

MOUNT ST. MARY'S SCHOOL
CLASS: XII-A (2024-2025)
SUBJECT: HISTORY
(CODE NO. 027)

EXAMINATION SYLLABUS

Pre Term 1

Theme 2 : Kings, Farmers and Towns

Theme 3 : Kinship, Caste and Class

HALF YEARLY EXAMINATION

Theme 1 : Bricks, Beads and Bones

Theme 2 : Kings, Farmers and Towns

Theme 3 : Kinship, Caste and Class

Theme 4 : Thinkers, Beliefs and Buildings

Theme 5: Through the Eyes of Travellers

Theme 6: The Bhakti-Sufi Traditions

Theme 7: An Imperial Capital: Vijayanagara

PRE BOARD-I

Theme 1 : Bricks, Beads and Bones

Theme 4 : Thinkers, Beliefs and Buildings

Theme 5: Through the Eyes of Travellers

Theme 6: The Bhakti-Sufi Traditions

Theme 8 : Peasants, Zamindars and the State

Theme 9 : Colonialism and the Countryside

PRE BOARD-II

Theme 2 : Kings, Farmers and Towns

Theme 3 : Kinship, Caste and Class

Theme 7: An Imperial Capital: Vijayanagara

Theme 10 : Rebels and the Raj

Theme 11 : Mahatma Gandhi and the Nationalist Movement

Theme 12: Framing the Constitution

PRE BOARD-III

Complete syllabus to be assessed.

LIST OF MAP WORK

Book 1

1. Mature Harappan sites: • Harappa, Banawali, Kalibangan, Balakot, Rakhigarhi, Dholavira, Nageshwar, Lothal, Mohenjodaro, Chanhudaro, KotDiji.
2. Mahajanapada and cities : • Vajji, Magadha, Kosala, Kuru, Panchala, Gandhara, Avanti, Rajgir, Ujjain, Taxila, Varanasi.
3. Distribution of Ashokan inscriptions:
 - Pillar inscriptions - Sanchi, Topra, Meerut Pillar and Kaushambi.
 - Kingdom of Cholas, Cheras and Pandyas.
4. Important kingdoms and towns:
 - Kushanas, Shakas, Satavahanas, Vakatakas, Guptas
 - Cities/towns: Mathura, Kanauj, Puhar, Braghukachchha, Shravasti, Rajgir, Vaishali, Varanasi, Vidisha
5. Major Buddhist Sites: • Nagarjunakonda, Sanchi, Amaravati, Lumbini, Nasik, Bharhut, BodhGaya, Shravasti, Ajanta.

Book 2

1. Bidar, Golconda, Bijapur, Vijayanagar, Chandragiri, Kanchipuram, Mysore, Thanjavur, Kolar, Tirunelveli
2. Territories under Babur, Akbar and Aurangzeb: • Delhi, Agra, Panipat, Amber, Ajmer, Lahore, Goa

Book 3

1. Territories/cities under British Control in 1857: • Punjab, Sindh, Bombay, Madras, Berar, Bengal, Bihar, Orissa, Surat, Calcutta, Patna, Allahabad
2. Main centres of the Revolt of 1857: • Delhi, Meerut, Jhansi, Lucknow, Kanpur, Azamgarh, Calcutta, Benaras, Gwalior, Jabalpur, Agra, Awadh.

3. Important centres of the National Movement: • Champaran, Kheda, Ahmedabad, Benaras, Amritsar, Chauri Chaura, Lahore, Bardoli, Dandi, Bombay (Quit India Resolution), Karachi.

Mount St. Mary's School
Syllabus 2024-25
Class: XII
Subject: Accountancy

Pre Term I:

Part C-

Chapter 1 – Financial Statements of a Company

Chapter 2- Financial Statements Analysis

Chapter 3- Comparative & Common Size Statements

Chapter 4 – Accounting Ratios

Chapter 5 – Cash Flow Statement

Part A-

Chapter 1 – Fundamentals of Partnership

Chapter 2- Goodwill: Nature & Valuation

Chapter 3- Change in Profit Sharing Ratio

Half Yearly:

Part C-

Chapter 1 to 5

Part A-

Chapter 1 – Fundamentals of Partnership

Chapter 2- Goodwill: Nature & Valuation

Chapter 3- Change in Profit Sharing Ratio

Chapter 4- Admission of a Partner

Chapter 5- Retirement & Death of a Partner

Chapter 6- Dissolution of Partnership Firm

Pre Board 1 :

Part A and Part C

Pre Board 2 :

Part A and Part B

Pre Board 3 :

Part C

Part A

Part B-

Chapter 7- Accounting for Share Capital

Chapter 8- Issue of Debentures

BUSINESS STUDIES
SYLLABUS 2024-25
CLASS XII

Pre Term I:

1. Nature and Significance of Management

2. Principles of Management

3. Business Environment

4. Planning

Half Yearly:

Chapters 1-4

5. Organising
6. Staffing
7. Directing
8. Controlling
9. Financial Management

Pre Board 1 :

Chapter 1-8

Pre Board 1 :

Chapter 9-12

Pre Board 3 :

Chapter 1 to 9

10. Financial Markets
11. Marketing Management
12. Consumer Protection

Class 12-Informatics Practices (065) - Syllabus- 2024-25**Preterm-1** (First Term) Database Concepts ,queries and joins and networks

Cyclic Test-1 (First Term) Societal Impacts , Series in Pandas

Half Yearly Exam Database Query using SQL , Joins Data Structures -Series and Data Frames in Pandas Societal Impacts, Networks**PreBoard-1** (Second Term) Data Structures -Series and Data Frames in Pandas Networks Data Visualisation**PreBoard-2** Database Query using SQL , Joins Data Frames in Pandas , Societal Impacts**PreBoard-3** Full Course

**MOUNT ST. MARY'S SCHOOL
SYLLABUS FOR ECONOMICS
SESSION 2024-2025**

XII	PRE-TERM 1	<ol style="list-style-type: none"> 1. National income and related aggregates 2. Money and banking 3. India on the eve of Independence 4. Indian Economy 1950-90 	A conversation about rural development
	HALF YEARLY	Macroeconomics <ol style="list-style-type: none"> 1. National income and related aggregates 2. Money and banking 3. Income and employment 4. Government budget 5. Balance of payments Indian Economic Development <ol style="list-style-type: none"> 1. Human Capital Formation 2. Rural development 3. Sustainable development 4. India on the eve of Independence 5. Indian Economy 1950-90 	Project work as prescribed by CBSE

	PRE-BOARD 1	<p>Macroeconomics</p> <ol style="list-style-type: none"> 1. National income and related aggregates 2. Money and banking 3. Government budget <p>Indian Economic Development</p> <ol style="list-style-type: none"> 1. Comparison of India with China and Pakistan 2. Human Capital Formation 3. Employment 	
	PRE-BOARD 2	<p>Macroeconomics</p> <ol style="list-style-type: none"> 1. Income and employment 2. Government budget 3. Balance of payments <p>Indian Economic Development</p> <ol style="list-style-type: none"> 1. India on the eve of Independence 2. Indian Economy 1950-90 3. Economic reforms since 1991 	
	PRE – BOARD 3	Entire Syllabus as per CBSE.	

Please note: Project work for both classes XI and XII will be assigned in the class.

Class 12 Syllabus - 2024-25
English
Class 12 Syllabus

English 2024-25

Pre- Term 1

Lost Spring
Keeping Quiet
Letter to Editor
Article
Comprehension

Half Yearly

Literature
Deep Water
Indigo
The Tiger King
The Enemy
Journey to the End of the Earth
Keeping Quiet
A Thing of Beauty
Aunt Jennifer's Tigers

Writing Skills

Notice
Invitations and Replies
Letter to Editor
Job Application
Article
Report Writing

Reading

Comprehension

SYLLABUS 2024-25
MATHEMATICS
CLASS – 12

PRE TERM - 1

1. MATRICES
2. DETERMINANTS
3. LINEAR PROGRAMMING PROBLEMS
4. DIFFERENTIATION (PRODUCT RULE, QUOTIENT RULE, CHAIN RULE)

CYCLIC TEST 1

1. CONTINUITY AND DIFFERENTIABILITY
2. RELATIONS AND FUNCTIONS

HALF YEARLY EXAMINATION

1. RELATIONS AND FUNCTIONS
2. INVERSE TRIGONOMETRIC FUNCTIONS
3. MATRICES
4. DETERMINANTS
5. CONTINUITY AND DIFFERENTIABILITY
6. APPLICATION OF DERIVATIVES
7. INTEGRALS
8. LINEAR PROGRAMMING PROBLEMS

PRE – BOARD 1

1. CONTINUITY AND DIFFERENTIABILITY
2. APPLICATION OF DERIVATIVES
3. INTEGRALS
4. APPLICATION OF INTEGRALS
5. DIFFERENTIAL EQUATIONS
6. VECTOR ALGEBRA

PRE – BOARD 2

1. RELATIONS AND FUNCTIONS
2. INVERSE TRIGONOMETRIC FUNCTIONS
3. MATRICES
4. DETERMINANTS
5. LINEAR PROGRAMMING PROBLEMS
6. THREE DIMENSIONAL GEOMETRY
7. PROBABILITY

PRE – BOARD 3

1. RELATIONS AND FUNCTIONS
2. INVERSE TRIGONOMETRIC FUNCTIONS
3. MATRICES
4. DETERMINANTS
5. CONTINUITY AND DIFFERENTIABILITY
6. APPLICATION OF DERIVATIVES
7. INTEGRALS
8. LINEAR PROGRAMMING PROBLEMS
9. APPLICATION OF INTEGRALS
10. DIFFERENTIAL EQUATIONS
11. VECTOR ALGEBRA
12. THREE DIMENSIONAL GEOMETRY
13. PROBABILITY

**NOTE: ACTIVITIES AND ASSIGNMENTS BASED ON AIL(ART INTEGRATED LEARNING) WILL BE CARRIED OUT EVERY MONTH
CYCLIC TESTS SYLLABUS IS SUBJECT TO CHANGE.**

PHYSICAL EDUCATION
SYLLABUS (2024-2025)

CLASS XII

FIRST TERM

PRE-TERM I:

Unit 1: Management of Sporting Events

Unit 2: Children and Women in Sports

HALF-YEARLY:

Unit 1: Management of Sporting Events

Unit 2: Children & women in sports

Unit 3: Yoga as preventive measure for lifestyle disease

Unit 4: Physical education & sports for CWSN (children with special needs-Divyang)

Unit 5: Sports & nutrition

Unit 6: Test and measurement in sports

SECOND TERM

PRE-TERM II:

Unit 7: Physiology & injuries in sports

Unit 8: Biomechanics & sports

PRE-BOARD I:

Unit 5: Sports & nutrition

Unit 6: Test and measurement in sports

Unit 7: Physiology & injuries in sports

Unit 8: Biomechanics and sports

Unit 9: Psychology and sports

Unit 10: Training in sports

PRE-BOARD II:

Unit 1: Management of Sporting Events

Unit 2: Children & women in sports

Unit 3: Yoga as preventive measure for lifestyle disease

Unit 4: Physical education & sports for CWSN (children with special needs-Divyang)

Unit 5: Sports & nutrition

Unit 6: Test and measurement in sports

PRE-BOARD III:

Unit 1: Management of Sporting Events

Unit 2: Children & women in sports

Unit 3: Yoga as preventive measure for lifestyle disease

Unit 4: Physical education & sports for CWSN (children with special needs-Divyang)

Unit 5: Sports & nutrition

Unit 6: Test and measurement in sports

Unit 7: Physiology & injuries in sports

Unit 8: Biomechanics and sports

Unit 9: Psychology and sports

Unit 10: Training in sports



SYLLABUS PSYCHOLOGY (037)
CLASS XII
2024-25

HALF YEARLY (70 MARKS)

- CHAPTER-1 VARIATIONS IN PSYCHOLOGICAL ATTRIBUTES
- CHAPTER-2 SELF AND PERSONALITY
- CHAPTER-3 MEETING LIFE CHALLENGES
- CHAPTER-4 PSYCHOLOGICAL DISORDERS
- CHAPTER-5 THERAPEUTIC APPROACHES

PRACTICALS (30 MARKS)

- Self-Concept Questionnaire (SCQ)
- Maudsley Personality Inventory (MPI)
- Sinha Comprehensive Anxiety Test (SCAT)
- Adjustment Inventory for School Students (AISS)

VIVA-VOCE ON CASE PROFILE AND PSYCHOLOGICAL TESTING

PRE-BOARDS (70 MARKS)

- 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

PRACTICALS (30 MARKS)

- Self-Concept Questionnaire (SCQ)
- Maudsley Personality Inventory (MPI)
- Sinha Comprehensive Anxiety Test (SCAT)
- Adjustment Inventory for School Students (AISS)
- David's Battery of Differential Abilities (DBDA)

VIVA-VOCE ON CASE PROFILE AND PSYCHOLOGICAL TESTING

MOUNT ST. MARY'S SCHOOL, DELHI CANTT.
SYLLABUS FOR ACADEMIC SESSION(2024-2025)
CLASS -XII
PHYSICS

CHAPTER NO.	TOPIC
1	ELECTRIC CHARGES AND FIELDS
2	ELECTROSTATIC POTENTIAL AND CAPACITANCE
3	CURRENT ELECTRICITY
4	MOVING CHARGES AND MAGNETISM
5	MAGNETISM AND MATTER
6	ELECTROMAGNETIC INDUCTION
7	ALTERNATING CURRENT

8	ELECTROMAGNETIC WAVES
9	RAY OPTICS AND OPTICAL INSTRUMENTS
10	WAVE OPTICS
11	DUAL NATURE OF RADIATION AND MATTER
12	ATOMS
13	NUCLEI
14	SEMICONDUCTOR ELECTRONICS

SYLLABUS DISTRIBUTION

1. PRE-TERM-I(MAY): CHAPTERS: 1,2
2. CYCLIC TEST : (Syllabus will be informed later)
3. FIRST TERM(SEPTEMBER): CHAPTERS: 1,2,3,4,5,6,7,8.
4. PRE-BOARD-I: CHAPTERS:4,5,6,7,8,9,10,11
5. PRE-BOARD-II: CHAPTERS: 1,2,3,11,12,13,14
6. PRE-BOARD- III: Entire syllabus (1 to 14)

Chapter–1: Electric Charges and Fields: Electric charges, Conservation of charge, Coulomb's law-force between two- point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).

Chapter–2: Electrostatic Potential and Capacitance Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor (no derivation, formulae only).

Chapter–3: Current Electricity Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge.

Chapter–4: Moving Charges and Magnetism Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to the current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight solenoid (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields. Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere, torque experienced by a current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer- its current sensitivity and conversion to ammeter and voltmeter.

Chapter–5: Magnetism and Matter Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines. Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.

Chapter–6: Electromagnetic Induction Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction. Chapter–7: Alternating Current Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit (phasors only), resonance, power in AC circuits, power factor, wattless current. AC generator, Transformer.

Chapter–8: Electromagnetic Waves Basic idea of displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Chapter–9: Ray Optics and Optical Instruments Ray Optics: Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers, refraction at spherical

surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Chapter-10: Wave Optics Wave optics: Wavefront and Huygen's principle, reflection and refraction of plane waves at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width (No derivation final expression only), coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima (qualitative treatment only).

Chapter-11: Dual Nature of Radiation and Matter Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light. Experimental study of photoelectric effect Matter waves-wave nature of particles, de-Broglie relation.

Chapter-12: Atoms Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in nth orbit, hydrogen line spectra (qualitative treatment only).

Chapter-13: Nuclei Composition and size of nucleus, nuclear force Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.

Chapter-14: Semiconductor Electronics: Materials, Devices and Simple Circuits Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Intrinsic and extrinsic semiconductors- p and n type, p-n junction Semiconductor diode - I-V characteristics in forward and reverse bias, application of junction diode -diode as a rectifier.

PRACTICALS

The record to be submitted by the students at the time of their annual examination has to include: 1. Record of at least 8 Experiments [with 4 from each section], to be performed by the students. 2. Record of at least 6 Activities [with 3 each from section A and section B], to be performed by the students.

3. The Report of the project carried out by the students.

Experiments

SECTION-A

1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current.
2. To find resistance of a given wire / standard resistor using a metre bridge.
3. To verify the laws of combination (series) of resistances using a metre bridge.

OR

To verify the laws of combination (parallel) of resistances using a metre bridge.

4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.
5. To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.

OR

To convert the given galvanometer (of known resistance and figure of merit) into an ammeter of desired range and to verify the same.

6. To find the frequency of AC mains with a sonometer.

Activities

1. To measure the resistance and impedance of an inductor with or without iron core.
2. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using a multimeter.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To assemble the components of a given electrical circuit.
5. To study the variation in potential drop with length of a wire for a steady current.
6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

SECTION-B Experiments

1. To find the value of v for different values of u in case of a concave mirror and to find the focal length.
2. To find the focal length of a convex mirror, using a convex lens.
3. To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.
4. To find the focal length of a concave lens, using a convex lens.
5. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
6. To determine the refractive index of a glass slab using a traveling microscope.
7. To find the refractive index of a liquid using a convex lens and plane mirror.
8. To find the refractive index of a liquid using a concave mirror and a plane mirror.

9. To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias. **Activities**
1. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items. 2. Use a multimeter to see the unidirectional flow of current in case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order.
 3. To study the effect of intensity of light (by varying distance of the source) on an LDR.
 4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
 5. To observe diffraction of light due to a thin slit.
 6. To study the nature and size of the image formed by a (i) convex lens, or (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).
 7. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

Chemistry Syllabus 2024-25

As per curriculum

Class 12th C

TERM-1

UNIT NO.	CHAPTER NAME
6	HALOALKANES AND HALOARENES)
7	ALCOHOL, PHENOL AND ETHERS
8	ALDEHYDES, KETONES & CARBOXYLIC ACIDS
9	AMINES
10	BIOMOLECULES

PRE-TERM-1:

UNIT-6: HALOALKANES & HALOARENES
 UNIT-7: ALCOHOLS, PHENOLS AND ETHERS
 (Only alcohol and phenol)

HALF YEARLY EXAM: -

UNIT-6: HALOALKANES & HALOARENES
 UNIT-7: ALCOHOLS, PHENOLS AND ETHERS
 UNIT-8: ALDEHYDES, KETONES AND AND
 CARBOXYLIC ACIDS
 UNIT 9: AMINES
 UNIT 10: BIOMOLECULES

TERM-II

UNIT NO.	CHAPTER NAME
4	'd' & 'f' BLOCK ELEMENTS).
5	COORDINATION COMPOUNDS
1	SOLUTIONS
2	ELECTROCHEMISTRY
3	CHEMICAL KINETICS

PRE BOARD: ENTIRE TERM-I & TERM-II SYLLABUS

BOARD EXAM: ENTIRE TERM-I & TERM-II SYLLABUS

MOUNT ST. MARY'S SCHOOL

SYLLABUS 2024-25

Classes: XII

Subject: Biology

PRETERM 1	CHAPTER 1: Sexual Reproduction in Flowering Plants CHAPTER 2: Sexual Reproduction in Humans (Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis)
HALFYEARLY	CHAPTER 1: Sexual Reproduction in Flowering Plants Chapter 2: Sexual Reproduction in Humans CHAPTER 3: Reproductive Health CHAPTER 4: Principles of Inheritance and Variations CHAPTER 5: Molecular Basis of Inheritance CHAPTER 6: Evolution CHAPTER 7: Human Health and Diseases CHAPTER 8: Microbes in Human Welfare
PRE- BOARD I	Chapter 2: Sexual Reproduction in Humans CHAPTER 4: Principles of Inheritance and Variations CHAPTER 5: Molecular Basis of Inheritance CHAPTER 6: Evolution CHAPTER 7: Human Health and Diseases CHAPTER 8: Microbes in Human Welfare Chapter-11: Biotechnology - Principles and Processes Chapter-12: Biotechnology and its Application
PRE-BOARD II	CHAPTER 1: Sexual Reproduction in Flowering Plants Chapter 2: Sexual Reproduction in Humans CHAPTER 4: Principles of Inheritance and Variations CHAPTER 5: Molecular Basis of Inheritance CHAPTER 7: Human Health and Diseases Chapter-11: Biotechnology - Principles and Processes Chapter-12: Biotechnology and its Application Chapter-13: Organisms and Populations
PRE- BOARD III	ENTIRE SYLLABUS

UNIT-VI Reproduction

Chapter-1:

Sexual Reproduction in Flowering Plants

Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

Chapter-2: **Human Reproduction**

Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst

formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).

Chapter-4: Reproductive Health

Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).

UNIT-VII

Genetics and Evolution

Chapter-5: Principles of Inheritance and Variation

Heredity and variation: Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in human being, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans -thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Chapter-6:

Molecular Basis of Inheritance

Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting.

Chapter-7: Evolution

- Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); Darwin's contribution, modern synthetic theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy – Weinberg's principle; adaptive radiation; human evolution.

UNIT-VIII

Biology and Human Welfare

Chapter-8: Human Health and Diseases

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

Chapter-10: Microbes in Human Welfare

Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.

UNIT-IX

Biotechnology and its Applications

Chapter-11: Biotechnology - Principles and Processes

Genetic Engineering (Recombinant DNA Technology).

Chapter-12: Biotechnology and its Application

Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.

UNIT-X

Ecology and Environment

Chapter-13: Organisms and Populations

Organisms and environment: Habitat and niche, population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.

Chapter-14: Ecosystem

Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy (Topics excluded: Ecological Succession and Nutrient Cycles).

Chapter-15: Biodiversity and its Conservation

Biodiversity - Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

Computer Science
CLASS-XII
Code No. 083
2024-25

1. Prerequisites

Computer Science- Class XI

2. Learning Outcomes

Student should be able to

- a) apply the concept of function.
- b) explain and use the concept of file handling.
- c) use basic data structure: Stacks
- d) explain basics of computer networks.
- e) use Database concepts, SQL along with connectivity between Python and SQL.

3. Distribution of Marks:

Unit No.	Unit Name	Marks	Periods	
			Theory	Practical
I	Computational Thinking and Programming - 2	40	70	50
II	Computer Networks	10	15	---
III	Database Management	20	25	20
	Total	70	110	70

4. Unit wise Syllabus

Unit I: Computational Thinking and Programming – 2

- Revision of Python topics covered in Class XI.
- Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution, scope of a variable (global scope, local scope)
- 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
- 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.

Unit II: Computer Networks

- Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)
- Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
- Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves)
- Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card)
- Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)

- Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP
- Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting

Unit III: Database Management

- Database concepts: introduction to database concepts and its need
- Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)
- Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join
- Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount, creating database connectivity applications

5. Practical

S.N o .	Unit Name	Marks (Total=30)
1	Lab Test:	
	1. Python program (60% logic + 20% documentation + 20% code quality)	8
	2. A stub program with Python SQL connectivity must be provided with blanks (4 blanks) to be filled by the student with the desired SQL query.	4
2	Report file: <ul style="list-style-type: none"> • Minimum 15 Python programs. • SQL Queries – Minimum 5 sets using one table / two tables. • Minimum 4 programs based on Python - SQL connectivity 	7
3	Project (using concepts learnt in Classes 11 and 12)	8
4	Viva voce	3

6. Suggested Practical List:

Python Programming

- Read a text file line by line and display each word separated by a #.
- Read a text file and display the number of vowels/consonants/uppercase/lowercase characters in the file.
- Remove all the lines that contain the character 'a' in a file and write it to another file.
- Create a binary file with name and roll number. Search for a given roll number and display the name, if not found display appropriate message.
- Create a binary file with roll number, name and marks. Input a roll number and update the marks.
- Write a random number generator that generates random numbers between 1 and 6 (simulates a dice).

- Write a Python program to implement a stack using list.
- Create a CSV file by entering user-id and password, read and search the password for given user- id.

Database Management

- Create a student table and insert data. Implement the following SQL commands on the student table:
 - ALTER table to add new attributes / modify data type / drop attribute
 - UPDATE table to modify data
 - ORDER By to display data in ascending / descending order
 - DELETE to remove tuple(s)
 - GROUP BY and find the min, max, sum, count and average
- Similar exercise may be framed for other cases.
- Integrate SQL with Python by importing suitable module.

7. Suggested Reading Material

- NCERT Textbook for COMPUTER SCIENCE (Class XII)
- Support Materials on the CBSE website.

8. Project

The aim of the class project is to create something that is tangible and useful using Python file handling/ Python-SQL connectivity. This should be done in groups of two to three students and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve.

Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications, of course to do some of these projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves.

The students should be sensitised to avoid plagiarism and violations of copyright issues while working on projects. Teachers should take necessary measures for this.

CLASS XII
SUBJECT: POLITICAL SCIENCE (CODE NO. 028)
SYLLABUS 2024-2025

BOOK (PART A):

CONTEMPORARY WORLD POLITICS

Ch-1The End of Bipolarity

Ch-2 New Centres of Power

Ch-3 South Asia and the Contemporary World

Ch-4United Nations and its Organizations

Ch-5 Security in the contemporary world

Ch-6 Environment and natural resources

Ch-7 Globalisation

BOOK PART B:

POLITICS IN INDIA SINCE INDEPENDENCE

Ch- 1 Challenges of Nation-Building

Ch-2 Era of one party dominance

Ch -3 Planning and development

Ch-4 India's Foreign Policy

Ch 5 Challenges to the restoration of then congress system

Ch-6 The Crisis of Democratic Order

Ch-7 Regional aspirations

Ch-8 Recent Developments in Indian Politics

Project Work: 20 Marks

Details of Project Work

1. The Project work will be implemented for 20 Marks.
2. Out of 20 marks, 10 marks are to be allotted to viva voce and 10 marks for project work.
3. For class XII, the evaluation for 20 marks project work should be done jointly by the internal as well as the external examiners.
4. **The Project can be made on any of the topics given in the syllabus.**

EXAMINATION SYLLABUS

PRE TERM -I EXAM

PART A

Ch-1 The End of bipolarity

PART -B

Ch-1 Challenges of Nation-Building

Ch-3 Politics of Planned Development

HALF YEARLY EXAMINATION

PART A

Ch-1 The End of bipolarity

Ch-2 New Centres of Power (New Name)

Ch-3 South Asia and the Contemporary World

Ch -4 United Nations organisations

PART B

Ch-1 Challenges of Nation-Building

Ch-2 Era of one party dominance

Ch-3 Politics of Planned Development

Ch-4 India's Foreign Policy

Ch-5 Challenges to the restoration of congress

Ch-6 Crisis of democratic order

PRE Board -1

PART A

Ch-5 Security in the contemporary world

Ch-6 Environment and natural resources

Ch-7 Globalisation

PART B

Ch-1 challenges of nation building

Ch-3 Planning and Development

Ch-7 Regional aspirations

Ch-8 Recent Developments in Indian Politics

PRE -BOARD -II

PART A

Ch-1The End of Bipolarity

Ch-2 New Centres of Power

Ch-3 South Asia and the Contemporary World

Ch-4United Nations and its Organizations

Part B

Ch-2 Era of one party dominance

Ch-4 India's foreign policy

Ch-5 Challenges and restoration of congress

Ch-6 Crisis of democratic order

PRE-BOARD III

Full Syllabus of Both Books Part A and Part B