1. ENGLISH
Class XI

One paper **3 Hours** **Marks: 100**

Unitwise Weight age

	Unit/Areas of Learning		**Marks**
A.	**Reading Unseen Passages (Two)**	20	**50**
B.	**Writing**	20	
C.	**Grammar**	10	
D.	**Textual Questions**		**40**
	(i) Textbook	30	
	(ii) Supplementary Reader	10	
E.	**Conversation Skills**		**10**
	(i) Listening	05	
	(ii) Speaking	05	

SECTION-A

Reading unseen Passages for comprehension and Note-making **20 Marks**

Two unseen passages with a variety of questions including 05 marks for vocabulary such as word formation and inferring meaning. The total length of both the passages together should be around 1100 words.

1. The passages could be any of the following two type:
2. (a) **Factual Passages** e.g. instructions, descriptions, reports.
   (b) **Discursive passage** involving opinion e.g. argumentative, persuasive.

SUMMARY - Class XI

	Unseen Passages	**No of words**	**Testing Areas**	**Marks allotted**
1.	12 marks	around 600	Short answer type questions to test local, global and inferential comprehension	10
			Vocabulary	02
2.	08 marks	around 500	Note-making in an appropriate format	05
			Vocabulary	03

One of the passages should have about 600 words carrying 12 marks, the other passage should have about 500 words carrying 8 marks.

The passage carrying 08 marks should be used for testing note-making for 5 marks and testing vocabulary for 3 marks. Vocabulary for 2 marks may be tested in the other passage carrying 12 marks.

SECTION B

WRITING **20 Marks**

3. One out of two tasks such as a factual description of any event or incident, a report or a process based on verbal input provided (80-100 words). 04

4. One out of two compositions based on a visual and/or verbal input (in about 100-150 words). The output may be descriptive or argumentative in nature such as an article for publication in a newspaper or a school magazine or a speech. 08

5. Writing one out of two letters based on given input. Letter types include (a) business or official letters (for making enquiries, registering complaints, asking for and giving information, placing orders and sending replies); (b) letters to the editors (giving suggestions, opinions on an issue of public interest) or (c) application for a job. 08

SECTION C

GRAMMAR **10 Marks**

Different grammatical structures in meaningful contexts will be tested. Item types will include gap-filling, sentence-reordering, dialogue-completion and sentence-transformation. The grammar syllabus will include the following areas:

6. Determiners, Tenses, Clauses, Modals and Error Correction 04

7. Editing Task 04

8. Reordering of sentences 02

SECTION D

TEXTUAL QUESTIONS **40 Marks**

Questions on the prescribed textbooks will test comprehension at different levels: literal, inferential and evaluative based on the following prescribed text books:

1. **Hornbill :** *Text book*.
2. **Snapshots :** *Supplementary Reader,*.

English Reader **30 Marks**

9. One out of two extracts based on poetry from the text to test comprehension and appreciation. 04

10. Two out of three short answer questions from the poetry section to test local and global comprehension of text (upto 30 words). 06

11. Five out of six short answer questions on the lessons from prescribed text (upto 30 words) 2x5=10

12. One out of two long answer type questions based on the text 10

to test global comprehension and extrapolation beyond the set text. (Expected word limit would be about 100-125 words each)

Supplementary Reader **10 Marks**

13. One out of two long answer type questions based on Supplementary Reader to test comprehension of theme, character and incidents. (upto 100 words) 04

14. Two out of three short answer questions from the Supplementary Reader (upto 30 words) 3+3 = 06

2. MATHEMATICS
COURSE STRUCTURE
Class XI

One Paper **Three Hours** **Max Marks. 100**

Units		Marks
I.	SETS AND FUNCTIONS	29
II.	ALGEBRA	37
III.	COORDINATE GEOMETRY	13
IV.	CALCULUS	06
V.	MATHEMATICAL REASONING	03
VI.	STATISTICS AND PROBABILITY	12
Total		**100**

UNIT-I: SETS AND FUNCTIONS

1. Sets :

Sets and their representations. Empty set. Finite & Infinite sets. Equal sets.Subsets. Subsets of the set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set.

2. Relations & Functions:

Ordered pairs, Cartesian product of sets. Number of elements in the cartesian product of two finite sets. Cartesian product of the reals with itself (upto R x R x R). Definition of relation, pictorial diagrams, domain. codomain and range of a relation. Function as a special kind of relation from one set to another. Pictorial representation of a function, domain, co-domain & range of a function. Real valued function of the real variable, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions with their graphs. Sum, difference, product and quotients of functions.

3. Trigonometric Functions:

Positive and negative angles. Measuring angles in radians & in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2 x + \cos^2 x = 1$, for all x. Signs of trigonometric functions and sketch of their graphs. Expressing sin $(x+y)$ and cos $(x+y)$ in terms of sin x, sin y, cos x & cos y. Deducing the identities like the following:

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

$$\sin x + \sin y = 2 \sin \frac{x+y}{2} \cos \frac{x-y}{2}, \cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2},$$

$$\sin x - \sin y = 2 \cos \frac{x+y}{2} \sin \frac{x-y}{2}, \cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2},$$

Identities related to sin 2x, cos2x, tan 2x, sin3x, cos3x and tan3x. General solution of trigonometric equations of the type sinø □= sin ∀, cosø□= cos∀ □and tanø□= tan ∀

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UNIT-II: ALGEBRA

1. Principle of Mathematical Induction:

Processes of the proof by induction, motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers. The principle of mathematical induction and simple applications.

2. Complex Numbers and Quadratic Equations:

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve every quadratic equation. Brief description of algebraic properties of complex numbers. Argand plane and polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system.

3. Linear Inequalities:

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Solution of system of linear inequalities in two variables- graphically.

4. Permutations & Combinations:

Fundamental principle of counting. Factorial *n.*(*n!*)Permutations and combinations, derivation of formulae and their connections, simple applications.

5. Binomial Theorem:

History, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, General and middle term in binomial expansion, simple applications.

6. Sequence and Series:

Sequence and Series. Arithmetic progression (A. P.). arithmetic mean (A.M.) Geometric progression (G.P.), general term of a G.P., sum of *n* terms of a G.P., geometric mean (G.M.), relation between A.M. and G.M. Sum to *n* terms of the special series $\sum n$, $\sum n^2$ and $\sum n^3$.

UNIT-III: COORDINATE GEOMETRY

1. Straight Lines:

Brief recall of 2D from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axes, point-slope form, slope-intercept form, twopoint form, intercepts form and normal form. General equation of a line. Distance of a point from a line.

2. Conic Sections:

Sections of a cone: circle, ellipse, parabola, hyperbola, a point, a straight line and 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

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula.

UNIT-IV: CALCULUS

1. Limits and Derivatives:

Derivative introduced as rate of change both as that of distance function and geometrically, intuitive idea of limit. 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: MATHEMATICAL REASONING

1. Mathematical Reasoning:

Mathematically acceptable statements. Connecting words/ phrases - consolidating the understanding of "if and only if (necessary and sufficient) condition", "implies", "and/or", "implied by", "and", "or", "there exists" and their use through variety of examples related to real life and Mathematics. Validating the statements involving the connecting words difference between contradiction, converse and contra positive.

UNIT-VI: STATISTICS & PROBABILITY

1. Statistics:

Measure of dispersion; mean deviation, variance and standard deviation of ungrouped/grouped data. Analysis of frequency distributions with equal means but different variances.

2. Probability:

Random experiments: outcomes, sample spaces (set representation). Events: occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events Axiomatic (set theoretic) probability, connections with the theories of earlier classes. Probability of an event, probability of 'not', 'and' & 'or' events.

3. PHYSICS

Class XI (Theory)

One Paper **Three Hours** **Max Marks: 70**

Units	Title	Weight age
Unit I	Physical World & Measurement	03
Unit II	Kinematics	10
Unit III	Laws of Motion	10
Unit IV	Work, Energy & Power	06
Unit V	Motion of System of particles & Rigid Body	06
Unit VI	Gravitation	05
Unit VII	Properties of Bulk Matter	10
Unit VIII	Thermodynamics	05
Unit XI	Behaviour of Perfect Gas & Kinetic Theory of gases	05
Unit X	Oscillations & Waves	10
Total		**70**

Unit I: Physical World and Measurement

Physics - scope and excitement; nature of physical laws; Physics, technology and society. Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures. Dimensions of physical quantities, dimensional analysis and its applications.

Unit II: Kinematics

Frame of reference. Motion in a straight line: Position-time graph, speed and velocity.Uniform and non-uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity-time, position-time graphs, relations for uniformly accelerated motion (graphical treatment). Elementary concepts of differentiation and integration for describing motion. Scalar and vector quantities: Position and displacement vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity. Unit vector; Resolution of a vector in a plane - rectangular components. Motion in a plane. Cases of uniform velocity and uniform acceleration-projectile motion. Uniform circular motion.

Unit III: Laws of Motion

Intuitive concept of force. Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces. Static and kinetic friction, laws of friction,

rolling friction.Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road).

Unit IV: Work, Energy and Power

Scalar product of vectors. Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic and potential energies); non-conservative forces: elastic and inelastic collisions in one and two dimensions.

Unit V: Motion of System of Particles and Rigid Body

Centre of mass of a two-particle system, momentum conversation and centre of mass motion. Centre of mass of a rigid body; centre of mass of uniform rod. Vector product of vectors; moment of a force, torque, angular momentum, conservation of angular momentum with some examples. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions; moment of inertia, radius of gyration. Values of moments of inertia for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.

Unit VI: Gravitation

Keplar's laws of planetary motion. The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy; gravitational potential. Escape velocity. Orbital velocity of a satellite. Geo-stationary satellites.

Unit VII: Properties of Bulk Matter

Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear, modulus of rigidity. Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, Reynold's number, streamline and turbulent flow. Bernoulli's theorem and its applications. Surface energy and surface tension, angle of contact, application of surface tension ideas to drops, bubbles and capillary rise. Heat, temperature, thermal expansion; specific heat - calorimetry; change of state - latent heat. Heat transfer-conduction, convection and radiation, thermal conductivity, Newton's law of cooling.

Unit VIII: Thermodynamics

Thermal equilibrium and definition of temperature (zeroth law of thermodynamics). Heat, work and internal energy. First law of thermodynamics. Second law of thermodynamics: reversible and irreversible processes. Heat engines and refrigerators.

Unit IX: Behaviour of Perfect Gas and Kinetic Theory

Equation of state of a perfect gas, work done on compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic energy and temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heats of gases; concept of mean free path, Avogadro's number.

Unit X: Oscillations and Waves

Periodic motion - period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (S.H.M) and its equation; phase; oscillations of a spring–restoring force and force constant; energy in S.H.M.-kinetic and potential energies; simple pendulum–derivation of expression for its time period; free, forced and damped oscillations (qualitative ideas only), resonance. Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Doppler effect.

Practicals

Note: Every student will perform 10 experiments (5 from each section) and 8 activities (4 from each section) during the academic year. Two demonstration experiments must be performed by the teacher with participation of students. The students will maintain a record of these demonstration experiments. Schools are advised to see the guidelines for evaluation in practicals for Class XII. Similar pattern may the followed for Class XI.

SECTION A

Experiments

1. Use of Vernier Callipers
   - (i) to measure diameter of a small spherical/cylindrical body.
   - (ii) to measure dimensions of a given regular body of known mass and hence find its density.
   - (iii) to measure internal diameter and depth of a given beaker/calorimeter and hence find its volume.
2. Use of screw gauge
   - (i) to measure diameter of a given wire,
   - (ii) to measure thickness of a given sheet
   - (iii) to measure volume of an irregular lamina
3. To determine radius of curvature of a given spherical surface by a spherometer.
4. To find the weight of a given body using parallelogram law of vectors.
5. Using a simple pendulum, plot L-T and L-T^2 graphs. Hence find the effective length of second's pendulum using appropriate graph.
6. To study the relationship between force of limiting friction and normal reaction and to find co-efficient of friction between a block and a horizontal surface.
7. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination by plotting graph between force and sin.⊘

Activities

1. . To make a paper scale of given least count, e.g. 0.2cm, 0.5cm.
2. To determine mass of a given body using a metre scale by principle of moments.
3. To plot a graph for a given set of data, with proper choice of scales and error bars.
4. To measure the force of limiting friction for rolling of a roller on a horizontal plane.
5. To study the variation in range of a jet of water with angle of projection.
6. To study the conservation of energy of a ball rolling down on inclined plane (using a double inclined plane).
7. To study dissipation of energy of a simple pendulum by plotting a graph between square of amplitude and time.

SECTION B

Experiments

1. To determine Young's modulus of elasticity of the material of a given wire.
2. To find the force constant of a helical spring by plotting graph between load and extension.
3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and I/V.
4. To determine the surface tension of water by capillary rise method.
5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.
6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve.
7. (i) To study the relation between frequency and length of a given wire under constant tension using sonometer.
   (ii) To study the relation between the length of a given wire and tension for constant frequency using sonometer.
8. To find the speed of sound in air at room temperature using a resonance tube by tworesonance positions.
9. To determine specific heat of a given (i) solid (ii) liquid, by method of mixtures.

Activities

1. To observe change of state and plot a cooling curve for molten wax.
2. To observe and explain the effect of heating on a bi-metallic strip.
3. To note the change in level of liquid in a container on heating and interpret the observations.
4. To study the effect of detergent on surface tension by observing capillary rise.
5. To study the factors affecting the rate of loss of heat of a liquid.
6. To study the effect of load on depression of a suitably clamped metre scale loaded
   (i) at its end (ii) in the middle.

4. CHEMISTRY

Class XI (Theory)

One Paper **Time: 3 Hours** **70 Marks**

Unit No.	Title	Marks
Unit I	Some Basic concepts of chemistry	03
Unit II	Structure of Atom	06
Unit III	Classification of Elements and Periodicity in Properties	04
Unit IV	Chemical Bonding and molecular Structure	05
Unit V	States of Matter: Gases and Liquids	04
Unit VI	Thermodynamics	06
Unit VII	Equilibrium	06
Unit VIII	Redox Reactions	03
Unit IX	Hydrogen	03
Unit X	S-Block Elements	05
Unit XI	Some P-Block Elements	07
Unit XII	Organic Chemistry: some basic Principles and Techniques	07
Unit XIII	Hydrocarbons	08
Unit XIV	Environmental Chemistry	03
Total		**70**

Unit I: Some Basic Concepts of Chemistry

General Introduction: Importance and scope of chemistry. Historical approach to particulate nature of matter, laws of chemical combination. Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses mole concept and molar mass: percentage composition, empirical and molecular formula chemical reactions, stoichiometry and calculations based on stoichiometry.

Unit II: Structure of Atom

Discovery of electron, proton and neutron; atomic number, isotopes and isobars. Thomson's model and its limitations, Rutherford's model and its limitations. Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p, and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli exclusion principle and Hund's rule, electronic configuration of atoms, stability of half filled and completely filled orbitals.

Unit III: Classification of Elements and Periodicity in Properties

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii. Ionization enthalpy, electron gain enthalpy, electro negativity, valence.

Unit IV: Chemical Bonding and Molecular Structure

Valence electrons, ionic bond, covalent bond: bond parameters. Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital; theory of homo nuclear diatomic molecules (qualitative idea only), hydrogen bond.

Unit V: States of Matter: Gases and Liquids

Three states of matter. Intermolecular interactions, type of bonding, melting and boiling points. Role of gas laws in elucidating the concept of the molecule, Boyle's law. Charles law, Gay Lussac's law, Avogadro's law. Ideal behaviour, empirical derivation of gas equation, Avogadro's number. Ideal gas equation. Derivation from ideal behaviour, liquefaction of gases, critical temperature. Liquid State - Vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations).

Unit VI: Thermodynamics

Concepts Of System, types of systems, surroundings. Work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics - internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH, Hess's law of constant heat summation, enthalpy of: bond dissociation, combustion, formation, atomization, sublimation. Phase transformation, ionization, and solution. Introduction of entropy as a state function, free energy change for spontaneous and nonspontaneous processes, criteria for equilibrium.

Unit VII: Equilibrium

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle; ionic equilibrium - ionization of acids and bases, strong and weak electrolytes, degree of ionization, concept of pH. Hydrolysis of salts (elementary idea). Buffer solutions, solubility product, common ion effect (with illustrative examples).

Unit VIII: Redox Reactions

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, applications of redox reactions.

Unit IX : Hydrogen

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen; hydrides - ionic, covalent and interstitial; physical and chemical properties of water, heavy water; hydrogen peroxide-preparation, properties and structure; hydrogen as a fuel.

Unit X: s- Block Elements (Alkali and Alkaline earth metals)

Group 1 and Group 2 elements:

General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii), trends in chemical reactivity with oxygen, water, hydrogen and halogens; uses.

Preparation and properties of some important compounds:

Sodium carbonate, sodium chloride, sodium hydroxide and sodium hydrogen carbonate, biological importance of sodium and potassium. CaO, $CaCO_3$ and industrial use of lime and limestone, biological importance of Mg and Ca

Unit XI: Some p-Block Elements

General Introduction to p-Block Elements

Group 13 elements: General introduction, electronic configuration, occurrence. Variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group; Boron- physical and chemical properties, some important compounds: borax, boric acids, boron hydrides. Aluminium: uses, reactions with acids and alkalies.

Group 14 elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first element, Carbon - catenation, allotropic forms, physical and chemical properties; uses of some important compounds: oxides.

Important compounds of silicon and a few uses: silicon tetrachloride, silicones, silicates and zeolites.

Unit XII: Organic Chemistry - Some Basic Principles and Techniques

General introduction, methods of qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions; electrophiles and nucleophiles, types of organic reactions

Unit XIII: Hydrocarbons

Classification of hydrocarbons

Alkanes - Nomenclature, isomerism, conformations (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes- Nomenclature, structure of double bond (ethene) geometrical isomerism, physical properties, methods of preparation; chemical reactions: addition of hydrogen, halogen,water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties. Methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water. Aromatic hydrocarbons: Introduction, IUPAC nomenclature; benzene: resonance aromaticity; chemical properties: mechanism of electrophilic substitution. – nitration sulphonation, halogenation, Friedel Craft's alkylation and acylation: directive influence of functional group in mono-substituted benzene; carcinogenicity and toxicity.

Unit XIV: Environmental Chemistry

Environmental pollution - air, water and soil pollution, chemical reactions in atmosphere, smog, major atmospheric pollutants; acid rain, ozone and its reactions, effects of depletion of ozone layer, greenhouse effect and global warming - pollution due to industrial wastes; green chemistry as an alternative tool for reducing pollution, strategy for control of environmental pollution.

Practicals

Evaluation Scheme for Examination	Marks
Volumetric Analysis	**10**
Salt Analysis	**06**
Content Based Experiment	**04**
Class Record and Viva	**05**
Investigatory project	**05**
Total	**30**

PRACTICALS SYLLABUS

A. Basic Laboratory Techniques

1. Cutting glass tube and glass rod
2. Bending a glass tube
3. Drawing out a glass jet
4. Boring a cork

B. Characterization and purification of chemical substances

1. Determination of melting point of an organic compound
2. Determination of boiling point of an organic compound
3. Crystallization of impure sample of anyone of the

following: Alum, copper sulphate, Benzoic acid.

C. Experiments related to pH change

(a) Anyone of the following experiments:

- Determination of pH of some solutions obtained from fruit juices, varied concentrations of acids. ,bases and salts using pH paper or universal indicator.
- Comparing the pH of solutions of strong and weak acid of same concentration.
- Study the pH change in the titration of a strong base using universal indicator.

(b) Study of pH change by common-ion effect in case of weak acids and weak bases.

D. Chemical equilibrium

One of the following experiments:

(a) Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/ decreasing the concentration of either ions.

(b) Study the shift in equilibrium between $[Co(H_2O)_6]^{2+}$ and chloride ions by changing the concentration of either of the ions.

E. Quantitative estimation

- Using a chemical balance.
- Preparation of standard solution of oxalic acid.
- Determination of strength of a given solution of sodium hydroxide by titrating it against standard solution of oxalic acid.
- Preparation of standard solution of sodium carbonate.
- Determination of strength of a given solution of hydrochloric acid by titrating it against standard sodium carbonate solution.

F. Qualitative analysis

Determination of one anion and one cation in a given salt

Cations- Pb^{2+}, Cu^{2+}, As^{3+} $A1^{3+}$ Fe^{3+} Mn^{2+}, Ni^{2+}, Zn^{2+}, Co^{2+} Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+

Anions- CO_3^{2-}, S^{2-}, SO_3^{2-}, SO_4^{2-}, NO_2^-, NO_3^-, Cl^-, Br^-, I^-, PO_4^{3-}, $C_2O_4^{2-}$, CH_3COO^-

(Note: Insoluble salts excluded)

G. Detection of nitrogen, sulphur, Chlorine

bromine and iodine in an organic compound.

PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources.

A Few suggested Projects

- Checking the bacterial contamination in drinking water by testing sulphide ion.
- Study of the methods of purification of water.
- Testing the hardness, presence of iron, fluoride, chloride etc. depending upon the regional variation in drinking water and the study of causes of presences of these ions above permissible limit (if any).
- Investigation of the foaming capacity of different washing soaps and the effect of addition of sodium carbonate on them.
- Study of the acidity of different samples of the tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study of the effect of acids and bases on the tensile strength of fibers.
- Analysis of fruit and vegetable juices for their acidity.

Note: Any other investigatory project, which involves about 10 period of work, can be chosen with the approval of the teacher.

5. BIOLOGY

Class XI (Theory)

One Paper **Time: 3 Hours** **70 Marks**

1.	Diversity in living world	07
2.	Structural organization in animals and plants	12
3.	Cell: Structure and function	15
4.	Plant physiology	18
5.	. Human Physiology	18
Total		**70**

I. Diversity in Living World

Diversity of living organisms

Classification of the living organisms (five kingdom classification, major groups and principles of classification within each kingdom).

Systematics and binomial System of nomenclature

Salient features of animal (non-chordates up to phylum level and chordates up to class level) and plant (major groups; Angiosperms up to class) classification, viruses, viroids, lichens Botanical gardens, herbaria, zoological parks and museums.

II Structural Organisation in Animals and Plants

Tissues in animals and plants.

Morphology, anatomy and functions of different parts of flowering plants: Root, stem, leaf,

inflorescence, flower, fruit and seed.

Morphology, anatomy and functions of different systems of an annelid (earthworm), an insect(cockroach) and an amphibian (frog).

III CELL: STRUCTURE AND FUNCTION

Cell: Cell theory; Prokanyotic and encaryotic cell, cell wall, cell membrane and cell organelles'

(plastids, mitochondria, endoplasmic reticulum, Golgi bodies/dictyosomes, ribosomes, lysosomes, vacuoles, centrioles) and nuclear organization.

Mitosis, meiosis, cell cycle.

Basic chemical constituents of living bodies.

Structure and functions of carbohydrates, proteins, lipids and nucleic acids.

Enzymes: types, properties and function.

IV. Plant Physiology

Movement of water, food, nutrients and gases, Plants and Water Mineral nutrition,

Respiration, Photosynthesis, Plant growth and development.

V. Human Physiology

Digestion and absorption.

Breathing and respiration.

Body fluids and circulation.

Excretory products and elimination.

Locomotion and movement.

Neural control and coordination,

chemical coordination and regulation.

Practicals

Time: 3 Hours **Marks : 30**

1.	Experiments and spotting	20
2.	Record of one investigatory project and Viva based on the project	05
3.	Class record and Viva based on experiments	05
Total		**30**

A. List of Experiments

1. Study and describe three locally available common flowering plants from each of the following families (Solanaceae, Fabaceae and Liliaceae) Types of root (tap or adventitious), stem (herbaceous/woody) leaf arrangement/shapes/venation/simple or compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study of osmosis by potato osmometer.
4. Study of plasmolysis in epidermal peels (e.g. Rhoeo leaves).
5. Study of distribution of stomata in the upper and lower surface of leaves.
6. Comparative study of the rates of transpiration in the upper and lower surface of leaves.
7. Test for the presence of sugar, starch, proteins and fats. To detect them in suitable plant and animal materials.
8. Separate plant pigments through paper chromatography.
9. To study the rate of respiration in flower buds and germinating seeds.
10. To study effect of salivary amalyse on starch.
11. To test the presence of urea, sugar, albumin and bile salts in urine.

B. Study/observation of the following (spotting)

1. Study parts of a compound microscope.
2. Study of the specimens and identification with reasons-Bacteria, *Oscillatoria,* Spirogyra, Rhizopus, Mushroom, Yeast, Liverwort, Moss, Fern, Pines, one monocotyledon and one dicotyledon and one lichen.
3. Study of specimens and identification with reasons-*Amoeba, Hydra, Liverfluke, Ascaris, Leech, Earthworm, Prawn, Silkworm, Honeybee, Snail, Starfish, Shark, Rohu, Frog, Lizard, Pigeon* and *Rabbit*.

4. Study of tissues and diversity in shapes and sizes of plant and animal cells (e.g. palisade cells, guard cells, parenchyma, collenchyma, sclerenchyma, xylem, phloem, squamous epithelium, muscle fibres and mammalian blood smear) through temporary/permanent slides.
5. Study of mitosis in onion root tip cells and animals cells (grasshopper) from permanent slides.
6. Study of different modifications in root, stem and leaves.
7. Study and identify different types of inflorescences.
8. Study of imbibition in seeds/raisins.
9. Observation and comments on the experimental set up on:
    a. Anaerobic respiration
    b. Phototropism
    c. Apical bud removal
    d. Suction due to transpiration
10. To study human skeleton and different types of joints.
11 . Study of external morphology of earthworm, cockroach and frog through models/ preserved specimens.

6. HOME SCIENCE

CLASS XI (THEORY)

One Paper (Theory) **Time: 3 Hours** **70 Marks**

Unit	Title	Marks
I.	Concept of Home Science	02
II	Know myself	17
III.	Nutrition for Self and Family	17
IV	My Resources	17
V.	My Apparel	17
Total		**70**

Unit I: Concept of Home Science and its Scope

Home Science, its scope.

Unit II: Know myself : Issues related to adolescents

Adolescence, meaning, early (12-15 years) and late (16 - 18 years) adolescence, early and late maturers.

Characteristics: Cognitive Development: Transition from concrete to formal operations; physical Development: Growth spurt, sexual development; Social and Emotional development: importance of peer group, interest in the opposite sex, varied and changing interests, concern about future; adolescence a period of strain and stress.

Important developmental tasks: accepting one's physique; achieving new and more matured relations with agemates of both sexes; achieving a masculine/feminine social gender role; achieving emotional independence from parents; preparing for career; reproductive health and prevention of anemia.

Individual differences: difference between same sex, differences across the two sexes, early and late maturers, role of heredity and environment (family, peers, school and neighbourhood). **Interpersonal Skills:** with the family, peers and members of the community.

Special needs of adolescents - (i) Nutritional requirements: qualitative and quantitative;

(ii) exercise and entertainment; importance of physical activity in social development and prevention of obesity (iii) understanding from parents.

Some problems of adolescence: awkwardness due to growth spurt; freedom and control; depression; alcohol, drugs and smoking; delinquency; problem related to sex; ignorance and increased curiosity; prevention of HIV / AIDS and other sexually transmitted diseases;

Population Education: problems of over population; neglect of girl child: causes, prevention, legal and social laws, government incentives to improve status of girl child, desire for male child; small family norms.

Unit III : Nutrition for Self and Family

Definition and relationship between food, nutrition, health: nutritional status; classification of foods on the basis of nutrients and functions; nutritional status and calorie intake as a basis of poverty line.

Functions of food: body building, energy giving, protective, regulatory; physiological, psychological and socio-cultural; signs of good health; physical status, psychological status, mental ability, mortality and longevity.

Selection of foods for optimum nutrition and good health: basic knowledge of nutrients - sources, functions, deficiency and prevention; proteins, carbohydrates, fat, dietary fibre, vitamins - A, D. B 1, B2, niacin, folic acid, B 12 and vitamin C; minerals-calcium, iron and iodine. Basic food groups (ICMR) and their contribution; concept of balanced diet; food and nutritional requirements for family (ICMR tables); factors influencing selection of food: culture, family food practices, media, peer group and availability of foods.

Maximum nutritive value from food by proper selection, preparation, cooking and storage: Selection and storage of foods-perishable, semi-perishable, non-perishable; convenience foods; Reasons for spoilage; brief description of household methods of preservation-refrigeration, dehydration, use of chemicals and household preservatives. Preparation of food; loss of nutrients during preparation of food and their minimization; Cooking; principles of cooking; Methods of cooking-boiling, steaming, pressure cooking, deep and shallow frying, parboiling, sauteing, roasting and grilling; Effect of cooking on the nutritive value of food; Method of enhancing nutritive value-germination, fermentation, fortification and proper food combination.

Unit IV: My Resources

Resources: meaning, types: (i) human-knowledge, skills, time, energy, attitudes; (ii) material: oney, goods, property; (iii) community facilities; Schools, parks, hospitals, roads, transport, water, electricity, fuel, fodder; need to manage the resources; methods of conservation of shared resources.

Management: meaning and need for management; steps in management: planning, organizing, controlling, implementing and evaluation; decision making and its role in management.

Time and energy management: need and procedure for managing time for occupation and leisure; work simplification: meaning and methods; activities in the home: sleeping, studying, cooking, eating, bathing, washing, entertaining-need to organize space for these activities; use of colours and accessories to make these centres attractive; role of different members of the family in efficient running of a home.

Work ethics: meaning and importance; discipline at work place; reaching on time, staying in seat, knowing the job, using polite language.

Unit V: My Apparel

Fibre Science: types of fibres: (i) natural-cotton, silk and wool; (ii) man-made pure rayon nylon and polyester) and blend (terrycot, terrysilk, terrywool,).

Fabric Construction: Basic procedure of any yarn making (spinning, mechanical spinning, chemical spinning, weaving: plain, twill & satin, other methods-knitting and nonwoven, effect of weaves on appearance, durability and maintenance of garment.

Finishing: meaning and importance; types: (i) basic: cleaning, bleaching, stiffening, tantering; (ii) special: mercerisation, shrinkage control, water proofing; dyeing and printing.

PRACTICALS

Time: 3 Hours **30 Marks**

Unit	Title	Marks
I.	Concept of Home Science	-
II	Know myself	-
III.	Nutrition for Self and Family	08
IV	My Resources	08
V.	My Apparel	07
	Record	05
	Viva	02
Total		**30**

Unit I : Concept of Home Science

Unit II : Know myself : issues related to adolescents

Activity: Observe and test your own strengths and weaknesses; Discuss about them in class with your teacher and fellow students; take decision about maximum utilization of strength and improvement upon weaknesses.

Activity: Report situations from your life to indicate your interaction within the family, with peers and with members of the community.

Unit III : Nutrition for Self and Family

Activity: Look for signs of good health within your family.

Activity: Make a list of foods available in the local market according to food groups.

Activity: Observe how different food stuffs are stored at home and evaluate the effectiveness of the method; practise skills to preserve and optimise nutrients by preparing meals and snacks.

Practical: Preparing meals and snacks

Practical: Household methods of food preservation - Jam, Squash / Syrup Pickles / Chutney.

Unit IV : My Resources

Activity (Observation): Observe and list resources available at home and in neighbourhood.
Make a detailed study on available community resource and its management, suggest improvements.
Activity: Critically evaluate anyone activity centre of your house. Suggest improvements.
Activity: Suggest a work plan for yourself for a day and state where and why will you take help from others.
Practicals: Make flower and foliage arrangements, floor decorations, clean and polish brass, glass, iron, aluminium and plastic surfaces.

Unit V : My Apparel

Activity: Collect samples of fabrics and study characteristics for identification.
Activity: Collect samples of weaves and identify them.
Practicals: Carry out burning test, slippage test, tearing test and test for colour fastness.
Practical: Dyeing: plain and tie dye printing: use blocks (available or make you own) on small sample.

7. COMPUTER SCIENCE

Class XI (Theory)

Duration: 3 hours **Total Marks: 70**

Unit No.	Unit Name	Marks
1.	COMPUTER FUNDAMENTALS	10
2.	PROGRAMMING METHODOLOGY	10
3.	INTRODUCTION TO C++	15
4	PROGRAMMING IN C++	35
Total		**70**

UNIT 1: COMPUTER FUNDAMENTALS

Evolution of computers; Basics of computer and its operation: Functional Components and their interconnections, concept of Booting.

Software Concepts:

Types of Software - System Software, Utility Software and Application Software;

System Software: Operating System, Compilers, Interpreters and Assembler;

Utility Software : Anti Virus, File Management tools, Compression tools and Disk Management tools (Disk Cleanup,Disk Defragmenter, Backup);

Application Software as a tool: Word Processor, Presentation tools, Spreadsheet Package, DatabaseManagement System; Business software (for example: School Management System, Inventory Management System, Payroll System, Financial Accounting, Hotel Management, and Reservation System);

Operating System : Need for operating system, Functions of Operating System (Processor Management, Memory Management, File Management and Device Management), Types of operating system – Interactive (GUI based), Time Sharing, Real Time and Distributed; Commonly used operating systems:

LINUX, Windows, BhartiOO, Solaris, UNIX;

Illustration and practice of the following tasks using any one of the above Operating Systems:

- Opening / Closing Windows
- Creating / Moving / Deleting Files / Folders
- Renaming Files / Folders
- Switching between Tasks

Number System : Binary, Octal, Decimal, Hexadecimal and conversion between two different number systems;

Internal Storage encoding of Characters: ASCII, ISCII (Indian scripts Standard Code for Information Interchange), and UNICODE;

Microprocessor : Basic concepts, Clock speed (MHz, GHz), 16 bit, 32 bit, 64 bit processors; Types – CISC, RISC;

Memory Concepts :

Units : Byte, Kilo Byte, Mega Byte, Giga Byte, Tera Byte, Peta Byte

Primary Memory : Cache, RAM, ROM,

Secondary Memory : Hard Disk Drive, CD / DVD Drive, Pen Drive, Blue Ray Disk;

Input Output Ports / Connections: Serial, Parallel and Universal Serial Bus, PS-2 Port, Infrared port, Bluetooth.

UNIT 2: PROGRAMMING METHODOLOGY

General Concepts; Modular approach; Clarity and Simplicity of Expressions, Use of proper Names for identifiers, Comments, Indentation; Documentation and Program Maintenance; Running and Debugging programs, Syntax Errors, Run-Time Errors, Logical Errors; Problem Solving Methodology and Techniques: Understanding of the problem, Identifying minimum number of inputs required for output, Step by step solution for the problem, breaking down solution into simple steps, Identification of arithmetic and logical operations required for solution, Using Control Structure: Conditional control and looping (finite and infinite);

UNIT 3: INTRODUCTION TO C++

Getting Started:

C++ character set, C++ Tokens (Identifiers, Keywords, Constants, Operators), Structure of a C++ Program (include files, main function); Header files – iostream.h, iomanip.h; **cout**, **cin**; Use of I/O operators (<< and >>), Use of endl and setw(), Cascading of I/O operators, Error Messages; Use of editor, basic commands of editor, compilation, linking and execution; standard input/output operations from C language: gets(), puts() of stdio.h header file;

Data Types, Variables and Constants:

Concept of Data types; Built-in Data types: **char**, **int**, **float** and **double**; Constants: Integer Constants, Character Constants (Backslash character constants - \n, \t), Floating Point Constants, String Constants; Access modifier: **const**; Variables of built-in data types, Declaration/ Initialisation of variables, Assignment statement; Type modifier: signed, unsigned, long;

Operators and Expressions:

Operators: Arithmetic operators (-,+,*,/,%), Unary operator (-), Increment and Decrement Operators (—,++), Relational operators (>,>=,<,<=,==,!=), Logical operators (!, &&, ||), Conditional operator: <condition>?<if true>:<else>; Precedence of Operators; Expressions; Automatic type conversion in expressions, Type casting; C++ shorthand's (+=, -=, *=, /=, %=);

UNIT 4: PROGRAMMING IN C++

Flow of control:

Conditional statements: **if-else**, Nested **if**, **switch..case..default**, Nested **switch..case**, break statement (to be used in switch..case only); Loops: **while**, **do - while** , **for** and Nested loops;

String Functions:

Header File: string.h

Function: **isalnum(), isalpha(), isdigit(), islower(), isupper(), tolower(), toupper()**;

Character Functions:

Header File: ctype.h

Functions: **isalnum(), isalpha(), isdigit(), islower(), isupper(), tolower(), toupper(), strcpy(), strcat(), strlen(), strcmp(), strcmpi()**;

Mathematical Functions:

Header File-math.h, stdlib.h;

Functions: **fabs**(), **log**(), **log10**(), **pow**(), **sqrt**(), **sin**(), **cos**(), **abs(),**

Other Functions:

Header File- stdlib.h;

Functions: **randomize(), random()**;

User Defined Functions:

Defining a function; function prototype, Invoking/calling a function, passing arguments to function, specifying argument data types, default argument, constant argument, call by value, call by reference, returning values from a function, calling functions with arrays, scope rules of functions and variables; local and global variables;

Structured Data Type: Array

Declaratrion/initialisation of One-dimensional array, Inputting array elements, Accessing array elements, Manipulation of Array elements (sum of elements, product of elements, average of elements, linear search, finding maximum/minimum value); Declaration/Initialization of a String, string manipulations (counting vowels/consonants/digits/ special characters, case conversion, reversing a string, reversing each word of a string);

Two-dimensional Array :

Declaration/initialisation of a two-dimensional array, inputting arry elements Accessing array elements, Manipulation of Array elements (sum of row element, column elements, diagonal elements, finding maximum/minimum values);

User-defined Data Types

Need for User defined data type:

Defining a symbol name using typedef keyword and defining a m acro using #define directive;

Structures:

Defining a Structure, Declaring structure variables, Accessing structure elements, Passing structure of Functions as value and reference argument/parameter, Function returning structure, Array of structures, passing an array of structure as an argument/ a parameter to a function.

Class XI (Practical)

Duration: 3 hours **Total Marks: 30**

1. Programming in C++ **10**

One programming problem in C++ to be developed and tested in Computer during the examination. Marks are allotted on the basis of following:

Logic	:	05 Marks
Documentation/Indentation	:	02 Marks
Output presentation	:	03 Marks

2. Project Work **10**

Problems related to String, Number and Array manipulation; General Guidelines : Initial Requirement, developing an interface for user (it is advised to use text based interface screen), developing logic for playing the game and developing logic for scoring points

1. Memory Game : A number guessing game with application of 2 dimensional arrays containing randomly generated numbers in pairs hidden inside boxes.
2. Cross 'N Knots Game : A regular tic-tac-toe game
3. Hollywood/Hangman: A word Guessing game
4. Cows 'N Bulls : A word/number Guessing game

Similar projects may be undertaken in other domains (As mentioned in general guidelines for projects, given at the end of the curriculum in a group of 1-2 students)

3. Practical File **05**

Must have minimum 15 programs from the topics covered in class XI course.

- 5 Programs on Control structures
- 4 Programs on Array Manipulations
- 4 Programs on String Manipulations
- 2 Programs on structure manipulations

4. Viva Voce **05**

Viva will be asked from syllabus covered in class XI and the project developed by student.

8. ECONOMICS

Class XI

Paper 1 **3 Hours** **100 Marks**

Units		Marks
Part A : Statistics for Economics		
1.	Introduction	03
2.	Collection, Organisation and Presentation of Data	12
3.	Statistical Tools and Interpretation	30
4.	Developing Projects in Economics	05
Total		**50**
Part B: Indian Economic Development		
5.	Development Policies and Experience (1947-90)	10
6.	Economic Reforms since 1991	08
7.	Current Challenges facing Indian Economy	25
8.	Development experience of India-A comparison with neighbours	07
Total		**50**

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 economicaspects 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

What is Economics?

Meaning, scope and importance of statistics in Economics

Unit 2: Collection, Organisation and Presentation of data

Collection of data - sources of data - primary and secondary; how basic data is collected; methods of collecting data; Some important sources of secondary data: Census of Indiaand 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

(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- mean (simple and weighted), median and mode Measures of Dispersion - absolute dispersion (range, quartile deviation, mean deviation and standard deviation); relative dispersion (co-efficient of quartile-deviation, co-efficient of mean deviation, co-efficient of variation); Lorenz Curve: Meaning and its application.

Correlation - meaning, scatter diagram; Measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation.

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.

Unit 4: Developing Projects in Economics

The students may be encouraged to develop projects, which have primary data, secondary data or both. Case studies of a few organisations / outlets may also be encouraged. Some of the examples of the projects are as follows (they are not mandatory but suggestive):

(i) A report on demographic structure of your neighborhood;

(ii) Consumer awareness amongst households

(iii) Changing prices of a few vegetables in your market

(iv) Study of a cooperative institution: milk cooperatives

The idea behind introducing this unit is to enable the students to develop the ways and means by which a project can be developed using the skills learned in the course. This includes all the steps involved in designing a project starting from choosing a title, exploring the information relating to the title, collection of primary and secondary data, analysing the data, presentation of the project and using various statistical tools and their interpretation and conclusion.

Part B: Indian Economic Development

Unit 5: Development Policies and Experience (1947-90)

A brief introduction of the state of Indian economy on the eve of independence. Common goals of Five Year Plans.Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy, etc.), industry (industrial licensing, etc,) and foreign trade.

Unit 6: Economic Reforms since 1991

Need and main features - liberalisation, globalisation and privatisation; An appraisal of LPG policies

Unit 7: Current challenges facing Indian Economy

Poverty- absolute and relative; Main programmes for poverty alleviation: A critical assessment; Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming Human Capital Formation: How people become resource; Role of human capital in economic development; Growth of Education Sector in India Employment: Growth, informalisation and other issues: Problems and policies Infrastructure: Meaning-and Types: Case Studies: Energy and Health: Problems and Policies- A critical assessment; Sustainable Economic Development: Meaning; Effects of Economic Development on Resources and Environment.

Unit 8: Development Experience of India:

A comparison with neighbours

India and Pakistan

India and China

Issues: growth, population, sectoral development and other developmental indicators.

9. BUSINESS STUDIES

CLASS XI

One Paper **3 Hours** **100 Marks**

Units		Marks
Part A: Foundations of Business		
1.	Nature and Purpose of Business	08
2.	Forms of Business Organisations	12
3.	Private, Public and Global Enterprises	10
4.	Business Services	08
5.	Emerging Modes of Business	06
6.	Social Responsibility of Business and Business Ethics	06
Total		**50**
Part B : Organisation, Finance and Trade		
7.	Formation of a Company	07
8.	Sources of business finance	10
9.	Small Business	07
10.	Internal Trade	10
11	International Business	06
12.	Project Work	10
Total		**50**

A Part: Foundations of Business

Unit 1: Nature and Purpose of Business

- Concept and characteristics of business
- Business, profession and employment - distinctive features
- Objectives of business - economic and social, role of profit in business
- Classification of business activities: Industry and Commerce
- Industry - types: primary, secondary, tertiary
- Commerce: Trade and Auxiliaries
- Business risks - nature and causes,

Unit 2: Forms of Business Organisations

- Sole Proprietorship; Joint Hindu Family Business-meaning, features, merits and limitations;
- Partnership- meaning, types, registration, merits, limitations, types of partners;
- Cooperative Societies-types, merits and limitations
- Company: Private Ltd., Public Ltd. - merits, limitations;
- Choice of form of business organizations
- Starting a business - Basic factors.

Unit 3: Private, Public & Global Enterprises

- Private Sector and Public Sector
- Forms of organising public sector enterprises
- Departmental Undertaking
- Statutory Corporation .
- Government Company
- Changing role of public sector
- Global Enterprises : meaning and features,joint ventures- meaning, benefits

Unit 4: Business Services

- Nature and types of Business services - Banking, Insurance, Transportation, Ware housing, Communication.
- Banking - types of Banks, Functions of Commercial banks, E- banking
- Insurance - principles, types: life, fire and marine
- Postal and Telecom services
- Warehousing: types and functions

Unit 5: Emerging Modes of Business

- E-Business - Meaning, scope and benefits, Resources required for successful e-business implementation, On-line transactions, payment mechanism, security and safety of business transactions;
- Outsourcing- concept, need and scope

Unit 6: Social Responsibility of Business and Business Ethics

- Concept of social responsibility.
- Case for social responsibility;
- Responsibility towards owners, investors, employees, consumers, government and community
- Environmental protection and business
- Business ethics: concept and elements.

Part B: Organisation, Finance and Trade

Unit 7: Formation of a Company

Stages in the formation of a company;

- Promotion,
- Incorporation, and
- Commencement of business

Unit 8: Sources of Business Finance

- Nature and significance of business finance
- Owner's funds and borrowed funds
- Sources of raising Finance:
  - Equity and Preference shares
  - Debentures and Bonds
  - Loan from Financial Institutions
  - Retained Profits
  - Global Depository Receipt, American Depository Receipt
  - Loans from commercial Banks
  - Public deposits
  - Trade Credit

Unit 9: Small Business:

- Small Scale Industry; Tiny Sector; cottage and rural industry; ,
- Role of small business in rural India;
- Problems of small business in India.
- Government Assistance and Special Schemes for Industries in rural, backward and hilly areas.

Unit 10: Internal Trade

- Meaning and types of internal trade: wholesale and retail.
- Services of a wholesaler and a retailer
- Types of Retail Trade:
  - Itinerant retailers and fixed shops.
  - Departmental store, super market, malls, chain store, mail order business, consumer's cooperative store.
  - Automatic Vending Machine
- Role of Chamber of Commerce and Industry in promotion of internal trade.

Unit 11: International Business

- Nature, Importance and complexities involved in International Business;
- Ways of entering into international Business. Export-Import Procedures and documentation. Foreign Trade Promotion. Organizational support and incentives; Nature and importance of Export Processing Zone/special Economic Zone; International Trade Institutions and Agreement: WTO, UNCTAD, World Bank, IMF.

Unit 12: Project Work

Suggestive/Illustrative Projects

Any one of the following:-

(i) Find out from local sample business unit (s) the various objectives they pursue.

(ii) Problems of setting up and running business units.

(iii) Enquiry into the ethics of running business through questionnaires.

(iv) Survey of quality of bank services in the local branch office.

(v) Study of postal and courier mail services.

(vi) Availability and use of agency services, advertising, packaging, investments in savings schemes, etc.

(vii) Survey of the popularity of credit cards issued by different banks.

(viii) Study the profile of a sole trader/partnership commenting on the nature and working of business.

(ix) Study of a Joint Hindu family business.

(x) Study of the working of any cooperative society.

(xi) Study of a small business unit regarding source of finance.

(xii) Study of nature of small traders (like hawkers and pedlars in a specific locality) with reference to types of goods, capital investment, turnover.

(xiii) Study of weekly bazaar in a locality.

(xiv) Study of franchise retail store.

(xv) Study of export/import procedure of any article.

(xvi) Problems of women entrepreneurs in business.

(xvii) Survey of waste/garbage disposal by a business enterprise

(xviii) Study of pavement trade.

(xix) Prepare a scrapbook and collect articles on the changing role of public sector and any other topics related to the syllabus.

Marks may be suitably distributed over the different parts of the Project Report-

1. Objectives 2. Methodology 3. Conclusions - findings and suggestions

10. ACCOUNTANCY
CLASS XI

One Paper **3 Hours** **100 Marks**

Units		Marks
Part A : Financial Accounting-I		
1.	Introduction to Accounting	07
2.	Theory Base of Accounting	07
3.	Recording of Business Transactions	16
4.	Trial Balance and Rectification of Errors	08
5.	Depreciation, Provision and Reserves	12
6.	Accounting for Bills of Exchange Transactions	10
Total		**60**
Part B: Financial Accounting-II		
7.	Financial statements	25
8.	Accounts from incomplete records	05
9.	Computers in Accounting	06
10.	Accounting and Database System	04
Total		**40**

Part A: Financial Accounting - I

Unit 1: Introduction to Accounting

- Accounting- meaning, objectives, Accounting as source of information, internal and external users of Accounting information and their needs.
- Qualitative characteristics of Accounting information-reliability, relevance, understandability and comparability.
- Basic Accounting Terms - Asset, Liability, Capital, Expense, Income, Expenditure, Revenue, Debtors, Creditors, Goods, Cost, Gain, Stock, Purchase, Sales, Loss, Profit, Voucher, Discount, Transaction, Drawings.

Unit 2: Theory Base of Accounting

- Accounting Principles - meaning and nature

- Accounting Concepts: Entity, Money Measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition (Realisation), Matching, Accrual, Full Disclosure, Consistency, Conservatism, Materiality
- Accounting Standards- Concept
- Process of accounting-from recording of business transactions to preparation of trial balance.
- Bases of Accounting - Cash Basis, Accrual Basis

Unit 3: Recording of Business Transactions

- Voucher and Transactions: Origin of Transactions-Source Documents and Vouchers, preparation of Accounting vouchers; Accounting Equation Approach - Meaning and Analysis of transactions using Accounting Equation: Rules of Debit and Credit.
- Recording of Transactions: Books of original entry - Journal, Special Purpose Books: i) Cash Book - Simple, Cashbook with Bank column and Petty Cashbook, ii) Purchases Book, Sales Book, Purchase Returns Book, Sales Returns Book; Ledger-meaning, utility, format; posting from Journal and Subsidiary books; Balancing of Accounts.
- Bank Reconciliation Statement: Meaning, Need and Preparation, Corrected Cash Book Balance

Unit 4: Trial Balance and Rectification of Errors

- Trial Balance: meaning, objectives and preparation.
- Errors: Types of Errors: Errors of omission, commission, principles and compensating errors affecting Trial Balance; errors not affecting Trial Balance.
- Detection and Rectificition of Errors (One Sided and Two Sided); use of Suspense Account.

Unit 5: Depreciation, Provisions and Reserves

- Depreciation: Meaning and need for charging depreciation, factors affecting depreciation, methods of depreciation-Straight Line method, Written Down Value method (excluding change in method), Method of recording depreciation-charging to asset account, creating provision for depreciation/accumulated depreciation account; Treatment of disposal of asset.
- Provisions and Reserves: meaning, importance, difference between Provisions and Reserves, types of Reserves: Revenue Reserve, Capital Reserve, General Reserve, Specific Reserve and Secret Reserves.

Unit 6: Accounting for Bills of Exchange Transactions

- Bills of exchange and Promissory Note: definition, features, parties, specimen and distinction.
- Important Terms: Term of Bill, Accommodation Bill, Days of Grace, Date of Maturity, Bill at Sight, Negotiation, Endorsement, Discounting of Bill, Dishonour, Retirement and Renewal of a Bill.
- Accounting treatment of trade bills and accomodation bills.

Part B: Financial Accounting - II

Unit 7: Financial Statements

- Financial statements: meaning and users.
- Capital Expenditure and Deferred Revenue Expenditure
- Trading and Profit and Loss Account: Gross Profit, Operating and net profit.
- Balance Sheet: need, grouping and marshalling of Assets and Liabilities. Vertical and Horizontal Presentation of Financial Statements.
- Adjustments in preparation of financial statements with respect to closing stock, outstanding expenses, prepaid expenses, accrued Income, Income received In advance, depreciation and bad debts, provision for doubtful debts, provision for discount on debtors, manager's commission.
- Preparation of Trading and Profit & Loss Account and Balance Sheet of sole proprietorship.

Unit 8: Accounts from incomplete records

Incomplete records : meaning, uses and limitations. Ascertainment of profit/loss by statement of affairs method, conversion method.

Unit 9: Computers in Accounting

- Introduction to Computer and Accounting Information System (AIS)
- Applications of computers in accounting:
    - Automation of accounting process, designing accounting reports, MIS reporting, data exchange with other information systems
- Comparison of accounting processes in manual and computerized accounting, highlighting advantages and limitations of automation
- Sourcing of accounting system: readymade and customized and tailor-made accounting system. Advantages and disadvantages of each option.

Unit 10: Accounting and Database System

- Accounting and Database Management System
- Concept of entity and relationship: entities and relationships in an Accounting System: designing and creating simple tables, forms, queries and reports in the context of Accounting System.

11. HISTORY
Class XI

Paper One **Time: 3 hours** **100 Marks**

Units	**Marks**
1. Introduction to World History	
Section A: Early Societies	**15**
2. Introduction	
3. From the beginning of time	
4. Early Cities	
Section B: Empires	**25**
5. Introduction	
6. An empire across three continents	
7. Central Islamic lands	
8. Nomadic Empires	
Section C: Changing Traditions	**25**
9. Introduction	
10. Three orders	
11. Changing cultural traditions	
12. Confrontation of cultures	
Section D: Paths to Modernization	**25**
13. Introduction	
14. The Industrial Revolution	
15. Displacing indigenous People	
16. Paths to modernization	
Map work (units 1-16)	**10**

Class XI: Themes in World History

Themes	**Objectives**
1. Introduction to World History **SECTION A: EARLY SOCIETIES** **2. Introduction** **3. From the Begining of Time**	• Familiarize the learner with ways of

Familiarize the learner with ways Focus: Africa, Europe till 15000 BC of reconstructing human evolution. (a) Views on the origin of human beings. _ Discuss whether the experience of (b) Early societies. present-day hunting-gathering (c) Historians' views on present-day hunting-people can be used to understand gathering societies. early societies.	reconstructing human evolution. Discuss whether the wxperience of present- day hunting- gathering people can be used to understand early societie.
4. Early Cities Focus: Iraq, 3rd millennium BC _ Familiarize the learner with the (a) Growth of towns. (b) Nature of early nature of early urban centres. urban societies. _ Discuss whether writing is (c) Historians' Debate on uses of writing. significant as a marker of civilization.	• Familiarize the learner with the nature of early urban centres. • Discuss whether writing is significant as a marker of civilization.
SECTION B: EMPIRES	
5. Introduction	
6. An Empire across Three Continents Focus: Roman Empire, 27 B.C to A.D history of a major world empire 600. (a) Political evolution (b) Economic significant element in the expansion (c) Religion (d) Late Antiquity. economy. (e) Historians views on the institution of Slavery.	• Familiarize the learner with the history of a major world empire • Discuss whether slavery was a significant element in the economy.
7. Central Islamic Lands: Focus: 7th to 12th centuries rise of Islamic empires in the (a) Polity (b) Economy (c) Culture. (d) Historians viewpoints on the nature of the crusades.	• Familiarize the learner with the rise of Islamic empires in the Afro- Asian territories and its implications for economy and society. • Understand what the crusades meant in these regions and how they were experienced.
8. Nomadic Empires: (10) Focus: the Mongol, 13th to 14th century (a) The nature of nomadism. (b) Formation varieties of nomadic society and of empires. (c) Conquests and relations their institutions. with other states. (d) Historians' views on nomadic	• Familiarize the learner with the varieties of nomadic society and their institutions • Discuss whether state formation is possible in nomadic societies.

societies and state formation. **SECTION C: CHANGING TRADITIONS** **9. Introduction** **10. Three Orders** Focus: Western Europe, 13th-16th century nature of the economy and society (a) Feudal society and economy: (b) Formation of states. (c) Church and Society. (d) Historian's views on decline of feudalism **11. Changing cultural traditions** Focus on Europe, 14th to 17th century'. (a) New ideas, and new trends in literature the period. and arts. (b) Relationship with earlier ideas (c) The contribution of West Asia. (d) Historian's view points on the of the notion 'European Renaissance'. **12. Confrontation of Cultures** Focus on the America 15th to 18th century. (1) European voyages of exploration. (b) Search for gold; enslavement, raids, conquests for the indigenous extermination. (c) Indigenous people and cultures - the Arawaks, the Aztecs, the Incas. (c) The history of displacements. (d) Historian's view points on the slave trade, **SECTION D: PATHS TO MODERNIZATION** **13. Introduction** **14. The Industrial Revolution.** Focus on England, 18th and 19th century. (a) Innovations and technological change the period and its limits. (b) Patterns of growth. (c) Emergence of a working class. (d) Historians' viewpoints Debate, 'Was there an Industrial Revolution? **15. Displacing indigenous People.** Focus on North America and Australia,	• Familiarize the learner with the nature of economy and society of the period and the changes within them. • Show how the debate on the decline of feudalism helps in understanding processes of transition. • Explore the intellectual trends in the period. • Familiarize students with the paintings and building of the period. • Introduction the debate around the idea of ' Renaissance'. • Discuss changes in European economy that led to the voyages. • Discuss the implications of the conquests for the indigenous people. • Explore the debate on the nature of the slave trade and see what this debate tells us about the meaning of these " discoveries". • Understand the nature of growth in the period and its limits. • Initiate students to the debate on the idea of industrial revolution. • Sensitizes students to the processes of displacements that accompanied the

I8th-20th century, (a) European colonists in North America Australia. and Australia. (b) Formation of hite settler societies. (c) Displacement and epression of local people, (d) Historians iew points on the impact of European on ndigenous population. **16. Paths to Modernization.** Focus on East Asia. Late 19th and 20th century. (a) Militarization and economic growth in Japan. (b) China and the Communist alternative. (d) Historians' Debate on meaning of modernization **17. Map Work on Units 1-15**	development of America and Australia. • Understand the implication of such processes for the displaced populations. • Make students aware that. transformation in the modern world takes many different forms. • Show how notions like 'modernization' need to be critically assessed.

12. POLITICAL SCIENCE

Class XI

One Paper **Time 3hrs.** **Marks 100**

Units	Marks
Part A: Indian Constitution at work	
1. Constitution : Why & How?	**10**
2. Rights in the Indian Constitution	
3. Election and Representation	**10**
4. Legislature	
5. Executive	**10**
6. Judiciary	
7. Federalism	**10**
8. Local Governments	
9. Constitution as a living document.	**10**
10. The Philosophy of the constitution	
Total	**50**
Part B: Political Theory	
11. Political Theory : An Introduction	**10**
12. Freedom	
13. Equality	**10**
14. Social Justice	
15. Rights	**10**
16. Secularism	
17. Nationalism	**10**
18. Citizenship	
19. Peace	**10**
20. Development	
Total	**50**

Course Content:

Part A: Indian Constitution at work

1. The Constitution : Why and How? The authority of a Constitutuion

Why do we need a constitution?

2. Rights in the Indian Constitution

The Importance of Rights, Fundamental Rights in the Indian Constitution, Directive Principles of State Policy, Relationship between Fundamental Rights and Directive Principles

3. Election and Representation

Elections of Democracy, Election System in India, Reservation of Constituencies, Free and Fair Elections, Electoral Reforms

4. Legislature

What do we need a Parliament? Two Houses of Parliament. Functions and Power of the Parliament, Legistative functions, control over executive. Parliamentary comittees. Self-regulation.

5. Executive

What is an Executive? Different Types of Executives. Parliament ary Executive in India: Prime Ministers and Council of Ministers. Permanent Executive-Bureaucracy,

6. Judiciary

Why do we need an Independent Judiciary? Structure of the Judiciary, Judicial Activism, Judiciary and Rights, Judiciary and Parliament

7. Federalism

What is Federalism Federalism in the Indian Constitution, Federalism with a strong Central Government, conflicts in India's federal system, Special Provisions.

8. Local Governments

Why do we need Local Governments? Growth of Local Government in India, 73rd and

74th Amendments, implementation of 73rd and 74th Amendments

9. Constitution as a Living Document

Are Constitutions static? The procedure to amend the Constitution. Why have there been so many amendments? Basic Structure and Evolution of the Constitution. Constitution as a Living Document

10. The Philosophy of the Constitution

What is meant by Philosophy of the Constitution? The Political philosophy of our

Constitution? Procedural Achievements, Criticisms

Part B: Political Theory

11. Political Theory: An Introduction

What is Politics? What do we study in Political Theory? Putting Political Theory to practice.

Why should we study Politial Theory?

12. Freedom

The Ideal of Freedom. What is Freedom? Why do we need constraints? Harm principle. Negative and Positive Liberty

13. Equality

Significane of Equality. What is Equality? Various dimensions of Equality. How can we promote Equality?

14. **Social Justice**
What is Justice? Just Distribution. Justice as fairness. Pursuing Social Justice

15. **Rights**

What are Rights? Where do Rights come from? Legal Rights and the State. Kinds of Rights. Rights and Responsibilities

16. **Secularism**

What is Secularism? What is Secular State? The Western and the Indian approach to Secularism. Criticisms and Rationale of Indian Secularism.

17. **Nationalism**

Nations and Nationalism, National Self-determination, Nationalism and Pluralism

18. **Citizenship**

What is citizenship? Citizen and N ation, Universal Citizenship, Global Citizenship

19. **Peace**

What is Peace? Can violence ever promote peace? Peace and the State. Different Approaches to the pursuit of peace. Contemporary challenges to peace.

20. **Development**

What is development? Criticism of the dominant. Development Model. Alternative conceptions of development

13. GEOGRAPHY

Class XI

One Theory Paper **3 Hours** **70 Marks**

Part A. Fundamentals of Physical Geography	**35 (Marks)**
Unit-1: Geography as a discipline	03
Unit-2: The Earth	05
Unit-3: Landforms	08
Unit-4: Climate	10
Unit-5: Water (Oceans)	04
Unit-6: Life on the Earth	03
Unit-7: Map work	02
Part B. India- Physical Environment	**35 (Marks)**
Unit-8: Introduction	03
Unit-9: Physiography	10
Unit-10: Climate, vegetation and soil	10
Unit-11: Natural hazards and Disasters	09
Unit-12: Map Work	03
Part C. Practical Work **3 Hours**	**30 (Marks)**
Unit-1: Fundamentals of Maps	10
Unit-2: Topographic and Weather Maps	15
Unit-3 : Practical Record Book & Viva	05

Part A: Fundamentals of Physical Geography

Unit-1: Geography as a Discipline

Geography as an integrating discipline, as a scienceof spatial attributes; Branches of geography; importance of physical geography

Unit-2: The Earth

Origin and evolution of the earth; Interior of the earth; Wegener's continental drift theory and plate tectonics; earthquakes and volcanoes.

Unit-3: Landforms

Rocks: major types of rocks and their characteristics; Landforms and their evolution Geomorphic processes-weathering, mass wasting, erosion and deposition; soil-formation

Unit 4: Climate

- Atmosphere- composition and structure; elements of weather and climate.

- Insolation-angle of incidence and distribution; heat budget of the earth-heating and cooling of atmosphere (conduction, convection, terrestrial radiation and advection); temperaturefactors controlling temperature; distribution of temperature-horizontal and vertical; inversion of temperature.
- Pressure-pressure belts; winds-planetary, seasonal and local; air masses and fronts; tropical and extratropical cyclones.
- Precipitation-evaporation; condensation-dew, frost, fog, mist and cloud; rainfall-types and world distribution.
- World climates-classification (Koeppen), greenhouse effect, global warming and climatic changes.

Unit 5: Water (Oceans)

- Hydrological Cycle.
- Oceans - distribution of temperature and salinity; movements of ocean water waves, tides and currents; submarine reliefs.

Unit 6: Life on the Earth

- Biosphere - importance of plants and other organisms; biodiversity and conservation; ecosystem and ecological balance.

Unit 7: Map work on identification of features based on the above units on the outline political map of the world.

Part B. India - Physical Environment

Unit 8: Introduction

- Location-space relations and India's place in the world.

Unit 9: Physiography

- Structure and Relief;
- Drainage systems: concept of watershed; the Himalayan and the Peninsular;
- Physiographic divisions.

Unit 10: Climate, Vegetation and Soil

- Weather and climate — spatial and temporal distribution of temperature, pressure winds and rainfall, Indian monsoon: mechanism, onset and withdrawal, variability of rainfalls : spatial and temporal; Climatic types (koeppen)
- Natural vegetation-forest types and distribution; wild life; conservation; biosphere reserves;
- Soils - major types (ICAR's classification) and their distribution, soil degradation and conservation.

Unit 11: Natural Hazards and Disasters: Causes, Consequences and Management (One case study to be introduced for each topic)

- Floods and droughts
- Earthquakes and Tsunami
- Cyclones
- Landslides

Unit 12: Map Work of features based on above units for locating and labelling on the Outline Political map of India.

C. Practical Work

Unit 1: Fundamentals of Maps

- Maps -types; scales-types; construction of simple linear scale, measuring distance; finding direction and use of symbols.
- Latitude, longitude and time.
- Map projection- typology, construction and properties of projections : Conical with one standard parallel and Mercator's projection.

Unit 2: Topographic and Weather Maps (28 Periods)

- Study of topographic maps (1 : 50,000 or 1 : 25,000 Survey of India maps); contour cross section and identification of landforms-slopes, hills, valleys, waterfall, cliffs; distribution of settlements.
- Aerial Photographs: Types & Geometry-vertical aerial photographs; difference between maps & aerial photographs; photo scale determination.
- Satellite imageries, stages in remote sensing data-acquisition, platform & sensors and data products, (photographic & digital).
- Identification of physical & cultural features from aerial photographs & satellite imageries.
- Use of weather instruments: thermometer, wet and dry-bulb thermometer, barometer, wind vane, raingauge.
- Use of weather charts: describing pressure, wind and rainfall distribution.

Unit 3: Practical Record Book and Vivavoce'.

14. PSYCHOLOGY

Class XI (Theory)

One Theory Paper **3 Hours**

Unitwise weightage **Marks : 70**

Units	Marks
Foundations of Psychology	
I. Introduction to Psychology	08
II. Methods of Psychology	09
III. The Bases of Human Behaviour	08
IV. Human Development	07
V. Sensory and Perceptual Processes	08
VI. Learning	08
VII. Human Memory	08
VIII Language and thought	07
IX. Motivation and Emotion	07
Practicals (Projects, experiments,small studies)	30

Foundations of Psychology

Unit I: Introduction to Psychology **08 Marks**

The unit seeks to help understanding and appreciating psychology as a discipline, its applications and relationships with other sciences through appropriate and interesting examples and analysis of everyday experiences.

Nature of psychology; Basic concepts: Person, Consciousness, Behaviour and Experience: Similarities and variations in psychological attributes; Evolution of the discipline of psychology; Developments in psychology in India; Psychology and other disciplines; Linkages across psychological processes.

Unit II: Methods of Psychology **09 Marks**

The objective of this unit is to familiarize with the methods of studying and understanding psychological questions and issues.

Goals of psychological enquiry; Some important methods: Observation, Naturalistic, Experimental; Correlational study; Interview, Case study; Psychological tools: Tests, Questionnaires and gadgets; Analysis of data: Concepts and computation of the Measures of Central Tendency: Graphical Presentation of Data: Bar, Histogram, Polygon; Ethical issues in the study of psychological processes.

Unit III: The Bases of Human Behaviour 08 Marks

This unit focuses as on the role of biological and socio-cultural factors in the shaping of human behaviour and experience.

Evolutionary perspective on human behaviour; Biological and cultural roots; Nervous system and endocrine system: Structure and relationship of with behaviour and experience; Brain and behaviour, Role of Neurotransmiters in behaviour. Sleep and weakfulness. Genetic bases of behaviour; Culture and human behaviour: Socialization, Enculturation and Acculturation; Globalization; Diversity and pluralism in the Indian context.

Unit IV: Human Development 07 Marks

This unit deals with variations in development and the developmental tasks across the life span.

Meaning of development; Factors influencing development; Contexts of development; Overview of developmental stages: Prenatal development, Infancy, Childhood, Adolescence (particularly issues of identity, health, social participation), Adulthood and Old age.

Unit V: Sensory and Perceptual Processes 08 Marks

This unit aims at understanding how various sensory stimuli are received, attended to and given meaning.

Knowing the world; Nature of stimuli; Nature and functioning of sense modalities; Sensory Adaptation; Attention : Nature and determinants; Selective and sustained attention; Principles of perceptual organization; Role of perceiver , characteristics in perception; Pattern recognition; erceptual phenomena : After images; Space Perception, Perceptual constancy, Illusions, Person perception; Socio-cultural influences on perception.

Unit VI : Learning 08 Marks

This unit focuses on how human beings acquire new behaviour and how changes in behaviour take place.

Nature of learning and learning curve: Paradigms of learnings: Classical and Operant Conditioning, Observational Learning, Cognitive learning, Verbal learning, Concept learning, skill-learning; Factors facilitating learning; Transfer of learning: Types and Applications, Learning styles: Learning disabilities; Some Applications of learning principles.

Unit VII : Human Memory 08 Marks

This unit deals with how information is received, stored, retrieved and lost. It will also discuss how memory can be improved.

Nature of memory; Information Processing Approach; Levels of processing; Memory systems - Sensory memory, Short-term memory, Long -term memory; Knowledge representation and organisation in memory; Memory as a constructive process; Nature and causes of forgetting; Enhancing memory; Pathologies related to memory.

Unit VIII : Language and Thought 07 Marks

This unit deals with thinking and related processes like reasoning, problem-solving, decision making and creative thinking and relationship between thought and language.

Thought and language: Nature and interrrelationship; Stages of cognitive development: Introduction to the ideas of Piaget, Vygotsky, and Information Processing Approach; Development of language and language use; Reasoning: Problem-solving; Decision making; Creative thinking: Nature, process and development.

Unit IX: Motivation and Emotion 07 Marks

This unit focuses on why human beings behave as they do. It also deals with how people experience positive and negative events and respond to them.

Human existence and nature of motivation; Biological needs; Social and psychological motives: Achievement, Affiliation and Power, Maslow's hierarchy of needs; Emerging concepts: Competence, Self efficacy and Intrinsic Motivation: Nature of emotions; Physiological, cognitive and cultural bases of emotions; Expression of emotions; Positive emotions; Happiness, Optimism, Empathy and Gratitude; Development of positive emotions; Managing negative emotions such as anger and fear.

Practicals (Projects, experiments, small studies, etc.) 30 Marks

The students shall be required to undertake one project and conduct three practicals. The project would involve the use of different methods of enquiry and related skills. Practicals would involve conducting experiments and undertaking small studies, exercises, related to the topics covered in the course (e.g. Human development, Learning, Memory, Motivation, Perception, Attention and Thinking).

(i) Reporting file including Project work; 05 Marks

(ii) Viva Voce : 05 Marks

(iii) Two experiments : 10 marks each (05 for conduct and 05 for reporting)

15. SOCIOLOGY

Class XI

One Paper Theory **3 Hours**

Unitwise Weightage **Marks: 80**

Units	Marks
A. Introducing Sociology	**34**
1. Society, Sociology and relationship with other social sciences	06
2. Basic Concepts	08
3. Social Institutions	10
4. Culture and Society	10
5. Practical Sociology : Methods & Techniques **Evaluated through Practical**	
B. Understanding Society	**46**
6. Structure, Process and Stratification	10
7. Social Change	10
8. Environment and Society	10
9. Western Social Thinkers	08
10. India Sociologists	08

Class XI

Practical Examination

Max. Marks 20 **Time allotted : 3hrs**

Unitwise Weightage

A.	**Project (undertaken during the academic year at school level)**		**07 marks**
i.	Statement of the purpose	:	02 marks
ii.	Methodology / Technique	:	02 marks
iii.	Conclusion	:	03 marks
B.	**Viva - based on the project work**		**05 marks**
C.	**Research design**		**08 marks**
i.	Overall format	:	01 mark
ii	Research Question/Hypothesis	:	01 mark
iii.	Choice of technique	:	02 marks
iv.	Detailed procedure for implementation of technique	:	02 marks
v.	Limitations of the above technique	:	02 marks

A. INTRODUCING SOCIOLOGY

Unit 1: Society & Sociology and Relationship with other social sciences

- Introducing Society: Individuals and collectivities. Plural Perspectives
- Introducing Sociology: Emergence. Nature & Scope. Relationship to other disciplines

Unit 2: Basic Concepts

- Social Groups
- Status and Role
- Social Stratification
- Social Control

Unit 3: Social Institutions

- Family and Kinship
- Political and Economic Institutions
- Religion as a Social Institution
- Education as a Social Institution

Unit 4: Culture And Society

- Culture. Values and Norms: Shared, Plural, Contested
- Socialization: Conformity, Conflict and the Shaping of Personality

Unit 5: Practical Sociology: Methods & Techniques

- Tools and Techniques: Observation, Survey, Interview
- The Significance of Field Work in Sociology

B. UNDERSTANDING SOCIETY

Unit 6: Structure, Process and Stratification

- Social Structure
- Social Processes: Cooperation, Competition, Conflict
- Social Stratification: Class, Caste, Race, Gender.

Unit 7: Social Change

- Social Change: Types and Dimensions; Causes and Consequences.
- Social Order: Domination, Authority & Law; Contestation, Crime & Violence
- Village, Town & City: Changes in Rural & Urban Society

Unit 8: Environment And Society

- Ecology and Society
- Environmental Crises and Social Responses

Unit 9: Western Social Thinkers

- Karl Marx on Class Conflict
- Emile Durkheim on Division of Labour
- Max Weber on Bureaucracy

Unit 10: Indian Sociologists

- G.S. Ghurye on Race and Caste
- D.P. Mukerji on Tradition and Change
- A.R. Desai on the State
- M.N. Srinivas on the Village

(16) DRAWING & PAINTING

CLASS XI (THEORY)

One Paper **Time:1 Hour** **30 Marks**

Unitwise Weightage

Units	Marks
History of Indian Art	
1. Art of Indus Valley	05
2. Buddhist, Jain & Hindu Art	10
3. Temple Sculpture. Broznes and Artistic aspects of Indo- Islamic Architecture	15

Unit 1: Art of Indus Valley

(2500 B.C. to 1500 B.C.)

(1) Introduction

(i) Period and Location.

(ii) Extension: In about 1500 miles

(a) Harappa & Mohenjo-daro (Now in Pakistan)

(b) Ropar, Lothal, Rangpur, Alamgirpur, Kali Bangan, Banawali and Dhaula Veera (in India)

(2) Study of following Sculptures and Terracottas:

(i) Dancing girl (Mohenjo-daro)
Bronze, 10.5 x 5 x 2.5 cm.
Circa 2500 B.C.
(Collection: National Museum, New Delhi).

(ii) Male Torso (Harappa)
Red lime Stone, 9.2 x 5.8 x 3 cms.
Circa 2500 B.C.
(Collection: National Museum, New Delhi).

(iii) Mother Goddess (Mohenjo-daro) terracotta, 22 x 8 x 5 cm.
Circa 2500 B.C.
(Collection: National Museum New Delhi).

(3) Study of following Seal:

(i) Bull (Mohenjo-daro)
Stone (Steatite), 2.5 x 2.5 x 1.4 cm.
Circa 2500 B.C.
(Collection: National Museum, New Delhi).

(4) Study of following :

Decoration on earthen wares:

(i) Painted earthen-ware (Jar) Mohenjo-daro

(Collection: National Museum, New Delhi).

Unit 2: Buddhist, Jain and Hindu Art

(3rd century B.C. to 8th century A.D.)

(1) General Introduction to Art, during Mauryan, Shunga, Kushana & Gupta period:

(2) Study of following Sculptures:

(i) Lion Capital from Sarnath (Mauryan period)

Polished sand stone,

Circa 3rd Century B.C.

(Collection: Sarnath Musseum, U.P.)

(ii) Chauri Bearer from Didar Ganj (Mauryan period)

Polished sand stone

Circa 3rd Century B.C.

(Collection: Patna Museum, Bihar)

(iii) Bodhisattva head from Taxila (Gandhara period)

Stone, 27.5 x 20 x 15c.m.

Circa 2nd Century A.D.

(Collection: National Museum, New Delhi)

(iv) Seated Buddha from Katra Tila Mathura-(Kushan Period)

Red-spotted Sand Stone, Circa 3rd Century AD.

Stone

(Collection: Mathura Museum)

(v) Seated Buddha from Sarnath (Gupta period)

Stone

Circa 5th century AD

(Collection: Sarnath Museum U.P.)

(vi) Jain Tirathankara (Gupta period)

Stone

Circa 5th Century A.D.

(Collection : State Museum, Lucknow U.P.)

(3) Introduction to Ajanta

Location, period, No. of caves, Chaitya and Vihara, Paintings and Sculptures, subjectmatter and technique etc.

(4) Study of Following

Painting & Sculpture:

(i) Padmapani Bodhisattva (Ajanta Cave No. I)

Mural Painting

Circa 5th Century A.D.

(ii) Mara Vijay (Ajanta Cave No. 26)

Sculpture in stone.

Circa 5th Century A.D.

Unit 3: Temples Sculpture, Bronzes and Indo-Islamic Architecture

Artistic aspects of Indian Temples

(6th Century A.D. to 13th Century A.D.)

(1) Introduction to Temple Sculpture

(6th Century A.D. to 13th Century A.D.)

(2) Study of following Temple-Sculptures;

(i) Descent of Ganga (Pallava period, Mahabalipuram Tamilnadu), Granite rock Circa 7th Century A.D.

(ii) Ravana shaking Mount Kailash (Rashtrakuta period, Ellora, Maharashtra) Stone 8th Century A.D. ,

(iii) Trimurti (Elephanta, Maharashtra)

Stone

Circa 9th Century A.D.

(iv) Lakshmi Narayana (Kandariya Mahadev Temple) (Chandela period, Khajuraho, M.P.)

Stone

Circa 10th Century A.D.

(v) Cymbal Player, Sun Temple (Ganga Dynesty, Konark, Orissa)

Stone.

Circa 13th Century A.D.

(vi) Mother & Child (Vimal-Shah Temple, Solanki Dynesty, Dilwara, Mount Abu, Rajasthan) White marble.

Circa 13th Century A.D.

(3) Bronzes :

(i) Introduction to Indian Bronzes

(ii) Method of casting (solid and hollow)

(4) Study of following south Indian Bronzes:

(i) Nataraj (Thanjavur Distt., Tamilnadu)

Chola period (12th Century A.D.)

(Collection: National Museum, New Delhi.) I

(ii) Devi (Uma)

Chola Period (11th Century A.D.)

(Collection: National Museum, New Delhi.)

(5) Artistic Aspects of the Indo-Islamic Architecture

(i) Introduction

(6) Study of following architectures:

(i) Qutab Minar, Delhi

(ii) Taj Mahal, Agra

(iii) Gol Gumbaj of Bijapur.

CLASS XI (Practical)

One Paper **Time: 6 Hours** **70 Marks**

Unitwise Weightage

Units	Marks
1. Nature and Object Study	25
2. Painting Composition	25
3. Sessional Work	20

Unit 1: Nature and Object Study

Study of two or three natural and geometric forms in pencil with light and shade from a fixed point of view. Natural forms life plants, vegetables, fruits and flowers etc., are to be used.Geometrical forms of objects like cubes, cones, prisms, cylinders and sphere should be used. (25 Marks)

Unit 2: Painting Composition

(i) Simple exercises of basic design in variation of linear geometric and Rhythmetic shapes in primary and secondary colours to understand designs as organised visual arrangements. (15 Marks)

(ii) Sketches from Life and Nature (10 Mark)

Unit 3 : Sessional Work

(a) Five selected Nature and object study exercises drawings in any media done during the session including minimum of two still life exercise. (10 Marks)

(b) Two selected works of paintings done during the year (10 Marks)

These selected works prepared during the course by the candidates and certified by the school authorities as the work done in the school will be placed before the examiners for assessment.

Note: The time-table to be so framed as to allow the students to work continuously for minimum of two periods at a stretch.

17. सैन्य विज्ञान

कक्षा 11

केवल प्रश्न पत्र | पूर्णांक 70

PART-I

UNIT 1. सैन्य विज्ञान - परिचय 05 अंक

1. सैन्य विज्ञान : परिचय, परिभाषा, क्षेत्र तथा महत्व
2. सैन्य विज्ञान का अन्य विषयों से सम्बन्ध
   (अ) राजनीतिशास्त्र (ब) भूगोल (स) इतिहास (द) अर्थशास्त्र
   (व) मनोविज्ञान

PART-II

UNIT 2. राष्ट्रीय सुरक्षा 05 अंक

3. राष्ट्रीय सुरक्षा : परिभाषा तथा क्षेत्र
4. राष्ट्रीय सुरक्षा के तत्व
5. भारत की सुरक्षा में भौगोलिक तत्व

UNIT 3. भारत तथा उसके पड़ोसी 10 अंक

6 भारत-पाक सम्बन्ध
7. भारत-चीन सम्बन्ध
8. भारत-नेपाल सम्बन्ध
9. भारत-बांग्लादेश सम्बन्ध
10. भारत-श्रीलंका सम्बन्ध

PART-III

UNIT 4. सैन्य मनोविज्ञान 05 अंक

11. मनोबल
12. अनुशासन
13. नेतृत्व
14. दल-भावना
15. मानव प्रबन्ध

UNIT 5. नागरिक सुरक्षा **05 अंक**

16. नागरिक सुरक्षा : परिभाषा, क्षेत्र, महत्व
17. नागरिक सुरक्षा के उपाय
18. नागरिक सुरक्षा संगठन

PART- IV

UNIT 6 वैदिककालीन तथा महाकाव्य कालीन सैन्य संगठन **05 अंक**

19. वैदिककालीन सैन्य पद्धति
20. महाकाव्यकालीन सैन्य पद्धति

UNIT 7. सिकन्दर का आगमन तथा मौर्यकालीन सैन्य पद्धति **10 अंक**

21. झेलम का युद्ध (326 ई.पू.)
22. मौर्यकालीन सैन्य पद्धति
23. कौटिल्य का युद्ध दर्शन

UNIT 8. हिन्दूकालीन सैन्य पद्धति **05 अंक**

24 गुप्त साम्राज्य की सैन्य पद्धति
25. हर्षकालीन सैन्य पद्धति

UNIT 9. मुगलकालीन सैन्य पद्धति **10 अंक**

26. पानीपत का प्रथम संग्राम (1526 ई.)

UNIT 10. राजपूत सैन्य पद्धति **10 अंक**

27. हल्दीघाटी का युद्ध (1576 ई.)

सैन्य विज्ञान (प्रयोगात्मक)

कक्षा - 11

पूर्णांक 30

1. मानचित्र अध्ययन - 02 अंक
   (अ) परिचय परिभाषा
   (ब) विशेषतायें एवं महत्व
2. मानचित्र के प्रकार - 03 अंक
   (अ) भौगौलिक मानचित्र

(ब) सैनिक मानचित्र

3. सांकेतिक चिन्ह - 07 अंक

(अ) भौगोलिक सांकेतिक चिन्ह

(ब) सैनिक सांकेतिक चिन्ह

4. मापक : मापक प्रदर्शित करने की विधियां - 08 अंक

लिखित	मौखिक	रिकार्ड फाइल	योग
20	05	05	30

प्रश्नों के प्रारूप

			प्रश्न संख्या	अंक	शब्द सीमा
1.	बहुविकल्पीय प्रश्न	-	05	01	-
2.	अति लघु उत्तरीय प्रश्न	-	10	02	10 शब्द
3.	लघु उत्तरीय प्रश्न	-	10	03	50 शब्द
4.	दीर्घ उत्तरीय प्रश्न	-	03	05	150 शब्द

18. भूगर्भ विज्ञान

कक्षा –11

केवल प्रश्न पत्र — पूर्णांक 70

Unit - I भौतिक भू विज्ञान — **05 अंक**

1. परिचय
2. भूगर्भ विज्ञान का क्षेत्र

Unit - II — **10 अंक**

3. पृथ्वी की उत्पत्ति
   - लैपलास की परिकल्पना
   - जीन्स एवं जैफरी की परिकल्पना
   - ए.सी. बैनर्जी की परिकल्पना
4. पृथ्वी की आयु : आधुनिक विधी द्वारा आयु ज्ञात करना
5. पृथ्वी की आन्तरिक संरचना का प्रारम्भिक ज्ञान

Unit - III — **15 अंक**

6. हिमादी– भू–वैज्ञानिक कार्य उत्तराखण्ड के प्रमुख हिमनद तथा प्रमुख भू–आकृतियां।
7. नदी – अवस्थाएं तथा उनके भू–वैज्ञानिक कार्य, उत्तराखण्ड की प्रमुख नदियां।
8. ज्वालामुखी–परिभाषा, कारण एवं प्रकार।
9. भूकम्प– परिभाषा, भूकम्प नापने की विधि, कारण, भारत में भूकम्पीय क्षेत्र, उत्तराखण्ड की संक्षिप्त भूकम्पीय स्थिति।
10. वायु – भू–वैज्ञानिक कार्य।

Unit - IV संरचनात्मक भूगर्भ विज्ञान — **20 अंक**

11. भ्रंश – परिभाषा, वर्गीकरण तथा पहचान, उत्तराखण्ड हिमालय के प्रमुख भ्रंश।
12. वलन – परिभाषा, वर्गीकरण तथा पहचान।
13. विषम विन्यास – परिभाषा, वर्गीकरण तथा पहचान।
14. परिभाषा – कठोरता, आपेक्षिक घनत्व, चमक, चापझील।

    संक्षेप में टिप्पणी– नति, स्ट्राइक, पंक विदर सिल तथा डाइक।

Unit - V – खनिज विज्ञान — **10 अंक**

15. खनिजों की परिभाषा

16. खनिजों के भौतिक गुण

17. खनिजों के रसायनिक गुण

18. खजिनों का वर्णन – (क) बायोटाइट (ख) मस्कोवाइट (ग) टाल्क (घ) क्वार्टज (च) माइक्रोक्लीन (छ) कैल्साइट (ज) हीरा (झ) मैग्नेटाइट (ट) हेमेटाइट (ठ) चाल्कोपाइराइट (ड) औलीवीन मोह का कठोरता स्केल

Unit - VI – क्रिस्टल विज्ञान **10 अंक**

19. क्रिस्टल की परिभाषा

20. क्रिस्टल के बाहरी लक्षण : रूप, किनारा, कोण तथा स्थिति।

21. संक्षिप्त टिप्पणी : 1. अन्तः खंडित फलक

2. सममिति केन्द्र

3. समानान्तर षटफलक

भूगर्भ विज्ञान प्रयोगात्मक

कक्षा – 11

समय 3 घंटे **पूर्णांक 30 अंक**

1.	दिए गए खनिज का आपेक्षिक घनत्व ज्ञात करना।	10 अंक
2.	दिए गए खनिजों के भौतिक गुण तथा रासायनिक संघटन ज्ञात करना।	10 अंक
3.	मौखिक	05 अंक
4.	सत्रीय कार्य	05 अंक

19. शिक्षाशास्त्र
कक्षा –11

खण्ड (अ) शिक्षा सिद्धान्त–

1. इकाई 1 –प्रस्तावना – शिक्षा का अर्थ, प्रचलित, संकुलित, वैज्ञानिक एवं व्यापक अर्थ, शिक्षा का महत्व, आवश्यकता एवं उपयोगिता, शिक्षा का स्वरूप–औपचारिक एवं अनौपचारिक । **15 अंक**
2. इकाई 2–शिक्षा का उद्देश्य– (क) व्यक्तिगत–सामाजिक (ख) व्यावसायिक वर्तमान परिस्थितियों के सन्दर्भ में भारत में शिक्षा के उद्देश्य। **10 अंक**
3. इकाई 3–शिक्षा के अभिकरण– घर, विद्यालय, समुदाय, स्थानीय संस्थाएँ ,राज्य। **12 अंक**
4. इकाई 4-fशिक्षा प्रणालियाँ– माण्टेसरी किण्डरगार्डन, डाल्टन, प्रोजेक्ट एवं बेसिक शिक्षा प्रणाली। **12 अंक**

खण्ड (ब) शिक्षा मनोविज्ञान–

5. इकाई 5– शिक्षा मनोविज्ञान– अर्थ, क्षेत्र, महत्व, उपयोगिता। **12 अंक**
6. इकाई 6– बालक का विकास– (क) प्रारम्भिक बाल्यकाल–शारीरिक एवं मानसिक विकास, **15 अंक**

   भाषा, संवेगात्मक एवं सामाजिक विकास।

   (ख) पूर्व किशोरावस्था – शारीरिक, मानसिक, संवेगात्मक एवं सामाजिक विकास।
7. इकाई 7– अधिगम– अर्थ सीखने की प्रक्रिया, सीखने के नियम, सीखने के सिद्धान्त–प्रयास एवं त्रुटि, सूझ, सम्बद्ध प्रत्यावर्तन एवं अनुकरण का सिद्धान्त। **15 अंक**
8. इकाई 8– व्यक्तिगत भेद– अर्थ, शारीरिक, मानसिक एवं व्यक्तिगत भेद। प्रतिभाशाली एव पिछड़े बालक। **09 अंक**

20. MUSIC

Karnatak Music Instrumental (Melodic)

Class XI **Marks: 100**

One Theory Paper **3 Hour** **Marks: 30**

A. History and theory of Indian Music

1. (a) Brief history of Karnatak music with special reference to silappadikaram natya sastra, sangita Ratnakara, Savra Mela, Kalanidhi and Chaturdandi Prakasika.

   (b) Short life- sketch and contributions of the following:

   Purandara Dasa, Syamasatry, Tyagaraja, Muthuswamy Dikshitar and Tansen.

   (c) Brief history and evolution of the musical forms Kirtana and kirti, Varnams, Geetams & Svarajati.

2. Definition and explanation of the following:

   Nands, Sruti, Svara. Jaati, Raga, Tala Jaati, Yati, suladi, Sapta Talas, Nadai, Arohana, Avarohana.

3. Candidates should be able to write in notation the compositions in the prescribed ragas.

4. Description of the ragas prescribed for Practical.

5. Talas Prescribed : Suladi Sapta talas with their Jaagi and Gati bhedas

One Practical Paper **Marks: 70**

B. Practical Activites

1. Ragas Prescribed :

   Mayamalavagowlam, Sankarabharanam, Kharaharapriya, Kalyani, Harikamobji, Madhyarmavati, Arabhi.

2. Varnams (atleast four) in Adi tala in two degree of speed.

3. At least one authentic compositions traditionally rendered in each of the prescribed ragas, covering the man Talas Adi, Rupakam and Chapu.

4. Brief alapana of the ragas prescribed.

5. Kalpana svaras in Adi, and Rupaka talas in Vilamba and Madhyama kalas. Technicalities of playing svara and sahitya portions.

6. The candidate should be able to produce all the gamakas pertaining to instrumental music.

Karnatak Instrumental (Percussion)Mridangam

Class XI **Marks: 100**

One Theory Paper **3 Hour** **Marks: 30**

A. History and theory of Indian Music

1. (a) Brief history of Karnatak music with special reference to laya and percussion silappadikaram, Natya, Sastra Tala Deepikai.

(b) Short life- sketch and contributions of the following:

Purandar Dasa, and the trinity Tyagaraja Dikshitar & Syamasastry.

(c) Unique contribution of the following luminaries Nayayana Swamy Appa, Mamunidya Pillai, Dadshinamurti Pillai & Alagunambi Pillai.

2. Defination and explanation :

Nada, Sruti, Svara, Laya, Raga, Tala, Jati, Suladi, Sapta, Talas Karani, Vettu Thattu, Hechchu, Tangu Mohra and Korvai.

3. The candidate should be able to write in notation the percussion korvais in Adi & Rupaks Talas.

4. Knowledge of the construction of the chosen percussion instrument.

5. Basic knowledge of the construction and Technique of Ghatam. The candidate should be able to describe the kanjira and Tavali.

6. Basic knowledge about other percussion instruments. Its construction and technique .

One Practical Paper **Marks: 70**

1. Ability to play the following talas with elaboration

Adi and Rupkam Talas powering atleat two nadais

2. Thekas and Moharas in different talas with Timanams and Korvais

3. Tuning of the instrument.

4. Ability to render orally the sollukattus of the various patterns in Adi, Rupaka and Chapu Talas :

Hindustani (Vocal))

Class XI

Marks: 100

One Theory Paper **3 Hour** **Marks: 30**

A. Theory

1. Definition of the following:

Nada, Shruti, Raga, Mela (Thaat), Anibaddha Nibaddhagana.

2. Description of the ragas prescribed for Class- XI.

3. Contribution and short life sketch of Tansen, Sadarang Pt.V.N. Bhatkhande and Pt. Vishnu Digamber Paluskar.

4. Brief history of Dhrupad and Khayal.

5. Writing of Notation of songs and tala prescribed for class XI.

One Practical Paper **Marks: 70**

B. Practical Paper

1. (a) One Drut, Khayal with simple elaborations in the following Ragas :

Alhaiya Bilawal, Jaunpuri Malkauns, Kafi, Yaman

(b) One Dhurupad and one Lakshan Geet in any of the prescribed Ragas.

(c) One Thumri style Composition.

(d) Swarmalika in each Raga.

2. The recitation of the Thekas of Ektala and Chautala with Dugan keeping Tal with hand beats.
3. Ability to sing Aaroha, Avaroha, Pakar and simple Svaravistar with Alap and Taan in the prescribed ragas.
4. Ability to recognise the prescribed Ragas from the passages of svaras rendered by the Examiner.
5. New trends in Music (Basic knowledge)

Hindustani (Instrumental Melodic)

Any one of the following :

(i) Sitar (ii) Sarod (iii) Violin (iv) Dilruba or Israj (v) Flute (vi) Guitar

Class XI **Marks: 100**

One Theory Paper **3 Hour** **Marks: 30**

A. Theory

1. Definition of the following:

   Nada, Shruti, Svara, Raga, Gat, Mela (Thata), Anibaddh and Nibaddhagana.
2. Description of the Ragas prescribed for class XI Practical.
3. Contribution and life sketch of Tansen, Masti Khan, Sadarang. Pt. V.N. Bhatkhande, Pt. V.D. Paluskar.
4. Brief history of Dhrupad and Instrumental compositions (Gat).
5. Writing Notation of compositions and Talas prescribed for class XI.

One Practical Paper **Marks: 70**

B. Practical Activities

1. (a) One Razakhani Gat with simple elaborations in Alhalya- Bilawal, Jaunpuri, Malkauns, kafi and Yaman with Sthayee and Antara.
   (b) One Dhun
   (c) One Masti Khani Gat and one composition in a Tala other than Teen Tala.
   (d) Basic knowledge of tuning of instruments.
2. Ability to play, Aroha, Avaroha, Pakad, simple Svara-Vistars with Alap and Todas in the prescribed ragas.
3. Ability to recognise the prescribed ragas from the passages of Svaras sung or played by the examiner.
4. The recitation of Thekas of Ektala and Chautala with Dugun keeping Tala with hand beats.
5. Ask to sing composition in Raga Khamaj in Thumri style.
6. New trends in music (Basic knowledge)

Hindustani (Instrumental Percussion)
(Tabla or Pakhawaj)

Class XI **Marks: 100**

One Theory Paper **3 Hour** **Marks: 30**

A. Theory

1. Define of the following terms : Nada, Shruti, Svara, Raga. Quayda. Mukhda, Tihai , Paran, Anibaddha, and Nibhadha Gana, laya (Vilambit, Madhya Drut), Layakari (Dugun, Teegun, Chaugun), Bole Padhant, Gat.
2. Description of the talas prescribed for class XI.
3. Contribution and short life sketch of Tansen, Kudau Singh , Pt. V.N. Bhatkhande, Pt. V.D. Paluskar, Masit Khan Maharaj.
4. Brief history of Dhrupad Pakhawaj, Tabla
5. Recognition of Talas from given portion of the Thekas.
6. Writing of Notation of the prescribed Talas in Thah (Barabar) and Dugun.

One Practical Paper **Marks: 70**

B. Practical Activities

1. Playing of the Thekas of Teentala, Ektal, Chautal and Damar with simple elaborations.
2. Playing Thekas of the following talas on Tabla with Dugun and Chaugun Teentaal and Ekta, Jhaptal or Chautal Sool tal.
3. Simple Peshkar Quayads and a few Tukras in Teentaal and Ektal.
4. New trends in music.

21. संस्कृत

कक्षा–11

पाठ्यक्रम : परीक्षानिर्देशाश्च

एकम् प्रश्नपत्रम् अवधिः होरात्रयम् पूर्णांका : 100

अस्मिन् प्रश्नपत्रे चत्वार :: खण्डाः भविष्यन्ति

खण्डः "क" अपठितांश–अवबोधनम्		10
खण्डः "ख" रचनात्मककार्यम्		15
खण्डः "ग" अनुप्रयुक्तव्याकरणम्		25
खण्डः "घ"		**50**
(अ) पठित–अवबोधनम्	35	
(ब) संस्कृतसाहित्येतिहासस्य परिचयः	15	

प्रतिखण्डं विस्तृतविवरणम्

खण्डः 'क'

(अपठितांशावबोधनम्)

अङ्काः 10

80–100 शब्दपरिमितः एक सरलः अपठितः गद्यांशः। संस्कृतसाहित्यपरिचायकं विषयवस्तु स्यात्।

प्रश्नवैविध्यम्

(i)	एकपदेन उत्तरम्	02
(ii)	पूर्णवाक्येन उत्तरम्	02
(iii)	वाक्ये कर्तृक्रिया–पदचयनम्	01
(iv)	सर्वनामस्थाने संज्ञाप्रयोगः	01
(v)	विशेषण–विशेष्य / पर्याय / विलोमादिचयनम्	02
(vi)	समुचितशीर्षकप्रदानम्	02

खण्डः 'ख'

(संस्कृतेन रचनात्मकं लिखितकार्यम्)

अङ्काः 15

(1)	अनौपचारिकं पत्राम् / प्रार्थनापत्राम्	05
(2)	लघुकथा (शब्दसूचीसाहाय्येन, रिक्तस्थानपूर्ति–माध्यमेन) / वार्तालापे एकपक्षपूरणम्	05
(3)	चित्रामधिकृत्य / निर्दिष्टशब्दसूचीसाहाय्येन (संकेताधारितम्) अनुच्छेदलेखनम्	05

खण्डः 'ग'

(अनुप्रयुक्तव्याकरणम्)

अङ्काः 25

1. (अ) वर्णानाम् उच्चारणस्थानम् 02

   (आ) वर्तनी 02

   वर्णवियोजनम्, वर्णसंयोजनम्

2. **सन्धिः**– पाठ्यपुस्तके प्रयुक्तपदानां सन्धिच्छेदः सन्धिकरणम् 03

   स्वरसन्धिः– दीर्घः, गुणः, वृद्धिः, यण्, अयादिः, प्रकृतिभावः

   व्यंजनसन्धिः– श्चुत्व, ष्टुत्व, जश्त्व, षत्व, णत्वविधानम्, अनुस्वारः, परसवर्णः

   विसर्गसन्धिः– सत्व, उत्व, रुत्व, लोपः, विसर्गस्थाने स्, श्, ष्।

3. **शब्दरूपाणि** 05

   वाक्येषु सविभक्तिकप्रयोगः

   (क) अजन्ताः– बालक, फल, रमा, कवि, पति, मति, वारि, नदी, शिशु, धेनू,

   मधु, वधू, पितृ मातृ, कर्तृ, एवं समानान्तरप्रयोगाः।

   (ख) हलन्ताः– राजन्, गच्छत्, भवत्, आत्मन्, विद्वस् चन्द्रमस्, वाच् एवं समानान्तरप्रयोगाः।

   (ग) सर्वनामानि– सर्व, यत्, तत्, किम्, इदम्, (त्रिषु लिङ्गेषु) अस्मद्, युष्मद्

   (घ) संख्यावाचकशब्दाः– एकसंख्यातः दशसंख्यापर्यन्तम् (त्रिषु लिङ्गेषु) एकतः शतपर्यन्तं

   संख्याज्ञानम्

4. **धातुरूपाणि**– (लट्, लृट्, लोट्, लङ्, विधिलिङ् इति) पञ्चलकारेषु अधोलिखितधातूनां/
   समानार्थकधातूनां वाक्येषु प्रयोगः। 05

   (क) परस्मैपदिनः– भू, पठ्, गम्, लिख् पा, स्था, दृश्, अस्, कथ्, भक्ष्, घ्रा, क्रुध्, हन्, श्रु, नृत्, स्पृश्, चुर्, कथ्।

   (ख) आत्मनेपदिनः– लभ्, सेव्, मुद्, याच्।

   (ग) उभयपदिनः– कृ, ह्व, क्री, ज्ञा, ग्रह्, शक्, (केवलं लट्–लृट्–लकारयोः)

5. कारक– उपपदविभक्तिप्रयोगः 05

6. सामान्य–वाच्य – परिवर्तनम् (केवलं लट्–लकारे) 03

खण्डः 'घ'

पूर्णांक : 50

भागः (i) 35

(पठितांश– अवबोधनम्)

पठितसामग्री–अवबोधनम्

1. (अ) अंशत्रायम् 15

एकः गद्यांशः, एकः पद्यांशः तथा एकः नाट्यांशः ; (5+5+5)

पाठ्यांश–आधारितम् प्रश्नवैविध्यम्

- एकपदेन उत्तरम् 01
- पूर्णवाक्येन उत्तरम् 02
- विशेषण–विशेष्य–अन्वितिः / पर्याय / विलोमचयनम् कर्तृ–क्रिया–पदचयनम् 01
- सर्वनामस्थाने संज्ञाप्रयोगः 01

2. उद्धृतांशानाम् प्रसङ्गसन्दर्भलेखनम् कः कम् कथयति / सन्दर्भग्रन्थस्य लेखकस्य च नामोल्लेखनम् 04
3. दत्ते भावार्थे रिक्तस्थानपूर्तिः 04
4. उद्धृतश्लोकानाम् / प्रदत्तेषु अन्वयेषु रिक्तस्थानपूर्तिः 04
5. प्रदत्तवाक्यांशानाम् सार्थकं संयोजनम् 04
6. प्रदत्तपंक्तिषु प्रसङ्गानुसारं श्लिष्टपदानाम् / पदानाम् अर्थलेखनम् 04

भागः (ii)

(सामान्यः संस्कृत–साहित्य–परिचयः) 15

1. संस्कृतेन वस्तुनिष्ठ / अतिलघूत्तरप्रश्नमाध्यमेन अधोलिखितसंस्कृतसाहित्यविषयकं परीक्षणम्

- संस्कृतशब्दस्य व्युत्पत्तिः परिभाषा च 02
- वेदः, उपनिषद् ,पुराणम्, स्मृतिः, रामायणम्, महाभारतम् 05
- गद्यकाव्यम्, पद्यकाव्यम्, चम्पूकाव्यम् 04
- नाटकम् प्रमुखनाट्यतत्त्वानां प्रदत्तपरिभाषासु शुद्धपरिभाषाचयनम् 04