

CUET UG + Board Exam

CUET

- Section IA (English Language Test)
- Section II (Domain Test)
- Section III (General Test)

+1 Board Exam & +2 Board Exam

- Economics
- Business Studies
- Accountancy
- Computer Application
- Political Science
- Mathematics

Syllabus



LANGUAGES (IA & IB)

SYLLABUS FOR CLASS 12

SYLLABUS FOR LANGUAGES (IA AND IB)

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

SECTION	Code	Name	
Section IA- Languages (13 Languages)	101	English	Questions from the Language Section will be from the following topics but are not limited to: 1. Reading Comprehension: There will be three types of passages (maximum 300-350 words): i. Factual ii. Narrative iii. Literary 2. Verbal Ability 3. Rearranging the parts 4. Choosing the correct word 5. Synonyms and Antonyms 6. Vocabulary
	102	Hindi	
	103	Assamese	
	104	Bengali	
	105	Gujarati	
	106	Kannada	
	107	Malayalam	
	108	Marathi	
	109	Odia	
	110	Punjabi	
	111	Tamil	
	112	Telugu	
	113	Urdu	
Section IB- Languages (20 Languages)	201	Arabic	
	202	Bodo	
	203	Chinese	
	204	Dogri	
	205	French	
	206	German	
	207	Italian	
	208	Japanese	
	209	Kashmiri	
	210	Konkani	
	211	Maithili	
	212	Manipuri	
	213	Nepali	
	214	Persian	
	215	Russian	
	216	Santhali	
	217	Sindhi	
218	Spanish		
219	Tibetan		
	220	Sanskrit	

PHYSICS-322

Syllabus of Class 12

PHYSICS-322

Note:

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PHYSICS

Unit I: Electrostatics

Electric charges and their conservation. 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 a 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).

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, the electrical potential energy of a system of two point charges, and electric dipoles in an electrostatic field.

Conductors and insulators, free charges, and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, the combination of capacitors in series and in parallel, the capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor, Van de Graff generator.

Unit II: Current Electricity

Electric current, the flow of electric charges in a metallic conductor, drift velocity and mobility, and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity.

Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance.

The internal resistance of a cell, potential difference, and emf of a cell, combination of cells in series and in parallel.

Kirchhoff's laws and simple applications. Wheatstone bridge, Metre Bridge.

Potentiometer – principle, and applications to measure potential difference, and for comparing emf of two cells; measurement of internal resistance of a cell.

Unit III: Magnetic Effects of Current and Magnetism

Concept of the magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop.

Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids. Force on a moving charge in uniform magnetic and electric fields. Cyclotron.

Force on a current-carrying conductor in a uniform magnetic field. The force between two parallel current-

PHYSICS-322

carrying conductors – definition of ampere. Torque experienced by a current loop in a magnetic field; moving coil galvanometer – its current sensitivity and conversion to ammeter and voltmeter.

Current loop as a magnetic dipole and its magnetic dipole moment. The magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements.

Para-, dia- and ferromagnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanent magnets.

Unit IV: Electromagnetic Induction and Alternating Currents

Electromagnetic induction; Faraday's law, induced emf and current; Lenz's Law, Eddy currents. Self and mutual inductance.

Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits, wattless current. AC generator and transformer.

Unit V: Electromagnetic Waves

Need for displacement current. Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves.

Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays, gamma rays) including elementary facts about their uses.

Unit VI: Optics

Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection, and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula. Magnification, power of a lens, combination of thin lenses in contact combination of a lens and a mirror. Refraction and dispersion of light through a prism.

Scattering of light—blue colour of the sky and reddish appearance of the sun at sunrise and sunset.

Optical instruments: Human eye, image formation, and accommodation, correction of eye defects (myopia and hypermetropia) using lenses.

Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Wave optics: Wave front and Huygens' Principle, reflection, and refraction of plane wave at a plane surface using wave fronts.

Proof of laws of reflection and refraction using Huygens' Principle.

Interference, Young's double hole experiment and expression for fringe width, coherent sources, and sustained interference of light.

Diffraction due to a single slit, width of central maximum.

Resolving the power of microscopes and astronomical telescopes. Polarization, plane polarized light; Brewster's law, uses of plane polarized light and Polaroids.

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Unit VII: Dual Nature of Matter and Radiation

Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation – particle nature of light.

Matter waves – wave nature of particles, de Broglie relation. Davisson-Germer experiment (experimental details should be omitted; only the conclusion should be explained.)

Unit VIII: Atoms and Nuclei

Alpha - particle scattering experiment; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum. Composition and size of nucleus, atomic masses, isotopes, isobars; isotones.

Radioactivity – alpha, beta, and gamma particles/rays, and their properties; radioactive decay law. Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission and fusion.

Unit IX: Electronic Devices

Energy bands in solids (qualitative ideas only), conductors, insulators, and semiconductors; semiconductor diode – I - V characteristics in forward and reverse bias, diode as a rectifier; I - V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR). Transistor as a switch.

Unit X: Communication Systems

Elements of a communication system (block diagram only); bandwidth of signals (speech, TV, and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky, and space wave propagation. Need for modulation. Production and detection of an amplitude-modulated wave.

Chemistry - 306
Syllabus for Class 12

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CHEMISTRY

Unit I: Solid State

Classification of solids based on different binding forces: molecular, ionic covalent, and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two dimensional and three-dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties, Band theory of metals, conductors, semiconductors and insulators and n and p -type semiconductors.

Unit II: Solutions

Types of solutions, expression of concentration of solutions of solids in liquids, the solubility of gases in liquids, solid solutions, colligative properties – the relative lowering of vapour pressure, Raoult's law, elevation of B.P., depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Vant Hoff factor.

Unit III: Electrochemistry

Redox reactions; conductance in electrolytic solutions, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's Law, electrolysis and laws of electrolysis (elementary idea), dry cell – electrolytic cells and Galvanic cells; lead accumulator, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells. Relation between Gibbs energy change and EMF of a cell, fuel cells; corrosion.

Unit IV: Chemical Kinetics

Rate of a reaction (average and instantaneous), factors affecting rates of reaction: concentration, temperature, catalyst; order and molecularity of a reaction; rate law and specific rate constant, integrated rate equations, and half-life (only for zero and first-order reactions); concept of collision theory (elementary idea, no mathematical treatment). Activation energy, Arrhenius equation.

Unit V: Surface Chemistry

Adsorption – physisorption and chemisorption; factors affecting adsorption of gases on solids; catalysis: homogenous and heterogeneous, activity and selectivity: enzyme catalysis; colloidal state: the distinction between true solutions, colloids, and suspensions; lyophilic, lyophobic multi molecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsions – types of emulsions.

Unit VI: General Principles and Processes of Isolation of Elements

Principles and methods of extraction – concentration, oxidation, reduction electrolytic method, and refining; occurrence and principles of extraction of aluminum, copper, zinc, and iron.

Unit VII: p -Block Elements

Group 15 elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; nitrogen – preparation, properties, and uses; compounds of nitrogen: preparation and properties of ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous-allotropic forms; compounds of phosphorous: preparation and properties of phosphine, halides (PCl_3 , PCl_5) and oxoacids (elementary idea only).

Group 16 elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; dioxygen: preparation, properties, and uses; classification of oxides; ozone. Sulphur – allotropic forms; compounds of Sulphur: preparation, properties, and uses of Sulphur dioxide; sulphuric acid: industrial process of manufacture, properties and uses, oxoacids of sulphur (structures only).

Group 17 elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens: preparation, properties and uses of chlorine and hydrochloric acid, interhalogen compounds, oxoacids of halogens (structures only).

Group 18 elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.

Unit VIII: *d* and *f* Block Elements

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation. Preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$.

Lanthanoids – electronic configuration, oxidation states, chemical reactivity, and lanthanoid contraction and its consequences.

Actinoids – Electronic configuration, oxidation states, and comparison with lanthanoids.

Unit IX Coordination Compounds

Coordination compounds: Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds, bonding, Werner's theory VBT, CFT; isomerism (structural and stereo) importance of coordination compounds (in qualitative analysis, extraction of metals and biological systems).

Unit X: Haloalkanes and Haloarenes

Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions. Optical rotation.

Haloarenes: Nature of C-X bond, substitution reactions (directive influence of halogen for monosubstituted compounds only).

Uses and environmental effects of –dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Unit XI: Alcohols, Phenols, and Ethers

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary, and tertiary alcohols; mechanism of dehydration, uses, with special reference to methanol and ethanol.

Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.

Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Unit XII: Aldehydes, Ketones, and Carboxylic Acids

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, the reactivity of alpha hydrogen in aldehydes; uses.

Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Unit XIII: Organic Compounds Containing Nitrogen

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary secondary, and tertiary amines.

Cyanides and Isocyanides – will be mentioned at relevant places in context.

Diazonium salts: Preparation, chemical reactions, and importance in synthetic organic chemistry.

Unit XIV: Biomolecules

Carbohydrates – Classification (aldoses and ketoses), monosaccharide (glucose and fructose), D-L configuration, oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen): importance.

Proteins - Elementary idea of α -amino acids, peptide bond, polypeptides, proteins, primary structure, secondary structure, tertiary structure and quaternary structure (qualitative idea only), denaturation of proteins; enzymes.

***Hormones* –Elementary idea (excluding structure).**

Vitamins – Classification and functions.

Nucleic Acids: DNA and RNA

Unit XV: Polymers

Classification – Natural and synthetic, methods of polymerization (addition and condensation), copolymerization. Some important polymers: natural and synthetic like polythene, nylon, polyesters, bakelite, rubber. Biodegradable and non-biodegradable polymers.

Unit XVI: Chemistry in Everyday Life

1. Chemicals in medicines – analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.
2. Chemicals in food– preservatives, artificial sweetening agents, **elementary idea of antioxidants.**
3. Cleansing agents – soaps and detergents, cleansing action.

**MATHEMATICS/
APPLIED
MATHEMATICS (319)
Syllabus for Class 12**

Mathematics/Applied Mathematics (319)

Note:

There will be one Question Paper which will contain Two Sections i.e. Section A and Section B [B1 and B2].

Section A will have 15 questions covering both i.e. Mathematics/Applied Mathematics which will be compulsory for all candidates

Section B1 will have 35 questions from Mathematics out of which 25 questions need to be attempted.

Section B2 will have 35 questions purely from Applied Mathematics out of which 25 question will be attempted.

SECTION A

1. Algebra	(iv). Application of Integration as area under the curve
(i) Matrices and types of Matrices	4. Differential Equations
(ii) Equality of Matrices, transpose of a Matrix, Symmetric and Skew Symmetric Matrix	(i) Order and degree of differential equations
(iii) Algebra of Matrices	(ii) Formulating and solving of differential equations with variable separable
(iv) Determinants	5. Probability Distributions
(v) Inverse of a Matrix	(i) Random variables and its probability distribution
(vi) Solving of simultaneous equations using Matrix Method	(ii) Expected value of a random variable
2. Calculus	(iii) Variance and Standard Deviation of a random variable
(i) Higher order derivatives	(iv). Binomial Distribution
(ii) Tangents and Normals	6. Linear Programming
(iii) Increasing and Decreasing Functions	(i) Mathematical formulation of Linear Programming Problem
(iv). Maxima and Minima	(ii) Graphical method of solution for problems in two variables
3. Integration and its Applications	(iii) Feasible and infeasible regions
(i) Indefinite integrals of simple functions	(iv). Optimal feasible solution
(ii) Evaluation of indefinite integrals	
(iii) Definite Integrals	

Mathematics/Applied Mathematics (319)

Section B1: Mathematics

UNIT I: RELATIONS AND FUNCTIONS

1. Relations and Functions

Types of relations: Reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function. Binary operations.

2. Inverse Trigonometric Functions

Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

UNIT II: ALGEBRA

1. Matrices

Concept, notation, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

2. Determinants

Determinant of a square matrix (up to 3×3 matrices), properties of determinants, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

UNIT III: CALCULUS

1. Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit function. Concepts of exponential, logarithmic functions. Derivatives of $\log x$ and e^x . Logarithmic differentiation. Derivative of functions expressed in parametric forms. Second-order derivatives. Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretations.

2. Applications of Derivatives

Applications of derivatives: Rate of change, increasing/decreasing functions, tangents and normals, approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations). Tangent and Normal.

Mathematics/Applied Mathematics (319)

3. Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, only simple integrals of the type –

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}},$$
$$\int \frac{(px + q)}{ax^2 + bx + c} dx, \int \frac{(px + q)}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 \pm x^2} dx \text{ and } \int \sqrt{x^2 - a^2} dx,$$
$$\int \sqrt{ax^2 + bx + c} dx \text{ and } \int (px + q)\sqrt{ax^2 + bx + c} dx$$

to be evaluated.

Definite integrals as a limit of a sum. Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

4. Applications of the Integrals

Applications in finding the area under simple curves, especially lines, arcs of circles/parabolas/ellipses (in standard form only), area between the two above said curves (the region should be clearly identifiable).

5. Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type –

$$\frac{dy}{dx} + Py = Q, \text{ where } P \text{ and } Q \text{ are functions of } x \text{ or constant}$$

$$\frac{dx}{dy} + Px = Q, \text{ where } P \text{ and } Q \text{ are functions of } y \text{ or constant}$$

Mathematics/Applied Mathematics (319)

UNIT IV: VECTORS AND THREE-DIMENSIONAL GEOMETRY

1. Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines/ratios of vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors, scalar triple product.

2. Three-dimensional Geometry

Direction cosines/ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines, (ii) two planes, (iii) a line and a plane. Distance of a point from a plane.

Unit V: Linear Programming

Introduction, related terminology such as constraints, objective function, optimization, different types of linear programming (L.P.) problems, mathematical formulation of L.P. problems, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

Unit VI: Probability

Multiplication theorem on probability. Conditional probability, independent events, total probability, Baye's theorem. Random variable and its probability distribution, mean and variance of haphazard variable. Repeated independent (Bernoulli) trials and Binomial distribution.

Mathematics/Applied Mathematics (319)

Section B2: Applied Mathematics

Unit I: Numbers, Quantification and Numerical Applications

A. Modulo Arithmetic

- Define modulus of an integer
- Apply arithmetic operations using modular arithmetic rules

B. Congruence Modulo

- Define congruence modulo
- Apply the definition in various problems

C. Allegation and Mixture

- Understand the rule of allegation to produce a mixture at a given price
- Determine the mean price of a mixture
- Apply rule of allegation

D. Numerical Problems

- Solve real life problems mathematically

E. Boats and Streams

- Distinguish between upstream and downstream
- Express the problem in the form of an equation

F. Pipes and Cisterns

- Determine the time taken by two or more pipes to fill or

G. Races and Games

- Compare the performance of two players w.r.t. time,
- distance taken/distance covered/ Work done from the given data

H. Partnership

- Differentiate between active partner and sleeping partner
- Determine the gain or loss to be divided among the partners in the ratio of their investment with due
- consideration of the time volume/surface area for solid formed using two or more shapes

I. Numerical Inequalities

- Describe the basic concepts of numerical inequalities
- Understand and write numerical inequalities

UNIT II: ALGEBRA

A. Matrices and types of matrices

- Define matrix
- Identify different kinds of matrices

B. Equality of matrices, Transpose of a matrix, Symmetric and Skew symmetric matrix

- Determine equality of two matrices
- Write transpose of given matrix
- Define symmetric and skew symmetric matrix

Mathematics/Applied Mathematics (319)

UNIT III: CALCULUS

A. Higher Order Derivatives

- Determine second and higher order derivatives
- Understand differentiation of parametric functions and implicit functions
Identify dependent and independent variables

B. Marginal Cost and Marginal Revenue using derivatives

- Define marginal cost and marginal revenue
- Find marginal cost and marginal revenue

C. Maxima and Minima

- Determine critical points of the function
- Find the point(s) of local maxima and local minima and corresponding local maximum and local minimum values
- Find the absolute maximum and absolute minimum value of a function

UNIT IV: PROBABILITY DISTRIBUTIONS

A. Probability Distribution

- Understand the concept of Random Variables and its Probability Distributions
- Find probability distribution of discrete random variable

B. Mathematical Expectation

- Apply arithmetic mean of frequency distribution to find the expected value of a random variable

C. Variance

- Calculate the Variance and S.D. of a random variable

UNIT V: INDEX NUMBERS AND TIME BASED DATA

A. Index Numbers

- Define Index numbers as a special type of average

B. Construction of Index numbers

- Construct different type of index numbers

C. Test of Adequacy of Index Numbers

- Apply time reversal test

UNIT VI: UNIT V: INDEX NUMBERS AND TIME BASED DATA

A. Population and Sample

- Define Population and Sample
- Differentiate between population and sample
- Define a representative sample from a population

B. Parameter and Statistics and Statistical Interferences

- Define Parameter with reference to Population
- Define Statistics with reference to Sample

Mathematics/Applied Mathematics (319)

- Explain the relation between Parameter and Statistic
- Explain the limitation of Statistic to generalize the estimation for population
- Interpret the concept of Statistical Significance and Statistical Inferences
- State Central Limit Theorem
- Explain the relation between Population-Sampling Distribution-Sample

UNIT VII: INDEX NUMBERS AND TIME-BASED DATA

A. Time Series

- Identify time series a schronological data

B. Components of Time Series

- Distinguish between different components of time series

C. Time Series analysis for univariate data

- Solve practical problems based on statistical data and Interpret

UNIT VIII: FINANCIAL MATHEMATICS

A. Perpetuity, Sinking Funds

- Explain the concept of perpetuity and sinking fund
- Calculate perpetuity
- Differentiate between sinking fund and saving account

B. Valuation of Bonds

- Define the concept of valuation of bond and related terms
- Calculate value of bond using present value approach

C. Calculation of EMI

- Explain the concept of EMI
- Calculate EMI using various methods

D. Linear method of Depreciation

- Define the concept of linear method of Depreciation
- Interpret cost, residual value and useful life of an asset from the given information
- Calculate depreciation

UNIT IX: LINEAR PROGRAMMING

A. Introduction and related terminology

- Familiarize with terms related to Linear Programming Problem

B. Mathematical formulation of Linear Programming Problem

- Formulate Linear Programming Problem

C. Different types of Linear Programming Problems

- Identify and formulate different types of LPP

D. Graphical Method of Solution for problems in two Variables

- Draw the Graph for a system of linear inequalities involving two variables and to find its solution graphically

Mathematics/Applied Mathematics (319)

E. Feasible and Infeasible Regions

- Identify feasible, infeasible and bounded regions

F. Feasible and infeasible solutions, optimal feasible solution

- Understand feasible and infeasible solutions
- Find optimal feasible solution

**BIOLOGY/BIOLOGICAL
STUDIES/BIOTECHNOLOGY/
BIOCHEMISTRY**

(304)

Syllabus for Class 12

Note:

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BIOLOGY/BIOLOGICAL STUDIES/BIOTECHNOLOGY/BIOCHEMISTRY

Unit I: Reproduction

Reproduction in organisms: Reproduction, a characteristic feature of all organisms for continuation of species; Modes of reproduction – Asexual and sexual; Asexual reproduction; Modes- Binary fission, sporulation, budding, gemmule, fragmentation; vegetative propagation in plants.

Sexual reproduction in flowering plants: Flower structure; Development of male and female gametophytes; Pollination–types, agencies and examples; Outbreedings 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 and fruit formation.

Human Reproduction: Male and female reproductive systems; Microscopic anatomy of testis and ovary; Gametogenesis- spermatogenesis & oogenesis; Menstrual cycle; Fertilisation, embryo development upto blastocyst formation, implantation; Pregnancy and placenta formation (Elementary idea); Parturition (Elementary idea); Lactation (Elementary idea).

Reproductive health: Need for reproductive health and prevention of sexually transmitted diseases(STD); 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 II: Genetics and Evolution

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 humans, birds, honeybee; Linkage and crossing over; Sex linked inheritance- Haemophilia, Colour blindness; Mendelian disorders in humans– Thalassaemia; Chromosomal disorders in humans; Down’s syndrome, Turner’s and Klinefelter’s syndromes.

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 and human genome project; DNA fingerprinting.

Evolution: Origin of life; Biological evolution and evidences for biological evolution (Paleontological, comparative anatomy, embryology and molecular evidence); 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 III: Biology and Human Welfare

Health and Disease: Pathogens; parasites causing human diseases (Malaria, Filariasis, Ascariasis, Typhoid, Pneumonia, common cold, amoebiasis, ring worm); Basic concepts of immunology– vaccines; Cancer, HIV and AIDS; Adolescence, drug and alcohol abuse.

Improvement in food production: Plant breeding, tissue culture, single cell protein, Biofortification; Apiculture and Animal husbandry.

Microbes in human welfare: In household food processing, industrial production, sewage treatment, energy generation and as biocontrol agents and biofertilizers.

Unit IV: Biotechnology and Its Applications

Principles and process of Biotechnology: Genetic engineering (Recombinant DNA technology).

Application of Biotechnology in health and agriculture: Human insulin and vaccine production, gene therapy; Genetically modified organisms- Bt crops; Transgenic Animals; Biosafety issues– Bio piracy and patents.

Unit V: Ecology and environment

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.

Ecosystems: Patterns, components; productivity and decomposition; Energy flow; Pyramids of number, biomass, energy; Nutrient cycling (carbon and phosphorous); Ecological succession; Ecological Services– Carbon fixation, pollination, oxygen release.

Biodiversity and its conservation: Concept of Biodiversity; Patterns of Biodiversity; Importance of Biodiversity; Loss of Biodiversity; Biodiversity conservation; Hotspots, endangered organisms, extinction, Red Data Book, biosphere reserves, National parks and sanctuaries.

Environmental issues: Air pollution and its control; Water pollution and its control; Agrochemicals and their effects; Solid waste management; radioactive waste management; Greenhouse effect and global warming; Ozone depletion; Deforestation; Any three case studies as success stories addressing environmental issues.

**Computer Science/
Informatics Practices - 308
Syllabus for Class 12**

Computer Science/Informatics Practices

- 308

Note:

There will be one Question Paper which will contain Two Sections i.e. Section A and Section B [B1 and B2].

Section A will have 15 questions covering both i.e. Computer Science/Informatics Practices which will be compulsory for all candidates

Section B1 will have 35 questions from Computer Science out of which 25 questions need to be attempted.

Section B2 will have 35 questions purely from Informatics Practices out of which 25 question will be attempted.

Section A

Exception and File Handling in Python

Exception Handling: syntax errors, exceptions, need of exception handling, user-defined exceptions, raising exceptions, handling exceptions, catching exceptions, Try - except - else clause, Try - finally clause, recovering and continuing with finally, built-in exception classes.

File Handling: text file and binary file, file types, open and close files, reading and writing text files, reading and writing binary files using pickle module, file access modes.

Database Concepts

Introduction to database concepts, difference between database and file system, relational data model: concept of domain, tuple, relation, keys - candidate key, primary key, alternate key, foreign key;

Relational algebra: selection, projection, union, set difference and cartesian product;

Structured Query Language

Advantages of using Structured Query Language, Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL, Creating a database using MySQL, Data Types

Data Definition: CREATE TABLE, DROP TABLE, ALTER TABLE,

Data Query: SELECT, FROM, WHERE

Data Manipulation: INSERT, UPDATE, DELETE

Math functions: POWER (), ROUND (), MOD ().

Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM ().

Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME ().

Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*). Querying and manipulating data using Group by, Having, Order by.

Operations on Relations - Union, Intersection, Minus, Cartesian Product, JOIN

Computer Networks

Introduction to computer networks, Evolution of networking,

Network types: LAN, WAN, MAN

Network devices: Modem, Ethernet Card, Repeater, Hub, Switch, Router, Gateway.

Network Topologies: Mesh, Ring, Bus, Star, and Tree topologies

Basic concept of MAC and IP Address Difference

between Internet and web

Section B1: Computer Science

Chapter 1: Exception and File Handling in Python

Exception Handling: syntax errors, exceptions, need of exception handling, user-defined exceptions, raising exceptions, handling exceptions, catching exceptions, Try - except - else clause, Try - finally clause, recovering and continuing with finally, built-in exception classes.

File Handling: text file and binary file, file types, open and close files, reading and writing text files, reading and writing binary files using pickle module, file access modes.

Chapter 2: Stack

Stack (List Implementation): Introduction to stack (LIFO Operations), operations on stack (PUSH and POP) and its implementation in python. Expressions in Prefix, Infix and postfix notations, evaluating arithmetic expressions using stack, conversion of Infix expression to postfix expression

Chapter 3: Queue

Queue (List Implementation): Introduction to Queue (FIFO), Operations on Queue (INSERT and DELETE) and its implementation in Python.

Introduction to DQueue and its implementation in Python.

Chapter 4: Searching

Searching: Sequential search, Binary search, Analysis of Sequential and Binary Search. Dry run to identify best, worst and average cases. Implementation of searching techniques in Python.

Chapter 5: Sorting

Overview of sorting techniques, Bubble Sort, Selection Sort and Insertion Sort. Dry run to identify best, worst and average cases. Implementation of sorting techniques in Python.

Hashing: Hash Functions, Collision Resolution, Implementing the Map Abstract Data Type.

Chapter 6: Understanding Data

Data and its purpose, collection and organization; understanding data using statistical methods: mean, median, standard deviation, variance; data interpretation; visualization of data.

Chapter 7: Database Concepts

Introduction to database concepts, difference between database and file system, relational data model: concept of domain, tuple, relation, keys - candidate key, primary key, alternate key, foreign key;

Relational algebra: selection, projection, union, set difference and cartesian product;

Chapter 8: Structured Query Language

Advantages of using Structured Query Language, Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL, Creating a database using MySQL, Data Types

Data Definition: CREATE TABLE, DROP TABLE, ALTER TABLE,

Data Query: SELECT, FROM, WHERE

Data Manipulation: INSERT, UPDATE, DELETE

Math functions: POWER (), ROUND (), MOD ().

Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM ().

Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME ().

Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*). Querying and manipulating data using Group by, Having, Order by.

Operations on Relations - Union, Intersection, Minus, Cartesian Product, JOIN

Chapter 9: Computer Networks

Introduction to computer networks, Evolution of networking,

Network types: LAN, WAN, MAN

Network devices: Modem, Ethernet Card, Repeater, Hub, Switch, Router, Gateway.

Network Topologies: Mesh, Ring, Bus, Star, and Tree topologies

Basic concept of MAC and IP Address

Difference between Internet and web

Section B2: Informatics Practices

Chapter 1: Database Query using SQL

Math functions: POWER (), ROUND (), MOD ().

Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (),LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM ().

Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME ().

Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*).Querying and manipulating data using Group by, Having, Order by.

Operations on Relations - Union, Intersection, Minus, Cartesian Product, JOIN

Chapter 2: Data Handling using Pandas – I

Introduction to Python libraries- Pandas, NumPy,

Matplotlib. Data structures in Pandas - Series and DataFrames.

Series: Creation of Series from – and array, dictionary, scalar value; mathematical operations; Head and Tail functions; Selection, Indexing, and Slicing.

DataFrames: creation - from the 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; Styling & Formatting data, Head and Tail functions; Joining, Merging and Concatenations.

Importing/Exporting Data between CSV files and DataFrames.

Chapter 3: Data Handling using Pandas – II

Descriptive Statistics: max, min, count, sum, mean, median, mode, quartile, Standard deviation, variance.

DataFrame operations: Aggregation, group by, Sorting, Deleting and Renaming Index, Pivoting.

Handling missing values – dropping and filling.

Importing/Exporting Data between MySQL database and Pandas.

Chapter 4: Plotting Data using Matplotlib

Purpose of plotting; drawing and saving the following types of plots using Matplotlib – line plot, bargraph, histogram, pie chart, frequency polygon, box plot, and scatter plot.

Customizing plots: color, style (dashed, dotted), width; adding label, title, and legend in plots.

Chapter 5: Introduction to Computer Networks

Introduction to Networks, Types of networks: LAN, MAN, WAN.

Network Devices: modem, hub, switch, repeater, router, gateway

Network Topologies: Star, Bus, Tree, Mesh.

Introduction to Internet, URL, WWW, and its applications- Web, email, Chat, VoIP.

Website: Introduction, the difference between a website and webpage, static vs dynamic web page, webserver, and hosting of a website.

Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug-ins, cookies.

Chapter 6: Societal Impacts

Digital footprint, Etiquettes for Net surfing and for communicating through social media, data protection, Intellectual Property Rights (IPR) and their violation, plagiarism licensing and copyrights, Free and Open Source Software (FOSS), Cybercrime and cyber laws, hacking,

phishing, cyberbullying, Overview of Indian IT Act, preventing cybercrime.

E-waste its a hazard and management

Awareness about health concerns related to the usage of technology like effect on eyesight, physiological issues, and ergonomic aspects.

Chapter 10: Data Communication

Concept of communication, Types of Data Communication, switching techniques

Communication Media: Wired Technologies – Twisted pair cable, Co-axial cable, Ethernet Cable, Optical Fibre;

Introduction to mobile telecommunication technologies

Wireless Technologies – Bluetooth, WLAN, Infrared,

Microwave

Network Protocol: Need for Protocol, Categorization and Examples of protocol, HTTP, FTP, IP, PPP; electronic mail protocol

Concept of Channel, Bandwidth (Hz, KHz, MHz) and Data Transfer rate (bps, Kbps, Mbps, Gbps, Tbps)

Chapter 11: Security Aspects

Threats and prevention: Viruses, Worms, Trojan horse, Spam, Cookies, Adware, Firewall, http vs https

Network Security Concepts: Firewall, Cookies, Hackers and Crackers

Antivirus and their workings

Network security threats: Denial of service, Intrusion problems, Snooping, Eavesdropping

PSYCHOLOGY-324

Syllabus for Class 12

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

PSYCHOLOGY-324

Unit I: *Variations in Psychological Attributes*

The unit aims at studying how people differ with respect to their various psychological attributes. Individual differences in human functioning; Assessment of psychological attributes; Intelligence: Individual differences in intelligence; Theories of intelligence; Culture and intelligence; Special abilities: Aptitude — nature, and measurement; Creativity; Emotional intelligence.

Unit II: *Self and Personality*

This unit focuses on the study of self and personality in the context of different approaches in an effort to appraise the person. The assessment of personality will also be discussed. self-esteem, self-efficacy, and self-regulation; Culture and self; Concept of personality; Major approaches — Type and Trait, Psychodynamic, Humanistic, Behavioural, Cultural; Assessment of personality: Self-report measures, behavioural analysis, and projective measures.

Unit III: *Meeting Life Challenges*

This unit deals with the nature of stress and how responses to stress depend on an individual's appraisal of stressors. Strategies to cope with stress will also be dealt with.

Nature, types and sources of stress; Effects on psychological functioning and health; Coping with stress; Promoting positive health and well-being.

Unit IV: *Psychological Disorders*

This unit discusses the concepts of normality and abnormality and the major psychological disorders. Concepts of abnormality and psychological disorders; Classification of disorders; Factors underlying abnormal behaviour; Major psychological disorders – Anxiety, Somatic, Dissociative, Mood, Schizophrenic, Developmental and Behavioural-Substance use related.

Unit V: *Therapeutic Approaches*

The unit discusses the goals, techniques, and effectiveness of different approaches to treating psychological disorders.

Nature and process of therapy: Therapeutic relationship; Types of therapies: Psychodynamic, Humanistic, Cognitive, Behaviour and Bio-medical; Alternative therapies — Yoga, Meditation; Rehabilitation of mentally ill.

Unit VI: *Attitude and Social Cognition*

This unit focuses on the formation and change of attitudes, cultural influences on attributional tendencies, and conditions influencing pro-social behaviour.

Explaining social behaviour: Impression formation and explaining behaviour of others through attributions; Social cognition; Schemas and stereotypes; Nature and components of attitudes; Attitude formation and change; Behaviour in the presence of others; Pro-social behaviour; Prejudice and discrimination; Strategies for handling prejudice.

Unit VII: *Social Influence and Group Processes*

The unit deals with the concept of the group, its functions, and the dynamics of social influence on conformity, obedience, and compliance. Different conflict resolution strategies will also be discussed.

Conformity, Obedience, and Compliance; Cooperation and Competition; Nature and formation of groups; Types of groups; Social identity; Influence of the group on individual behaviour; Inter-group conflicts; Conflict resolution strategies.

Unit VIII: *Psychology and Life*

The unit focuses on the application of psychological understanding to some important social issues. Human-environment relationship; Environmental effects on human behaviour: Noise, pollution, crowding, natural disasters; Promoting pro-environmental behaviour; Psychology and social concerns: Aggression, Violence, and Peace, Discrimination and Poverty, health, the impact of television on behaviour.

Unit IX: *Developing Psychological Skills*

The unit deals with some effective psychological and interpersonal skills for facilitating personal- social development.

Effective psychological skills: Observational skills, Interviewing skills, Testing skills, Counselling skills — empathy, authenticity, positive regard, and Communication skills — listening.

ECONOMICS/BUSINESS

ECONOMICS-309

Syllabus for Class 12

ECONOMICS/BUSINESS ECONOMICS-309

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

Unit I: Introduction to Microeconomics

- What is microeconomics?
- Central problems

Unit II: Consumer Behaviour and Demand

- **Consumer's Equilibrium:** meaning and attainment of equilibrium through Utility Approach: One and two commodity cases.
- **Demand:** market demand, determinants of demand, demand schedule, demand curve, movement along and shifts in the demand curve, price elasticity of demand, measurement of price elasticity of demand – percentage, total expenditure, and geometric methods

Introductory Macroeconomics

Unit III: National Income and Related Aggregates — Basic Concepts and Measurement

- Macroeconomics: meaning.
- Circular flow of income, concepts of GDP, GNP, NDP, NNP (at market price and factor cost).
- Measurement of National Income – Value Added method, Income method, and Expenditure method.

Unit IV: Determination of Income and Employment

- Aggregate demand, aggregate supply, and their components
- Propensity to consume and propensity to save (average and marginal)
- Meaning of involuntary unemployment and full employment
- Determination of income and employment: two-sector model
- Concept of investment multiplier and its working
- Problems of excess and deficient demand
- Measures to correct excess and deficient demand – availability of credit, change in government spending

Unit V: Money and Banking

- Money: meaning, evolution, and functions
- Central bank: meaning and functions
- Commercial banks: meaning and functions

Unit VI: Government Budget and the Economy

- Government budget – meaning and its components
- Objectives of government budget
- Classification of receipts – revenue and capital; classification of expenditure – revenue and capital, plan and non-plan, and developmental and non-developmental

- Balanced budget, surplus budget, and deficit budget: meaning and implications
- Revenue deficit, fiscal deficit, and primary deficit: meaning and implications; measures to contain different deficits.

Unit VII: Balance of Payments

- Foreign exchange rate – meaning (fixed and flexible), merits and demerits; determination through demand and supply
- Balance of payments accounts – meaning and components
- A brief analysis of recent exchange rate issues

INDIAN ECONOMIC DEVELOPMENT

Unit VIII: Development Experience (1947-90) and Economic Reforms since 1991

A brief introduction of the state of the Indian economy on the eve of independence. Indian economic system and common goals of Five year Plans.

Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.

Unit IX: Current challenges facing the Indian Economy

Poverty – absolute and relative; Main programmes for poverty alleviation: A critical assessment;

Human Capital Formation – How many people become resource; Role of human capital in economic development;

Rural development: Key issues – credit and marketing – role of cooperatives; agricultural diversification;

Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies

Infrastructure: Meaning and Types: Cases Studies: Health: Problems and Policies – A critical assessment;

Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming

Unit X: Development Experience of India

- A comparison with neighbors
- India and Pakistan
- India and China
- Issues: economic growth, population, sectoral development and other Human Development Indicators

**ACCOUNTANCY/BOOK KEEPING-301
SYLLABUS FOR CLASS 12**

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

Accounting for Not-for-Profit Organizations and Partnership Firms

Unit I: Accounting Not-for-Profit Organisation

- Not-for-profit organization: Meaning and Examples.
- Receipts and Payments: Meaning and Concept of fund-based and non-fund-based accounting.
- Preparation of Income and Expenditure Account and Balance sheet from receipt and payment account with additional information.

Unit II: Accounting for Partnership

- Nature of Partnership Firm: Partnership deed (meaning, importance).
- Final Accounts of Partnership: Fixed v/s Fluctuating capital, Division of profit among partners, Profit, and Loss Appropriation account.

Unit III: Reconstitution of Partnership

Changes in profit sharing ratio among the existing partners – Sacrificing ratio and Gaining ratio.

- Accounting for Revaluation of Assets and Liabilities and Distribution of reserves and accumulated profits.
- Goodwill: Nature, Factors affecting and Methods of valuation: Average profit, Super profit, Multiplier, and Capitalization methods.
- Admission of a Partner: Effect of admission of a partner, Change in profit sharing ratio, the Accounting treatment for goodwill, Revaluation of assets and liabilities, Reserves (accumulated profits), and Adjustment of capitals.
- Retirement/Death of a Partner: Change in profit sharing ratio, Accounting treatment of goodwill, Revaluation of assets and liabilities, Adjustment of accumulated profits (Reserves).

Unit IV: Dissolution of Partnership Firm

- Meaning, Settlement of accounts: Preparation of realization account and related accounts (excluding piecemeal distribution, sale to a company and insolvency of a Partner)

Company Accounts and Financial Statement Analysis

Unit V: Accounting for Share and Debenture Capital

- Share Capital: Meaning, Nature and Types.
- Accounting for Share Capital: Issue and Allotment of Equity and Preference Shares; Over subscription and Under subscription; Issue at par, premium and at discount; Calls in advance, Calls in arrears, Issue of shares for consideration other than cash.
- Forfeiture of Shares: Accounting treatment, Re-issue of forfeited shares.
- Presentation of shares and Debentures Capital in the company's balance sheet.
- Issue of Debenture – At par, premium, and discount; Issue of debentures for consideration other than cash.

ACCOUNTANCY/BOOK KEEPING-301

Redemption of the debenture.

- Out of proceeds of fresh issue, accumulated profits, and sinking fund.

Unit VI: Analysis of Financial Statements

- Financial Statements of a Company: Preparation of simple financial statements of a company in the prescribed form with major headings only.
- Financial Analysis: Meaning, Significance, Purpose, Limitations.
- Tools for Financial Analysis: Comparative statements, Common size statements.
- Accounting Ratios: Meaning and Objectives, Types of ratios:

Liquidity Ratios: Current ratio, Liquidity ratio.

Solvency Ratio: Debt to equity, Total assets to debt, Proprietary ratio.

Activity Ratio: Inventory turnover, Debtors turnover, Payables turnover, Working capital turnover, fixed assets turnover, Current assets turnover.

Profitability Ratio: Gross profit, Operating ratio, Net profit ratio, Return on Investment, Earning per Share, Dividend per Share, Profit Earning ratio.

Unit VII: Statement of Changes in Financial Position

- Cash Flow Statement: Meaning and Objectives, Preparation, Adjustments related to depreciation, dividend and tax, sale and purchase of non-current assets (as per revised standard issued by ICAI).

Computerized Accounting System

Unit I: Overview of Computerized Accounting System

- Concept and Types of Computerized Accounting System (CAS).
- Features of a Computerized Accounting System.
- Structure of a Computerized Accounting System.

Unit II: Using Computerized Accounting System

- Steps in the installation of CAS, Preparation of chart of accounts, Codification, and Hierarchy of account heads.
- Data entry, Data validation, and Data verification.
- Adjusting entries, Preparation of financial statements, Closing entries, and Opening entries.
- Security of CAS and Security features are generally available in CAS (Students are expected to understand and practice the entire accounting process using an accounting package.)

Unit III: Accounting Using Database Management System (DBMS)

- Concepts of DBMS. Objects in DBMS: Tables, Queries, Forms, Reports.
- Creating data tables for accounting.
- Using queries, forms, and reports for generating accounting information. Applications of DBMS in generating accounting information such as shareholders' records, sales reports, customers' profiles, suppliers' profiles payroll, employees' profiles, and petty cash registers.

Unit IV: Accounting Applications of Electronic Spreadsheet

- Concept of an Electronic Spreadsheet (ES).
- Features offered by Electronic Spreadsheet.
- Applications of Electronic Spreadsheet in generating accounting information, preparing depreciation schedules, loan repayment schedules, payroll accounting, and other such company

BUSINESS STUDIES - 305

**BUSINESS STUDIES - 305
SYLLABUS FOR CLASS 12**

BUSINESS STUDIES – 305

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

Principles and Functions of Management

Unit I: Nature and Significance of Management

- Management – concept, objectives, importance.
- Nature of management; Management as Science, Art, Profession.
- Levels of management – top, middle supervisory (First level).
- Management functions – planning, organizing, staffing, directing, and controlling.
- Coordination – nature, and importance.

Unit II: Principles of Management

- Principles of Management – meaning, nature and significance.
- Fayol's principles of management.
- Taylor's Scientific Management – Principles and Techniques.

Unit III: Business Environment

- Business Environment – meaning and importance.
- Dimensions of Business Environment – Economic, Social, Technological, Political, and Legal.
- Economic Environment in India; Impact of Government policy changes on business and industry, with special reference to the adoption of the policies of liberalization privatization, and globalization.

Unit IV: Planning

- Meaning, features, importance, limitations.
- Planning process.
- Types of Plans – Objectives, Strategy, Policy, Procedure, Method, Rule, Budget, Programme

Unit V: Organising

- Meaning and importance.
- Steps in the process of organizing.
- Structure of organization – functional, and divisional.
- Formal and informal organization.
- Delegation: meaning elements and importance.
- Decentralization: meaning and importance.
- Difference between delegation and decentralization.

Unit VI: Staffing

- Meaning, need, and importance of staffing.
- Staffing as a part of Human Resources Management.
- Steps in the staffing process.
- Recruitment – meaning and sources.
- Selection – meaning and process.
- Training and Development – meaning, need, methods – on the job and off the job methods of training.

BUSINESS STUDIES - 305

Unit VII: Directing

- Meaning, importance, and principles.
- Elements of Direction:
 - Supervision – meaning and importance
 - Motivation – meaning and importance, Maslow’s hierarchy of needs; Financial and non-financial incentives.
 - Leadership – meaning, importance; qualities of a good leader.
 - Communication – meaning and importance, formal and informal communication; barriers to effective communication.

Unit VIII: Controlling

- Meaning and importance.
- Relationship between planning and controlling.
- Steps in the process of control.
- Techniques of controlling.

Business Finance and Marketing

Unit IX: Business Finance

- Business finance – meaning, role, objectives of financial management.
- Financial planning – meaning and importance.
- Capital Structure – meaning and factors.
- Fixed and Working Capital – meaning and factors affecting their requirements.

Unit X: Financial Markets

- Concept of Financial Market: Money Market – nature instruments;
- Capital market: nature and types – primary and secondary market.
- The distinction between capital market and money market.
- Stock Exchange – meaning, functions, NSEI, OCTEI, Trading Procedure.
- Securities and Exchange Board of India (SEBI) – Objectives, Functions.

Unit XI: Marketing

- Marketing – meaning, functions, role.
- The distinction between marketing and selling.
- Marketing mix – concept and elements:
 - Product – nature, classification, branding, labeling, and packaging
 - Physical distribution: meaning, role; Channels of distribution, – meaning, types, factors, determining the choice of channels.
 - Promotion – meaning and role, promotion mix, Role of Advertising and personal selling; objections to Advertising.
 - Price: factors influencing pricing.

Unit XII: *Consumer Protection*

- Importance of consumer protection.
- Consumer rights.
- Consumer responsibilities.
- Ways and means of consumer protection – Consumer awareness and legal redressal with special reference to the Consumer Protection Act.
- Role of consumer organizations and NGOs.

Unit XIII: *Entrepreneurship Development*

- Concept, Functions, and Need.
- Entrepreneurship Characteristics and Competencies.
- Process of Entrepreneurship Development.
- Entrepreneurial Values, Attitudes, and Motivation – Meaning and Concept.

Political Science- **323**

Syllabus for Class 12

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

Political Science – 323

Politics in India since Independence

1. *The era of One-Party Dominance:* First three general elections, nature of Congress dominance at the national level, uneven dominance at the state level, coalitional nature of Congress. Major opposition parties.
2. *Nation-Building and Its Problems:* Nehru's approach to nation-building: Legacy of partition: the challenge of 'refugee' resettlement, the Kashmir problem. Organization and reorganization of states; Political conflicts over language.
3. *Politics of Planned Development:* Five- year plans, expansion of state sector, and the rise of new economic interests. Famine and suspension of five-year plans. Green revolution and its political fallouts.
4. *India's External Relations:* Nehru's foreign policy. Sino-Indian war of 1962, Indo-Pak war of 1965 and 1971. India's nuclear programme and shifting alliances in world politics.
5. *Challenge to and Restoration of Congress System:* Political succession after Nehru. Non-Congressism and electoral upset of 1967, Congress split and reconstitution, Congress' victory in 1971 elections, politics of 'garibi hatao'.
6. *Crisis of the Constitutional Order:* Search for 'committed' bureaucracy and judiciary. Navnirman movement in Gujarat and the Bihar movement. Emergency: context, constitutional and extra-constitutional dimensions, resistance to emergency. 1977 elections and the formation of the Janata Party. Rise of civil liberties organizations.
7. *Regional Aspirations and Conflicts:* Rise of regional parties. Punjab crisis and the anti-Sikh riots of 1984. The Kashmir situation. Challenges and responses in the North East.
8. *Rise of New Social Movements:* Farmers' movements, Women's movement, Environment, and Development-affected people's movements. Implementation of Mandal Commission report and its aftermath.
9. *Democratic Upsurge and Coalition Politics:* Participatory upsurge in the 1990s. Rise of the JD and the BJP. The increasing role of regional parties and coalition politics. UF and NDA governments. Elections 2004 and UPA government.
10. *Recent Issues and Challenges:* Challenge of and responses to globalization: new economic policy and its opposition. Rise of OBCs in North Indian politics. Dalit politics in the electoral and non-electoral arena. Challenge of communalism: Ayodhya dispute, Gujarat riots.

Contemporary World Politics

1. *Cold War Era in World Politics*: Emergence of two power blocs after the second world war. Arenas of the cold war. Challenges to Bipolarity: Non-Aligned Movement, the quest for new international economic order. India and the cold war.
2. *Disintegration of the 'Second World' and the Collapse of Bipolarity*: New entities in world politics: Russia, Balkan states, and, Central Asian states, Introduction of democratic politics and capitalism in post-communist regimes. India's relations with Russia and other post-communist countries.
3. *US Dominance in World Politics*: Growth of unilateralism: Afghanistan, first Gulf War, response to 9/11 and attack on Iraq. Dominance and challenge to the US in economy and ideology. India's renegotiation of its relationship with the USA.
4. *Alternative Centres of Economic and Political Power*: Rise of China as an economic power in post- Mao era, creation, and expansion of European Union, ASEAN. India's changing relations with China.
5. *South Asia in the Post-Cold War Era*: Democratisation and its reversals in Pakistan and Nepal. Ethnic conflict in Sri Lanka. Impact of economic globalization on the region. Conflicts and efforts for peace in South Asia. India's relations with its neighbours.
6. *International Organisations in a Unipolar World*: Restructuring and the future of the UN. India's position in the restructured UN. Rise of new international actors: new international economic organizations, NGOs. How democratic and accountable are the new institutions of global governance?
7. *Security in Contemporary World*: Traditional concerns of security and politics of disarmament. Non-traditional or human security: global poverty, health, and education. Issues of human rights and migration.
8. *Environment and Natural Resources in Global Politics*: Environment movement and evolution of global environmental norms. Conflicts over traditional and common property resources. Rights of indigenous people. India's stand-in global environmental debates.
9. *Globalisation and Its Critics*: Economic, cultural and political manifestations. Debates on the nature of consequences of globalization. Anti-globalization movements. India as an arena of globalization and struggles against it.

HISTORY

Syllabus for Class 12

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

HISTORY-314

Unit I: The Story of the First Cities Harappan Archaeology

Broad overview: Early urban centres.

Story of discovery: Harappan civilization.

Excerpt: Archaeological report on a major site. *Discussion:* how it has been utilized by archaeologists/historians.

Unit II: Political and Economic History: How Inscriptions tell a story

Broad overview: Political and economic history from the Mauryan to the Gupta period.

Story of discovery: Inscriptions and the decipherment of the script. Shifts in the understanding of political and economic history.

Excerpt: Asokan inscription and Gupta period land grant.

Discussion: Interpretation of inscriptions by historians.

Unit III: Social Histories using the Mahabharata

Broad overview: Issues in social history, including caste, class, kinship and gender.

Story of discovery: Transmission and publications of the Mahabharata.

Excerpt: From the Mahabharata, illustrating how it has been used by historians.

Unit IV: A History of Buddhism: Sanchi Stupa

Broad overview:

(a) A brief review of religious histories of Vedic religion, Jainism, Vaisnavism, Saivism.

(b) Focus on Buddhism.

Story of discovery: Sanchi stupa.

Excerpt: Reproduction of sculptures from Sanchi. *Discussion:* Ways in which sculpture has been interpreted by historians, other sources for reconstructing the history of Buddhism.

Unit V: Medieval society through Travellers' Accounts

Broad Overview: Outline of social and cultural life as they appear in travellers' accounts.

Story of their writings: A discussion of where they travelled, why they travelled, what they wrote, and for whom they wrote.

Excerpts: from Alberuni, Ibn Batuta, Bernier.

Discussion: What these travel accounts can tell us and how they have been interpreted by historians.

Unit VI: Religious Histories: The Bhakti-Sufi Tradition

Broad Overview:

(a) Outline of religious developments during this period.

(b) Ideas and practices of the Bhakti-Sufi saints.

Story of Transmission: How Bhakti-Sufi compositions have been preserved.

Excerpt: Extracts from selected Bhakti Sufi works.

Discussion: Ways in which these have been interpreted by historians.

HISTORY-314

Unit VII: New Architecture: Hampi

Broad Overview:

(a) Outline of new buildings during Vijayanagar period — temples, forts, irrigation facilities. (b) Relationship between architecture and the political system.

Story of Discovery: Account of how Hampi was found.

Excerpt: Visuals of buildings at Hampi.

Discussion: Ways in which historians have analysed and interpreted these structures.

Unit VIII: Agrarian Relations :The Ain-i- Akbari

Broad overview:

(a) Structure of agrarian relations in the 16th and 17th centuries.

(b) Patterns of change over the period.

Story of Discovery: Account of the compilation and translation of Ain-i-Akbari.

Excerpt: From the Ain-i-Akbari

Discussion: Ways in which historians have used the text to reconstruct history.

Unit IX: The Mughal Court: Reconstructing Histories through Chronicles

Broad Overview:

(a) Outline of political history c. 15th-17th centuries.

(b) Discussion of the Mughal court and politics.

Story of Discovery: Account of the production of court chronicles, and their subsequent translation and transmission.

Excerpts: from the *Akbarnama* and *Padshahnama*.

Discussion: Ways in which historians have used the texts to reconstruct political histories.

Unit X: Colonialism and Rural Society: Evidence from Official Reports

Broad overview:

(a) Life of zamindars, peasants and artisans in the late 18th century.

(b) East India Company, revenue settlements and surveys.

(c) Changes over the nineteenth century.

Story of official records: An account of why official investigations into rural societies were undertaken and the types of records and reports produced.

Excerpts: From Firminger's *Fifth Report*, Accounts of Francis Buchanan-Hamilton, and Deccan Riots Report.

Discussion: What the official records tell and do not tell, and how they have been used by historians.

Unit XI: Representations of 1857

Broad Overview:

(a) The events of 1857-58.

(b) How these events were recorded and narrated.

Focus: Lucknow.

Excerpts: Pictures of 1857. Extracts from contemporary accounts.

Discussion: How the pictures of 1857 shaped British opinion of what had happened.

HISTORY-314

Unit XII: Colonialism and Indian Towns: Town Plans and Municipal Reports

Broad Overview: The growth of Mumbai, Chennai, hill stations and cantonments in the 18th and 19th century.

Excerpts: Photographs and paintings. Plans of cities. Extract form town plan reports. Focus on Kolkata town planning.

Discussion: How the above sources can be used to reconstruct the history of towns. What these sources do not reveal.

Unit XIII: Mahatma Gandhi through Contemporary Eyes

Broad Overview:

- (a) The nationalist movement 1918-48,
- (b) The nature of Gandhian politics and leadership.

Focus: Mahatma Gandhi in 1931.

Excerpts: Reports from English and Indian language newspapers and other contemporary writings.

Discussion: How newspapers can be a source of history.

Unit XIV: Partition through Oral Sources

Broad Overview:

- (a) The history of the 1940s;
- (b) Nationalism, Communalism and Partition.

Focus: Punjab and Bengal.

Excerpts: Oral testimonies of those who experienced partition.

Discussion: Ways in which these have been analysed to reconstruct the history of the event.

Unit XV: The Making of the Constitution

Broad Overview:

- (a) Independence and the new nation state.
- (b) The making of the Constitution.

Focus: The Constitutional Assembly debates.

Excerpts: From the debates.

Discussion: What such debates reveal and how they can be analyzed.

SOCIOLOGY

SYLLABUS FOR CLASS 12

SOCIOLOGY-326

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

Unit I: Structure of Indian Society

- Introducing Indian Society: Colonialism, Nationalism, Class, and Community
- Demographic Structure
- Rural-Urban Linkages and Divisions

Unit II: Social Institutions: Continuity and Change

- Family and Kinship
- The Caste System
- Tribal Society
- The Market as a Social Institution

Unit III: Social Inequality and Exclusion

- Caste Prejudice, Scheduled Castes, and Other Backward Classes
- The marginalization of Tribal Communities
- The Struggle for Women's Equality
- The Protection of Religious Minorities
- Caring for the Differently Abled

Unit IV: The Challenges of Unity in Diversity

- Problems of Communalism, Regionalism, Casteism, and Patriarchy
- Role of the State in a Plural, and Unequal Society
- What We Share

Unit V: Process of Social Change in India

- Process of Structural Change: Colonialism, Industrialisation, Urbanisation
- Process of Cultural Change: Modernization, Westernisation, Sanskritisation, Secularisation
- Social Reform Movements and Laws

Unit VI: Social Change and the Polity

- The Constitution as an instrument of Social Change
- Parties, Pressure Groups, and Democratic Politics
- Panchayati Raj and the Challenges of Social Transformation

Unit VII: Social Change and the Economy

- Land Reforms, the Green Revolution, and Agrarian Society
- From Planned Industrialisation to Liberalisation
- Changes in the Class Structure

Unit VIII: Arenas of Social Change

- Media and Social Change
- Globalization and Social Change

SOCIOLOGY -326

Unit IX: *New Arenas of Social Change*

- Media and Social Change
- Globalization and Social Change

Unity X: *Social Movements*

- Class-Based Movements: Workers, Peasants
- Caste-Based Movements: Dalit Movement, Backward Castes, Trends in Upper Caste Responses
- Women's Movements in Independent India
- Tribal Movements
- Environmental Movements

LEGAL STUDIES-317

LEGAL STUDIES
SYLLABUS FOR CLASS 12

LEGAL STUDIES-317

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

PART	UNIT	
I	Judiciary	i. Structure and Hierarchy of Courts and Legal Offices in India ii. Constitution, Roles and Impartiality iii. Appointments, Trainings, Retirement and Removal of Judges iv. Courts and Judicial Review
II	Topics of Law	i. Law of Property ii. Law of Contracts iii. Law of Torts iv. Introduction to Criminal Laws in India
III	Arbitration, Tribunal Adjunction, and Alternative Dispute Resolution	i. Adversarial and Inquisitorial Systems ii. Introduction to Alternative Dispute Resolution iii. Types of ADR iv. Arbitration, Administrative, Tribunals v. Mediation and Conciliation vi. Lok Adalats vii. Ombudsman viii. Lokpal and Lokayukta
IV	Human Rights in India	i. Introduction – International Context ii. Constitutional framework and Related laws in India iii. Complaint Mechanisms of Quasi-judicial Bodies
V	Legal Profession in India	Introduction The Advocates Act, 1961, The Bar Council of India, Lawyers and Professional Ethics, Advertising by Lawyers, Opportunities for Law graduates, Legal Education in India, Liberalization of the Legal Profession, Women and the Legal Profession in India
VI	Legal Services	i. Legal background – Free Legal Aid under Criminal law, Legal Aid by the State, Legal Aid under the Indian Constitution, NALSARegulations, 2010 ii. Criteria for giving free Legal Services iii. Lok Adalats iv. Legal Aid in Context of Social Justice and Human Rights

LEGAL STUDIES-317

VII	International Context	<p>i. Introduction to International Law</p> <p>ii. Sources of International Law – Treaties, Customs and ICJ Decisions</p> <p>iii. International Institutions, International Human Rights</p> <p>iv. Customary International Law</p> <p>v. International law & Municipal Law</p> <p>vi. International Law & India</p> <p>vii. Dispute Resolution – ICJ, ICC and Other Dispute Resolution Mechanisms</p>
VIII	Legal Maxims	<p>Important Legal Maxims.</p> <p>Meaning with illustrations of the following:</p> <ul style="list-style-type: none"> - <i>Actus non facit reum nisi mens sit rea</i> - <i>Ad valorem</i> - <i>Amicus Curiae</i> - <i>Audi alterem partem</i> - <i>Assentio Mentium</i> - <i>Bona fide</i> - <i>Bona Vacantia</i> - <i>Caveat Emptor</i> - <i>Corpus Delicto</i> - <i>Damnum Sine Injuria</i> - <i>De Die in Diem</i> - <i>De Minimis Lex Non Curat</i> - <i>Doli Incapax</i> - <i>Ejusdem Generis</i> - <i>Ex Post Facto</i> - <i>Ignorantia Facti Excusat – Ignorantia Juris Non Excusat</i> - <i>Injuria Sine Damnum</i> - <i>Locus Standi</i> - <i>Nemo Debet Esse Judex in Propria Sua Causa</i> - <i>Nemo debet non quod habit</i> - <i>Noscitur a Sociis</i> - <i>Obiter Dicta</i> - <i>Pari Materia</i> - <i>Per Incuriam</i> - <i>Qui Facit Per Alium, Facit Per Se</i> - <i>Quid pro quo</i> - <i>Ratio Decidendi</i> - <i>Res ipsa loquitur</i> - <i>Res Judicata Accipitur Pro Veritate</i> - <i>Salus Populi Est Suprema Lex</i> - <i>Stare Decisis</i> - <i>Ubi Jus Ibi Remedium</i>

GEOGRAPHY/GEOLOGY
SYLLABUS FOR CLASS 12

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

GEOGRAPHY/GEOLOGY-313

Fundamentals of Human Geography

Unit I: Human Geography: Nature and Scope

Unit II: People

- Population of the world – distribution, density and growth;
- Population change-spatial patterns and structure; determinants of population change;
- Age-sex ratio; rural-urban composition;
- Human development – concept; selected indicators, international comparisons.

Unit III: Human Activities

- Primary activities – concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agriculture and allied activities – some examples from selected countries;
- Secondary activities – concept; manufacturing: agro-processing, household, small scale, large scale; people engaged in secondary activities – some examples from selected countries;
- Tertiary activities – concept; trade, transport and communication; services; people engaged in tertiary activities – some examples from selected countries;
- Quaternary activities – concept; knowledge based industries; people engaged in quaternary activities – some examples from selected countries.

Unit IV: Transport, Communication and Trade

- Land transport – roads, railways – rail network; trans-continental railways;
- Water transport- inland waterways; major ocean routes;
- Air transport – Intercontinental air routes;
- Oil and gas pipelines;
- Satellite communication and cyber space;
- International trade – Basis and changing patterns; ports as gateways of international trade, role of WTO in International trade.

Unit V: Human Settlements

- Settlement types – rural and urban; morphology of cities (case study); distribution of megacities; problems of human settlements in developing countries.

GEOGRAPHY/GEOLOGY-313

India: People and Economy

Unit I: *People*

- Population: distribution, density and growth; composition of population - linguistic, religious; sex, rural-urban and occupational - regional variations in growth of population ;
- Migration: international, national – causes and consequences;
- Human development – selected indicators and regional patterns;
- Population, environment and development.

Unit II: *Human Settlements*

- Rural settlements – types and distribution;
- Urban settlements – types, distribution and functional classification.

Unit III: *Resources and Development* (Periods 30)

- Land resources – general land use; agricultural land use – major crops; agricultural development and problems, common property resources;
- Water resources – availability and utilization – irrigation, domestic, industrial and other uses; scarcity of water and conservation methods – rain water harvesting and watershed management (one case study related with participatory watershed management to be introduced) ;
- Mineral and energy resources – metallic and non-metallic minerals and their distribution; conventional and non-conventional energy sources;
- Industries – types and distribution; industrial location and clustering; changing pattern of selected industries – iron and steel, cotton textiles, sugar, petrochemicals, and knowledge based industries; impact of liberalisation, privatisation and globalisation on industrial location;
- Planning in India – target area planning (case study); idea of sustainable development (case study).

Unit IV: *Transport, Communication and International Trade*

- Transport and communication — roads, railways, waterways and airways; oil and gas pipelines; national electric grids; communication networkings – radio, television, satellite and internet;
- International trade — changing pattern of India's foreign trade; sea ports and their hinterland and airports.

Unit V: *Geographical Perspective on Selected Issues and Problems*

- Environmental pollution; urban-waste disposal;
- Urbanisation-rural-urban migration; problem of slums;
- Land Degradation.

AGRICULTURE

(302)

Syllabus for Class 12

AGRICULTURE (302)

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

Unit-1: Agrometeorology, Genetics and Plant Breeding, Biochemistry and Microbiology

Agrometeorology: Elements of Weather-rainfall, temperature, humidity, wind velocity, Sunshine weather forecasting, climate change in relation to crop production.

Genetics & Plant Breeding :

- (a) Cell and its structure, cell division-mitosis and meiosis and their significance
- (b) Organisation of the genetic materials in chromosomes, DNA and RNA (c) Mendel's laws of inheritance. Reasons for the success of Mendel in his experiments, Absence of linkage in Mendel's experiments. (d) Quantitative inheritance, continuous and discontinuous variation in plants. (e) Monogenic and polygenic inheritance. (f) Role of Genetics in Plant breeding, self and cross-pollinated crops, methods of breeding in field crops-introduction, selection, hybridization, mutation and polyploidy, tissue and cell culture. (g) Plant Biotechnology-definition and scope in crop production.

Biochemistry: pH and buffers, Classification and nomenclature of carbohydrates; proteins; lipids; vitamins and enzymes.

Microbiology: Microbial cell structure, Micro-organisms- Algae, Bacteria, Fungi, Actinomycetes, Protozoa and Viruses. Role of micro-organisms in respiration, fermentation and organic matter decomposition

Unit-2: Livestock Production

Scope and importance : (a) Importance of livestock in agriculture and industry, White revolution in India. (b) Important breeds Indian and exotic, distribution of cows, buffaloes and poultry in India.

Care and management : (a) Systems of cattle and poultry housing (b) Principles of feeding, feeding practices.

Balanced ration-definition and ingredients. (d) Management of calves, bullocks, pregnant and milch animals as well as chicks, cockrels and layers, poultry. (e) Signs of sick animals, symptoms of common diseases in cattle and poultry, Rinderpest, black quarter, foot and mouth, mastitis and haemorrhagic septicaemia, coccidiosis, Fowl pox and Ranikhet disease, their prevention and control.

Artificial Insemination : Reproductive organs, collection, dilution and preservation of semen and artificial insemination, **role of artificial insemination in cattle improvement. Livestock Products:** Processing and marketing of milk and Milk products.

AGRICULTURE (302)

Unit-3: Crop Production

Introduction : (a) Targets and achievements in foodgrain production in India since independence and its future projections, sustainable crop production, commercialization of agriculture and its scope in India. (b) Classification of field crops based on their utility-cereals, pulses, oils seeds, fibre, sugar and forage crops.

Soil, Soil fertility, Fertilizers and Manures: (a) Soil, soil pH, Soil texture, soil structure, soil organisms, soil tilth, soil fertility and soil health. (b) Essential plant nutrients, their functions and deficiency symptoms. (c) Soil types of India and their characteristics. (d) Organic manure, common fertilizers including straight, complex, fertilizer mixtures and biofertilizers; integrated nutrient management system.

Irrigation and Drainage: (a) Sources of irrigation (rain, canals, tanks, rivers, wells, tubewells). (b) Scheduling of irrigation based on critical stages of growth, time interval, soil moisture content and weather parameters. (c) Water requirement of crops. (d) Methods of irrigation and drainage. (e) Watershed management

Weed Control : Principles of weed control, methods of weed control (cultural, mechanical, chemical, biological and Integrated weed management).

Crops: Seed bed preparation, seed treatment, time and method of sowing/planting, seed rate; dose, method and time of fertilizer application, irrigation, interculture and weed control; common pests and diseases, caused by bacteria, fungi virus and nematode and their control, integrated pest management, harvesting, threshing, post harvest technology: storage, processing and marketing of major field crops-Rice, wheat, maize, sorghum, pearl millet, groundnut, mustard, pigeon-pea, gram, sugarcane, cotton and berseem.

Unit-4: Horticulture

- (a) Importance of fruits and vegetables in human diet, Crop diversification & processing Industry. (b) Orchard- location and layout, ornamental gardening and kitchen garden. (c) Planting system, training, pruning, intercropping, protection *from frost* and sunburn. (d) Trees, shrubs, climbers, annuals, perennials-definition and examples. Propagation by seed, cutting, budding, layering and grafting. (e) Cultivation practices, processing and marketing of: (i) Fruits - mango, papaya, banana, guava, citrus, grapes. (ii) Vegetables - Radish, carrot, potato, onion, cauliflower, brinjal, tomato, spinach and cabbage. (iii) Flowers - Gladiolus, canna, chrysanthemums, roses and marigold. (f) Principles and methods of fruit and vegetable preservation. (g) Preparation of jellies, jams, ketchup, chips and their packing.

ENVIRONMENTAL STUDIES - 307

SYLLABUS FOR CLASS 12

ENVIRONMENTAL STUDIES-307

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

1. Human Beings and Nature

- (i) Modern schools of ecological thought.
- (ii) Deep ecology (Gary Snyder, Earth First) vs. shallow ecology.
- (iii) Stewardship of land (e.g. Wendell Berry).
- (iv) Social ecology [Marxist environmentalism and socialist ecology (Barry Commoner)].
- (v) Feminism.
- (vi) Green Politics (e.g. Germany and England).
- (vii) Sustainable Development.

Modern schools of ecological thought; definition and basic understanding of Deep Ecology as opposed to Shallow Ecology; Stewardship, Social Ecology - Marxist environmentalism and Socialist Ecology, Eco feminism, Green political movements of Germany and England and Sustainable Development (basic concepts).

World Wide Fund for Nature – organisation, mission, strategy for conservation.

Greenpeace – organisation, mission statement, core values, objectives and strategy.

2. Population and Conservation Ecology

- (i) Population dynamics: factors causing population change (birth, death, immigration and emigration); relation between the factors; age structure and its significance; population pyramids; survivorship curves; three general shapes r and K strategies.

Factors causing population change (birth, death, immigration and emigration); relation between the factors; Age structure and its significance; Population Pyramids –interpretation and implications. Rate of change of population – the three general shapes of Survivorship Curves, r and K strategies and differences between the two.

- (ii) Human populations (Malthusian model and demographic transition).

Definition of Carrying Capacity; Malthusian view: concept of ‘over-population’ and shortage of resources; Questioning Malthus. Population Growth vs. Disparate Consumption of resources within and amongst nations. Definition and understanding of Demographic Transition; Factors influencing demographic transition.

Population Regulation: growth without regulation (exponential); simple population regulation (logistic growth curve); factors regulating population size (space, food and water, territories, predators, weather and climate, parasite and diseases, disasters and self-regulation). Basic understanding of the Exponential growth curve (J – shaped) and Logistic growth curve (S - shaped); Factors regulating population size (space, food and water, territories, predators, weather and climate, parasite and diseases, disasters and self-regulation).

ENVIRONMENTAL STUDIES-307

Human population control: family planning; education; economic growth; status of women.

Strategies for human population control with emphasis on women's empowerment. (Details of methods of family planning not required.)

- (iii) Threats to the ecosystem: habitat destruction; genetic erosion; loss of diversity; expanding agriculture; impound water; waste from human societies; increasing human consumption.

Only a brief understanding of the causes and consequences of threats to provisioning and regulatory functions of the ecosystem with suitable examples.

- (iv) Conservation: importance; the critical state of Indian forests; conflicts surrounding forested areas - populations and tribals and their rights
- tourism - poaching - roads - development projects - dams; scientific forestry and its limitations; social forestry; the role of the forest department; NGOs; joint forestry management; wild life - sanctuaries, conservation and management in India; Project Tiger as a case study in conservation.

Definition of: Conservation, in situ and ex situ conservation. Importance of Conservation.

In-situ conservation: Wildlife sanctuaries, National parks, Biosphere reserves (definition, objectives, features, advantages and disadvantages).

Ex-situ conservation: zoos, aquaria, plant collection (objectives, features, advantages and disadvantages).

Conflicts in managing and conserving Forests: India's forest cover, issues concerning people living in and around forests with particular reference to tribal rights; threats to forests: poaching, developmental projects like roads and dams, over exploitation of forest resources (direct and indirect).

The role of the forest department and NGOs in managing forests.

Some management measures: scientific forestry, social forestry (various types of social forestry), Joint Forestry Management (JFM), ecotourism.

Definition, scope, advantages and disadvantages of each of the above.

Project Tiger as a case study in conservation: Origin, aims, and objectives, successes, failures.

3. Monitoring Pollution

- (i) Pollution monitoring.

Primary and secondary pollutants. Importance of monitoring air pollution including Ambient Air Quality Monitoring (gaseous and particulate). Concept of carbon credits and carbon trading in regulating emissions. Causes for excessive vehicular pollution and various steps taken to regulate pollution-emission standards for new vehicles, implementation of CNG programme, inspection & maintenance programme for in-use vehicles, phasing out of old commercial vehicles and promotion of public transport.

ENVIRONMENTAL STUDIES-307

(ii) Monitoring the atmosphere: techniques.

Monitoring at emission source and of ambient air quality, criteria for monitoring stations, types of stations, number of stations, frequency of data collection, characteristics of ambient air sampling, basic consideration for sampling (to be dealt with in brief). Classification of techniques- manual and instrumental. Manual- Passive samplers, High Volume Samplers and Bubbler Systems. Instrumental- photometric techniques- NDIR, Chemiluminescence - principle and use.

(iii) International and national air quality standards.

National Ambient Air Quality Monitoring (NAAQM); the main functions of the Central Pollution Board and the State Pollution Control Board, objectives of air quality standards, New name of NAAQM, National Air Monitoring Programme (NAMP) objectives of the NAMP.

Definition of air quality standards and importance; National air quality standards for gases/particulate matter covered under WHO guidelines.

(iv) Water testing: indicators of water quality.

Indicators (electrical conductivity, turbidity, pH, dissolved oxygen, faecal waste, temperature, hardness, nitrates and sulphates) the significance of each and their interpretations. B.O.D. and C.O.D., theoretical concept only (lab work for better understanding and not for testing)

(v) Soil testing: indicators of soil type and quality and laboratory work.

Soil indicators- the characteristics of a good soil indicator, the three basic types of soil indicators- biological, physical and chemical, two examples of each. The information provided by each of these types of indicators. Definitions, effects and experiments to find out soil respiration, soil pH, soil aggregate, infiltration rate and simple methods of controlling each of these.

4. Third World Development

(i) Urban-rural divide: urbanisation - push and pull factors; consequences on rural and urban sectors; future trends and projections.

Causes of migration - push and pull factors, consequences on rural and urban areas and ways to reduce migration. Future trends and projections.

(ii) A critical appraisal of conventional paradigm of development from the viewpoints of sustainability, environmental impact and equity.

Definition of Development.

An understanding that development has become synonymous with growth. This approach has the following impacts on the environment: (a) Ignoring negative environmental impacts; (b) Changing patterns of resource use due to market pressures;

(c) Overuse and exploitation of resources;

(d) Diversion of scarce resources to luxury goods; (e) Disparate access to resources;

(f) Increasing wastes and pollution.

The above to be explained with suitable examples.

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(iii) A case study of Gandhian approach in terms of its aims and processes.

Local self-governance – basic principles behind village policy, Antoday, Sarvoday, Panchayati Raj; local self-sufficiency, local markets and environmental sustainability. Village as the basis of development; promotion of cottage industries and

intermediate technologies;

focus on employment.

The above to be contrasted with today's paradigm of growth.

(iv) Urban environmental planning and management: problems of sanitation; water management; transport; energy; air quality; housing; constraints (economic, political) in tackling the problems; inapplicability of solutions that have worked in the First World and the need for indigenous approach to urban environment.

A basic understanding of the following urban environmental problems: problems of sanitation, water management, transport, energy; air quality and housing.

Awareness of some indigenous solutions: Rainwater harvesting, garbage segregation, composting, energy from solid and liquid wastes, sewage management (dry toilets, Decentralized Water Management System (DEWATS)

Features of new urbanism, goals of smart growth. The following examples of urban planning and management from the third world to be studied:

- Bogota – Bolivia (Traffic Management);
- Cuba (Urban agriculture using organic methods);
- Curitiba – Brazil (Traffic planning and urban renewal using innovative measures);
- Cochabamba – (Water management and protests against privatisation of water supply).

5. Sustainable Agriculture

(i) Traditional Agriculture in India: irrigation systems; crop varieties; techniques for maintaining soil fertility; impact of colonialism; Indian agriculture at independence - food scarcity - food import - need for increasing production - the need for land reform; green revolution - HYVs - fertilizers - pesticides - large irrigation projects (dams); critical appraisal of the green revolution from the viewpoints of agro-bio diversity; soil health; ecological impact of pesticides; energy (petroleum and petrochemicals); ability to reach the poorer sections of the rural communities; sustainability - need for sustainable agriculture - characteristics for sustainable agriculture; techniques of water soil and pest management.

Definition of the following terms: traditional agriculture, natural farming, organic agriculture, modern agriculture (use of hybrid seeds, high yielding varieties, chemical fertilizers and pesticides), gene revolution (genetically modified seeds) and sustainable agriculture.

Irrigation systems:

Macro vs micro irrigation systems - canal irrigation/dam as compared to sprinkler/ drip/ trickle drip/dug wells. Basic features, advantages and disadvantages of each kind. Traditional rainwater harvesting- tankas, khadins, ahar, pyne, zings, johads and eris (suitability of each type in the particular region).

Features of pre-colonial agriculture in India: growing for sustenance rather than market; multi-cropping,

ENVIRONMENTAL STUDIES-307

management of soil health, diversity in seed.

Colonial influence: punitive taxation, commercial crops for export and British industry, devaluation of sustainable traditional practices. Bengal famine. Comparative study of pre-colonial, colonial and post-colonial agriculture and their impact.

Green Revolution: Origin (food scarcity - food import - need for increasing production).

Basic principles of Green Revolution- Development of High Yielding Varieties (HYV); introduction of fertilizers and pesticides; mono cropping.

Environmental, social and economic impacts -advantages and disadvantages (from the viewpoints of agro-bio diversity; soil health; ecological impact of pesticides; energy use; input costs; benefits to small and medium farmers, community level and household level food security).

Land reform – need, advantages, failures and successes.

Elements of sustainable agriculture: Mixed farming, mixed cropping, inter-cropping, crop rotation, use of sustainable practices of water soil and pest management for improving soil fertility (organic fertilizers, bio-fertilizers, green manure, with two examples) and pest control (bio pesticides). Integrated Pest Management (IPM); eating local foods

Management of agricultural produce: Storage; Food preservation-different methods like use of low temperatures, high temperatures, drying, canning, preservation by salt and sugar. Transportation of Food.

Food processing - Definition, food preservation, packaging, grading.

Food adulteration and Food additives-definitions; types of adulteration, harmful effects of adulteration.

Quality Marks - ISI (Indian Standard Institute); AGMARK (Agricultural Marketing); FPO(Fruit Product Order) – a brief explanation only.

(ii) Food: the twin problems of production and access; food situation in the world; integrated and sustainable approach to food security for the Third World. Food Security.

Meaning of Food Security, need for food security. The problems in attaining food security - those of production, storage and access. Integrated and sustainable approach to food security for the Third World including working for environmental sustainability and social and economic sustainability through land reform, credit support to farmers, market support to farmers, inadequacies in the present marketing system, ways to improve marketing system, improving access to food, ownership of seeds.

An understanding that national level food security may not translate into household and community level food security or long term environmental sustainability unless the above factors are addressed. Main features of the Food Security Law 2013.

6. Environmental and Natural Resource Economics

(i) Definition: resources; scarcity and growth; natural resource accounting.

Classification of natural resources - on the basis of origin (abiotic and biotic), on the basis of renewability (renewable and non-renewable), on the basis of development (potential and actual), on the basis of distribution (ubiquitous and localized); scarcity and growth, natural resource accounting.

Classification of resources as renewable and non-renewable.

Definition, basic principles, advantages and disadvantages of Physical accounting.

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(ii) GNP vs. other forms of measuring income. GDP, GNP – definitions, advantages and disadvantages of using them as tools for measuring growth.

(iii) Economic status and welfare (net economic welfare, nature capital, ecological capital, etc.)

A broad overview of the purpose of environmental economics.

Definition and classification: Defensive expenditure (its classification); natural/ ecological capital.

(iv) Externalities: cost benefit analysis (social, ecological).

Externalities – definition, kinds (positive and negative), impacts.

Cost Benefit analysis - Definition, the process in brief, advantages and disadvantages.

EPR (Extended Producer Responsibility) -definition, examples, advantages.

(v) Natural capital regeneration.

What is natural capital? Kinds of natural capital; classification of ecosystem services, causes of degradation (acid deposition, air pollution, deforestation, loss of biodiversity and emission of carbon dioxide), ecological footprint and man's disproportionate use of natural resources, importance of preserving and regenerating natural capital.

7. International Relations and the Environment

(i) Trans-national characteristics of environmental issues using case study of Amazonia, Trade in Wild Life and Ozone Depletion.

Case study of Amazonia - causes for exploitation of forests, reasons for acceleration of deforestation, effects of government policies, ecological value of rainforests and possible solutions to the problem.

Case study of ivory trade in Africa - reasons for flourishing trade of ivory in the past, steps taken to curb the trade and the consequences of ban in trade.

Case study of ozone depletion - what is meant by ozone layer and how does it get depleted, (Chapman's cycle), potential effects of ozone depletion, common ozone depleting substances (halons, carbon tetrachloride, CFCs, methyl chloroform, methyl bromide and HCFCs) and their life span in the atmosphere; Ozone hole; steps taken to control ozone depletion.

(ii) Impact of international politics, national sovereignty and interest.

(iii) International trade: a theoretical perspective; free trade vs. protectionism; import barriers; domestic industry vs. free trade; transnational companies - a historical perspective (colonialism and its lasting impact today); trade between the first and the third world - characteristics - terms of trade; India's international trade - characteristics - major imports and exports - foreign exchange crises

- the export imperative and its impact on the environment; the case study of aquaculture in India; diversion of scarce resource from production of subsistence needs to commercial products; toxic waste trade - extent and impact; Globalisation - trade regimes (WTO, GATT, IPR) and their impact on third world.

Definition, advantages and disadvantages of globalization, free trade, protectionism.

Transnational Companies (TNCs) – definition; TNCs and environment – conflict of interest.

History of third world countries' trade with the developed countries (with special reference to India) with regards to composition and terms of trade (export of primary goods and import of finished goods at higher cost tapping of primary goods leading to environment degradation- open cast mining, agriculture, aquaculture, etc.).

Case study of aquaculture in India to understand the impact of free trade.

ENVIRONMENTAL STUDIES-307

Economic allocation of scarce resources and its impact on environment.

Toxic waste trade – definition, origin, factors sustaining, impact on third world countries(example – health and environmental impacts)and steps to mitigate it (Bamako and Basel Conventions).

GATT – the organization and its metamorphosis into WTO.

Principles and functions of WTO: creating a level playing field for international trade through MFN (Most Favoured Nation), NT(National Treatment) and reduction of import barriers - tariff and non tariff barriers and trading to comparative advantages.

Full forms of and areas addressed in the WTOGATT, TRIPS, TRIMS, Agreement on Agriculture (AOA). A brief understanding of how these agreements impacted India's trade, food security, economic well-being, environmental sustainability.

Definition of IPR and its categories: copyrights, patents, trademarks, industrial design rights, geographical indicators and trade secrets.

A brief understanding of each of the above categories.

(iv) International aid: agencies; advantages; limitations; need for re-orienting aid; aid vs. self-reliance.

International aid – advantages and disadvantages; Types of Aid: Tied and Untied Aid - advantages and limitations of each.

MASS MEDIA AND COMMUNICATION
SYLLABUS FOR CLASS 12

MASS MEDIA AND COMMUNICATION-318

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

1. Communication

(i) Culture and Communication

What is culture? Relationship between culture and mass media; communication in the cultural context; media as vehicle of cultural transmission; representation and stereotyping in Mass Media.

(ii) Communication and Social Change

Social change: meaning; media as a catalyst for social change (with examples of various social movements).

2. Journalism

(i) Qualities of a good Journalist.

An understanding of the following: nose for News, inquisitiveness, language skills, trustworthy and empathy.

(ii) Ethical Issues in Journalism.

A brief understanding of each of the following with examples: sensationalism, fake news, paid news, plagiarism, advertorials, partisan reporting and sting operations.

3. TV

A. Advertising

- (i) Advertising concepts & process,
- (ii) Functions of Advertising,
- (iii) Types of Advertising (Cross promotions, Merchandise, Convert Advertising),
- (iv) Forms of Advertising

B. Film

- (i) Pre-Shooting stage.
- (ii) Shooting Stage.
- (iii) Post-Shooting Stage.

4. Radio

(i) Writing for Radio

Characteristics of a Radio Script: conversational language, active voice, simple sentences, avoidance of technical jargons and capability of creating imageries.

(ii) Recording Radio Programmes

Brief understanding of the radio studio and transmission equipment: types of microphones; amplifier, sound mixer, speakers; audio recording.

(iii) Radio Jockeying

Role of a radio jockey; skills required: command on language (spoken and written), connectedness with the audience; knowledge about the recording equipment.

5. Cinema

(i) History of Cinema

A brief understanding of the early experiments done by the following: Lumiere Brothers, John Grierson, Robert Flaharty and Dada Saheb Phalke.

(ii) Cinema Genres.

Defining genre theory; an understanding of the various types of genres (with suitable examples): action, westerns, comedy, crime, drama, fantasy/sci-fi, historical, animation, romance and musical.

(iii) Cinema and Social Change.

Parallel Cinema movement in India: Issues depicted and low budget production process (with reference to examples such as Shyam Benegal's Manthan).

6. Social Media

(i) Definition of social media.

(ii) Types of social media platforms.

Self-explanatory.

(iii) Role of social media in democracy.

Role of social media in creating collective identities with reference to sharing of information; cyber activism (with suitable examples)

(iv) Cyber Crime.

A understanding of online bullying; stalking; trolling; online frauds.

MASS MEDIA AND COMMUNICATION - 318

(v) Netiquettes.

Meaning and importance of netiquettes; an understanding of netiquettes such as: identification of oneself; respect for others' privacy, use of appropriate language and imagery; do not spam.

7. New Media

- (i) Internet as the meeting point of all the mass media.
- (ii) Broadcasting
- (iii) Mass communication model of a few transmitting to a vast number of receivers.
- (iv) Gigantic organization.
- (v) Huge technical infra-structure
- (vi) Large scale revenue.
- (vii) The changed paradigm due to the Internet.
- (viii) Empowering an individual to post data on the Internet.
- (ix) Information, message in one medium triggering off activity in the others.
- (x) Many sources of the same information.
- (xi) Distribution of the information between individuals on an unprecedented global scale.
- (xii) Rapidity of opinion generation on a local, national and global scale.
- (xiii) The socio-political implications of the new information order.
- (xiv) The Strengthening of democracy.
- (xv) Emerging trends in Mass Communication

SYLLABUS OF
Teaching Aptitude (327)

Teaching Aptitude

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

Unit No.	Details
1	Two narratives/ newspaper reports about schools/teachers/ children/ Questions on data/information/analysis/issues Such as Gender, school access, teacher's work, scores
2.	Based on popular films on education, books, documentaries showing the struggles of girls', tribals' and Dalits'
3.	Science (i) Based on observation of natural phenomenon (ii) famous Indian Scientists, women scientists, (iii) Current information such as COVID, technology and programs in science
4.	Mathematics (i) Based on sense of proportion, perspective, abilities that mathematics gives (ii) Famous mathematicians, women mathematicians (iii) Difficulties that children face while learning Mathematics
5.	Arts, Music and Drama (Performing and Visual Arts) (i) Academies of art teaching (ii) Benefits of practising art forms (iii) Indian art and music traditions
6.	Social Sciences (i) Based on difficulties that children face in social sciences (ii) Details of subjects being taught (iii) Nobel and other award winners for creating knowledge such as in economics or other fields. (iv) Teachers in history: Buddha, Jain, construction of teachers in Upanishads.
7.	Language and Literature (i) Based on famous stories, novels, poems that have reference to school/education/learning and are in NCERT syllabus from 6 th to 12 th (ii) Biographies/autobiographies of famous women/tribals/Dalits who have described their school experiences, teachers or a class. (iii) Difficulties that children face while learning poems or grammar.

FINE ARTS (312)
(Painting, Sculpture,
Graphics and Commerical
Arts)
Syllabus of Class 12

FINE ARTS -312

Note:

There will be one Question Paper which will have 50 questions out of which 40 questions need to be attempted.

FINE ARTS (312)

PAINTING

Unit 1: The Rajasthani and Pahari Schools of Miniature Painting

Unit 2: The Mughal and Deccan schools of miniature painting

Unit 3: The Bengal School and Cultural Nationalism

Unit 4: The Modern trends In Indian Art

Unit 1: The Rajasthani and Pahari Schools of Miniature Painting (16th Century A.D to 19th Century A.D.)

Introduction to Indian Miniature Schools: Western-Indian, Pala, Rajasthani, Mughal, Central India, Deccan, and Pahari.

(A) *The Rajasthani Schools*

1. Origin and development of the following schools in brief:

Mewar, Bundi, Bikaner, Kishangarh, and Jaipur, and the main features of the Rajasthani schools.

2. Study of the following Rajasthani paintings:

Title / Set/ Painter	School
• A Folio from Ramayana paintings of Sahibdin	Mewar
• One Court scene or Hunting scene or Festival scene	Mewar Jagat Singh II
• One Folio from Ragamala or Rasikapriya	Bundi
• One painting of a Hunting Scene in a Forest Maharaja	Kotah with Kotah
• Radha (Bani-Thani) by Nihal Chand	Kishangarh
• Pabuji Ki Phad, Folk Scroll painting	Bhilwara
• Maru-Ragini	Mewar
• Raja Aniruddha Singh Hara	Bundi
• Chaugan Players	Jodhpur

FINE ARTS -312

- Krishna on swing Bikaner
- Radha (Bani- Thani) Kishangarh
- Bharat Meets Rama at Chitrakuta Jaipur

(B) The Pahari Schools:

1. Origin and development of Basohli, Guler, and Kangra schools in brief and main features of the Pahari schools
2. Study of the following Pahari Paintings:

Title / Set/ Painter	School
• One Folio of Ramayana (Sangri – Early Phase)	Basohli
• One Folio of Gita Govinda of Jaideva by Manaku	Guler
• One Krishna Lila or Bhagavata Purana Sukh	Kangra Folio by Nain
• One painting from Nayaka Nayika Baramasa or Ragamala	Guler or Kangra or
• Krishna with Gopis	Basohli
• Nand, Yashoda and Krishna with Kinsmen Going to Vrindavana	Kangra

Unit 2: The Mughal and Deccani Schools of miniature painting (16th Century A.D. to 19th Century A.D.)

1. The Mughal School

1. Origin and development of the Mughal school in brief and main features of the Mughal School

2. Study of the following Mughal Paintings:

Title	Painter	School
• A Folio from Akbar Namah	Basawan	Akbar
• Baber Crossing the river Sone	Jagannath	Akbar
• Krishna Lifting Mount Govardhana	Miskin	Akbar
• Birth of Salim	Ramdas	Akbar
• Jahangir holding the picture	Abul Hassan	Jahangir
• Falcon on Bird-Rest	Ustad Mansoor	Jahangir

FINE ARTS -312

2. The Deccani School

1. Origin and development of the Deccani school and Main features of the Deccan School.

2. Study of the following Deccani Paintings:

- | | |
|---|------------|
| a. Ibrahim AdilShah II of Bijapur | Bijapur |
| b. Raga Hindola | Ahmednagar |
| c. Ragini Pat-hamsika | Ahmednagar |
| d. Hazart Nizamuddin Auliya and Amir Khusro | Hyderabad |
| e. Chand Bibi Playing Polo (Chaugan) | Golconda |

Unit 3: The Bengal School and Cultural Nationalism

- New Era in Indian art-an introduction

• Study of the following paintings:

- | | |
|---|-------------------------|
| (i) Rama Vanquishing the pride of the ocean | Raja Ravi Verma |
| (ii) Journey's End | Abanindranath Tagore |
| (iii) Parthasarthi | Nandlal Bose |
| (ii) Ghalib's Poetry Painting based on | M.A.R. Chughtai |
| (iii) Select a cubistic painting | Gaganendranath Tagore |
| (iv) Mother and child | Jamini Roy |
| (v) Female Face | Rabindranath Tagore |
| (vi) Hill Women | Amrita Sher Gill |
| (vii) Shiv and Sati | Nandlal Bose |
| (viii) Rasa-Lila | Kshitindranath Majumdar |
| (ix) Radhika | M.A.R. Chughtai |
| (vii) Meghdoot | Ram Gopal Vijaivargiya |

- National flag and the Symbolic significance of its forms and the colours.
- Contribution of Indian artists in the struggle for National Freedom Movement
- Tiller of the Soil-Nandlal Bose.

Unit 4: The Modern trends In Indian Art Introduction

S.No	Painting	Artist/Painter
i.	Mother Teresa	M.F. Hussain
ii.	Birth of Poetry	K.K. Hebbar
iii.	Gossip	N.S. Bendre

FINE ARTS -312

iv.	Tantric Painting	G.R. Santosh
v.	Words and images	K.C.S. Pannikar
vi.	Rama Vanquishing the Pride of the Ocean	Raja Ravi Varma
vii.	Mother and child	Jamini Roy
viii.	Haldi Grinders	Amrita Sher Gil
ix.	Mother Teresa	M.F. Husain
x.	The Vulture	Kamlesh Dutt Pande

Sculpture

Study of the following sculptures:

- | | |
|-----------------------|---------------------|
| (i) Triumph of Labour | D. P. Roychowdhury |
| (ii) Santhal Family | Ramkinker Vaij |
| (iii) Standing Woman | Dhanraj Bhagat |
| (iv) Cries Unheard | Amar Nath Sehgal |
| (v) Ganesha Figure | P.V.Jankiram |
| (vi) Dhanpal | Sankho Chaudhuri |
| (vii) Chatturmukhi | Aekka Yada Giri Rao |

Graphic-Prints

- | | |
|-------------------------|---------------|
| (i) Whirlpool | Krishna Reddy |
| (ii) Children | Somnath Hore |
| (iii) Devi | Jyoti Bhatt |
| (iv) Of walls | Anupam Sud |
| (v) Man, Woman and Tree | K. Laxma Goud |

Syllabus
for
SECTION III
GENERAL TEST (501)

GENERAL TEST

Note:

There will be one Question Paper which will have 60 questions out of which 50 questions need to be attempted.

The Question paper will contain questions from the following topics:

- General Knowledge, Current Affairs,
- General Mental Ability, Numerical Ability,
- Reasoning (Simple application of basic mathematical concepts Quantitative arithmetic / algebra geometry / mensuration / statistics),
- Logical and Analytical Reasoning.

ECONOMICS (030) CLASS – XI (2023-24)

Theory: 80 Marks
Project: 20 Marks

3 Hours

Units		Marks	Periods
Part A	Statistics for Economics		
	Introduction	15	10
	Collection, Organisation and Presentation of Data		30
	Statistical Tools and Interpretation	25	50
		40	
Part B	Introductory Microeconomics		
	Introduction	04	10
	Consumer's Equilibrium and Demand	14	40
	Producer Behaviour and Supply	14	35
	Forms of Market and Price Determination under perfect competition with simple applications	08	25
		40	
			200
Part C	Project Work	20	20

Part A: Statistics for Economics

In this course, the learners are expected to acquire skills in collection, organisation and presentation of quantitative and qualitative information pertaining to various simple economic aspects systematically. It also intends to provide some basic statistical tools to analyse, and interpret any economic information and draw appropriate inferences. In this process, the learners are also expected to understand the behaviour of various economic data.

Unit 1: Introduction

10 Periods

What is Economics?

Meaning, scope, functions and importance of statistics in Economics

Unit 2: Collection, Organisation and Presentation of data

30

Periods Collection of data - sources of data - primary and secondary; how basic data is collected with concepts of Sampling; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation.

Organisation of Data: Meaning and types of variables; Frequency Distribution.

Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data:

(i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and Ogive) and (iii) Arithmetic line graphs (time series graph).

Unit 3: Statistical Tools and Interpretation

50

Periods For all the numerical problems and solutions, the appropriate economic interpretation may be attempted. This means, the students need to solve the problems and provide interpretation for the results derived.

Measures of Central Tendency- Arithmetic mean, Median and Mode

Correlation – meaning and properties, scatter diagram; measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation (Non-Repeated Ranks and Repeated Ranks).

Introduction to Index Numbers - meaning, types - Wholesale Price Index, Consumer Price Index and index of industrial production, uses of index numbers; Inflation and Index Numbers, Simple Aggregative Method.

Part B: Introductory Microeconomics

Unit 4: Introduction

10 Periods

Meaning of microeconomics and macroeconomics; positive and normative economics

What is an economy? Central problems of an economy: what, how and for whom to produce; concepts of Production Possibility Frontier and Opportunity Cost.

Unit 5: Consumer's Equilibrium and Demand

40

Periods Consumer's equilibrium - meaning of Utility, Marginal Utility, Law of Diminishing Marginal Utility, conditions of consumer's equilibrium using marginal utility analysis.

Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.

Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand – percentage-change method and total expenditure method.

Unit 6: Producer Behaviour and Supply**35 Periods**

Meaning of Production Function – Short-Run and Long-Run Total Product, Average Product and Marginal Product.

Returns to a Factor

Cost – Short run costs - Total Cost, Total Fixed Cost, Total Variable Cost; Average Cost; Average Fixed Cost, Average Variable Cost and Marginal Cost - meaning and their relationships.

Revenue – Total Revenue, Average Revenue and Marginal Revenue - meaning and their relationship.

Producer's Equilibrium - meaning and its conditions in terms of Marginal Revenue-Marginal Cost.

Supply, market supply, determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - percentage-change method.

Unit 7: Perfect Competition - Price Determination and simple applications.**25 Periods**

Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply. (Short Run Only)

Simple Applications of Demand and Supply: Price ceiling, Price floor.

Part C: Project in Economics**20 Periods**

Guidelines as given in Class XII curriculum

**Suggested Question Paper
Design Economics (Code No.
030)
Class XI (2023-24)
March 2024 Examination**

Marks: 80

Duration: 3 hrs.

SN	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55%
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	18	22.5%
3	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	18	22.5%
	Total	80	100%

ECONOMICS
CLASS - XII (2023-24)

Theory: 80 Marks
Project: 20 Marks

3 Hours

Units		Marks	Periods
Part A	Introductory Macroeconomics		
	National Income and Related Aggregates	10	30
	Money and Banking	06	15
	Determination of Income and Employment	12	30
	Government Budget and the Economy	06	17
	Balance of Payments	06	18
		40	
Part B	Indian Economic Development		
	Development Experience (1947-90) and Economic Reforms since 1991	12	28
	Current Challenges facing Indian Economy	20	50
	Development Experience of India – A Comparison with Neighbours	08	12
	Theory Paper (40+40 = 80 Marks)	40	
			200
Part C	Project Work	20	20

Part A: Introductory Macroeconomics

Unit 1: National Income and Related Aggregates

30 Periods

What is Macroeconomics?

Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.

Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.

Aggregates related to National Income:

Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP

GDP Deflator, GDP and Welfare

Unit 2: Money and Banking**15 Periods**

Money – meaning and functions, supply of money - Currency held by the public and net demand deposits held by commercial banks.

Money creation by the commercial banking system.

Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, Cash Reserve Ratio (CRR), Statutory Liquidity Ratio (SLR), Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Unit 3: Determination of Income and Employment**30 Periods**

Aggregate demand and its components.

Propensity to consume and propensity to save (average and marginal). Short-run equilibrium output; investment multiplier and its mechanism. Meaning of full employment and involuntary unemployment.

Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply.

Unit 4: Government Budget and the Economy**17 Periods**

Government budget - meaning, objectives and components.

Classification of receipts - revenue receipts and capital receipts;

Classification of expenditure – revenue expenditure and capital expenditure.

Balanced, Surplus and Deficit Budget – measures of government deficit.

Unit 5: Balance of Payments**18 Periods**

Balance of payments account - meaning and components; Balance of payments – Surplus and Deficit

Foreign exchange rate - meaning of fixed and flexible rates and managed floating.

Determination of exchange rate in a free market, Merits and demerits of flexible and fixed exchange rate.

Managed Floating exchange rate system

Part B: Indian Economic Development

Unit 6: Development Experience (1947-90) and Economic Reforms since 1991:

28 Periods

A brief introduction of the state of Indian economy on the eve of independence.

Indian economic system and common goals of Five Year Plans.

Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade.

Economic Reforms since 1991:

Features and appraisals of liberalisation, globalisation and privatisation (LPG policy); Concepts of demonetization and GST

Unit 7: Current challenges facing Indian Economy

60

Periods Human Capital Formation: How people become resource; Role of human capital in economic development; Growth of Education Sector in India

Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming

Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies

Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming

Unit 8: Development Experience of India:

12 Periods

A comparison with
neighbours India and
Pakistan

India and China

Issues: economic growth, population, sectoral development and other Human Development Indicators

Part C: Project in Economics

20 Periods

Prescribed Books:

1. Statistics for Economics, NCERT
2. Indian Economic Development, NCERT
3. Introductory Microeconomics, NCERT
4. Macroeconomics, NCERT
5. Supplementary Reading Material in Economics, CBSE

Note: The above publications are also available in Hindi Medium.

**Suggested Question Paper
Design Economics (Code No.
030)
Class XII (2023-24)
March 2024 Examination**

Marks: 80

Duration: 3 hrs.

SN	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55%
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	18	22.5%
3	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	18	22.5%
	Total	80	100%

BUSINESS STUDIES (Code No. 054)
CLASS–XI (2023-24)

Theory: 80 Marks
Project: 20 Marks

3 Hours

Units		Periods	Marks
Part A	Foundations of Business		
1	Nature and Purpose of Business	18	16
2	Forms of Business Organizations	24	
3	Public, Private and Global Enterprises	18	14
4	Business Services	18	
5	Emerging Modes of Business	10	10
6	Social Responsibility of Business and Business Ethics	12	
	Total	100	40
Part B	Finance and Trade		
7	Sources of Business Finance	30	20
8	Small Business	16	
9	Internal Trade	30	20
10	International Business	14	
	Total	90	40
	Project Work (One)	30	20

Part A: Foundation of Business

Concept includes meaning and features

Unit 1: Evolution and Fundamentals of Business

Content	After going through this unit, the student/ learner would be able to:
History of Trade and Commerce in India: Indigenous Banking System, Rise of Intermediaries, Transport, Trading Communities: Merchant Corporations, Major Trade Centres, Major Imports and Exports, Position of Indian Sub-Continent in the World Economy	<ul style="list-style-type: none"> To acquaint the History of Trade and Commerce in India
Business – meaning and characteristics	<ul style="list-style-type: none"> Understand the meaning of business with special reference to economic and non-economic activities. Discuss the characteristics of business.
Business, profession and employment – Concept	<ul style="list-style-type: none"> Understand the concept of business, profession and employment. Differentiate between business, profession and employment.

Objectives of business	<ul style="list-style-type: none"> • Appreciate the economic and social objectives of business. • Examine the role of profit in business.
Classification of business activities - Industry and Commerce	<ul style="list-style-type: none"> • Understand the broad categories of business activities- industry and commerce.
Industry-types: primary, secondary, tertiary Meaning and subgroups	<ul style="list-style-type: none"> • Describe the various types of industries.
Commerce-trade: (types-internal, external; wholesale and retail) and auxiliaries to trade; (banking, insurance, transportation, warehousing, communication, and advertising) – meaning	<ul style="list-style-type: none"> • Discuss the meaning of commerce, trade and auxiliaries to trade. • Discuss the meaning of different types of trade and auxiliaries to trade. • Examine the role of commerce-trade and auxiliaries to trade.
Business risk-Concept	<ul style="list-style-type: none"> • Understand the concept of risk as a special characteristic of business. • Examine the nature and causes of business risks.

Unit 2: Forms of Business organizations

Sole Proprietorship-Concept, merits and limitations	<ul style="list-style-type: none"> • List the different forms of business organizations and understand their meaning. • Identify and explain the concept, merits and limitations of Sole Proprietorship.
Partnership-Concept, types, merits and limitation of partnership, registration of a partnership firm, partnership deed. Types of partners	<ul style="list-style-type: none"> • Identify and explain the concept, merits and limitations of a Partnership firm. • Understand the types of partnership on the basis of duration and on the basis of liability. • State the need for registration of a partnership firm. • Discuss types of partners –active, sleeping, secret, nominal and partner by estoppel.
Hindu Undivided Family Business: Concept	<ul style="list-style-type: none"> • Understand the concept of Hindu Undivided Family Business.
Cooperative Societies-Concept, merits, and limitations.	<ul style="list-style-type: none"> • Identify and explain the concept, merits and limitations of Cooperative Societies. • Understand the concept of consumers, producers, marketing, farmers, credit and housing co-operatives.

Company - Concept, merits and limitations; Types: Private, Public and One Person Company – Concept	<ul style="list-style-type: none"> • Identify and explain the concept, merits and limitations of private and public companies. • Understand the meaning of one person company. • Distinguish between a private company and a public company.
Formation of company - stages, important documents to be used in formation of a company	<ul style="list-style-type: none"> • Highlight the stages in the formation of a company. • Discuss the important documents used in the various stages in the formation of a company.
Choice of form of business organization	<ul style="list-style-type: none"> • Distinguish between the various forms of business organizations. • Explain the factors that influence the choice of a suitable form of business organization.

Unit 3: Public, Private and Global Enterprises

Public sector and private sector enterprises – Concept	<ul style="list-style-type: none"> • Develop an understanding of Public sector and private sector enterprises
Forms of public sector enterprises: Departmental Undertakings, Statutory Corporations and Government Company	<ul style="list-style-type: none"> • Identify and explain the features, merits and limitations of different forms of public sector enterprises
Global Enterprises – Feature Joint venture Public private partnership – concept	<ul style="list-style-type: none"> • Develop an understanding of global enterprises, public private partnership by studying their meaning and features.

Unit 4: Business Services

Business services – meaning and types. Banking: Types of bank accounts - savings, current, recurring, fixed deposit and multiple option deposit account	<ul style="list-style-type: none"> • Understand the meaning and types of business services. • Discuss the meaning and types of Business service Banking • Develop an understanding of difference types of bank account.
Banking services with particular reference to Bank Draft, Bank Overdraft, Cash credit. E-Banking: meaning, types of digital payments	<ul style="list-style-type: none"> • Develop an understanding of the different services provided by banks
Insurance – Principles. Types – life, health, fire and marine insurance – concept	<ul style="list-style-type: none"> • Recall the concept of insurance • Understand Utmost Good Faith, Insurable Interest, Indemnity, Contribution, Doctrine of Subrogation and Causa Proxima as principles of insurance • Discuss the meaning of different

	types of insurance-life, health, fire, marine insurance.
Postal Service - Mail, Registered Post, Parcel, Speed Post, Courier - meaning	<ul style="list-style-type: none"> • Understand the utility of different telecom services

Unit 5: Emerging Modes of Business

E - business: concept, scope and benefits	<ul style="list-style-type: none"> • Give the meaning of e-business. • Discuss the scope of e-business. • Appreciate the benefits of e-business • Distinguish e-business from traditional business.
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Unit 6: Social Responsibility of Business and Business Ethics

Concept of social responsibility	<ul style="list-style-type: none"> • State the concept of social responsibility.
Case of social responsibility	<ul style="list-style-type: none"> • Examine the case for social responsibility.
Responsibility towards owners, investors, consumers, employees, government and community	<ul style="list-style-type: none"> • Identify the social responsibility towards different interest groups.
Role of business in environment protection	<ul style="list-style-type: none"> • Appreciate the role of business in environment protection.
Business Ethics - Concept and Elements	<ul style="list-style-type: none"> • State the concept of business ethics. • Describe the elements of business ethics.

Part B: Finance and Trade

Unit 7: Sources of Business Finance

Concept of business finance	<ul style="list-style-type: none"> • State the meaning, nature and importance of business finance.
Owners' funds- equity shares, preferences share, retained earnings	<ul style="list-style-type: none"> • Classify the various sources of funds into owners' funds. • State the meaning of owners' funds.
Borrowed funds: debentures and bonds, loan from financial institution and commercial banks, public deposits, trade credit, Inter Corporate Deposits (ICD)	<ul style="list-style-type: none"> • State the meaning of borrowed funds. • Discuss the concept of debentures, bonds, loans from financial institutions and commercial banks, Trade credit and inter corporate deposits. • Distinguish between owners' funds and borrowed funds.

Unit 8: Small Business and Enterprises

Entrepreneurship Development (ED): Concept, Characteristics and Need. Process of Entrepreneurship Development: Start-up India Scheme, ways to fund start-up. Intellectual Property Rights and Entrepreneurship	<ul style="list-style-type: none">• Understand the concept of Entrepreneurship Development (ED), Intellectual Property Rights
Small scale enterprise as defined by MSMED Act 2006 (Micro, Small and Medium Enterprise Development Act)	<ul style="list-style-type: none">• Understand the meaning of small business
Role of small business in India with special reference to rural areas	<ul style="list-style-type: none">• Discuss the role of small business in India
Government schemes and agencies for small scale industries: National Small Industries Corporation (NSIC) and District Industrial Centre (DIC) with special reference to rural, backward areas	<ul style="list-style-type: none">• Appreciate the various Government schemes and agencies for development of small scale industries. NSIC and DIC with special reference to rural, backward area.

Unit 9: Internal Trade

Internal trade - meaning and types services rendered by a wholesaler and a retailer	<ul style="list-style-type: none">• State the meaning and types of internal trade.• Appreciate the services of wholesalers and retailers.
Types of retail-trade-Itinerant and small scale fixed shops retailers	<ul style="list-style-type: none">• Explain the different types of retail trade.
Large scale retailers-Departmental stores, chain stores – concept	<ul style="list-style-type: none">• Highlight the distinctive features of departmental stores, chain stores and mail order business.
GST (Goods and Services Tax): Concept and key-features	<ul style="list-style-type: none">• Understand the concept of GST

Unit 10: International Trade

International trade: concept and benefits	<ul style="list-style-type: none">• Understand the concept of international trade.• Describe the scope of international trade to the nation and business firms.
Export trade – Meaning and procedure	<ul style="list-style-type: none">• State the meaning and objectives of export trade.• Explain the important steps involved in executing export trade.
Import Trade - Meaning and procedure	<ul style="list-style-type: none">• State the meaning and objectives

	<p>of import trade.</p> <ul style="list-style-type: none"> • Discuss the important steps involved in executing import trade.
Documents involved in International Trade; indent, letter of credit, shipping order, shipping bills, mate's receipt (DA/DP)	<ul style="list-style-type: none"> • Develop an understanding of the various documents used in international trade. • Identify the specimen of the various documents used in international trade. • Highlight the importance of the documents needed in connection with international trade transactions
World Trade Organization (WTO) meaning and objectives	<ul style="list-style-type: none"> • State the meaning of World Trade Organization. • Discuss the objectives of World Trade Organization in promoting international trade.

Unit 11: Project Work

As per CBSE guidelines.

**Suggested Question Paper
Design Business Studies (Code
No. 054) Class XI (2023-24)
March 2024 Examination**

Marks: 80

Duration: 3 hrs.

SN	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55%
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way	19	23.75%
3	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	17	21.25%
	Total	80	100%

Business Studies
CLASS–XII (2023-24)

Theory: 80 Marks
Project: 20 Marks

3 Hours

Units		Periods	Marks
Part A	Principles and Functions of Management		
1.	Nature and Significance of Management	12	16
2	Principles of Management	14	
3	Business Environment	12	
4	Planning	14	14
5	Organising	15	
6	Staffing	16	20
7	Directing	15	
8	Controlling	12	
	Total	110	50
Part B	Business Finance and Marketing		
9	Financial Management	20	15
10	Financial Markets	18	
11	Marketing Management	30	15
12	Consumer Protection	12	
	Total	80	30
Part C	Project Work (One)	30	20

Part A: Principles and Functions of Management

Unit 1: Nature and Significance of Management

Concept	After going through this unit, the student/ learner would be able to:
Management - concept, objectives, and importance	<ul style="list-style-type: none"> • Understand the concept of management. • Explain the meaning of 'Effectiveness and Efficiency. • Discuss the objectives of management. • Describe the importance of management.
Management as Science, Art and Profession	<ul style="list-style-type: none"> • Examine the nature of management as a science, art and profession.
Levels of Management	<ul style="list-style-type: none"> • Understand the role of top, middle and lower levels of management
Management functions-planning, organizing, staffing, directing and controlling	<ul style="list-style-type: none"> • Explain the functions of management
Coordination- concept and importance	<ul style="list-style-type: none"> • Discuss the concept and

	<ul style="list-style-type: none"> characteristics of coordination. Explain the importance of coordination.
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Unit 2: Principles of Management

Principles of Management - concept and significance	<ul style="list-style-type: none"> Understand the concept of principles of management. Explain the significance of management principles.
Fayol's principles of management	<ul style="list-style-type: none"> Discuss the principles of management developed by Fayol.
Taylor's Scientific management - principles and techniques	<ul style="list-style-type: none"> Explain the principles and techniques of 'Scientific Management'. Compare the contributions of Fayol and Taylor.

Unit 3: Business Environment

Business Environment- concept and importance	<ul style="list-style-type: none"> Understand the concept of 'Business Environment'. Describe the importance of business environment
Dimensions of Business Environment - Economic, Social, Technological, Political and Legal	<ul style="list-style-type: none"> Describe the various dimensions of 'Business Environment'. Understand the concept of demonetization
Demonetization - concept and features	

Unit 4: Planning

Planning: Concept, importance and limitation	<ul style="list-style-type: none"> Understand the concept of planning. Describe the importance of planning. Understand the limitations of planning.
Planning process	<ul style="list-style-type: none"> Describe the steps in the process of planning.
Single use and Standing Plans. Objectives, Strategy, Policy, Procedure, Method, Rule, Budget and Programme	<ul style="list-style-type: none"> Develop an understanding of single use and standing plans Describe objectives, policies, strategy, procedure, method, rule, budget and programme as types of plans.

Unit 5: Organising

Organising: Concept and importance	<ul style="list-style-type: none"> Understand the concept of organizing as a structure and as a
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	<p>process.</p> <ul style="list-style-type: none"> • Explain the importance of organising.
Organising Process	<ul style="list-style-type: none"> • Describe the steps in the process of organizing
Structure of organisation- functional and divisional concept. Formal and informal organization - concept	<ul style="list-style-type: none"> • Describe functional and divisional structures of organisation. • Explain the advantages, disadvantages and suitability of functional and divisional structure. • Understand the concept of formal and informal organisation. • Discuss the advantages, disadvantages of formal and informal organisation.
Delegation: concept, elements and importance	<ul style="list-style-type: none"> • Understand the concept of delegation. • Describe the elements of delegation. • Appreciate the importance of Delegation.
Decentralization: concept and importance	<ul style="list-style-type: none"> • Understand the concept of decentralisation. • Explain the importance of decentralisation. • Differentiate between delegation and decentralisation.

Unit 6: Staffing

Staffing: Concept and importance of staffing	<ul style="list-style-type: none"> • Understand the concept of staffing. • Explain the importance of staffing
Staffing as a part of Human Resource Management concept	<ul style="list-style-type: none"> • Understand the specialized duties and activities performed by Human Resource Management
Staffing process	<ul style="list-style-type: none"> • Describe the steps in the process of staffing
Recruitment process	<ul style="list-style-type: none"> • Understand the meaning of recruitment. • Discuss the sources of recruitment. • Explain the merits and demerits of internal and external sources of recruitment.
Selection – process	<ul style="list-style-type: none"> • Understand the meaning of selection. • Describe the steps involved in the process of selection.
Training and Development - Concept and importance, Methods of training - on the	<ul style="list-style-type: none"> • Understand the concept of training and development.

job and off the job - vestibule training, apprenticeship training and internship training	<ul style="list-style-type: none"> • Appreciate the importance of training to the organisation and to the employees. • Discuss the meaning of induction training, vestibule training, apprenticeship training and internship training. • Differentiate between training and development. • Discuss on the job and off the job methods of training.
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Unit 7: Directing

Directing: Concept and importance	<ul style="list-style-type: none"> • Describe the concept of directing. • Discuss the importance of directing
Elements of Directing	<ul style="list-style-type: none"> • Describe the various elements of directing
Motivation - concept, Maslow's hierarchy of needs, Financial and non-financial incentives	<ul style="list-style-type: none"> • Understand the concept of motivation. • Develop an understanding of Maslow's Hierarchy of needs. • Discuss the various financial and non-financial incentives.
Leadership - concept, styles - authoritative, democratic and laissez faire	<ul style="list-style-type: none"> • Understand the concept of leadership. • Understand the various styles of leadership.
Communication - concept, formal and informal communication; barriers to effective communication, how to overcome the barriers?	<ul style="list-style-type: none"> • Understand the concept of communication • Understand the elements of the communication process. • Discuss the concept of formal and informal communication. • Discuss the various barriers to effective communication. • Suggest measures to overcome barriers to communication.

Unit 8: Controlling

Controlling - Concept and importance	<ul style="list-style-type: none"> • Understand the concept of controlling. • Explain the importance of controlling.
Relationship between planning and controlling	<ul style="list-style-type: none"> • Describe the relationship between planning and controlling
Steps in process of control	<ul style="list-style-type: none"> • Discuss the steps in the process of controlling.

Part B: Business Finance and Marketing

Unit 9: Financial Management

Financial Management: Concept, role and objectives	<ul style="list-style-type: none">• Understand the concept of financial management.• Explain the role of financial management in an organisation.• Discuss the objectives of financial management
Financial decisions: investment, financing and dividend - Meaning and factors affecting	<ul style="list-style-type: none">• Discuss the three financial decisions and the factors affecting them.
Financial Planning - concept and importance	<ul style="list-style-type: none">• Describe the concept of financial planning and its objectives.• Explain the importance of financial planning.
Capital Structure – concept and factors affecting capital structure	<ul style="list-style-type: none">• Understand the concept of capital structure.• Describe the factors determining the choice of an appropriate capital structure of a company.
Fixed and Working Capital - Concept and factors affecting their requirements	<ul style="list-style-type: none">• Understand the concept of fixed and working capital.• Describe the factors determining the requirements of fixed and working capital.

Unit 10: Financial Markets

Financial Markets: Concept	<ul style="list-style-type: none">• Understand the concept of financial market.
Money Market: Concept	<ul style="list-style-type: none">• Understand the concept of money market.
Capital market and its types (primary and secondary)	<ul style="list-style-type: none">• Discuss the concept of capital market.• Explain primary and secondary markets as types of capital market.• Differentiate between capital market and money market.• Distinguish between primary and secondary markets.
Stock Exchange - Functions and trading procedure	<ul style="list-style-type: none">• Give the meaning of a stock exchange.• Explain the functions of a stock exchange.• Discuss the trading procedure in a stock exchange.

	<ul style="list-style-type: none"> • Give the meaning of depository services and demat account as used in the trading procedure of securities.
Securities and Exchange Board of India (SEBI) - objectives and functions	<ul style="list-style-type: none"> • State the objectives of SEBI. • Explain the functions of SEBI.

Unit 11: Marketing

Marketing – Concept, functions and philosophies	<ul style="list-style-type: none"> • Understand the concept of marketing. • Explain the features of marketing. • Discuss the functions of marketing. • Explain the marketing philosophies.
Marketing Mix – Concept and elements	<ul style="list-style-type: none"> • Understand the concept of marketing mix. • Describe the elements of marketing mix.
Product – branding, labelling and packaging – Concept	<ul style="list-style-type: none"> • Understand the concept of product as an element of marketing mix. • Understand the concept of branding, labelling and packaging.
Price - Concept, Factors determining price	<ul style="list-style-type: none"> • Understand the concept of price as an element of marketing mix. • Describe the factors determining price of a product.
Physical Distribution – concept, components and channels of distribution	<ul style="list-style-type: none"> • Understand the concept of physical distribution. • Explain the components of physical distribution. • Describe the various channels of distribution.
Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations	<ul style="list-style-type: none"> • Understand the concept of promotion as an element of marketing mix. • Describe the elements of promotion mix. • Understand the concept of advertising. • Understand the concept of sales promotion. • Discuss the concept of public relations.

Unit 12: Consumer Protection

Consumer Protection: Concept and importance	<ul style="list-style-type: none"> • Understand the concept of consumer protection. • Describe the importance of
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	<p>consumer protection.</p> <ul style="list-style-type: none"> • Discuss the scope of Consumer Protection Act, 2019
<p>The Consumer Protection Act, 2019: <i>Source:</i> http://egazette.nic.in/WriteReadData/2019/210422.pdf</p> <p>Meaning of consumer Rights and responsibilities of consumers Who can file a complaint? Redressal machinery Remedies available</p>	<ul style="list-style-type: none"> • Understand the concept of a consumer according to the Consumer Protection Act, 2019. • Explain the consumer rights • Understand the responsibilities of consumers • Understand who can file a complaint and against whom? • Discuss the legal redressal machinery under Consumer Protection Act, 2019. • Examine the remedies available to the consumer under Consumer Protection Act, 2019.
<p>Consumer awareness - Role of consumer organizations and Non-Governmental Organizations (NGOs)</p>	<ul style="list-style-type: none"> • Describe the role of consumer organizations and NGOs in protecting consumers' interests.

Unit 13: Project Work

PROJECT WORK IN BUSINESS STUDIES FOR CLASS XI AND XII

Introduction

The course in Business Studies is introduced at Senior School level to provide students with a sound understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society. Business is a dynamic process that brings together technology, natural resources and human initiative in a constantly changing global environment. With the purpose to help them understand the framework within which a business operates, and its interaction with the social, economic, technological and legal environment, the CBSE has introduced Project Work in the Business Studies Syllabus for Classes XI and XII. The projects have been designed to allow students to appreciate that business is an integral component of society and help them develop an understanding of the social and ethical issues concerning them.

The project work also aims to empower the teacher to relate all the concepts with what is happening around the world and the student's surroundings, making them appear more clear and contextual. This will enable the student to enjoy studies and use his free time effectively in observing what's happening around.

By means of Project Work the students are exposed to life beyond textbooks giving them opportunities to refer materials, gather information, analyze it further to obtain relevant information and decide what matter to keep.

Objectives

After doing the Project Work in Business Studies, the students will be able to do the following:

- develop a practical approach by using modern technologies in the field of business and management;
- get an opportunity for exposure to the operational environment in the field of business management and related services;
- inculcate important skills of team work, problem solving, time management, information collection, processing, analysing and synthesizing relevant information to derive meaningful conclusions
- get involved in the process of research work; demonstrate his or her capabilities while working independently and
- make studies an enjoyable experience to cherish.

Accountancy (Code No.055)

Course

Structure

Class-XI

(2023-24)

Theory: 80 Marks

3 Hours

Project: 20 Marks

Units	Periods	Marks
Part A: Financial Accounting-1		
Unit-1: Theoretical Framework	25	12
Unit-2: Accounting Process	115	44
Part B: Financial Accounting-II		
Unit-3: Financial Statements of Sole Proprietorship	60	24
Part C: Project Work	20	20

PART A: FINANCIAL ACCOUNTING - I

Unit-1: Theoretical Frame Work

Units/Topics	Learning Outcomes
<p>Introduction to Accounting</p> <ul style="list-style-type: none">Accounting- concept, meaning, as a source of information, objectives, advantages and limitations, types of accounting information; users of accounting information and their needs. Qualitative Characteristics of Accounting Information. Role of Accounting in Business.Basic Accounting Terms- Entity, Business Transaction, Capital, Drawings. Liabilities (Non Current and Current). Assets (Non Current, Current); Expenditure (Capital and Revenue), Expense, Revenue, Income, Profit, Gain, Loss, Purchase, Sales, Goods, Stock, Debtor, Creditor, Voucher, Discount (Trade discount and Cash Discount) <p>Theory Base of Accounting</p> <ul style="list-style-type: none">Fundamental accounting assumptions: GAAP: ConceptBasic Accounting Concept : Business Entity,	<p>After going through this Unit, the students will be able to:</p> <ul style="list-style-type: none">describe the meaning, significance, objectives, advantages and limitations of accounting in the modern economic environment with varied types of business and non-business economic entities.identify / recognise the individual(s) and entities that use accounting information for serving their needs of decision making.explain the various terms used in accounting and differentiate between different related terms like current and non-current, capital and revenue.give examples of terms like business transaction, liabilities, assets, expenditure and purchases.explain that sales/purchases include both cash and credit sales/purchases relating to the accounting year.

<p>Money Measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition, Matching, Full Disclosure, Consistency, Conservatism,</p> <ul style="list-style-type: none"> • Materiality and Objectivity • System of Accounting. Basis of Accounting: cash basis and accrual basis • Accounting Standards: Applicability of Accounting Standards (AS) and Indian Accounting Standards (IndAS) • Goods and Services Tax (GST): Characteristics and Advantages. 	<ul style="list-style-type: none"> • differentiate among income, profits and gains. • state the meaning of fundamental accounting assumptions and their relevance in accounting. • describe the meaning of accounting assumptions and the situation in which an assumption is applied during the accounting process. • explain the meaning, applicability, objectives, advantages and limitations of accounting standards. • appreciate that various accounting standards developed nationally and globally are in practice for bringing parity in the accounting treatment of different items. • acknowledge the fact that recording of accounting transactions follows double entry system. • explain the bases of recording accounting transaction and to appreciate that accrual basis is a better basis for depicting the correct financial position of an enterprise. • Explain the meaning, advantages and characteristic of GST.
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Unit-2: Accounting Process

Units/Topics	Learning Outcomes
<p>Recording of Business Transactions</p> <ul style="list-style-type: none"> • Voucher and Transactions: Source documents and Vouchers, Preparation of Vouchers, Accounting Equation Approach: Meaning and Analysis, Rules of Debit and Credit. • Recording of Transactions: Books of Original Entry- Journal • Special Purpose books: • Cash Book: Simple, cash book with bank column and petty cashbook 	<p>After going through this Unit, the students will be able to:</p> <ul style="list-style-type: none"> • explain the concept of accounting equation and appreciate that every transaction affects either both the sides of the equation or a positive effect on one item and a negative effect on another item on the same side of accounting equation. • explain the effect of a transaction (increase or decrease) on the assets, liabilities, capital, revenue and expenses.

- Purchases book
- Sales book
- Purchases return book
- Sales return book
- Journal proper

Note: Including trade discount, freight and cartage expenses for simple GST calculation.

- Ledger: Format, Posting from journal and subsidiary books, Balancing of accounts

Bank Reconciliation Statement:

- Need and preparation, Bank Reconciliation Statement

Depreciation, Provisions and Reserves

- Depreciation: Meaning, Features, Need, Causes, factors
- Other similar terms: Depletion and Amortisation
- Methods of Depreciation:
 - i. Straight Line Method (SLM)
 - ii. Written Down Value Method (WDV)

Note: Excluding change of method

- Difference between SLM and WDV; Advantages of SLM and WDV
- Method of recoding depreciation
 - i. Charging to asset account
 - ii. Creating provision for depreciation/accumulated depreciation account
- Treatment of disposal of asset
- Provisions, Reserves, Difference Between Provisions and Reserves.
- Types of Reserves:
 - i. Revenue reserve
 - ii. Capital reserve
 - iii. General reserve
 - iv. Specific reserve
 - v. Secret Reserve
- Difference between capital and revenue reserve

- appreciate that on the basis of source documents, accounting vouchers are prepared for recording transaction in the books of accounts.
- develop the understanding of recording of transactions in journal and the skill of calculating GST.
- explain the purpose of maintaining a Cash Book and develop the skill of preparing the format of different types of cash books and the method of recording cash transactions in Cash book.
- describe the method of recording transactions other than cash transactions as per their nature in different subsidiary books .
- appreciate that at times bank balance as indicated by cash book is different from the bank balance as shown by the pass book / bank statement and to reconcile both the balances, bank reconciliation statement is prepared.
- develop understanding of preparing bank reconciliation statement.
- appreciate that for ascertaining the position of individual accounts, transactions are posted from subsidiary books and journal proper into the concerned accounts in the ledger and develop the skill of ledger posting.
- explain the necessity of providing depreciation and develop the skill of using different methods for computing depreciation.
- understand the accounting treatment of providing depreciation directly to the concerned asset account or by creating provision for depreciation account.
- appreciate the method of asset disposal through the concerned asset account or by preparing asset disposal account.
- appreciate the need for creating reserves and

<p>Trial balance and Rectification of Errors</p> <ul style="list-style-type: none"> • Trial balance: objectives, meaning and preparation <p>(Scope: Trial balance with balance method only)</p> <ul style="list-style-type: none"> • Errors: classification-errors of omission, commission, principles, and compensating; their effect on Trial Balance. • Detection and rectification of errors; <ul style="list-style-type: none"> (i) Errors which do not affect trial balance (ii) Errors which affect trial balance • preparation of suspense account. 	<p>also making provisions for events which may belong to the current year but may happen in next year.</p> <ul style="list-style-type: none"> • appreciate the difference between reserve and reserve fund. • state the need and objectives of preparing trial balance and develop the skill of preparing trial balance. • appreciate that errors may be committed during the process of accounting. • understand the meaning of different types of errors and their effect on trial balance. • develop the skill of identification and location of errors and their rectification and preparation of suspense account.
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Part B: Financial Accounting - II

Unit 3: Financial Statements of Sole Proprietorship

Units/Topics	Learning Outcomes
<p>Financial Statements</p> <p>Meaning, objectives and importance; Revenue and Capital Receipts; Revenue and Capital Expenditure; Deferred Revenue expenditure. Opening journal entry. Trading and Profit and Loss Account: Gross Profit, Operating profit and Net profit. Preparation. Balance Sheet: need, grouping and marshalling of assets and liabilities. Preparation. Adjustments in preparation of financial statements with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in advance, depreciation, bad debts, provision for doubtful debts, provision for discount on debtors, Abnormal loss, Goods taken for personal use/staff welfare, interest on capital and managers commission. Preparation of Trading and Profit and Loss account and Balance Sheet of a sole proprietorship with adjustments.</p>	<p>After going through this Unit, the students will be able to:</p> <ul style="list-style-type: none"> • state the meaning of financial statements the purpose of preparing financial statements. • state the meaning of gross profit, operating profit and net profit and develop the skill of preparing trading and profit and loss account. • explain the need for preparing balance sheet. • understand the technique of grouping and marshalling of assets and liabilities. • appreciate that there may be certain items other than those shown in trial balance which may need adjustments while preparing financial statements. • develop the understanding and skill to do adjustments for items and their presentation in financial statements like depreciation, closing stock, provisions, abnormal loss etc. • develop the skill of preparation of trading and profit and loss account and balance sheet.

Incomplete Records

Features, reasons and limitations.

Ascertainment of Profit/Loss by Statement of Affairs method. (excluding conversion method)

Part C: Project Work (Any One)

1. Collection of source documents, preparation of vouchers, recording of transactions with the help of vouchers.
2. Preparation of Bank Reconciliation Statement with the given cash book and the pass book with twenty to twenty-five transactions.
3. Comprehensive project of any sole proprietorship business. This may state with journal entries and their ledgering, preparation of Trial balance. Trading and Profit and Loss Account and Balance Sheet. Expenses, incomes and profit (loss), assets and liabilities are to be depicted using pie chart / bar diagram. This may include simple GST related transactions.

PROJECT WORK

It is suggested to undertake this project after completing the unit on preparation of financial statements. The student(s) will be allowed to select any business of their choice or develop the transaction of imaginary business. The project is to run through the chapters and make the project an interesting process. The amounts should emerge as more realistic and closer to reality.

Specific Guidelines for Teachers

Give a list of options to the students to select a business form. You can add to the given list:

- | | | |
|-------------------------|-------------------------------|--------------------------|
| 1. A beauty parlour | 10. Men's wear | 19. A coffee shop |
| 2. Men's saloon | 11. Ladies wear | 20. A music shop |
| 3. A tailoring shop | 12. Kiddies wear | 21. A juice shop |
| 4. A canteen | 13. A Saree shop | 22. A school canteen |
| 5. A cake shop | 14. Artificial jewellery shop | 23. An ice cream parlour |
| 6. A confectionery shop | 15. A small restaurant | 24. A sandwich shop |
| 7. A chocolate shop | 16. A sweet shop | 25. A flower shop |
| 8. A dry cleaner | 17. A grocery shop | |
| 9. A stationery shop | 18. A shoe shop | |

After selection, advise the student(s) to visit a shop in the locality (this will help them to settle on a realistic amounts different items. The student(s) would be able to see the things as they need to invest in furniture, decor, lights, machines, computers etc.

A suggested list of different item is given below.

- | | |
|--|---|
| 1. Rent | 19. Wages and Salary |
| 2. Advance rent [approximately three months] | 20. Newspaper and magazines |
| 3. Electricity deposit | 21. Petty expenses |
| 4. Electricity bill | 22. Tea expenses |
| 5. Electricity fitting | 23. Packaging expenses |
| 6. Water bill | 24. Transport |
| 7. Water connection security deposit | 25. Delivery cycle or a vehicle purchased |
| 8. Water fittings | 26. Registration |
| 9. Telephone bill | 27. Insurance |
| 10. Telephone security deposit | 28. Auditors fee |
| 11. Telephone instrument | 29. Repairs & Maintenance |
| 12. Furniture | 30. Depreciations |
| 13. Computers | 31. Air conditioners |
| 14. Internet connection | 32. Fans and lights |
| 15. Stationery | 33. Interior decorations |
| 16. Advertisements | 34. Refrigerators |
| 17. Glow sign | 35. Purchase and sales |
| 18. Rates and Taxes | |

At this stage, performas of bulk of originality and ledger may be provided to the students and they may be asked to complete the same.

In the next step the students are expected to prepare the trial balance and the financial statements.

Suggested Question Paper
Design Accountancy (Code No.
055) Class XI (2023-24)

Theory: 80 Marks
Project: 20 Marks

3 hrs.

S N	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55%
3	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	19	23.75%
4	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	17	21.25%
	TOTAL	80	100%

Accountancy (Code No. 055)
Class-XII (2023-
24)

Theory: 80 Marks
Hours
Project: 20 Marks

3

Units		Periods	Marks
Part A	Accounting for Partnership Firms and Companies		
	Unit 1. Accounting for Partnership Firms	105	36
	Unit 2. Accounting for Companies	45	24
		150	60
Part B	Financial Statement Analysis		
	Unit 3. Analysis of Financial Statements	30	12
	Unit 4. Cash Flow Statement	20	8
		50	20
Part C	Project Work	20	20
	Project work will include:		
	Project File	12 Marks	
	Viva Voce	8 Marks	
Or			
Part B	Computerized Accounting		
	Unit 4. Computerized Accounting	50	20
Part C	Practical Work	20	20
	Practical work will include:		
	Practical File 12 Marks		
	Viva Voce 8 Marks		

Part A: Accounting for Partnership Firms and Companies

Unit 1: Accounting for Partnership Firms

Units/Topics	Learning Outcomes
<ul style="list-style-type: none"> • Partnership: features, Partnership Deed. • Provisions of the Indian Partnership Act 1932 in the absence of partnership deed. • Fixed v/s fluctuating capital accounts. Preparation of Profit and Loss Appropriation account- division of profit among partners, guarantee of profits. • Past adjustments (relating to interest on capital, interest on drawing, salary and profit sharing ratio). • Goodwill: meaning, nature, factors affecting and methods of valuation - average profit, super profit and capitalization. <p><i>Note: Interest on partner's loan is to be treated as a charge against profits.</i></p> <p>Goodwill: meaning, factors affecting, need for valuation, methods for calculation (average profits, super profits and capitalization), adjusted through partners capital/ current account.</p> <p>Accounting for Partnership firms - Reconstitution and Dissolution.</p> <ul style="list-style-type: none"> • Change in the Profit Sharing Ratio among the existing partners - sacrificing ratio, gaining ratio, accounting for revaluation of assets and reassessment of liabilities and treatment of reserves, accumulated profits and losses. Preparation of revaluation account and balance sheet. • Admission of a partner - effect of admission of a partner on change in the profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and reassessment of liabilities, treatment of reserves, accumulated profits and losses, 	<p>After going through this Unit, the students will be able to:</p> <ul style="list-style-type: none"> • state the meaning of partnership, partnership firm and partnership deed. • describe the characteristic features of partnership and the contents of partnership deed. • discuss the significance of provision of Partnership Act in the absence of partnership deed. • differentiate between fixed and fluctuating capital, outline the process and develop the understanding and skill of preparation of Profit and Loss Appropriation Account. • develop the understanding and skill of preparation profit and loss appropriation account involving guarantee of profits. • develop the understanding and skill of making past adjustments. • state the meaning, nature and factors affecting goodwill • develop the understanding and skill of valuation of goodwill using different methods. • state the meaning of sacrificing ratio, gaining ratio and the change in profit sharing ratio among existing partners. • develop the understanding of accounting treatment of revaluation assets and reassessment of liabilities and treatment of reserves and accumulated profits by preparing revaluation account and balance sheet. • explain the effect of change in profit sharing ratio on admission of a new partner. • develop the understanding and skill of

<p>adjustment of capital accounts and preparation of capital, current account and balance sheet.</p> <ul style="list-style-type: none"> • Retirement and death of a partner: effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and reassessment of liabilities, adjustment of accumulated profits, losses and reserves, adjustment of capital accounts and preparation of capital, current account and balance sheet. Preparation of loan account of the retiring partner. • Calculation of deceased partner's share of profit till the date of death. Preparation of deceased partner's capital account and his executor's account. • Dissolution of a partnership firm: meaning of dissolution of partnership and partnership firm, types of dissolution of a firm. Settlement of accounts - preparation of realization account, and other related accounts: capital accounts of partners and cash/bank a/c (excluding piecemeal distribution, sale to a company and insolvency of partner(s)). <p>Note:</p> <p>(i) If the realized value of tangible assets is not given it should be considered as realized at book value itself.</p> <p>(ii) If the realized value of intangible assets is not given it should be considered as nil (zero value).</p> <p>(ii) In case, the realization expenses are borne by a partner, clear indication should be given regarding the payment thereof.</p>	<p>treatment of goodwill as per AS-26, treatment of revaluation of assets and re-assessment of liabilities, treatment of reserves and accumulated profits, adjustment of capital accounts and preparation of capital, current account and balance sheet of the new firm.</p> <ul style="list-style-type: none"> • explain the effect of retirement / death of a partner on change in profit sharing ratio. • develop the understanding of accounting treatment of goodwill, revaluation of assets and re-assessment of liabilities and adjustment of accumulated profits, losses and reserves on retirement / death of a partner and capital adjustment. • develop the skill of calculation of deceased partner's share till the time of his death and prepare deceased partner's and executor's account. • discuss the preparation of the capital accounts of the remaining partners and the balance sheet of the firm after retirement / death of a partner. • understand the situations under which a partnership firm can be dissolved. • develop the understanding of preparation of realisation account and other related accounts.
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Unit-3 Accounting for Companies

Units/Topics	Learning Outcomes
<p>Accounting for Share Capital</p> <ul style="list-style-type: none"> • Features and types of companies. • Share and share capital: nature and types. 	<p>After going through this Unit, the students will be able to:</p> <ul style="list-style-type: none"> • state the meaning of share and share capital

<ul style="list-style-type: none"> Accounting for share capital: issue and allotment of equity and preference shares. Public subscription of shares - over subscription and under subscription of shares; issue at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash. Concept of Private Placement and Employee Stock Option Plan (ESOP), Sweat Equity. Accounting treatment of forfeiture and re-issue of shares. Disclosure of share capital in the Balance Sheet of a company. <p>Accounting for Debentures</p> <ul style="list-style-type: none"> Debentures: Meaning, types, Issue of debentures at par, at a premium and at a discount. Issue of debentures for consideration other than cash; Issue of debentures with terms of redemption; debentures as collateral security-concept, interest on debentures (concept of TDS is excluded). Writing off discount / loss on issue of debentures. <p>Note: Discount or loss on issue of debentures to be written off in the year debentures are allotted from Security Premium Reserve (if it exists) and then from Statement of Profit and Loss as Financial Cost (AS 16)</p>	<p>and differentiate between equity shares and preference shares and different types of share capital.</p> <ul style="list-style-type: none"> understand the meaning of private placement of shares and Employee Stock Option Plan. explain the accounting treatment of share capital transactions regarding issue of shares. develop the understanding of accounting treatment of forfeiture and re-issue of forfeited shares. describe the presentation of share capital in the balance sheet of the company as per schedule III part I of the Companies Act 2013. explain the accounting treatment of different categories of transactions related to issue of debentures. develop the understanding and skill of writing of discount / loss on issue of debentures. understand the concept of collateral security and its presentation in balance sheet. develop the skill of calculating interest on debentures and its accounting treatment. state the meaning of redemption of debentures.
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Part B: Financial Statement Analysis

Unit 4: Analysis of Financial Statements

Units/Topics	Learning Outcomes
<p>Financial statements of a Company: Meaning, Nature, Uses and importance of financial Statement. Statement of Profit and Loss and Balance Sheet in</p>	<p>After going through this Unit, the students will be able to:</p> <ul style="list-style-type: none"> develop the understanding of major headings and sub-headings (as per Schedule III to the

prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013)

Note: *Exceptional items, extraordinary items and profit (loss) from discontinued operations are excluded.*

- **Financial Statement Analysis: Meaning, Significance** Objectives, importance and limitations.
- **Tools for Financial Statement Analysis:** Comparative statements, common size statements, Ratio analysis, Cash flow analysis.
- **Accounting Ratios:** Meaning, Objectives, Advantages, classification and computation.
- **Liquidity Ratios:** Current ratio and Quick ratio.
- **Solvency Ratios:** Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and Interest Coverage Ratio. Debt to Capital Employed Ratio.
- **Activity Ratios:** Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio, Fixed Asset Turnover Ratio, Net Asset Turnover Ratio and Working Capital Turnover Ratio.
- **Profitability Ratios:** Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.

Companies Act, 2013) of balance sheet as per the prescribed norms / formats.

- state the meaning, objectives and limitations of financial statement analysis.
- discuss the meaning of different tools of 'financial statements analysis'.
- develop the skill of preparation of preparation of comparative and common size statement, understand their uses and difference between the two.
- state the meaning, objectives and significance of different types of ratios.
- develop the understanding of computation of current ratio and quick ratio.
- develop the skill of computation of debt equity ratio, total asset to debt ratio, proprietary ratio and interest coverage ratio.
- develop the skill of computation of inventory turnover ratio, trade receivables and trade payables ratio and working capital turnover ratio and others.
- develop the skill of computation of gross profit ratio, operating ratio, operating profit ratio, net profit ratio and return on investment.

Note: Net Profit Ratio is to be calculated on the basis of profit before and after tax.

Unit 5: Cash Flow Statement

Units/Topics	Learning Outcomes
<ul style="list-style-type: none"> • Meaning, objectives Benefits, Cash and Cash Equivalents, Classification of Activities and preparation (as per AS 3 (Revised) (Indirect Method only) 	<p>After going through this Unit, the students will be able to:</p> <ul style="list-style-type: none"> • state the meaning and objectives of cash flow statement.

Note:

(i) Adjustments relating to depreciation and amortization, profit or loss on sale of assets including investments, dividend (both final and interim) and tax.

(ii) Bank overdraft and cash credit to be treated as short term borrowings.

(iii) Current Investments to be taken as Marketable securities unless otherwise specified.

- develop the understanding of preparation of Cash Flow Statement using indirect method as per AS 3 with given adjustments.

Note: *Previous years' Proposed Dividend to be given effect, as prescribed in AS-4, Events occurring after the Balance Sheet date. Current years' Proposed Dividend will be accounted for in the next year after it is declared by the shareholders.*

Project Work

One specific project based on financial statement analysis of a company covering any two aspects from the following:

1. Comparative and common size financial statements
2. Accounting Ratios
3. Segment Reports
4. Cash Flow Statements

OR

Part B: Computerised Accounting

Unit 4: Computerised Accounting

Overview of Computerised Accounting System

- Introduction: Application in Accounting.
- Features of Computerised Accounting System.
- Structure of CAS.
- Software Packages: Generic; Specific; Tailored.

Accounting Application of Electronic Spreadsheet.

- Concept of electronic spreadsheet.
- Features offered by electronic spreadsheet.
- Application in generating accounting information - bank reconciliation statement; asset accounting; loan repayment of loan schedule, ratio analysis
- Data representation- graphs, charts and diagrams.

Using Computerized Accounting System.

- Steps in installation of CAS, codification and Hierarchy of account heads, creation of accounts.
- Data: Entry, validation and verification.
- Adjusting entries, preparation of balance sheet, profit and loss account with closing entries and opening entries.
- Need and security features of the system.

Part C: Practical Work

Prescribed Books:

Financial Accounting -I	Class XI	NCERT Publication
Accountancy -II	Class XI	NCERT Publication
Accountancy -I	Class XII	NCERT Publication
Accountancy -II	Class XII	NCERT
Publication Accountancy – Computerised Accounting System	Class XII	NCERT
Publication		

**Suggested Question Paper
Design Accountancy (Code No.
055) Class XII (2023-24)**

**Theory: 80 Marks
Project: 20 Marks**

3 hrs.

S N	Typology of Questions	Marks	Percentage
1	Remembering and Understanding: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55%
3	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	19	23.75%
4	Analysing, Evaluating and Creating: Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	17	21.25%
	TOTAL	80	100%

Computer Science Class -XI
Code No. 083
2023-24

1. Learning Outcomes

Students should be able to:

- a) develop basic computational thinking
- b) explain and use data types
- c) appreciate the notion of algorithms
- d) develop a basic understanding of computer systems- architecture, operating system, and cloud computing
- e) explain cyber ethics, cyber safety, and cybercrime
- f) understand the value of technology in societies along with consideration of gender and disability issues.

2. Distribution of Marks

Unit No.	Unit Name	Marks	Periods	
			Theory	Practical
I	Computer Systems and Organisation	10	10	10
II	Computational Thinking and Programming -1	45	80	60
III	Society, Law, and Ethics	15	20	—
	Total	70	110	70

3. Unit wise Syllabus

Unit I: Computer Systems and Organisation

- Basic computer organisation: Introduction to Computer System, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (bit, byte, KB, MB, GB, TB, PB)
- Types of software: System software (Operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler, and interpreter), application software
- Operating System(OS): functions of the operating system, OS user interface
- Boolean logic: NOT, AND, OR, NAND, NOR, XOR, NOT, truth tables and De Morgan's laws, Logic circuits
- Number System: Binary, Octal, Decimal and Hexadecimal number system; conversion

- between number systems
- Encoding Schemes: ASCII, ISCII, and Unicode (UTF8, UTF32)

Unit II: Computational Thinking and Programming - I

- Introduction to Problem-solving: Steps for Problem-solving (Analyzing the problem, developing an algorithm, coding, testing, and debugging), representation of algorithms using flowchart and pseudocode, decomposition
- Familiarization with the basics of Python programming: Introduction to Python, Features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens(keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments
- Knowledge of data types: Number (integer, floating point, complex), boolean, sequence(string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.
- Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in)
- Expressions, statement, type conversion, and input/output: precedence of operators, expression, evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output.
- Errors- syntax errors, logical errors, and run-time errors
- Flow of Control: introduction, use of indentation, sequential flow, conditional and iterative flow
- Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number.
- Iterative Statement: for loop, range(), while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc.
- Strings: introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods–len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split()
- Lists: introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/methods–len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list.
- Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods – len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple; suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple.
- Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in

functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(),

fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted(); Suggested programs: count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them.

- Introduction to Python modules: Importing module using 'import <module>' and using from statement, importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan()); random module (random(), randint(), randrange()), statistics module (mean(), median(), mode()).

Unit III: Society, Law and Ethics

- Digital Footprints
- Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes
- Data Protection: Intellectual property rights (copyright, patent, trademark), violation of IPR(plagiarism, copyright infringement, trademark infringement), open source software and licensing (Creative Commons, GPL and Apache)
- Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying
- Cyber safety: safely browsing the web, identity protection, confidentiality
- Malware: viruses, trojans, adware
- E-waste management: proper disposal of used electronic gadgets.
- Information Technology Act (IT Act)
- Technology and society: Gender and disability issues while teaching and using computers

4. Practical

S.No.	Unit Name	Marks (Total=30)
1.	Lab Test (12 marks)	
	Python program (60% logic + 20% documentation + 20% code quality)	12
2.	Report File + Viva (10 marks)	
	Report file: Minimum 20 Python programs	7
	Viva voce	3
3.	Project (that uses most of the concepts that have been learnt)	8

5. Suggested Practical

List Python Programming

- Input a welcome message and display it.
- Input two numbers and display the larger / smaller number.

- Input three numbers and display the largest / smallest number.
- Generate the following patterns using nested loops:

Pattern-1	Pattern-2	Pattern-3
* ** *** **** *****	12345 1234 123 12 1	A AB ABC ABCD ABCDE

- Write a program to input the value of x and n and print the sum of the following series:

$$\text{➤ } 1 + x + x^2 + x^3 + x^4 + \dots x^n$$

$$\text{➤ } 1 - x + x^2 - x^3 + x^4 - \dots x^n$$

$$\text{➤ } x + \frac{x^2}{2} + \frac{x^3}{3} + \frac{x^4}{4} + \dots \frac{x^n}{n}$$

$$\text{➤ } x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \dots \frac{x^n}{n!}$$

- Determine whether a number is a perfect number, an Armstrong number or a palindrome.
- Input a number and check if the number is a prime or composite number.
- Display the terms of a Fibonacci series.
- Compute the greatest common divisor and least common multiple of two integers.
- Count and display the number of vowels, consonants, uppercase, lowercase characters in string.
- Input a string and determine whether it is a palindrome or not; convert the case of characters in a string.
- Find the largest/smallest number in a list/tuple
- Input a list of numbers and swap elements at the even location with the elements at the odd location.
- Input a list/tuple of elements, search for a given element in the list/tuple.
- Create a dictionary with the roll number, name and marks of n students in a class and display the names of students who have marks above 75.

6. Suggested Reading Material

- NCERT Textbook for Computer Science (Class XI)
- Support Material on CBSE website

Computer Science
CLASS-XII
Code No. 083
2023-24

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)

- Exception Handling: Introduction, handling exceptions using try-except-finally blocks
- 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 writer(), writerow(), writerows() and read from a csv file using 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 connect(), cursor(), execute(), commit(), fetchone(), fetchall(), row count, creating database connectivity applications, use of %s format specifier or format() to perform queries

5. Practical

S.No	Unit Name	Marks (Total=30)
1	Lab Test: 1. Python program (60% logic + 20% documentation + 20% code quality)	8
	2. SQL queries (4 queries based on one or two tables)	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 sensitized to avoid plagiarism and violations of copyright issues while working on projects. Teachers should take necessary measures for this.



CLASS XII

Links for NCERT Rationalised 2023-24 Political Science textbooks:

1. <https://ncert.nic.in/textbook.php?leps1=ps-7>
2. <https://ncert.nic.in/textbook.php?leps2=ps-8>

CLASS XII
COURSE STRUCTURE

Chapter No.	Chapter Name	No. of Periods	Marks Allotted
PART A-CONTEMPORARY WORLD POLITICS			
1	The End of Bipolarity	15	6
2	Contemporary Centres of Power	18	6
3	Contemporary South Asia	18	6
4	International Organizations	10	6
5	Security in the Contemporary World	10	6
6	Environment and Natural Resources	12	6
7	Globalisation	12	4
	Total	95	40
PART B-POLITICS IN INDIA SINCE INDEPENDENCE			
1	Challenges of Nation-Building	16	6
2	Era of One-Party Dominance	8	4
3	Politics of Planned Development	12	2
4	India's External Relations	20	6
5	Challenges to and Restoration of the Congress System	12	4
6	The Crisis of Democratic Order	15	4
7	Regional Aspirations	15	6
8	Recent Developments in Indian Politics	20	8
		118	40
	TOTAL	213	80

CLASS XII
COURSE CONTENT

Chapter No. and Name	Specific Learning Objectives	Suggested Teaching Learning Process	Learning Outcomes with Specific Competencies
PART A-CONTEMPORARY WORLD POLITICS			
<p style="text-align: center;">1</p> <p style="text-align: center;"><u>The End of Bipolarity</u></p> <p>Topics to be focused:</p> <p>a) The Soviet System</p> <p>b) Gorbachev and the disintegration</p> <p>c) Causes and Consequences of disintegration of Soviet Union</p> <p>d) Shock Therapy and its Consequences</p> <p>e) New entities in world politics</p> <ul style="list-style-type: none"> • Russia • Balkan States • Central Asian States <p>f) India's relations with Russia and other post-communist countries</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Historical facts and processes of formation of Soviet Union. • Causes and consequences of the Disintegration of the Soviet Union • Shock Therapy and its consequences. • Tensions and Conflicts which occurred in the former Soviet Republics. • Relationship between India and the post-communist countries 	<p>Group Discussion: <i>Causes and consequences of disintegration of USSR</i></p> <p>Documentaries-<i>Past & present situations in USSR/Post Soviet Republics</i></p> <p>Analysis of relevant newspaper articles</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Identify the basic features of the Soviet System. • Discuss the background and outcome of disintegration of the Soviet Union. • Examine the consequences of unipolar world • Assess the features of Shock Therapy • Probe into the recent happenings in the Post-Communist Countries. • Trace the developments between India& Russia

<p style="text-align: center;">2</p> <p style="text-align: center;"><u>Contemporary Centres of Power</u></p> <p>Topics to be focused:</p> <p>a) European Union b) Association of Southeast Asian Nations c) Rise of China as an economic power d) Japan and South Korea as emerging powers</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Alternative centres of power. • European Union and ASEAN as alternative centres of power. • Economic rise of China and its impact on world politics. • Relations of India with China. 	<p>Discussion: <i>Importance on regional organisations</i></p> <p>Comparative study: Economic growth of China, Japan and South Korea.</p> <p>Use of timeline</p> <p>Inquiry based learning</p> <p>Map activity</p> <p>Interpretation of cartoons/ Pictures/ Newspaper clippings</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Compare and contrast the importance of European Union and ASEAN. • Evaluate the extent of rise of Chinese economy and its impact on world politics. • Summarize India's relations with China.
<p style="text-align: center;">3</p> <p style="text-align: center;"><u>Contemporary South Asia</u></p> <p>Topics to be focused:</p> <p>a) Military and Democracy in Pakistan and Bangladesh b) Monarchy and Democracy in Nepal c) Ethnic Conflict and Democracy in Sri Lanka d) India-Pakistan Conflicts e) India and its Neighbours f) Peace and Cooperation</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • South Asian region. • Nature of Political systems in the countries of the region. • Reasons that contributed to Pakistan's failure in building a stabled democracy. • Factors that led to struggle for democracy in Bangladesh. • Developments leading to the transition from Monarchy to a 	<p>Map activity</p> <p>Comparative Analysis: <i>Political systems of South Asian countries</i></p> <p>Use of Historical data</p> <p>Interpretation of cartoons/Pictures /Newspaper clippings</p> <p>Discussion: <i>Current economic crisis in Sri Lanka and Pakistan</i></p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Identify & locate the seven countries of the South Asian region. • Appreciate the mixed record of democracy in the South Asian region. • Examine the role of Political leaders • Reflect upon the causes of various conflicts and

	<p>Democracy in Nepal.</p> <ul style="list-style-type: none"> • Continuation of democracy since independence despite serious ethnic conflict in Sri Lanka • Relations between India and its neighbours • Importance of regional cooperation in South Asia • Role of big powers like USA and China in the South Asian region. 	Quiz	<p>movements in this region.</p> <ul style="list-style-type: none"> • Justify the creation of SAARC • Understand the involvement of US and China in South Asia.
<p style="text-align: center;">4</p> <p><u>International Organizations</u></p> <p>Topics to be focused:</p> <p>a) Meaning and importance of International Organisations</p> <p>b) Evolution of the UN</p> <p>c) Structure and function of International Organisations</p> <p>d) Principal Organs of UN</p> <p>e) Reform of the UN after Cold War</p> <p>f) Reform of Structures, Processes and Jurisdiction of the UN</p> <p>g) India and the UN Reforms</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Important events in World History • Need for formation of International Organizations • Functioning of International Organizations • Organs and agencies of the United Nations • Need for reforms in the changing world • United Nations in a unipolar world 	<p>Discussion and debate: <i>Necessary reforms of the UN</i></p> <p>Interpretation of cartoons /Newspaper clippings</p> <p>Quiz</p> <p>Model United Nations</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Define International Organization • Appreciate the role of United Nations and its agencies • Reflect on the events taking place in the post-cold war era • Understand the need for reforms in the United Nations

<p>h) Key Agencies: IMF, World Bank, WTO, ILO, IAEA.</p> <p>i) NGO: Amnesty International, Human Rights Watch.</p> <p>j) Implications and Future of International Organizations</p>			
<p style="text-align: center;">5 <u>Security in the Contemporary World</u></p> <p>Topics to be focused:</p> <p>a) Meaning and Type of Security.</p> <p>b) Traditional concept of security</p> <p>c) Non-tradition notions of Security.</p> <p>d) New Sources of Threats</p> <p>e) Cooperative Security</p> <p>f) India's Security strategy</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Meaning, nature and types of security • External and Internal notions of security • Emerging challenges of new Threats-Human rights, terrorism, migration, health, epidemics • Need for Cooperative security • Components of India's security strategy 	<p>Discussions and debates: <i>New sources of threat</i></p> <p>Comparative analysis: <i>Security concerns of different countries</i></p> <p>Interpretation of cartoons/Pictures</p> <p>Collaborative concept mapping: <i>India's initiatives and policies towards security.</i></p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Recognize the causes of security threats • Enhance analytical skills to provide solutions to security concerns. • Develop critical thinking about the role of various stakeholders in ensuring security today.
<p style="text-align: center;">6 <u>Environment and Natural Resources</u></p> <p>Topics to be focused:</p> <p>a) Environmental Concerns</p> <p>b) Global Commons</p> <p>c) Common but differentiated Responsibilities</p> <p>d) India's Stand on Environment Issues</p> <p>e) Environmental Movements</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Environmental issues • Global commons • Responsibilities of developed and developing countries towards the conservation of the environment • Efforts taken by India at resource conservation and sustainable development 	<p>Presentation: Environmental issues</p> <p>Recapitulation</p> <p>Debate and discussion: <i>Indigenous communities of the world and their concerns</i></p> <p>Newspaper activity to inculcate concern, awareness and</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Enlist and explain the facts related to global environmental issues • Recognize and understand the need to conserve critical resources • Demonstrate knowledge

<p>f) Resource Geopolitics g) Rights of Indigenous peoples</p>	<ul style="list-style-type: none"> • Need to conserve critical resources like oil and water • Environmental movements • Concerns of indigenous communities, the role of governments and international organizations in protecting their rights. 	<p>environmental morality</p>	<p>and appreciation towards India's responsibility in protecting environment</p> <ul style="list-style-type: none"> • Realize the need to conserve resources and exhibit responsibility towards prudent use to facilitate sustainable development • Know about the nature of concerns of indigenous communities and understand how the governments of different countries respond to their plea
<p style="text-align: center;">7</p> <p style="text-align: center;"><u>Globalisation</u></p> <p>Topics to be focused:</p> <p>a) Concept of globalisation b) Causes and Consequences of globalisation c) India and globalization d) Resistance to globalization e) India and resistance to globalisation</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Concept of Globalisation. • Causes of Globalisation. • Political, economic, and cultural consequences of Globalisation. • Impact of Globalisation on India. • Resistance to globalisation and its future course. 	<p>Group discussion: <i>Positive and negative impact of globalization.</i></p> <p>Interpretation of Cartoons</p> <p>Question strategy</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Appreciate the significance of Globalization • Elucidate the political, economic, and cultural dimensions of Globalisation. • Critically evaluate the impact of globalisation on India.

			<ul style="list-style-type: none"> • Draw attention to resistance movements to Globalisation and envisage its future trends.
PART B-POLITICS IN INDIA SINCE INDEPENDENCE			
1 <u>Challenges of Nation Building</u>	Familiarize students with the: <ul style="list-style-type: none"> • Nature and challenges of Nation building • Causes and consequences of Partition of India. • Process of integration of princely states • Important role of Sardar Vallabhai Patel in the integration of princely states • Reorganisation of states 	Documentaries Discussion: <i>Causes and consequences of Partition</i> Live Experiences- <i>Meeting People who lived through this period.</i> Cartoon Interpretation Map Activity	After completion of the chapter, Students will be able to: <ul style="list-style-type: none"> • Analyse the challenges which Independent India faced. • Describe the factors that led to the partition of India. • Explain the circumstances under which different princely states signed the Instrument of Accession. • Assess how language became the basis of reorganisation of the states. • Evaluate the role played by leaders in Nation Building.
2 <u>Era of One-Party Dominance</u>	Familiarize students with the: <ul style="list-style-type: none"> • Challenge of establishing democracy in India. • Process of ensuring free and fair Elections. 	Group Discussion: <i>Recent changes in the electoral process</i> Comparative analysis: <i>Ideology of different political parties</i>	After completion of the chapter, Students will be able to: <ul style="list-style-type: none"> • Appreciate the sustenance of democratic politics in the country.

<p>b) Congress dominance in the first three general elections.</p> <ul style="list-style-type: none"> • Nature of Congress dominance • Congress as social and ideological coalition. • Tolerance and management of Factions <p>c) Emergence of opposition parties.</p>	<ul style="list-style-type: none"> • Nature and dominance of Congress party during the Post-Independence Period. • Emergence and role of opposition parties 	<p>Maps/Cartoons</p> <p>Question strategy</p> <p>Quiz</p>	<ul style="list-style-type: none"> • Evaluate the electoral politics post-Independence • Assess the dominance of the Indian National Congress from 1952 to 1967. • Evaluate the role of Opposition parties
<p style="text-align: center;">3</p> <p style="text-align: center;"><u>Politics of Planned Development</u></p> <p>Topics to be focussed:</p> <p>a) Political contestation.</p> <ul style="list-style-type: none"> • Ideas of Development. • Planning • Planning Commission <p>b) The Early Initiatives</p> <ul style="list-style-type: none"> • The First Five Year Plan. • Rapid Industrialisation. 	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Nature of conflict in achieving the twin objectives of economic growth and socio-economic justice. • Two models of development • Design or plan of development. • Emergence aims and objectives of the first two five-year plans. • Replacement of Planning Commission by National Institution for Transforming India (NITI Aayog) 	<p>Debate and Discussion: <i>First three 5-year plans.</i></p> <p>Comparative analysis: <i>The Left and Right ideology.</i></p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Identify the varied option considered by the government to balance growth and socio-economic justice. • Know the difference between Left and Right Ideology • Understand the need for the formation of the Planning Commission. • Appreciate the need for strategic long-term development programme and policies

<p style="text-align: center;">4</p> <p style="text-align: center;"><u>India's External Relations</u></p> <p>Topics to be focussed:</p> <p>a) International Context</p> <p>b) The Policy of Non-Alignment.</p> <ul style="list-style-type: none"> • Nehru's role • Distance from two camps. • Afro Asian Unity <p>c) Peace and conflict with China</p> <ul style="list-style-type: none"> • The Chinese Invasion 1962 • War and Peace with Pakistan • Bangladesh War 1971 <p>d) India's Nuclear Policy.</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Objectives and Principles of India's foreign policy • India's role as a founder of NAM and in forging Afro-Asian unity • Sino-Indian relationship – Pre and post 1962 invasion and its profound impact on Indian politics • India-Pakistan relationship since independence • Components of India's nuclear policy • Shifting alliances in World Politics 	<p>Presentation: <i>NAM founders, objectives, principles and its relevance in contemporary world politics</i></p> <p>Group discussion: <i>India's relations with China and Pakistan (past, present and future)</i></p> <p>Debate: <i>India's stand on shifting alliances</i></p> <p>Research and Report Writing</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Recognise the significance of NAM • Interpret, compare and contrast multi-lateral aspects of Indo-China relationship • Demonstrate knowledge on Indo-Pak wars • Appreciate the steps taken by Indian government to develop military capacity • Reflect and introspect on the choices that the country must consider for the cause of development and peace building
<p style="text-align: center;">5</p> <p style="text-align: center;"><u>Challenges to and Restoration of the Congress System</u></p> <p>Topics to be focused:</p> <p>a) Challenge of Political Succession</p> <ul style="list-style-type: none"> • From Nehru to Shastri 	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Challenge of Political Succession after Nehru • Split in Congress and opposition unity 	<p>Use of timeline</p> <p>Comparative analysis: <i>Political Succession</i></p> <p>Group discussion: <i>Changing electoral performance of the</i></p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Understand the challenges of political succession after Nehru. • Evaluate the opposition

<ul style="list-style-type: none"> • From Shastri to Indira Gandhi <p>b) Fourth General Election 1967</p> <ul style="list-style-type: none"> • Context of the Election. • Non Congressism • Electoral Verdict • Coalitions • Defections <p>c) Split in the Congress</p> <ul style="list-style-type: none"> • Indira vs the Syndicate • Presidential Election 1969 <p>d) The 1971 Election and Restoration of Congress</p> <ul style="list-style-type: none"> • The outcome and after • Restoration? 	<ul style="list-style-type: none"> • New Congress led by Indira Gandhi • Restoration of the Congress system. 	<p><i>congress</i></p> <p>Interpretation of cartoons</p> <p>Map Activity</p>	<p>unity and the Congress split as a challenge to Congress dominance.</p> <ul style="list-style-type: none"> • Compare and contrast the new Congress and the old Congress. • Summarize the initiatives taken by Indira Gandhi to overcome the challenges faced by her • Analyze the process of restoration of the Congress system
<p style="text-align: center;">6</p> <p style="text-align: center;"><u>The Crisis of Democratic Order</u></p> <p>Topics to be focused:</p> <p>a) Background to Emergency.</p> <ul style="list-style-type: none"> • Economic Context. • Gujarat and Bihar Movements • Conflict with Judiciary <p>b) Declaration of Emergency</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Economic conditions before Emergency. • Gujarat and Bihar movements. • Conflict between Executive and Judiciary. • Consequences of 	<p>Group discussion: <i>Based on Newspaper articles and other media information with respect to emergency</i></p> <p>Quiz</p> <p>Cartoon Interpretation</p> <p>Map Activity</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Understand the causes and consequences of Emergency • Examine the lessons of Emergency • Evaluate the rule of Janata

<ul style="list-style-type: none"> • Crisis and response • Consequences <p>c) Lessons of the Emergency. d) Politics after Emergency.</p> <ul style="list-style-type: none"> • Lok Sabha Elections 1977 • Janata Government • Legacy 	<p>Emergency.</p> <ul style="list-style-type: none"> • Lessons of Emergency. • Lok Sabha Elections-1977. 		<p>Government</p>
<p style="text-align: center;">7</p> <p style="text-align: center;"><u>Regional Aspirations</u></p> <p>Topics to be focused:</p> <p>a) Region and the Nation</p> <ul style="list-style-type: none"> • Indian Approach • Areas of Tension • Jammu and Kashmir • Roots of the Problem • External and Internal disputes • Politics since 1948 • Insurgency and After • 2022 and Beyond <p>b) Punjab</p> <ul style="list-style-type: none"> • Political Context • Cycle of Violence • Road to Peace <p>c) The Northeast</p> <ul style="list-style-type: none"> • Demand for autonomy • Secessionist Movements • Movements against outsiders • Assam and National 	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Rise of regional aspirations and government's response • Underlying reasons for demands for regional autonomy • Success of Indian government in recognizing regionalism as a part and parcel of democratic politics. 	<p>Group discussion:</p> <p><i>Demands of Autonomy in different parts of the country.</i></p> <p>Comparative analysis:</p> <p><i>Government's response to regional aspirations</i></p> <p>Quiz.</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Discuss the implications of regional demands. • Analyse the importance of integrity in India. • Appreciate the initiatives taken by the government in dealing with regional aspirations

Integration.			
<p style="text-align: center;">8</p> <p style="text-align: center;"><u>Recent Developments in Indian Politics</u></p> <p>Topics to be focused</p> <p>a) Context of 1990s</p> <p>b) Era of Coalition</p> <ul style="list-style-type: none"> • Alliance Politics <p>c) Political rise of the Backward Classes</p> <ul style="list-style-type: none"> • Mandal Implemented • Political Fallout <p>d) Communalism, Secularism and Democracy.</p> <ul style="list-style-type: none"> • Ayodhya Dispute • Demolition and after <p>e) Emergence of New Consensus</p> <p>f) Lok Sabha Elections 2004</p> <p>g) Growing Consensus</p>	<p>Familiarize students with the:</p> <ul style="list-style-type: none"> • Nature, trends and developments in Indian politics and its impact • Era of Coalitions-National Front, United Front, United Progressive Alliance, National Democratic Alliance • Implications of Coalition politics • Political Rise of Other Backward Classes • Decline of Congress system and rise of NDA led by Bhartiya Janta Party • Emergence of growing consensus 	<p>Comparative analysis: <i>Different developments taking place in present scenario with that of twentieth century.</i></p> <p>Timeline</p> <p>Interpretation of Cartoons/Caricatures</p> <p>Quiz</p> <p>Reflective Enquiry</p>	<p>After completion of the chapter, Students will be able to:</p> <ul style="list-style-type: none"> • Understand momentous changes taking place in the nation since 1989 • Trace the rise and growth of BJP. • Identify the areas of growing consensus

Prescribed Books:

1. Contemporary World Politics, Class XII, Published by NCERT
2. Politics in India since Independence, Class XII, Published by NCERT
3. Added Reference Material available with the document in the Annexure

Note:

The above textbooks are also available in Hindi and Urdu versions.

CLASS XI-XII
QUESTION PAPER DESIGN

S. No.	Competencies	Marks	Percentage
1	Knowledge and Remembering: Exhibit memory of previously learned material by recalling facts, terms, basic concepts.	22	27.5%
2	Understanding: Understanding of facts and ideas by organizing, comparing, explaining, describing, and stating main ideas.	24	30%
3	Applying: Solve problems by applying acquired knowledge, facts to interpret a situation/ cartoon/ clippings/ sources/ Map	22	27.5%
4	Analysis and Evaluation: Classify, compare, contrast, or differentiate between pieces of information; organize and/ or integrate from a variety of sources; Examine, synthesize information into parts and identify motives or causes. Make inferences and find evidence to support generalizations.	12	15%
		80	100%

Note: Competency based questions for the examinations to be conducted in the academic year 2023-24 will be 40% in class XII

QUESTION PAPER DESIGN

Book	Objective Type/ MCQ (1 Mark)	Short Answers Type I (2 Marks)	Short Answers Type II (4 Marks)	Passage /Map / Cartoon based (4 Marks)	Long Answers (6 Marks)	Total Marks
Book 1 Contemporary World Politics	6	3	3	1(Passage)	2	40
Book 2 Politics in India since Independence	6	3	2	2(Cartoon and Map)	2	40
Project/Practical						20
Total No. of Marks and Questions	1x12=12	2x6=12	4x5=20	4x3=12	6x4=24	80+20=100

➤ **Scheme of Options:**

- Question paper will be in five parts (A, B, C, D & E). There will be an internal choice in Part C (Short Answer Type II in one or two questions) and Part-E. (Long Answers in all the questions)
- In order to assess different mental abilities of learners, question paper is likely to include questions based on passages, visuals such as maps, cartoons. No factual question will be asked on the information given in the plus (+) boxes in the textbooks.
- Map question can be given from any lesson of Book 2(Politics in India since Independence); but weightage of lessons should remain unaltered.
- Cartoon and passage-based questions can be asked from either textbook, but weightage of lessons should be maintained.

CLASS XI & XII
GUIDELINES FOR PROJECT WORK

Project Work: 20 Marks

Rationale

Political Science as a field of study in senior secondary classes enable students to get an exposure to political activities and processes that they are exposed to in everyday life. The study of political science has emerged as a multifaceted discipline, involving a contemporary interdisciplinary approaches and empirical framework, emphasizing more on field work rather than theoretical perceptions. The connect between government and citizen ensures the emergence of an active and reflective citizens and vibrant democracy. CBSE has therefore incorporated project work in Political Science to enable students to extend their interest beyond textbooks and provide them with a platform to gather information, value the decisions made to shape the community and visualize future course of action to be taken to ensure healthy democracy.

Objectives of project work:

- To enable learners to probe deeper, initiate action and reflect on knowledge and skills acquired during the course of class XI and XII
- To analyze and evaluate real world scenarios using social constructivism, a theory based on observation and scientific study
- To become independent and empowered to choose their topic and gather data from a variety of source, investigate varied viewpoints acquired during the course XI-XII and arrive at logical deductions.
- To enquire into, and reflect on, issues independently /in collaboration with others and identify the limitations
- To develop 21st century skills of communication, cooperation, coordination, critical thinking, creativity and collaboration to produce an extended and independent work.

Role of the teacher:

A teacher should:

- help each learner select the topic based on recently published extracts from the news media, government policies, RBI bulletin, NITI Aayog reports, IMF/World Bank reports etc., after detailed discussions and deliberations of the topic.
- play the role of a facilitator to support and monitor the project work of the learner through periodic discussions.
- guide the research work in terms of sources for the relevant data
- ensure that students understand the relevance and usage of primary evidence and other sources in their projects ensure that students are able to derive a conclusion from the content; cite the limitations faced during the research and give appropriate references used in doing the research work
- educate learner about plagiarism and the importance of quoting the source of the information to ensure authenticity of research work

Project overview:

- The Project work will be implemented for 20 Marks.
- Out of 20 marks, 10 marks are to be allotted to viva voce and 10 marks for project work.
- For class XII, the evaluation for 20 marks project work should be done jointly by the internal and external examiners and for class XI the evaluation can be done by the internal examiner.
- The project can be individual/pair/group of 4-5 each. The Project can be made on any of the topics given in the syllabus of a particular class or any contemporary issues.
- The project work can be culminated in the form of films, albums, songs, storytelling, debate, Role Play, Skit, Presentation, Model, Field Survey, Mock Drills/Mock Event etc.
- The teacher should give enough time for preparation of the Project Work. The topics for Project Work taken up by the student must be discussed by the teacher in classroom.

- Students can use primary sources available in city archives, Primary sources can also include newspaper cuttings, photographs, film footage and recorded written/speeches. Secondary sources may also be used after proper authentication.

Viva-Voce

- At the end of the stipulated term, each learner will present the research work in the Project File to the External and Internal examiner.
- The questions should be asked from the Research Work/ Project File of the learner.
- The Internal Examiner should ensure that the study submitted by the learner is his/her original work.
- In case of any doubt, authenticity should be checked and verified.

The marks will be allocated under the following heads:

SL.NO.	COMPONENTS	MARKS ALLOTTED
1.	INTRODUCTION/OVERVIEW	2
2.	VARIETY OF CONTENTS	3
3.	PRESENTATION	3
4.	CONCLUSION	1
5.	BIBLIOGRAPHY	1
6.	VIVA-VOCE	10
	TOTAL	20

Class XII: Assessment will be done by external examiner in coordination with internal examiner and the date of Project Assessment will be fixed by CBSE. The project reports are to be preserved by the school till the final results are declared, for scrutiny by CBSE.

Class XI: Assessment will be done by internal examiner.

Suggested Topics

CLASS XI

1. Making of the Constitution.
2. Elections in India.
3. Working of the Indian Judiciary System.
4. Social Justice: Are ethics followed in Indian Politics
5. Human Rights Act and its gratification in India.
6. Political impact on Indian Legislation.

CLASSXII

- 1.NAM- 1961 to present times.
2. Division of Germany with special focus on the construction and dismantling of the Berlin Wall.
3. CIS-Central Asian Republics
4. Disintegration of USSR with special focus on Gorbachev.
5. Arab Spring
6. Cover the negative as well as positive aspects of relationship between India and the following countries.

Focus on any one of the following (current updates should be highlighted):

- a) Relationship between India and Russia
- b) Relationship between India and China
- c) Relationship between India and Pakistan
- d) Relationship between India and Bangladesh

7.ASEAN

8. European Union and BREXIT
9. BRICS
10. SAARC
11. India's Nuclear Policy
12. United Nations with focus on India's candidature in Security Council.
13. UN Agencies – UNICEF, UNESCO, WHO
14. Pandemics: Covid 19- Its global impact (focus on worldwide cooperation and preparedness along with controversies
(please collect newspaper clippings for the same)
15. Partition of India-Theory behind it and its legacy
16. Comparison between NITI AAYOG and Planning Commission and their contribution in India's Development.
17. Election 2019- Rise of BJP and Downfall of Congress (1989-2019).
18. Emergency – A blot on Indian Democracy
- 19.NDA III and NDA IV – Social and Economic welfare programmes.

ANNEXURE

NOTE: The additional reference material is for classroom transaction and will not be assessed in the Board examination.

ADDITIONAL REFERENCE MATERIAL

CLASS XI

Part A - Indian Constitution at Work

Chapter -3: Election and Representation

Sub-Topic: 'Electoral Reforms in Indian Politics'

Electoral Reforms in the 21st Century include use of EVM [Electronic Voting Machine], VVPAT [Voter Verifiable Paper Audit Trail] and NOTA [None of the Above]. Restriction on exit polls, ceiling on election expenditure has been raised from 70 lakhs to 95 lakh rupees in bigger states like Maharashtra, Madhya Pradesh, Uttar Pradesh, West Bengal and Karnataka. And 54 lakhs to 75 lakhs in Smaller States which include Goa, Sikkim, Arunachal Pradesh and UTS for the Lok Sabha elections. For Assembly elections, expenditure limits have been enhanced from 28 lakh rupees to 40 lakhs in bigger states and from 20 lakhs to 28 lakhs in smaller states and the use electoral bonds in election funding are some of the major reforms initiated by the Election Commission of India that have sought to bring about revolutionary changes in the electoral process and the voter behavior in contemporary India.

Chapter 6: Judiciary

Sub-Topics: 'Judiciary Overreach'

When judiciary assumes the roles and functions of the legislature and executive, thus diluting the concept of separation of powers, it becomes judicial overreach. Unrestrained activism on the part of judiciary often leads to its overreach.

We all know that Article 142 and judicial review have been put to many constructive uses but some actions like declaring the NJAC (National Judicial Appointment Commission) unconstitutional as it tried to apply checks on judicial power highlight the need for judicial restraints in the exercise of judicial review.

Chapter 7: Federalism

Sub-Topics: 'Quasi Federalism'. 'Competitive Federalism'

Quasi Federalism: In the context of special features and provisions of Indian federalism we use the phrase, 'Quasi Federalism', a concept given by K. C. Wheare. Quasi federalism represents a strong centre with comparatively less strong units. Wheare describes the Indian case in its formative phase as a 'quasi federation – A unitary state with subsidiary federal features rather than a federal state with subsidiary unitary features'.

Cooperative Federalism: Cooperative federalism is the concept which reflects the relationship between the Union and the States where both come together and resolve the common problems with each other's cooperation in amicable manner thus contributing towards the growth of a strong federation. It shows the horizontal relationship between the Union and the States where none is placed over and above on the other. To ensure this strong relationship between the two, the Indian constitution has evolved and incorporated certain instruments and agencies like the Inter-State Councils, Zonal Councils, the 7th Schedule, etc.

Competitive Federalism: Competitive federalism places all states vis a vis the Union on equal and competing footing where the best performing states can take the maximum benefits of the resources, services and taxes. It ensures a healthy competition among states leading towards better performance and delivery which constitute important part of governance. The post- liberalization era reflects the trend of competitive federalism where states are more autonomous, accountable, and efficient in their functioning.

Chapter 9: Constitution as a Living Document

Sub-Topics: Constitution Amendments

As of 2021, there have been total 105 amendments of the Constitution of India.

Source: <https://legislative.gov.in/amendment-acts-102-to-onwards>

Part B- Political Theory

Chapter 2: Freedom

Sub-Topics: 'Liberty vs Freedom'

We hear a lot around us that people appear to use the word liberty and freedom as synonyms of each other. But there are some fundamental differences between these two concepts that must be understood. Liberty comes from the Latin word "libertatem" which means "condition of a freeman". While freedom come from the English word "freedom" which means "state of free will". Liberty is power to act and express oneself according to one's will while freedom is the power to decide one's action. Freedom is more concrete concept than liberty which is more associated with an individual's connection with the state rather than with other individuals and circumstances. State guarantees freedom through the liberty it grants to its citizens.

The difference between these two concepts can briefly be outlined as follows:

Liberty	Freedom
• Condition of a freeman	State of freewill
• Power to act	Power to decide
• Free to do something	Free from something

The common feature between these two concepts is that both remain unconstrained, which means that their realization is free from any constrain. Further, both follow rightful or ethical conformity in terms of their realization.

Chapter 4: Social Justice

Sub-Topics: 'Different Dimensions of justice'

Till now we have tried to understand what the term justice means. After considering this, we need to know different dimensions of justice which may help us in establishing a just society. Legal, social, political and economic justice are the key dimensions of justice. Here, we will try to understand these dimensions in some details.

Legal Justice: It is a narrow concept of justice which is associated with the legal system and legal procedure existing in a society. The court of law interprets the law and applies it after hearing the partners involved in a dispute. Here, justice is what administered by the court of law and the interpretation of the judge is considered to be an embodiment of justice.

Political Justice: In any democratic society political justice means providing equal political rights. Political justice stands for a free and fair participation of people in the political sphere. Universal adult franchise is the expression of political justice. Equality of opportunity in getting elected and in holding public offices, freedom of expression and association are important pillars of political justice.

Social Justice: It means to end all types of social inequalities and to provide proper opportunity to every citizen in every sphere of life, to develop her/his personality to ensure equality of law, prohibition of discrimination, social security, provision of equal political rights, etc. The concept of social justice is based on the belief that all human beings are equal and no discrimination should be made on the ground of race, religion, caste, gender and place of birth.

Economic Justice: It means to provide equal opportunities to everyone to earn her/his livelihood. It also means to help such people who are not able to work and earn their livelihood. The basic need of every person such as food, cloth, shelter and education should be fulfilled. It stands for by assuring adequate means of livelihood to all, by making provisions for equal pay for equal work, fair distribution of resources, equal economic opportunity to all, etc.

While the concept of political justice is closely linked with the ideal of “liberty”, economic and legal justice with “equality” and social justice with “fraternity”, a just combination of all these four dimensions will help in achieving justice in life.

Chapter 5: Rights
Sub-Topics: 'Human Rights'

Human rights are those rights which all human beings are entitled by virtue of being human. It is based on the principle of respect for the individual. The fundamental assumption behind the concept of human rights is that every person is amoral and rational being who deserves to be treated with dignity. Human rights are both universal and fundamental; these are universal in the sense that they belong to all human beings irrespective of race, nationality, community, religion, gender, etc.; these are also fundamental because once given, these cannot be taken back.

Although the presence of human rights can be traced to the ancient Indian philosophy and culture, the concept formally originated at the international level in 1948 with the UN Declaration of Human Rights listing 30 rights for all people across the globe.

Chapter 7: Nationalism
Sub-Topics: 'Multiculturalism'

Multiculturalism in the general sense is the coexistence of people of different religions, cultural groups and communities in all countries of the globe. Originated in the 1970s with a counter-culturalism and human rights movement in opposition to the homogenization of other cultures in favor of the white culture of America and Europe, multiculturalism broadly comprises the principles of both 'acceptance' and 'reverence'. It expects all countries of the globe to give equal acceptance and reverence to the cultural groups. In the India context, the concept of multiculturalism is identified with the notion of "Salad Bowl", advocated by social scientist, Ashish Nandy. It shows that different cultural groups within a nation maintain their identity with their respective distinct forms.

CLASS XII (2023-24)

Part A: Contemporary World Politics

Chapter-1: The End of Bipolarity

Sub-Topic: 'Arab Spring'

The 21st century witnessed emergence of new developments for democracies and democratization in West Asian countries, one such event is characterized as Arab Spring that began in 2009. Located in Tunisia, the Arab Spring took its roots where the struggle against corruption, unemployment and poverty was started by the public which turned into a political movement because the people considered the existing problems as outcome of autocratic dictatorship. The demand for democracy that started in Tunisia spread throughout the Muslim-dominated Arab countries in West Asia. Hosni Mubarak, who had been in power in Egypt since 1979, also collapsed as a result of the massive democratic protests. In addition, the influence of Arab Spring could also be seen in Yemen, Bahrain, Libya and Syria where similar protests by the people led to democratic awakening throughout the region.

Chapter-2: Contemporary Centre's of Power

Sub-Topic: 'BRICS'

The term BRICS refers to Brazil, Russia, India, China, and South Africa respectively. BRIC was founded in 2006 in Russia. BRIC turned into BRICS after the inclusion of South Africa in its first meeting in the year 2009. The key objectives of BRICS are primarily to cooperate and distribute mutual economic benefits among its members besides non-interference in the internal policies of each nation and mutual equality. The 11th conference of the BRICS concluded in Brazil in 2019, chaired by Brazilian President Jair Bolsonaro.

Sub-Topic: 'Russia'

Russia has been the largest part of the former Soviet Union even before its disintegration. After the dissolution of the Soviet Union in late 1980s and early 1990s, Russia emerged as the strong successor of USSR [Union of Soviet Socialist Republics].

Russia's GDP is currently 11th in the world. Russia has reserves of minerals, natural resources and gases that make it a powerful country in the global world. In addition, Russia is a nuclear state with a huge stock of sophisticated weapons. Russia is also a permanent member of the UN Security Council, called P-5.

Sub-Topic: 'India'

The 21st century India is being seen as an important emerging global power. The world is experiencing the power and rise of India in a multidimensional way. The economic, cultural, strategic position of the country with a population of more than 135 crores is very strong. From an economic perspective, targeting the goal of a \$5 trillion economy, a competitive huge market, an ancient inclusive culture with 200 million people of Indian Diaspora spreading across the globe impart distinct meaning and salience to India as a new Centre of power in the 21st century.

From a strategic perspective, the military of India is self-sufficient with indigenous nuclear technology making it another nuclear power. 'Make in India' scheme in technology and science is another milestone of Indian economy. All these changes are making India an important Centre of power in the present world.

Sub-Topic: 'Israel'

Shown on the world map with a pointer, Israel has emerged as one of the most powerful nations in the 21st century world in terms of science and technology, defence, intelligence besides economy. Situated in the middle of the burning politics of West Asian countries, Israel has reached to the new heights of global political standing by virtue of its indomitable defence prowess, technological innovations, industrialization and agricultural development. Sustaining against adversity is the principle with which a small Jewish-Zionist nation, i.e., Israel is placed in the contemporary global politics in general and the Arab-dominated West Asian politics in particular.

Chapter-4: International Organisation

Sub-Topic: 'UNESCO'

The United Nations Educational, Scientific and Cultural Organization (UNESCO) was established on 4 November 1946. With its headquarter in Paris, France, UNESCO is a special body of the United Nations whose main objective is to promote education, natural science, society and anthropology, culture and communication. During past several years, the special work done by UNESCO has been to promote literacy, technical and educational training and independent media etc. all across its member nations.

Sub-Topic: 'UNICEF'

The United Nations International Children's Emergency Fund (UNICEF) was established in 1946 by the United Nations General Assembly as a body whose main task was to collect emergency funds for children and to help in their development work all across the world. Apart from this, UNICEF helps and encourages the works that promote children's health and better life in all parts of the world. With its' headquarter in New York, United States, UNICEF has been working successfully in almost all 193 countries of the world.

Sub-Topic: 'ILO'

The International Labour Organization (ILO), founded in October 1919 with its headquarter in Geneva, Switzerland, is a body of the United Nations which aims to promote efficient conditions of social justice and work for workers through international labour standards at the global level. In addition, there is an incentive for women and male workers to engage in productive work and to create safety, parity and self-respectful conditions for them at the workplace.

Chapter-5: Security in the Contemporary World

Sub-Topic: 'Terrorism'

Terrorism refers to systematic use of brutal violence that creates an atmosphere of fear in society. It is used for many purposes, very prominently the politico-religious purposes.

There could be three broad meanings of terrorism:

- A systematic use of terror, often violent, especially as a means of coercion.
- Violent acts which are intended to create fear (terror); are perpetrated for a religious, political or, ideological goal; and deliberately target or disregard the safety of non-combatants (civilians).
- Acts of unlawful violence and war.

There is not a single nation in the world that does not suffer from terrorism. Although some countries have tried to divide terrorism into good and bad terrorism, India has always denied this distinction. India's current Prime Minister Narendra Modi has also clarified that terrorism cannot be divided into good or bad; it is a global problem and should be combated collectively.

Part B: Politics in India since Independence

Chapter-1: Challenges of Nation Building

Sub-Topic: 'Patel and National Integration'

The first deputy Prime Minister and Home Minister of India, Sardar Vallabhbhai Patel, emerged as a major leader of the freedom movement after the Kheda Satyagraha (1918) and the Bardoli Satyagraha (1928).

At the time of independence, the problem of integration of princely states was a big challenge for the national unity and integrity of India. Under such difficult times, Sardar Patel undertook the daunting tasks of uniting all 565 princely states of India. Known as an 'Iron Man' of India, Patel's approach to the question of the merger of princely states into independent India was very clear. He was not in favour of any compromise with the territorial integrity of India. By his political experience, diplomatic prowess and foresightedness, out of India's 565 princely states many had already given their consent to merge with India even before achieving the independence.

Sardar Patel faced key challenges of integration from three states, viz., Hyderabad, Junagarh and Kashmir. It was under his leadership that Indian forces compelled Hyderabad and Junagarh to merge with India. Keeping well-versed with Pakistan's intentions from Jinnah's divisive 'Two Nation Theory', Sardar Patel's opinion on Kashmir was different from other leaders. Like Hyderabad, he also wanted Kashmir's integration with India through military operations. But due to various reasons, Sardar Patel could not succeed in integrating Kashmir fully with India. However, Patel will always remain as an astounding leader who combined in himself the features of a true 'Nationalist', 'Catalyst' and 'Realist' – popularly characterised as NCR in Indian political history.

Chapter-3: Politics of Planned Development

Sub-Topic: 'NITI Aayog'

After independence, a Planning Commission based on socialist model was formed for the planned development of India. But in the era of globalization, especially in the 21st century, it was becoming ineffective and irrelevant, particularly in terms of coping with the pressing challenges of development. Hence, during his Independence Day speech on 15 August 2014, Prime Minister Narendra Modi talked about the abolition of the Planning Commission. NITI Aayog was constituted in place of Planning Commission on 1 January 2015 with the objective of providing the necessary and technical advice to the Union Government regarding policy making at the Central and State levels.

The Prime Minister of India is the ex-officio Chairman of NITI Aayog and he appoints the Vice Chairperson of NITI Aayog. The first Vice Chairperson of NITI Aayog was Arvind Panagariya. Shri Suman Bery is the current Vice Chairperson of NITI Aayog.

To harmonize the interests of national security and economic policy and to prepare strategic and long-term framework of policy and program, NITI Aayog acts as a think tank of the Union Government. By adopting a 'Bottom-Up Approach', the NITI Aayog acts in the spirit of cooperative federalism as it ensures equal participation of all states in the country.

Sub-Topic: National Development Council (NDC)

The National Development Council (NDC) or Rashtriya Vikas Parishad is the apex body for decision creating and deliberations on development matters in India, presided over by the Prime Minister. It was set up on 6 August 1952 under the chairmanship of India's first Prime Minister Pandit Jawaharlal Nehru to strengthen and mobilize the effort and resources of the nation in support of the Five Year Plans made by Planning Commission. The Council comprises the Prime Minister, the Union Cabinet Ministers and Chief Ministers of all States or their substitutes, representatives of the Union Territories and the members of the NITI Aayog (erstwhile Planning Commission).

Objectives of the Council:

- To secure cooperation of the states in the execution of the plan
- To strengthen and mobilize the effort and resources of the nation in support of the Plan
- To promote common economic policies in all vital spheres and
- To ensure the balanced and rapid development of all parts of the country.

Functions of the Council:

- To prescribe guidelines for the formulation of the National Plan, including the assessment of resources for the Plan;
- To consider the National Plan as formulated by the NITI Aayog.
- To make an assessment of the resources required for implementing the Plan and to suggest measures for augmenting them.
- To consider important questions of social and economic policy affecting national development; and
- To review the working of the Plan from time to time and to recommend such measures as are necessary for achieving the aims and targets set out in the National Plan.
- To recommend measures for achievement of the aims and targets set out in the national Plan.

Chapter-4: India's External Relations

Sub-Topic: 'India-Israel Relation'

Nearly 45 years after independence, due to various reasons, India's foreign policy with Israel remained largely unexplored notwithstanding the two nations gaining independence from the British colonial rule in 1947 and 1948 respectively.

Though historical and cultural ties between India and Israel have gone back from times immemorial, diplomatic relations formally developed between the two after the opening of Israeli embassy in India in 1992.

Relations between the two democratic nations further intensified with the visits of the Two Heads of Government in 2017 and 2018. The two nations have started cooperation in various fields like cultural exchange, security and defense, counterterrorism, space research, water and energy and agricultural development.

Sub-Topic: 'India's Nuclear Program' (Updates)

India's nuclear policy has always been peace-oriented, whose clear impression is reflected in the policy of No First Use. But in view of contemporary regional security challenges, the present government has made it clear that the policy of no first use can be reviewed and changed in consonance with India's regional and national security. In addition, India is committed to ensuring its membership in the Nuclear Suppliers Group (NSG) and opposing partisan and unjust nuclear treaties like CTBT and NPT.

Chapter-6 The Crisis of Democratic Order

Sub-Topic: Jaya Prakash Narayan

Jaya Prakash Narayan is known for three key contributions: Fight against Corruption, Principle of Communitarian Socialism and Championing of 'Total Revolution'.

Jaya Prakash Narayan was the first leader in post-independence India who undertook a tirade against corruption through the participation of youth, particularly in Gujarat and Bihar. He the office of Lokpal against corruption. His principle of

Communitarian Socialism views India as a society of communities encompassing three key layers, viz., community, region and rashtra – all combining together as an example of true federation.

Based on the above principles, Jaya Prakash Narayan advocated transformation of individual, society and state through his call for 'Total Revolution'. His call for total revolution sought to encompass moral, cultural, economic, political, educational and ecological transformations. His political transformation included the right to recall, the importance of village/ mohalla samities in democratic politics, and his call for Upper Ke Log to join political struggle for a clean politics in the country.

The essence for transformation according to Jaya Prakash Narayan revolves around 'Man' who could be the real catalyst of change in India.

Sub-Topic: 'Ram Manohar Lohia and Socialism'

Ram Manohar Lohia has been one of the main proponents of socialism in India. He championed the idea of 'Democratic Socialism' while associating his socialism with democracy. Lohia considered both capitalism and communism equally irrelevant for Indian society. His principle of Democratic Socialism has two objectives - the economic objective in form of food and housing. And the non-economic objective in form of democracy and freedom.

Lohia advocated Chouburja Rajneeti in which he opines four pillars of politics as well as socialism: Centre, Region, District and Village – all are linked with each other. Giving consideration to affirmative action, Lohia argued that the policy of affirmative action should not only be for the downtrodden but also for the women and the non-religious minorities.

Based on the premise of Democratic Socialism and Chouburja Rajneeti, Lohia supported a 'Party of Socialism' as an attempt of merging all political parties. The Party of Socialism according to Lohia should have three symbols, viz., Spade [prepared to make efforts], Vote [power of voting], and Prison [Willingness to make sacrifices].

Sub-Topic: 'Deendayal Upadhyaya and integral Humanism'

Pandit Deendayal Upadhyaya was a philosopher, sociologist, economist and politician. The philosophy presented by him is

called 'Integral Humanism' which was intended to present an 'indigenous socio-economic model' in which human being remains at the centre of development. The aim of Integral Humanism is to ensure dignified life for every human being while balancing the needs of the individual and society. It supports sustainable consumption of natural resources so that those resources can be replenished. Integral Humanism enhances not only political but also economic and social democracy and freedom. As it seeks to promote diversity, it is best suited for a country as diverse as India.

The philosophy of Integral Humanism is based on the following three principles:

- Primacy of whole, not part
- Supremacy of Dharma
- Autonomy of Society

Pandit Deendayal Upadhyaya opposed both Western 'capitalist individualism' and 'Marxist socialism'. According to Deendayal Upadhyaya, capitalist and socialist ideologies only consider the needs of the human body and mind, so they are based on materialistic purpose whereas spiritual development is equally considered important for the complete development of human being which is missing in both capitalism and socialism. Basing his philosophy on the internal conscience, pure human soul to be called Chhitti, Deendayal Upadhyaya envisaged a classless, casteless and conflict-free social system. DeenDayal Upadhyaya advocated Indianization of Democracy, particularly with a focus on Economic Democracy. For him, decentralization & Swadeshi are the foundation of Economic Democracy. His philosophy broadly revolved around the principle of Arthayaam which states that both the absence and prominence of artha lead to the destruction and denigration of Dharma which is so central to Integral Humanism.

Sub-Topic: 'Democratic Upsurges'

Increasing participation of the people in the democratic politics of the country is broadly characterised as democratic upsurge. Based on this principle, social scientists have characterized three democratic upsurges in post- independence history of

India.

The 'First Democratic Upsurge' could be attributed from the 1950s till 1970s which was based on the participation of Indian adult voters to the democratic politics both at the Centre and in states. Falsifying the western myth that the success of democracy requires modernization, urbanization, education and access to media, the successful holding of elections to both Lok Sabha and legislative assemblies all across states on the principle of parliamentary democracy were the testimony of India's first democratic upsurge.

During the 1980's, the increasing political participation of the lower classes of the society such as SCs, STs and OBCs has been interpreted as 'Second Democratic Upsurge'. This participation has made Indian politics more accommodative and accessible for these classes. Although this upsurge has not made any major change in the standard of living of these classes, especially Dalits, the participation of these classes into the organizational and political platforms gave them the opportunity to strengthen their self-respect and ensure empowerment in the democratic politics of the country.

The era of Liberalization, Privatization and Globalization from the early 1990s is attributed to the emergence of a competitive market society encompassing all important sectors of economy, society and polity thus paving way for the 'Third Democratic Upsurge'. The Third Democratic Upsurge represents a competitive electoral market which is based not on the principle of survival of the fittest but rather the survival of the ablest. It underlines three shifts in India's electoral market: from State to Market, from Government to Governance, from State as Controller to State as Facilitator. Moreover, the Third Democratic Upsurge seeks to promote the participation of the youth who constitute a significant chunk of Indian society and have emerged as the real game changers in view of their increasing electoral preference for both development and governance in India's contemporary democratic politics.

Chapter-7: Regional Aspiration

Sub-Topic: 'The Kashmir Issue'

Since its integration with the Union of India, Kashmir has remained one of the burning issues in post-independence India. The problem became more complicated when it was accorded a special status in the Constitution through Article 370 and Article 35A – the former giving it special powers like having its separate Constitution/Constituent Assembly/Flag, new nomenclature for Chief Minister as Prime Minister and Governor as Sadr-e-Riyasat, and the non-enforcement of most of the Union laws in the state while the later imparting it special citizenship rights prohibiting the non-Kashmiris from buying property in the state.

It was against the special status of the state of Jammu and Kashmir that there was a clarion call for abrogation of Articles 370 and 35A. Others equated Article 370 and 35A as 'constitutionally recognized separatism'.

It was against this backdrop that current NDA Government presented the Jammu and Kashmir Reorganization Bill in Rajya Sabha on 5 August 2019 for the abolition of Section 370 and 35-A from Kashmir, which was passed by a majority. The bill was passed by the Lok Sabha on 6 August 2019. After the President's assent on 9 August 2019, Sections 370 and 35A were repealed and Jammu and Kashmir got divided into two Union Territories of Ladakh and Jammu and Kashmir.

Chapter-8: Recent Development in Indian Politics

Sub-Topic: 'NDA III & IV'

The Bharatiya Janata Party led by Prime Minister Narendra Modi got an absolute majority in the Lok Sabha elections held in May 2014 and after nearly 30 years in Indian politics, a strong government with an absolute majority was established at the Centre. Though called NDA III, the BJP-led coalition of 2014 was largely different its predecessor coalition governments. Where the previous coalitions were led by one of the national parties, the NDA III coalition was not only steered by a national

party, i.e., BJP it was also dominated by BJP with an absolute majority of its own in Lok Sabha. It was also called a 'surplus majority coalition'. In that sense a major transformation could be seen in the nature of coalition politics which could be seen from one party led coalition to one party dominated coalition.

The 2019 Lok Sabha elections, the 17th since independence, once again brought back BJP led NDA [NDA IV] to the centre of power by winning more than 350 seats out of 543. The BJP on its own won 303 seats in Lok Sabha, the biggest number any single party has won in the lower house since 1984 when Congress swept the elections in the aftermath of Mrs Indira Gandhi's assassination. Based on the tumultuous success of the BJP in 2019, Social Scientists have started equating the contemporary party system with the 'BJP System' where an era of one-party dominance, like the 'Congress System' has once again started appearing on the democratic politics of India.

Sub-Topic: 'Issues of Development and Governance'

In addition to schemes already existing, several socio-economic welfare schemes have been initiated to make development and governance accessible to the masses such as –

Pradhan Mantri Ujjwala Yojana, Swachh Bharat Abhiyan, Jan-Dhan Yojana, Deendayal Upadhyaya Gram Jyoti Yojana, Kisan Fasal Bima Yojna, Beti Bachao Beti Padhao, Ayushman Bharat Yojana, etc. All these schemes are intended to take administration to the doorstep of the common man by making the rural households, particularly the women, real beneficiaries of the Central Government schemes.

COURSE STRUCTURE
CLASS XI (2023-24)

One Paper

Total Period–240 [35 Minutes each]

Three Hours

Max Marks: 80

No.	Units	No. of Periods	Marks
I.	Sets and Functions	60	23
II.	Algebra	50	25
III.	Coordinate Geometry	50	12
IV.	Calculus	40	08
V.	Statistics and Probability	40	12
	Total	240	80
	Internal Assessment		20

*No chapter/unit-wise weightage. Care to be taken to cover all the chapters.

Unit-I: Sets and Functions

1. Sets

(20) Periods

Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets, Subsets of a set of real numbers especially intervals (with notations). 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 $R \times R \times R$). 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 quotients 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 $\sin^2x + \cos^2x = 1$, 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:

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

$$\sin \alpha \pm \sin \beta = 2 \sin \frac{1}{2}(\alpha \pm \beta) \cos \frac{1}{2}(\alpha \mp \beta)$$

$$\cos \alpha + \cos \beta = 2 \cos \frac{1}{2}(\alpha + \beta) \cos \frac{1}{2}(\alpha - \beta)$$

$$\cos \alpha - \cos \beta = -2 \sin \frac{1}{2}(\alpha + \beta) \sin \frac{1}{2}(\alpha - \beta)$$

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

Unit-II: Algebra

1. Complex Numbers and Quadratic Equations (10) 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

2. Linear Inequalities (10) Periods

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.

3. 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.

4. Binomial Theorem (10) Periods

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

5. Sequence and Series (10) Periods

Sequence and Series. 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.

Unit-III: Coordinate Geometry

1. Straight Lines (15) Periods

Brief recall of two dimensional geometry from earlier classes. 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, Distance of a point from a line.

2. Conic Sections (25) 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.

Unit-IV: Calculus

1. Limits and Derivatives (40) 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 Statistics and Probability

1. Statistics (20) Periods

Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped data.

2. Probability (20) Periods

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.

MATHEMATICS
QUESTION PAPER DESIGN
CLASS – XI (2023-24)

Time: 3 Hours

Max. Marks: 80

S. No.	Typology of Questions	Total Marks	% Weightage
1	Remembering: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. Understanding: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas	44	55
2	Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	20	25
3	Analysing : Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations Evaluating: Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. Creating: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions	16	20
	Total	80	100

1. *No chapter wise weightage. Care to be taken to cover all the chapters*
2. *Suitable internal variations may be made for generating various templates keeping the overall weightage to different form of questions and typology of questions same.*

Choice(s):

There will be no overall choice in the question paper.

However, 33% internal choices will be given in all the sections

INTERNAL ASSESSMENT	20 MARKS
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks

Note: Please refer the guidelines given under XII Mathematics Syllabus:

CLASS-XII
(2023-24)

One Paper

Max Marks: 80

No.	Units	No. of Periods	Marks
I.	Relations and Functions	30	08
II.	Algebra	50	10
III.	Calculus	80	35
IV.	Vectors and Three - Dimensional Geometry	30	14
V.	Linear Programming	20	05
VI.	Probability	30	08
	Total	240	80
	Internal Assessment		20

Unit-I: Relations and Functions

1. Relations and Functions **15 Periods**

Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.

2. Inverse Trigonometric Functions **15 Periods**

Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.

Unit-II: Algebra

1. Matrices **25 Periods**

Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operations on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

2. Determinants **25 Periods**

Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

Unit-III: Calculus

1. Continuity and Differentiability

20 Periods

Continuity and differentiability, chain rule, derivative of inverse trigonometric functions, like $\sin^{-1} x$, $\cos^{-1} x$ and $\tan^{-1} x$, derivative of implicit functions. Concept of exponential and logarithmic functions.

Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.

2. Applications of Derivatives

10 Periods

Applications of derivatives: rate of change of quantities, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

3. Integrals

20 Periods

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}}$$

$$\int \frac{px + q}{ax^2 + bx + c} dx, \int \frac{px + q}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 \pm x^2} dx, \int \sqrt{x^2 - a^2} dx$$

$$\int \sqrt{ax^2 + bx + c} dx,$$

Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.

4. Applications of the Integrals

15 Periods

Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)

5. Differential Equations

15 Periods

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:

$$\frac{dy}{dx} + py = q, \text{ where } p \text{ and } q \text{ are functions of } x \text{ or constants.}$$

$$\frac{dx}{dy} + px = q, \text{ where } p \text{ and } q \text{ are functions of } y \text{ or constants.}$$

Unit-IV: Vectors and Three-Dimensional Geometry

1. Vectors

15 Periods

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

2. Three - dimensional Geometry

15 Periods

Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.

Unit-V: Linear Programming

1. Linear Programming

20 Periods

Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

Unit-VI: Probability

1. Probability

30 Periods

Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.

MATHEMATICS (Code No. - 041)
QUESTION PAPER DESIGN CLASS - XII
(2023-24)

Time: 3 hours

Max. Marks: 80

S. No.	Typology of Questions	Total Marks	% Weightage
1	<p>Remembering: Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.</p> <p>Understanding: Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas</p>	44	55
2	<p>Applying: Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.</p>	20	25
3	<p>Analysing : Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations</p> <p>Evaluating: Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.</p> <p>Creating: Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions</p>	16	20
Total		80	100

- No chapter wise weightage. Care to be taken to cover all the chapters*
- Suitable internal variations may be made for generating various templates keeping the overall weightage to different form of questions and typology of questions same.*

Choice(s):

There will be no overall choice in the question paper.

However, 33% internal choices will be given in all the sections

INTERNAL ASSESSMENT	20 MARKS
Periodic Tests (Best 2 out of 3 tests conducted)	10 Marks
Mathematics Activities	10 Marks

Note: For activities NCERT Lab Manual may be referred.

Conduct of Periodic Tests:

Periodic Test is a Pen and Paper assessment which is to be conducted by the respective subject teacher. The format of periodic test must have questions items with a balance mix, such as, very short answer (VSA), short answer (SA) and long answer (LA) to effectively assess the knowledge, understanding, application, skills, analysis, evaluation and synthesis. Depending on the nature of subject, the subject teacher will have the liberty of incorporating any other types of questions too. The modalities of the PT are as follows:

- a) **Mode:** The periodic test is to be taken in the form of pen-paper test.
- b) **Schedule:** In the entire Academic Year, three Periodic Tests in each subject may be conducted as follows:

Test	Pre Mid-term (PT-I)	Mid-Term (PT-II)	Post Mid-Term (PT-III)
Tentative Month	July-August	November	December-January

This is only a suggestive schedule and schools may conduct periodic tests as per their convenience. The winter bound schools would develop their own schedule with similar time gaps between two consecutive tests.

- c) **Average of Marks:** Once schools complete the conduct of all the three periodic tests, they will convert the weightage of each of the three tests into ten marks each for identifying best two tests. The best two will be taken into consideration and the average of the two shall be taken as the final marks for PT.
- d) The school will ensure simple documentation to keep a record of performance as suggested in detail circular no.Acad-05/2017.
- e) **Sharing of Feedback/Performance:** The students' achievement in each test must be shared with the students and their parents to give them an overview of the level of learning that has taken place during different periods. Feedback will help parents formulate interventions (conducive ambience, support materials, motivation and morale-boosting) to further enhance learning. A teacher, while sharing the feedback with student or parent, should be empathetic, non- judgmental and motivating. It is recommended that the teacher share best examples/performances of IA with the class to motivate all learners.

Assessment of Activity Work:

Throughout the year any 10 activities shall be performed by the student from the activities given in the NCERT Laboratory Manual for the respective class (XI or XII) which is available on the link: <http://www.ncert.nic.in/exemplar/labmanuals.html> a record of the same may be kept by the student. An year end test on the activity may be conducted

The weightage are as under:

- The activities performed by the student throughout the year and record keeping : 5 marks
- Assessment of the activity performed during the year end test: 3 marks
- Viva-voce: 2 marks

Prescribed Books:

- 1) Mathematics Textbook for Class XI, NCERT Publications
- 2) Mathematics Part I - Textbook for Class XII, NCERT Publication
- 3) Mathematics Part II - Textbook for Class XII, NCERT Publication
- 4) Mathematics Exemplar Problem for Class XI, Published by NCERT
- 5) Mathematics Exemplar Problem for Class XII, Published by NCERT
- 6) Mathematics Lab Manual class XI, published by NCERT
- 7) Mathematics Lab Manual class XII, published by NCERT

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