

**ARMY PUBLIC SCHOOL, PATIALA.**  
**HALF YEARY SYLLABUS – 2022-23**

**CLASS XII**

**Science Stream**

**Subject - English**

Sr. No.	BOOK/ SKILLS	DETAILS	
1.	Flamingo	Prose Ch 2 Lost Spring Ch 4 Rattrap Ch 5 Indigo Ch 7 The Interview	Poetry Aunt Jennifer's Tiger Keeping Quiet
2.	Vistas	The Tiger King Journey To The End Of Earth Memories Of Childhood	
3.	Writing Skills	1. Letter Writing- Letter To The Editor 2. Notice	3. Formal Invitations & Replies 4. Article Writing
4.	Reading Skills	Reading Passages For Comprehension 1. Discursive Passages 2. Case Study Based Passages	

**Subject - Chemistry**

1. Chemical Kinetics
2. D And F-Block Elements
3. Haloalkanes And Haloarenes
4. Alcohols , Phenols And Ethers
5. Biomolecules

**Subject - Physics**

- Ch 2 Electrostatic Potential And Capacitance ---- Only Capacitor Topics  
Ch 3 Current Electricity  
Ch 4 Moving Charges And Magnetism  
Ch 5 Magnetism And Matter  
Ch 6 Electromagnetic Induction

**Subject - Biology**

- Ch 5- Principles of inheritance.  
Ch 6- Molecular basis of inheritance  
Ch 7- Evolution  
Ch 8- Human Health and diseases  
Ch 10 - Microbes in human welfare..

**Subject – Physical Education**

- Ch 5 Sports and Nutrition  
Ch 6 Test and measurements in sports  
Ch 7 Physiology and injuries in sports  
Ch 8 Biomechanics and sports  
Ch 9 Psychology and sports

## Subject - Mathematics

- Matrices and determinants
- Relations and functions
- Inverse trigonometric functions
- Continuity and differentiability
- Calculus

## Subject – Computer Science

### **Unit I: Computational Thinking and Programming – 2**

- Revision of Python topics covered in Class XI.
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- 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
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- 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 csv.writer() and read from a csv file using csv.reader( )
  - Data Structure: Stack, operations on stack (push & pop), implementation of stack using list.
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## Subject – Informatics Practices

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

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

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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.

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