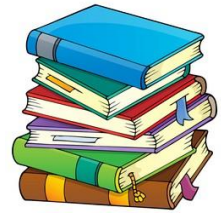# AIR FORCE GOLDEN JUBILEE INSTITUTE

SYLLABUS 2024-25

CLASS – XII

SCIENCE STREAM

ENGLISH

TERM I (APRIL - SEPTEMBER)

PERIODIC TEST – I

Reading Comprehension – Unseen Passage (Descriptive)

Creative Writing Skills- Notice, Formal Invitation and its Reply (Card Format)

Literature-Flamingo-The Last Lesson, My Mother at Sixty Six and Keeping Quiet (Poems)

Vistas-The Third Level

PERIODIC TEST – II

Reading Comprehension – Unseen Passage (Case-based)

Creative Writing Skills – Formal Invitation and its Replies (Both types), Informal Invitation and its Reply

Literature-Flamingo – Lost Spring, Deep Water, A Thing of Beauty (Poem)

Vistas – Tiger King

MID TERM EXAM

Reading-Comprehension Passage (Descriptive and Case based)

Creative Writing Skills-Notice, Formal and Informal invitation and their replies, Job Application with bio data, Letter to the Editor, Newspaper and magazine report and Article.

Flamingo-The Last Lesson, Lost Spring, Deep Water, The Rattrap, Indigo, Poets and Pancakes.

Poems-My Mother at Sixty Six, Keeping Quiet, A Thing of Beauty.

Vistas-The Third Level, The Tiger King, Journey to the end of the Earth, Enemy

TERM II (OCTOBER - MARCH)

PRE BOARD – I

Reading Comprehension-Unseen Passages (Descriptive and Case-based)

Creative Writing Skills-Notice, Formal and Informal invitation and their replies, Job application with bio-data, Letter to the Editor, Newspaper and school magazine report, Newspaper and school magazine article

Literature-Flamingo-Prose-The Last Lesson, Lost Spring, Deep Water, The Rattrap, Indigo, Poets and Pancakes, The Interview, Going Places
Poetry-My Mother at Sixty six, Keeping Quiet, A thing of beauty, A Roadside stand, Aunt Jennifer's tigers

Vistas-The Third level, The Tiger King, Journey to the end of the earth, The Enemy, On the face of it, Memories of childhood

COMMON PREBOARD EXAM

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CHEMISTRY

TERM I (APRIL- SEPTEMBER)

PERIODIC TEST – I

UNIT -1 SOLUTIONS
UNIT-2 ELECTROCHEMISTRY
UNIT-3 CHEMICAL KINETICS (3.1 TO 3.3)

PERIODIC TEST – II

UNIT-3 CHEMICAL KINETICS
UNIT-4 THE d AND f BLOCK ELEMENTS

MID TERM (EXAM)

UNIT -1 SOLUTIONS
UNIT-2 ELECTROCHEMISTRY
UNIT-3 CHEMICAL KINETICS
UNIT-4 THE d AND f BLOCK ELEMENTS
UNIT-5 COORDINATION COMPOUNDS
UNIT-6 HALOALKANES AND HALOARENES
UNIT-7 ALCOHOLS, PHENOLS AND ETHERS
UNIT-8 ALDEHYDES, KETONES AND CARBOXYLIC ACIDS (8.1 TO 8.5)

TERM II (OCTOBER- MARCH)

PREBOARD – 1

UNIT -1 SOLUTIONS
UNIT-2 ELECTROCHEMISTRY
UNIT-3 CHEMICAL KINETICS
UNIT-4 THE d AND f BLOCK ELEMENTS
UNIT-5 COORDINATION COMPOUNDS
UNIT-6 HALOALKANES AND HALOARENES
UNIT-7 ALCOHOLS, PHENOLS AND ETHERS
UNIT-8 ALDEHYDES, KETONES AND CARBOXYLIC ACIDS
UNIT-9 AMINES
UNIT-10 BIOMOLECULES

COMMON PRE-BOARD (EXAM)

UNIT -1 SOLUTIONS
UNIT-2 ELECTROCHEMISTRY
UNIT-3 CHEMICAL KINETICS
UNIT-4 THE d AND f BLOCK ELEMENTS
UNIT-5 COORDINATION COMPOUNDS
UNIT-6 HALOALKANES AND HALOARENES
UNIT-7 ALCOHOLS, PHENOLS AND ETHERS
UNIT-8 ALDEHYDES, KETONES AND CARBOXYLIC ACIDS
UNIT-9 AMINES
UNIT-10 BIOMOLECULES

BIOLOGY

TERM I (APRIL- SEPTEMBER)

UNIT VI: REPRODUCTION

CHAPTER 1: REPRODUCTION IN ORGANISMS

CHAPTER 2: SEXUAL REPRODUCTION IN PLANTS

CHAPTER 3: HUMAN REPRODUCTION

CHAPTER 4: REPRODUCTIVE HEALTH

UNIT VII: GENETICS AND EVOLUTION

CHAPTER 5: PRINCIPLES OF INHERITANCE AND VARIATIONS

CHAPTER 6: MOLECULAR BASIS OF INHERITANCE

CHAPTER 7: EVOLUTION

CHAPTER 8: HUMAN HEALTH AND DISEASE

PERIODIC TEST – I

UNIT VII: GENETICS AND EVOLUTION

PERIODIC TEST – II

UNIT VI: REPRODUCTION

MID TERM (EXAM)

UNIT VI: REPRODUCTION
UNIT VII: GENETICS AND EVOLUTION

TERM II (OCTOBER- MARCH)

UNIT VIII: BIOLOGY AND HUMAN WELFARE

CHAPTER 8: HUMAN HEALTH AND DISEASE
CHAPTER 10: MICROBES IN HUMAN WELFARE

UNIT IX: BOTECHNOLOGY

CHAPTER 11: BIOTECHNOLOGY: PRINCIPLES AND PROCESSES
CHAPTER 12: BIOTECHNOLOGY AND ITS APPLICATIONS

UNIT X: ECOLOGY AND ENVIRONMENT

CHAPTER 13: ORGANISMS AND POPULATIONS
CHAPTER 14: ECOSYSTEM
CHAPTER 15: BIODIVERSITY AND CONSERVATION

PREBOARD – 1

ENTIRE SYLLABUS

COMMON PRE-BOARD (EXAM)

ENTIRE SYLLABUS

PHYSICS

TERM I (APRIL- SEPTEMBER)

PERIODIC TEST – I

Chapter 1: Electric charges & Fields **.**
Chapter 2**:** Electrostatic potential & Capacitance.

PERIODIC TEST – II

Chapter 3: Current Electricity.
Chapter 4: Moving Charges and Magnetism.

MID TERM (EXAM)

Chapter 1: Electric charges & Fields.
Chapter 2: Electrostatic potential & Capacitance.
Chapter 3: Current Electricity.
Chapter 4: Moving Charges and Magnetism.
Chapter 5: Magnetism and Matter.
Chapter 6: Electromagnetic Induction.
Chapter 7: Alternating Current.
Chapter 8: Electromagnetic Waves.

TERM II (OCTOBER- MARCH)

PREBOARD – 1

Entire syllabus (as prescribed by CBSE)

COMMON PRE-BOARD (EXAM)

Entire syllabus (as prescribed by CBSE)

MATHEMATICS

TERM I (APRIL- SEPTEMBER)

PERIODIC TEST – I

Chapter 1: Relations & Functions

Chapter 2: Inverse Trigonometric Functions

Chapter 3: Matrices

Chapter 4: Determinants

PERIODIC TEST – II

Chapter 5: Continuity & Differentiability

Chapter 6: Applications of Derivative

Chapter 7: Integrals

MID TERM (EXAM)

Chapter 1: Relations & Functions
Chapter 2: Inverse Trigonometric Functions
Chapter 3: Matrices
Chapter 4: Determinants
Chapter 5: Continuity & Differentiability
Chapter 6: Applications of Derivative
Chapter 7: Integrals
Chapter 8: Applications of Integrals
Chapter 9: Differential Equations

TERM II (OCTOBER- MARCH)

PREBOARD – 1

Chapter 1 : Relations & Functions

Chapter 2 : Inverse Trigonometric Functions

Chapter 3 : Matrices

Chapter 4 : Determinants

Chapter 5 : Continuity & Differentiability

Chapter 6 : Applications of Derivative

Chapter 7 : Integrals

Chapter 8 : Application of Integrals

Chapter 9 : Differential Equations

Chapter 10: Vector Algebra

COMMON PRE-BOARD (EXAM)

Chapter 1 : Relations & Functions

Chapter 2 : Inverse Trigonometric Functions

Chapter 3 : Matrices

Chapter 4 : Determinants

Chapter 5 : Continuity & Differentiability

Chapter 6 : Applications of Derivative

Chapter 7 : Integrals

Chapter 8 : Application of Integrals

Chapter 9 : Differential Equations

Chapter 10: Vector Algebra

Chapter 11: Three Dimensional Geometry

Chapter 12: Linear Programming

Chapter 13: Probability

PHYSICAL EDUCATION

TERM I (APRIL- SEPTEMBER)

PERIODIC TEST – I

Chapter- 1 :- Management of sporting events

Chapter- 6 :- Test and Measurement in sports

PERIODIC TEST – II

Chapter- 2 :- Children and women in sports

Chapter- 7 :- Physiology and injuries in sports

MID TERM (EXAM)

Chapter- 1 :- Management of sporting events

Chapter- 2 :- Children and women in sports

Chapter- 3 :- Yoga as preventive measure for lifestyle diseases

Chapter- 5 :- Sports Nutrition

Chapter- 6 :- Test and Measurement in sports

Chapter- 7 :- Physiology and injuries in sports

TERM II (OCTOBER- MARCH)

PREBOARD – 1

Chapter:- 1 to 10

COMMON PRE-BOARD (EXAM)

Chapter:- 1 to 10

PSYCHOLOGY

TERM I (APRIL- SEPTEMBER)
PERIODIC TEST – I

Chapter-1: Variations in Psychological Attributes
Chapter-2: Self and Personality

PERIODIC TEST – II

Chapter-3: Meeting Life Challenges
Chapter-4: Psychological Disorders

MID TERM (EXAM)

Chapter-1: Variations in Psychological Attributes
Chapter-2: Self and Personality
Chapter-3: Meeting Life Challenges
Chapter-4: Psychological Disorders
Chapter-5:Therapeutic Approaches

TERM II (OCTOBER- MARCH)

PRE BOARD-I

Chapter-1: Variations in Psychological Attributes
Chapter-2: Self and Personality
Chapter-3: Meeting Life Challenges

Chapter-4: Psychological Disorders
Chapter-5:Therapeutic Approaches
Chapter-6; Attitude and Social Cognition
Chapter-7: Social Influence and Group Processes

COMMON PREBOARD

Chapter-1: Variations in Psychological Attributes
Chapter-2: Self and Personality
Chapter-3: Meeting Life Challenges
Chapter-4: Psychological Disorders
Chapter-5:Therapeutic Approaches
Chapter-6; Attitude and Social Cognition
Chapter-7: Social Influence and Group Processes

COMPUTER SCIENCE

TERM I (APRIL- SEPTEMBER)

Unit 1: Computational Thinking and Programming -2

- Revision of Python topics covered in class XI
- Functions
  - Built-in, Modular, and user defined functions
  - Scope of a variable – Local and Global Scope
  - Creating and calling user defined functions
  - Arguments and Parameters – default and positional parameters
  - Functions returning values
  - Flow of Execution

- Exception Handling
  - Introduction
  - Using try-except-finally blocks
- Data File Handling
  - Introduction to data file - text, binary and csv files
  - Relative and absolute paths
  - Text file open modes(r, r+, w, w+, a, a+, rb, rb+, wb, wb+, ab, ab+)
  - Opening and closing data files – open(), close()
  - Writing to and reading from text files – write(), writelines(), read(), readline(), readlines()
  - Writing to and reading from binary files – pickle module, load(), dump()
  - Writing to and reading from csv files – writer(), writerow(), writerows(), reader()
  - seek(), tell()
  - search, append, update, delete, display operations with data files
- Data Structures
  - Stacks – implementation of stacks using lists, push and pop operations

Unit 3 : Database Management

- Introduction to Database Concepts
- Relational Data model: Relation, attribute, tuple, domain, degree, cardinality, primary key, candidate key, alternate key, foreign key
- Structured Query Language:
    - DDL and DML commands
    - Data Types – char, varchar, int, float, date
    - Constraints – not NULL, unique, primary key
    - Commands – Create database, use, show databases, drop database,

      create table, show tables, describe table, alter table, add and remove an attribute/primary key, drop table, insert, delete, select, operators (mathematical, relational, logical), aliasing, distict, where, in, between, order by, is null, is not null, like, update, delete, group by, having, aggregate functions (max, min, avg, sum, count)

    - Joins – cartesian product, equi join, natural join
- Interface of Python with 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 %s format specifier or format() to perform queries

PERIODIC TEST – I

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- o search, append, update, delete, display operations with data files

PERIODIC TEST – II

- Data File Handling
  - o Introduction to data file - text, binary and csv files
  - o Relative and absolute paths
  - o Text file open modes(r, r+, w, w+, a, a+, rb, rb+, wb, wb+, ab, ab+)
  - o Opening and closing data files – open(), close()
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MID TERM (EXAM)

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TERM II (OCTOBER- MARCH)

Unit 2: Computer Networks

- Introduction, Evolution of Networking – ARPANET, NSFNET, INTERNET
- Data Communication Terminologies:
  - o Concept and components of communication
  - o Measuring capacity of communication media – bandwidth, data transfer rate,
  - o IP Address
  - o Switching Techniques – Circuit and Packet Switching
- Transmission Media:
  - o Wired – twisted pair, coaxial, fibre optic
  - o Wireless – radio waves, microwaves, infrared
- Network Devices – Modem. Ethernet card, RJ45, switch, hub, router, gateway, repeater, wifi card
- Network Types – PAN, LAN, MAN, WAN
- Network Topologies – Bus, Star, Tree
- Network Protocol – HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP
- Web Services – WWW, HTML, XML, Domain Names, URL, website, web browser, web servers, web hosting

PREBOARD – 1

Unit 1: Computational Thinking and Programming -2

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COMMON PRE-BOARD (EXAM)

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