quiet (Poem)

**Vistas:** The Tiger King

**Creative Writing:** Formal/Informal Invites, Editorial Letter

**July:**

**Flamingo:** Deep Water (Prose), A Thing of Beauty (Poem)

**Vistas:** Journey to the end of the earth

**Creative Writing:** Job application, Formal/Informal replies

**Unit Test-I**

Syllabus for UT-I Unseen passage, The last lesson, Lost Spring, The third Level, My mother at sixty Six, Keeping Quiet and all the Writing topics done in the class

**August**

**Flamingo:** The Rattrap (Prose), Indigo, (Prose), A Roadside Stand (Poem)

**Vistas:** The Enemy

**September:**

**Flamingo:** Poets and Pancakes (Prose), The Interview (Prose)

**Vistas:** On the face of it

**CREATIVE WRITING:** Report Writing

**Half Yearly Exam-**

Syllabus: Unseen Passage, Deep water, A thing of beauty, Keeping Quiet, Tiger King, Journey to the end of the earth and all the writing topics done in the Class

**October:**

**Flamingo**

Going Places (Prose), Aunt Jennifer's Tigers (Poem)

**Vistas:** Memories of Childhood

**UT-II**

Syllabus: Unseen Passage, The Rattrap, Indigo, Poets and Pancakes, A Roadside Stand, The Enemy, and all the writing topics done in the Class

**November: Pre-Board-I**

Revision: Whole Syllabus

**December: Pre-Board-II**

Revision: Whole Syllabus

**PHYSICS**

**April:-Unit-I ;Chapter-1: Electric Charges and Fields**

**Practical:-** 1.Ohm's Law 2.Focal length of concave lens using convex lens.

**Activity:-**

1.Assemble a household circuit

**May:-Unit-I ;Chapter-2: Electrostatic Potential and Capacitance**

**Practical:-**3.Refractive index of liquid using convex lens.

**Activity:-**

2.Study the variation in potential drop with length.

**July:-**Unit-II ;Chapter–3: Current Electricity

Practical:-3.find resistance using metre bridge.

4.Verification of laws of combination (series) of resistances using a metre bridge.

Activity:-

3.To draw the diagram of a given open circuit .

4.Identify a diode, an LED, a resistor and a capacitor from a mixed collection.

Unit-III ;Chapter–4: Moving Charges and Magnetism

Chapter–5: Magnetism and Matter

**August:-** Unit-IV ;Chapter–6: Electromagnetic Induction

Chapter–7: Alternating Current

Practical:-

4.Find the focal length of a convex lens.

5. Find angle of minimum deviation for a given prism.

6. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

Activity:- 4.To observe diffraction of light due to a thin slit.

5.Study the nature and size of the image formed by a convex lens.

**September:-**

Unit–V;Chapter–8: Electromagnetic Waves

Unit–VI;Chapter–9: Ray Optics and Optical Instruments

Practical:- 7.To determine refractive index of a glass slab using a travelling microscope.

8.Draw I-V characteristic curve for a p-n junction diode.

Half Yearly Examination - UNIT -1 to 6

**October:-**

Chapter–10: Wave Optics

Unit–VII : Chapter–11: Dual Nature of Radiation and Matter

Unit Test-II - Unit III & IV (Ch- 4,5,6)

Practical:-9.Find focal length concave mirror.

10.Find refractive index of a liquid using a concave mirror and a plane mirror.

Activity :-6.Observe lateral deviation on a glass slab.

**November :-**

Unit–VIII;Chapter–12: Atoms

Chapter–13: Nuclei

Unit:-IX;Electronic Devices

Chapter–14: Semiconductor Electronics: Materials, Devices and Simple Circuits.

Project Submission

Pre-Board-I Full Syllabus

**December:-**Recapitulation :UNIT-3,4,6

Pre Board II - Full Syllabus

**January:-** Recapitulation : UNIT-9,1,5

## **CHEMISTRY**

**April :-**

Chapter-2 (Solutions)

Chapter-3 ( Electro Chemistry)

Practical work -Salt Analysis

**May :-**

Chapter-4( Chemical Kinetics)

Practical Work -Salt Analysis

**July :-**

Chapter-8 (The D And F – Block Elements)

Chapter-9 (Coordination Compounds)

Practical Work -Content Based And Salt Analysis

**Unit Test -I** -(Chapter-2 And 3)

**August:-**

Chapter-10 (Haloalkanes And Haloarenes)

Chapter-11( Alcohols,Phenols And Ethers)

Practical Work -Volumetric Analysis And Salt Analysis

**September:-**

Chapter-12 Aldehyde, Ketones And Carboxylic Acid

Practical Work -Content Based , Preparation Of Organic And Inorganic Compound

**Term -1 Exam** - (Chapter-2 , 3,4 ,8 ,9,10)

**October :-**

Chapter-13 Amines

Chapter-14 Biomolecules

Practical Work -Content based and Volumetric analysis

**Unit Test -2**

Chapter-11 And 12

**November :-**

Revision - Ch-2,3,4 8, 9,10,11 ,12,13, 14

**Pre Board -1**

(Chapter - -2,3,4,8,9, 10,11,12,13,14)

**December :-** Revision - Ch-2, 3,4,8,9 ,10,11 ,12,13, 14

**January :- Preboard -2**

(Chapter - -2,3,4,8,9, 10,11,12,13,14)

Note - Excluded Chapters from The Syllabus

Chapter- 1 The Solid State

Chapter -5 Surface Chemistry

Chapter -6 General Principles and Process of Isolation of Elements

Chapter -7 P Block Elements

Chapter -15 Polymers

Chapter -16 Chemistry in Everyday Life

## **MATHEMATICS**

**April**

Ch 3 Matrices

Ch 4 Determinants

**May**

Ch 5 Differentiability

**July**

Ch 5 Continuity and differentiability

Ch 1 Relation and function

Revision (Ch- 1,3 and 4)

**[Unit test I - Ch-3 and 4]**

**August**

Ch 2 Inverse trigonometry function

Ch 6 Application of Derivatives

Ch 7 Integrals

**September**

Ch 8 Application of Integrals

Ch 12 linear programming

Revision (ch- 5,6,and 7)

**Half Yearly Examination** (Ch 1,2,3,4,5,6,7,12)

## October

Ch 9 Differential equation  
Ch 10 Vector algebra  
Ch 11 Three Dimensional geometry  
[Unit test II(30/10/23)\_(Ch 7,8 & 9)]

## November

Ch 13 Probability  
Revision Ch -10 -13)

### Pre Board I

### Full syllabus

## December

Recapitulation :  
Ch 2 Inverse trigonometry function  
Ch 7 Integrals  
Pre Board II-Full syllabus

## January

Recapitulation :  
Ch 8 Application of Integrals  
Ch 9 Differential equation

## PHYSICAL EDUCATION

### **April:Unit-1 Management of Sporting Events.**

**Activity-1:** Suppose you are going to organise a sports event in your school. enlist main points to show your planning for the event.

**Activity-2:** Your school organising an inter-school cricket tournament between six schools. prepare a fixture (knockout tournament for the six teams).

### **May:Unit-2 Children And Women In Sports.**

**Activity-1:** Draw a free hand drawing corrective measures for scoliosis.

**Activity-2:** Draw a free hand drawing of corrective measures for knock-knees.

### **July :Unit-3 Yoga As Preventive Measure For Lifestyle Disease.**

**Activity-1:** Draw a free hand drawing of different asanas to prevent hypertension.

**Activity-2:** Draw a free hand drawing of different arsenals to prevent diabetes.

### **Unit-4 Physical Education And Sports For CWSN (Children With Special Needs- Divyang)**

**Activity:-** Prepare a poster on strategies to make physical activities accessible for children with special needs for the notice board of school.

Unit Test-1 -Unit-3,4

### **August: Unit-5 Sports And Nutrition.**

**Activity:-** Take five ready to eat food items like packets of chips, etc. check their nutritive values displayed on the packets and analyses which of them are good and bad for your health.

### **Unit- 6 Test And Measurement In Sports.**

**Activity:-** Draw a flow chart of rikly and jones- senior citizen fitness test.

**Practical:-** SAI khelo India physical fitness test.

### **September: Unit-7 Physiology And Injuries In Sports.**

**Activity:-** Create a flow chart on classification of sports injuries.

**Practical:-** Brockport physical fitness test (BPFT)

Project file submission

Half Yearly Exam –UNIT-1, 2, 3, 4,5,6

### **October: Unit-8 Biomechanics And Sports.**

**Activity:-** Draw the pictures of five sports on chart paper where you find use of friction most prominent.

### **Unit: 9 Psychology And Sports.**

**Activity-1:** Draw a free hand drawing of type of aggression in sports.

**Activity-2:** Which of your personality trait would you never want to change and which one would you like

to change and why? discuss with your friends.

**Practical:-** Proficiency in games and sports (Skill of anyone IOA recognised sports game of choice)

**Unit Test II** -UNIT-7,8

**November: Unit-10 Training In Sports.**

**Activity:-** Draw a free hand drawing of isometric and isotonic exercises (knee and ankle).

Pre Board Examination – I -Full Syllabus

**December:** Pre Board Examination – II -Full Syllabus

**January:** Recapitulation: Unit- 1 ,3 5,7

## **COMPUTER SCIENCE**

**April:** Chapter 1 – Python Revision Tour -1

Chapter 2- Python Revision Tour- 2

**Practicals –**

- Inserting and Displaying Elements of Lists, Dictionaries, Tuples, Stings
- Implementing String & Tuple Functions
- Implementing List Functions – append(), extend(), sort() etc
- Implementing Dictionary functions- items() keys(), values() etc
- Python codes to delete elements in Lists , tuples, dictionaries using pop() & del statement.

**May:** Chapter 3- Working with Functions & Exception Handling

Chapter 5- File Handling- Text Files

**Practicals:**

- Creating and Python codes using Functions.
- Using Arguments & return statements
- Passing mutable and immutable values to functions.
- Opening & Closing text files in read , write , append modes.
- Transferring content on one text file to another
- Counting specific type characters in a text file
- Random accessing in a text file using seek() & tell()

**July:** Chapter 5- File Handling – Binary Files & CSV Files

Chapter 9 – Data Structure II- Stack

**Practicals:**

- Opening & closing binary & CSV files in read & write modes.
- Searching content in binary & CSV file.
- Implementation of Stack using a List
- Implementing push, pop, traversing operations in stack.

Unit Test -1-14.7.2023- ( Ch -2 & Ch-3 )

**August :** Chapter – 10 – Communication & Network Concepts

Chapter – 11- Relational Databases

Chapter- 13- Table Creation and data manipulation commands

**Practicals:**

- MySQL queries- create database, create table , show databases, show tables
- Inserting records in a relation
- Modifying table schema
- Modifying records
- Deleting records & columns in a relation.

**September :** Recapitulation – **Ch-3,5,9,10**

Practical File Submission on 1.9.2023

Half Yearly Exam- September- (Ch-1,2,3,5,9,10,11,13)

**October :** Chapter -12 – Simple Queries in SQL

Chapter 14- Grouping Records , Joins in SQL

Chapter 15 – Interface python with MySQL

**Practicals:**

- select query
- where, between , like clause

- Applying constraints during table creation
- Aggregate functions
- Python & MySQL connectivity code
- Implementing various MySQL queries from Python Idle.
- Cartesian Product of two tables/relations
- Inner join , Outer Join, Left Join, Right Join
- Group by with having clause

Unit Test II- 27.10.2023- (Ch- 12,14)

**November :: Recapitulation Ch- 12 & 14**

Practical & Project File Submission

Pre Board I – (Full syllabus )

**December:** Recapitulation of important topics from – Ch- 3,5,9,10

Pre Board – II (Full syllabus)

**January :** Recapitulation of important topics from – Ch- 11,12,13

**Note:** Chapters excluded from 2023-24 Syllabus- Ch- 4 ( Using Python Libraries) ,Ch- 6 (Recursion) , Ch- 7 (Idea of Algorithmic Efficiency)

## **BIOLOGY**

**April:** Chapter 2 (Sexual Reproduction in Plants), chapter 3 (Human Reproduction)

**May:** Chapter 4 (Reproductive Health)

Practical Work-T.S. of Blastula, Testis, Ovary; Various Pollinating agencies; Temporary mount of Pollen Grain germination; Onion root tip mitosis

**July:**Chapter 5 (Principles of Inheritance and Variation), chapter 6 (Molecular Basis of Inheritance)

Practical work- Mendelian Inheritance; Pedigree charts

**Unit Test 1** - (chapter 3,4,10)

**August:** Chapter 6 (Molecular Basis of Inheritance and Ch-7, Evolution chapter 10, Microbes in Human Welfare)

Practical work- Homologous and Analogous organs

**September:** Chapter 10 (Microbes in Human Welfare), chapter 11 (Biotechnology: Principles and Processes),

Chapter 12 (Biotechnology and its Applications)

Practical work- DNA isolation

**Term I Examination**-chapter 2, chapter 3, chapter 4, chapter 5, chapter 6, Ch-7, chapter 10

**October:** Continued chapter 12 (Biotechnology and its Applications) chapter 8 (Human Health and Disease)

Chapter 13 (Organisms and Populations)

Practical work- Disease causing organisms; Symbiotic association

**Unit Test-2**- chapter 11, chapter 12

**November:**Chapter 15 (Biodiversity and Conservation) chapter 13 (Organisms and Populations),Ch-14, Ecosystem

Practical work- Quadrature method;

Pre board I

**December:** Revision of Ch-5,6 and 7

Pre board II

**January:**Whole syllabus Revision (mainly ch-11,12,6)

### **DELETED PORTION:**

Chapter 9: Strategies for Enhancement in Food Production

Chapter 16: Environmental Issues