PHYSICS (Code No. 042)

COURSE STRUCTURE

Class XI - 2025-26 (Theory)

Time: 3 hrs. **Max Marks: 70**

UNIT	CHAPTERS	MARKS
Unit–I	**Physical World and Measurement**	**23**
	Chapter–1: Units and Measurements	
Unit-II	**Kinematics**	
	Chapter–2: Motion in a Straight Line	
	Chapter–3: Motion in a Plane	
Unit–III	**Laws of Motion**	
	Chapter–4: Laws of Motion	
Unit–IV	**Work, Energy and Power**	**17**
	Chapter–5: Work, Energy and Power	
Unit–V	**Motion of System of Particles and Rigid Body**	
	Chapter–6: System of Particles and Rotational Motion	
Unit-VI	**Gravitation**	
	Chapter–7: Gravitation	
Unit–VII	**Properties of Bulk Matter**	**20**
	Chapter–8: Mechanical Properties of Solids	
	Chapter–9: Mechanical Properties of Fluids	
	Chapter–10: Thermal Properties of Matter	
Unit–VIII	**Thermodynamics**	
	Chapter–11: Thermodynamics	
Unit–IX	**Behaviour of Perfect Gases and Kinetic Theory of Gases**	
	Chapter–12: Kinetic Theory	
Unit–X	**Oscillations and Waves**	**10**
	Chapter–13: Oscillations	
	Chapter–14: Waves	
Total		**70**

Unit I: Physical World and Measurements

Chapter–1: Units and Measurements

Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures, Determining the uncertainty in result. Dimensions of physical quantities, dimensional analysis and its applications.

Unit II: Kinematics

Chapter–2: Motion in a Straight Line

Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non- uniform motion, average speed and average velocity and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical and calculus treatment).

Chapter–3: Motion in a Plane

Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors.

Motion in a plane, cases of uniform velocity and uniform acceleration- projectile motion, uniform circular motion.

Unit III: Laws of Motion

Chapter–4: 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, lubrication.

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

Unit IV: Work, Energy and Power

Chapter– 5: Work, Energy and Power

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: non-conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

Unit V: Motion of System of Particles and Rigid Body

Chapter–6: System of Particles and Rotational Motion

Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of mass of a rigid body; centre of mass of a uniform rod. Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications.

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).

Unit VI: Gravitation

Chapter – 7: Gravitation

Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth.

Gravitational potential energy and gravitational potential, escape speed, orbital velocity of a satellite, energy of an orbiting satellite.

Unit VII: Properties of Bulk Matter

Chapter–8: Mechanical Properties of Solids

Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy. Application of elastic behavior of materials (qualitative idea only).

Chapter–9: Mechanical Properties of Fluids

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, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications (Torricelli's law and Dynamic lift).

Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.

Chapter–10: Thermal Properties of Matter

Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity.

Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law.

Unit VIII: Thermodynamics

Chapter–11: Thermodynamics

Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: Thermodynamic state variable and equation of state. Change of condition of gaseous state - isothermal, adiabatic, reversible, irreversible, and cyclic processes.

Unit IX: Behavior of Perfect Gases and Kinetic Theory of Gases

Chapter–12: Kinetic Theory

Equation of state of a perfect gas, work done in compressing a gas.

Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

Unit X: Oscillations and Waves

Chapter–13: Oscillations

Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications.

Simple harmonic motion (S.H.M), uniform circular motion and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M.
Kinetic and potential energies; simple pendulum derivation of expression for its time period.

Chapter–14: Waves

Wave motion: Transverse and longitudinal waves, speed of travelling wave, 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.

PRACTICALS

The record, to be submitted by the students, at the time of their annual examination, has to include:

- Record of at least 8 Experiments [with 4 from each section], to be performed by the students.
- Record of at least 6 Activities [with 3 each from section A and section B], to be performed by the students.
- Report of the project carried out by the students.

EVALUATION SCHEME

Time 3 hours **Max. Marks: 30**

Topic	Marks
Two experiments one from each section	7+7
Practical record (experiment and activities)	5
One activity from any section	3
Investigatory Project	3
Viva on experiments, activities and project	5
Total	**30**

SECTION–A

Experiments

1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.
2. To measure diameter of a given wire and thickness of a given sheet using screw gauge.
3. To determine volume of an irregular lamina using screw gauge.
4. To determine radius of curvature of a given spherical surface by a spherometer.
5. To determine the mass of two different objects using a beam balance.
6. To find the weight of a given body using parallelogram law of vectors.

7. Using a simple pendulum, plot its graph and use it to find the effective length of second's pendulum.
8. To study variation of time period of a simple pendulum of a given length by taking bobs of same size but different masses and interpret the result.
9. To study the relationship between force of limiting friction and normal reaction and to find the co- efficient of friction between a block and a horizontal surface.
10. 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 θ by plotting graph between force and $\sin\theta$.

Activities

1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.
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 projectile with angle of projection.
6. To study the conservation of energy of a ball rolling down on an 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 a 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 1/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. To determine specific heat capacity of a given solid by method of mixtures.
8. To study the relation between frequency and length of a given wire under constant tension using sonometer.
9. To study the relation between the length of a given wire and tension for constant frequency using sonometer.
10. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

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 of water 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 at (i) its end (ii) in the middle.
7. To observe the decrease in pressure with increase in velocity of a fluid.

Practical Examination for Visually Impaired Students Class XI

Note: Same Evaluation scheme and general guidelines for visually impaired students as given for Class XII may be followed.

A. Items for Identification/Familiarity of the apparatus for assessment in practical's (All experiments)

Spherical ball, Cylindrical objects, vernier calipers, beaker, calorimeter, Screw gauge, wire, Beam balance, spring balance, weight box, gram and milligram weights, forceps, Parallelogram law of vectors apparatus, pulleys and pans used in the same 'weights' used, Bob and string used in a simple pendulum, meter scale, split cork, suspension arrangement, stop clock/stop watch, Helical spring, suspension arrangement used, weights, arrangement used for measuring extension, Sonometer, Wedges, pan and pulley used in it, 'weights' Tuning Fork, Meter scale, Beam balance, Weight box, gram and milligram weights, forceps, Resonance Tube, Tuning Fork, Meter scale, Flask/Beaker used for adding water.

B. List of Practicals

1. To measure diameter of a small spherical/cylindrical body using vernier calipers.
2. To measure the internal diameter and depth of a given beaker/calorimeter using vernier calipers and hence find its volume.
3. To measure diameter of given wire using screw gauge.
4. To measure thickness of a given sheet using screw gauge.
5. To determine the mass of a given object using a beam balance.
6. To find the weight of given body using the parallelogram law of vectors.
7. Using a simple pendulum plot L-T and graphs. Hence find the effective length of second's pendulum using appropriate length values.
8. To find the force constant of given helical spring by plotting a graph between load and extension.
9. (i) To study the relation between frequency and length of a given wire under constant tension using a sonometer.

   (ii) To study the relation between the length of a given wire and tension, for constant frequency, using a sonometer.
10. To find the speed of sound in air, at room temperature, using a resonance tube, by observing the two resonance positions.

Note: The above practicals may be carried out in an experiential manner rather than recording observations.

Prescribed Books:

1. Physics Part-I, Textbook for Class XI, Published by NCERT
2. Physics Part-II, Textbook for Class XI, Published by NCERT
3. Laboratory Manual of Physics, Class XI Published by NCERT
4. The list of other related books and manuals brought out by NCERT (consider multimedia also).

Note:

The content indicated in NCERT textbooks as excluded for the year 2025-26 is not to be tested by schools.

COURSE STRUCTURE
CLASS XI
THEORY

Time: 3 Hours **Total Marks: 70**

S. No	UNIT	Marks
1	Some Basic Concepts of Chemistry	7
2	Structure of Atom	9
3	Classification of Elements and Periodicity in Properties	6
4	Chemical Bonding and Molecular Structure	7
5	Chemical Thermodynamics	9
6	Equilibrium	7
7	Redox Reactions	4
8	Organic Chemistry: Some basic Principles and Techniques	11
9	Hydrocarbons	10
	TOTAL	**70**

Unit 1: Some Basic Concepts of Chemistry

General Introduction: Importance and scope of Chemistry, 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 2: 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's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.

Unit 3: 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, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valiancy, Nomenclature of elements with atomic number greater than 100.

Unit 4: 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 homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.

Unit 5: Chemical Thermodynamics

Concepts of System and 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 transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction), Introduction of entropy as a state function, Gibb's energy change for spontaneous and non- spontaneous processes, criteria for equilibrium. Third law of thermodynamics (brief introduction).

Unit 6: 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, ionization of poly basic acids, acid strength, concept of pH, hydrolysis of salts (elementary idea), buffer solution, Henderson Equation, solubility product, common ion effect (with illustrative examples).

Unit 7: Redox Reactions

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.

Unit 8: Organic Chemistry – Some Basic Principles and Techniques

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electrometric 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 9: Hydrocarbons

Aliphatic Hydrocarbons

Alkanes - Nomenclature, isomerism, conformation (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

Note: The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. This reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

1. **s & p Block Elements**
   Electronic configuration, atomic & Ionic radii, Ionization Enthalpy, Hydration Enthalpy and general trends in physical and chemical properties of s and p block elements across the periods and down the groups; unique behavior of the first element in each group.
2. **The Gaseous State**
   Qualitative treatment of Gas laws, Ideal gas equation and deviations from it.

PRACTICAL

Evaluation Scheme for Examination	Marks
Volumetric Analysis	08
Salt Analysis	08
Content Based Experiment	06
Project Work	04
Class record and viva	04
Total	**30**

PRACTICAL SYLLABUS

Micro-chemical methods are available for several of the practical experiments, wherever possible such techniques should be used.

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 any one of the following: Alum, Copper Sulphate, Benzoic Acid.

C. Experiments based on pH

1. Any one of the following experiments:
   - Determination of pH of some solutions obtained from fruit juices, solution of known and varied concentrations of acids, bases and salts using pH paper or universal indicator.
   - Comparing the pH of solutions of strong and weak acids of same concentration.
   - Study the pH change in the titration of a strong base using a universal indicator.
2. Study the pH change by common-ion in case of weak acids and weak bases.

D. Chemical Equilibrium

Any one of the following experiments:

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

1. Using a mechanical balance/electronic balance.
2. Preparation of standard solution of Oxalic acid.
3. Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid.
4. Preparation of standard solution of Sodium carbonate.
5. Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

F. Qualitative Analysis

1. Determination of one anion and one cation in a given salt

Cations: Pb^{2+}, Cu^{2+}, Al^{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-}, NO_3^-, NO_2^-, Cl^-, Br^-, I^-, SO_4^{2-}, PO_4^{3-}, CH_3COO^-

(Note: Insoluble salts excluded)

2. Detection of -Nitrogen, Sulphur, Chlorine in organic compounds.

PROJECTS

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

A few suggested Projects

a) Checking the bacterial contamination in drinking water by testing sulphide ion

b) Study of the methods of purification of water

c) Testing the hardness, presence of Iron, Fluoride, Chloride, etc., depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any).

d) Investigation of the foaming capacity of different washing soaps and the effect of addition of Sodium carbonate on it

e) Study the acidity of different samples of tea leaves.

f) Determination of the rate of evaporation of different liquids

g) Study the effect of acids and bases on the tensile strength of fibers.

h) Study of acidity of fruit and vegetable juices.

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

Practical Examination for Visually Challenged Students Class XI

Note: *Same Evaluation scheme and general guidelines for visually challenged students as given for Class XII may be followed.*

List of apparatus for identification for assessment in practicals (All experiments)

Beaker, tripod stand, wire gauze, glass rod, funnel, filter paper, Bunsen burner, test tube, test tube stands, dropper, test tube holder, ignition tube, china dish, tongs, standard flask, pipette, burette, conical flask, clamp stand, dropper, wash bottle

- Odor detection in qualitative analysis.
- Procedure/Setup of the apparatus.

List of Experiments

A. Characterization and Purification of Chemical Substances

Crystallization of an impure sample of any one of the following:
copper sulphate, benzoic acid.

B. Experiments based on pH

1. Determination of pH of some solutions obtained from fruit juices, solutions of known and varied concentrations of acids, bases and salts using pH paper.
2. Comparing the pH of solutions of strong and weak acids of same concentration.

C. Chemical Equilibrium

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

D. Quantitative estimation

1. Preparation of standard solution of oxalic acid.

2. Determination of molarity of a given solution of sodium hydroxide by titrating it against standard solution of oxalic acid.

E. Qualitative Analysis

1. Determination of one anion and one cation in a given salt

   Cations - NH_4^+

   Anions: CO_3^{2-}, S^{2-} , SO_3^{2-}, , Cl^-, CH_3COO^-

   (Note: insoluble salts excluded)

2. Detection of Nitrogen in the given organic compound.
3. Detection of Halogen in the given organic compound.

Note: *The above practical may be carried out in an experiential manner rather than recording observations.*

Prescribed Books:

1. Chemistry Part – I, Class-XI, Published by NCERT.
2. Chemistry Part – II, Class-XI, Published by NCERT.
3. Manual of Microscale Chemistry laboratory kit.

Links for NCERT textbooks:

1. **https://ncert.nic.in/textbook.php?kech1=0-6**
2. **https://ncert.nic.in/textbook.php?kech2=0-3**
3. **https://ncert.nic.in/division/dek/pdf/Manual_01.pdf**

QUESTION PAPER DESIGN CLASSES XI & XII

S.No	Domains	Total Marks	%
1	**Remembering and Understanding:** Exhibit memory of previously learned material by recalling facts, terms, basic concepts and answers. Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas.	28	40
2	**Applying:** Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	21	30
3	**Analysing, Evaluating and Creating:** Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria. Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.	21	30

1. No chapter wise weightage is provided, however, care to be taken to cover all the chapters.
2. Suitable internal variations may be made for generating various templates.
3. There will be no overall choice in the question paper.
4. However, 33% internal choices will be given in all the sections.

COURSE STRUCTURE

CLASS XI (2025-26)

Three Hours **Max Marks: 80**

No.	Units	Marks
I.	Sets and Functions	23
II.	Algebra	25
III.	Coordinate Geometry	12
IV.	Calculus	08
V.	Statistics and Probability	12
	Total	**80**
	Internal Assessment	**20**

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

Unit-I: Sets and Functions

1. Sets

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

2. Relations & Functions

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

3. Trigonometric Functions

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

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

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

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

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

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

Unit-II: Algebra

1. Complex Numbers and Quadratic Equations

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane.

2. Linear Inequalities

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

3. Permutations and Combinations

Fundamental principle of counting. Factorial *n*. (n!) Permutations and combinations, derivation of Formulae for ${}^{n}P_{r}$, ${}^{n}C_{r}$ and their connections, simple applications.

4. Binomial Theorem

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

5. Sequence and Series

Sequence and Series. Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of *n* terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M

Unit-III: Coordinate Geometry

1. Straight Lines

Brief recall of two-dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point -slope form, slope-intercept form, two-point form, intercept form. Distance of a point from a line.

2. Conic Sections

Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

3. Introduction to Three-dimensional Geometry

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

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. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relate it to scope of tangent of the curve, derivative of sum, difference, product and quotient of functions of polynomial and trigonometric functions.

Unit-V Statistics and Probability

1. Statistics

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

2. Probability

Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.

MATHEMATICS QUESTION PAPER DESIGN

CLASS – XI (2025-26)

Time: 3 hours **Max. Marks: 80**

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

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

Choice(s):

There will be no overall choice in the question paper. However, 33% internal choices will be given in all the sections

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

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

CLASS – XI (2025-26)

The following topics are included in the syllabus but will be assessed only formatively to reinforce understanding without adding to summative assessments. This reduces academic stress while ensuring meaningful learning. Schools can integrate these with existing chapters as they align well. Relevant NCERT textual material is enclosed for reference.

S.No.	Content
	Unit-I: Sets and Functions
1.	**Sets**
	Practical problems on Union and Intersection of two sets.
2.	**Relations and Functions**
	Composition of Functions
3.	**Trigonometric Functions**
	General solution of trigonometric equations of the type $\sin y = \sin a, \cos y = \cos a$ and $\tan y = \tan a$.
	Unit-II: Algebra
1.	**Principle of Mathematical Induction**
	Process 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**
	Polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations (with real coefficients) in the complex number system.
3.	**Linear Inequalities**
	Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.
4.	**Binomial Theorem**
	General and middle term in binomial expansion.
5.	**Sequence and Series**
	Formulae for the following special sums $\sum_{k=1}^{n} k, \sum_{k=1}^{n} k^2, \sum_{k=1}^{n} k^3$
	Unit-III: Coordinate Geometry
1.	**Straight Lines**
	Normal form. General equation of a line.
2.	**Introduction to Three-dimensional Geometry**
	Section formula.
	Unit-IV: Calculus
1.	**Limits and Derivatives**
	Derivatives of composite functions (Chain rule).
	Unit-V Statistics and Probability
1.	**Probability**
	Random experiments; outcomes, sample space (set representation).

ENGLISH CORE

CLASS –XI (2025-26)

Section A
Reading Skills-- 26 Marks

I. Reading Comprehension through Unseen Passages **10+8=18 Marks**

1. One unseen passage to assess comprehension, interpretation, analysis, inference and vocabulary. The passage may be factual, descriptive or literary.
2. One unseen case-based factual passage with verbal/visual inputs like statistical data, charts etc.to assess comprehension, interpretation, analysis, inference and evaluation.

***Note**: The combined word limit for both the passages will be 600-750.* Multiple Choice Questions / Objective Type Questions will be asked.

3. Note Making and Summarization based on a passage of approximately 200-250 words.

i.	Note Making:		5 Marks
	• Title:	1	
	• Numbering and indenting:	1	
	• Key/glossary:	1	
	• Notes:	2	
ii.	Summary (up to 50 words):		3 Marks
	• Content:	2	
	• Expression:	1	

Section B
Grammar and Creative Writing Skills– 23 Marks

II. Grammar **7 Marks**

4. Questions on Gap filling (Tenses, Clauses)
5. Questions on re-ordering/transformation of sentences

(Total seven questions to be done out of the eight given).

III. Creative Writing Skills **16 Marks**

6. Short writing task – Classified Advertisements, up to 50 words. One out of the two given questions to be answered (3 Marks: Format: 1 / Content: 1 / Expression: 1)

7. Short writing task –Poster up to 50 words. One out of the two given questions to be answered. (3 marks: Format: 1 / Content: 1 / Expression: 1)

8. Long Writing task: Speech in 120-150 words based on verbal / visual cues related to contemporary / age-appropriate topic. One out of the two given questions to be answered. (5 Marks: Format: 1 / Content: 2 / Expression: 2)

9. Long Writing Task: Debate based on visual/verbal inputs in 120-150 words, thematically related to contemporary, topical issues. One out of the two given questions to be answered. (5 Marks: Format: 1 / Content: 2 / Expression: 2)

Section C
Literature Text Book and Supplementary Reading Text-31 Marks

This section will have variety of assessment items including Multiple Choice Questions, Objective Type Questions, Short Answer Type Questions and Long Answer Type Questions to assess comprehension, interpretation, analysis, evaluation and extrapolation beyond the text.

10. One Poetry extract out of two, from the book Hornbill, to assess comprehension, interpretation, analysis, inference and appreciation. **3x1=3 Marks**

11. One Prose extract out of two, from the book Hornbill, to assess comprehension, interpretation, analysis, evaluation and appreciation. **3x1=3 Marks**

12. One prose extract out of two, from the book Snapshots, to assess comprehension, interpretation, analysis, inference and appreciation. **4x1=4 Marks**

13. Two Short answer type questions (one from Prose and one from Poetry, from the book Hornbill), outof four, to be answered in 40-50 words. Questions should elicit inferential responses through critical thinking. **3x2=6 Marks**

14. One Short answer type question, from the book Snapshots, to be answered in 40- 50 words. Questions should elicit inferential responses through critical thinking. One out of two questions to be done. **3x1=3 Marks**

15. One Long answer type question, from Prose/Poetry of Hornbill, to be answered in 120-150 words. Questions can be based on incident / theme / passage / extract / event, as reference points to assess extrapolation beyond and across the text. The question will elicit analytical and evaluative response from the student. Any one out of two questions to be done. **1x6=6 Marks**

16. One Long answer type question, based on the chapters from the book Snapshots, to be answered in 120-150 words, to assess global comprehension and extrapolation beyond the text. Questions to provide analytical and evaluative responses, using incidents, events, themes, as reference points. Any one out of two questions to be done. **1x6=6 Marks**

Prescribed Books

1. **Hornbill**: English Reader published by National Council of Education Research and Training, New Delhi

- The Portrait of a Lady (Prose)
- A Photograph (Poem)
- "We're Not Afraid to Die... if We Can Be Together
- Discovering Tut: The Saga Continues
- The Laburnum Top (Poem)
- The Voice of the Rain (Poem)
- Childhood (Poem)
- The Adventure
- Silk Road (Prose)
- Father to Son

2. **Snapshots**: Supplementary Reader published by National Council of Education Research and Training, New Delhi

- The Summer of the Beautiful White Horse (Prose)
- The Address (Prose)
- Mother's Day (Play)
- Birth (Prose)
- The Tale of Melon City

INTERNAL ASSESSMENT

Assessment of Listening Skills	- 05 marks.
Assessment of Speaking Skills	- 05 Marks
Project Work	- 10 Marks

ENGLISH CORE
QUESTION PAPER DESIGN
CLASS-XI (2025-26)

Section	Competencies	Total marks
Reading Skills	Conceptual understanding, decoding, Analyzing, inferring, interpreting, appreciating, literary, conventions and vocabulary, summarizing and using appropriate format/s.	26
Grammar and Creative Writing Skills	Conceptual Understanding, application of rules, Analysis, Reasoning, appropriate style and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity.	23
Literature Text Book and Supplementary Reading Text	Recalling, reasoning, appreciating literary convention, inference, analysis, creativity with fluency, Critical Thinking.	31
	TOTAL	**80**
Internal Assessment	Assessment of Listening and Speaking Skills • Listening • Speaking	**10** 5+5
	• Project Work	**10**
	GRAND TOTAL	**100**

Annexure I

GUIDELINES FOR INTERNAL ASSESSMENT

Classes XI-XII **Total Marks: 20**

ALS must be seen as an integrated component of all four language skills rather than a compartment of two. Suggested activities, therefore, take into consideration an integration of the four language skills but during assessment, emphasis will be given to speaking and listening, since reading and writing are already being assessed in the written exam.

Assessment of Listening and Speaking Skills: (5+5=10 Marks)

i. **Activities:**

- Subject teachers must refer to books prescribed in the syllabus.
- In addition to the above, teachers may plan their own activities and create their own material for assessing the listening and speaking skills.

ii. **Parameters for Assessment:** The listening and speaking skills are to be assessed on the following parameters:

a. Interactive competence (Initiation & turn taking, relevance to the topic)

b. Fluency (cohesion, coherence and speed of delivery)

c. Pronunciation

d. Language (grammar and vocabulary)

SUGGESTIVE RUBRICS

	1	2	3	4	5
Interaction	• Contributions are mainly unrelated to those of other speakers • Shows hardly any initiative in the development of conversation • Very limited interaction	• Contributions are often unrelated to those of the other speaker • Generally passive in the development of conversation	• Develops interaction adequately, makes however minimal effort to initiate conversation • Needs constant prompting to take turns	• Interaction is adequately initiated and developed • Takes turn but needs some prompting	• Initiates & logically develops simple conversation on familiar topics • Takes turns appropriately
Fluency & Coherence	• Noticeably/ long pauses; rate of speech is slow	• Usually fluent; produces simple speech	• Is willing to speak at length, however repetition is	• Speaks without noticeable effort, with a little repetition	• Speaks fluently almost with no repetition & minimal

	• Frequent repetition and/or self-correction this is all right in informal conversation • Links only basic sentences; breakdown of coherence evident	fluently, but loses coherence in complex communication • Often hesitates and/or resorts to slow speech • Topics partly developed; not always concluded logically	noticeable • Hesitates and/or self corrects; occasionally loses coherence • Topics developed, but usually not logically concluded	• Demonstrates hesitation to find words or use correct grammatical structures and/or self-correction • Topics not fully developed to merit.	hesitation Develops topic fully & coherently
Pronunciation	• Frequent inaccurate pronunciation • Communication is severely affected	• Frequently unintelligible articulation • Frequent phonological errors • Major communication problems	• Largely correct pronunciation &clear articulation except occasional errors	• Mostly correct pronunciation & clear articulation • Is clearly understood most of the time;very few phonological errors	• Pronounces correctly & articulates clearly • Is always comprehensible • uses appropriate intonation
Vocabulary & Grammar	• Demonstrates almost no flexibility, and mostly struggles for appropriate words • Many Grammatical errors impacting communication	• Is able to communicate on some of the topics, with limited vocabulary. • Frequent errors, but self- corrects	• Is able to communicate on most of the topics, with limited vocabulary. A few grammatical errors	• Is able to communicate on most of the topics with appropriate vocabulary • Minor errors that do not hamper communication	• Is able to communicate on most of the topics using a wide range of appropriate vocabulary, using new words and expression • No grammatical errors

iii. Schedule:

- The practice of listening and speaking skills should be done throughout the academic year.
- The final assessment of the skills is to be done as per the convenience and schedule of the school.

Project Work + Viva: 10 Marks

Out of ten marks, 5 marks will be allotted for the project report/script /essay etc. and 5 marks for the viva

I. **Schedule:**

- Schools may refer to the suggestive timeline given in these guidelines for the planning, preparation and viva-voce of ALS based projects.
- The final assessment of the skills may be done on the basis of parameters suggested by the Board. Language teachers, however, have the option to adopt/ modify these parameters according to their school specific requirements.

II. **Suggestions for Project Work:**

- The Project can be inter-disciplinary in theme. The ideas/issues highlighted in the chapters/ poems/ drama given the prescribed books can also be developed in the form of a project. Students can also take up any relevant and age-appropriate theme.
- Such topics may be taken up that provide students with opportunities for listening and speaking. Some suggestions are as follows:

a) **Interview-Based research:**

Example:

- Students can choose a topic on which to do their research/ interview, e.g. a student can choose the topic: "Evolving food tastes in my neighbourhood" or "Corona pandemic and the fallout on families." Read the available literature.
- The student then conducts interviews with a few neighbours on the topic. For an interview, with the help of the teacher, student will frame questions based on the preliminary research/background.
- The student will then write an essay/ write up / report etc. up to 1000 words on his/her research and submit it. He/ She will then take a viva on the research project. The project can be done in individually or in pairs/ groups

b) Students listen to podcasts/ interviews/radio or TV documentary on a topic and prepare a report countering or agreeing with the speakers. Write an 800 - 1000 words report and submit. Take a viva on the report.

c) Students create their own video/ Audio, after writing a script. Before they decide a format, the following elements can be taken into consideration:

- Theme/topic of the audio / video. Would the child like to pick a current issue or something artistic like theatre?
- What are the elements that need to be part of the script?
- Will the video/audio have an interview with one or more guests?

- Would they prefer to improvise while chatting with guests, or work from a script?
- What would be the duration?
- How would they present the script/report to the teacher? Can it be in the form of a narrative?

d) Students write**, direct and present a theatrical production, /One act play**

This will be a project which will be done as a team. It will involve planning, preparation and presentation. In short, various language skills will be utilised. There will be researching, discussion, writing the script, auditioning and ultimately producing the play. The project will end with a presentation and subsequently a viva. Teachers will be able to assess the core language skills of the students and help them grow as 21st century critical thinkers.

II. Instructions for the Teachers: -

1. Properly orient students about the Project work, as per the present Guidelines.
2. Facilitate the students in the selection of theme and topic.
3. Create a rubric for assessment and share with the students before they start so that they know the parameters of assessment:

- Teachers need to familiarize themselves with the method of assessing students with the rubric-- a table with different criteria and a grading scale.
- Choose the criteria on which you will grade students and list them along the left side of the page.
- Create an even number of columns along the top of the page. These columns will represent potential skill levels of the students.
- Assessing students on four/five criteria is an easy way to begin. For each criterion, define the ability that student would exhibit at each of the levels.
- The more detailed you make your criteria, the easier it will be to evaluate each student and define the level at which the student is presenting.
  {Sample Rubric is attached at the end for reference}

III. Parameters for Overall Assessment: -

1. **Pronunciation**:

- When evaluating the pronunciation of the students, teachers must listen for clearly articulated words, pronunciation of unusual spellings and intonation.
- Assess the students for the pronunciation skills and determine at which level the student needs improvement.

2. **Vocabulary**:

After noting their pronunciation levels, evaluate the students on the use of extensive and appropriate **vocabulary** during the viva. Check if students are using vocabulary appropriate to the context about which they are speaking.

3. **Accuracy**:
   Grammar has always been an important component of language skills. As students speak/ answer the questions during the viva, listen to their **grammatical structures**. *Are they competent enough to use multiple tenses? Is their word order correct in a given sentence?* An effective speaker will automatically use the correct grammatical structures of his language.

4. **Communication**:

   Assessing the **communication skills** of the students means looking at more than language. Look at how creatively students use the language to make their points understood. Students with a low level of vocabulary and grammar may still have good communication skills if they are able to make the teacher understand their point of view.

5. **Interaction**:
   - During the viva teachers need to ask the students some questions. Questions need to be based on the projects that have been suggested or chosen by the students.
   - It is imperative for a teacher to read the essays/project reports before they can be ready to ask questions.
   - Teachers need to observe how students answer the questions that are posed to them: *Are they able to understand and answer questions independently or can they answer only when the questions are translated into simpler words or repeated? Are they able to give appropriate responses in a conversation*?
   - These elements of **interaction** are necessary for clear and effective communication. A student with effective interaction skills will be able to answer questions with relative ease and follow the flow of conversation.

6. **Fluency**:
   - Fluency may be the easiest quality to judge in the students' speech: *How comfortable are they as they speak and express themselves? How easily do the words come out? Are there inappropriate pauses and gaps in the way a student speaks?*
   - **Fluency** is a judgement of this communication and is an important criterion when evaluating speaking skills. These criteria: pronunciation, vocabulary, accuracy, interaction and fluency are all the hallmarks of a student's overall speaking abilities.
   - Teachers must also remember that some **students may excel in one area and struggle in another**. Helping the students understand these issues will enable them to become effective speakers in future. Let your students know that you will be assessing them in these various areas when you evaluate their progress and encourage them to work and improve in these areas.
   - **Finally,** teachers must remember that a proper evaluation of the students will take into consideration **more than just one oral interview on the final ASL** project. Teachers must take note of a student's progress throughout the academic year.

IV. Project-Portfolio/ Project Report

The **Project-Portfolio/Project Report** is a compilation of the work that the students produce during the process of working on their ALS Project.

The Project-Portfolio may include the following:

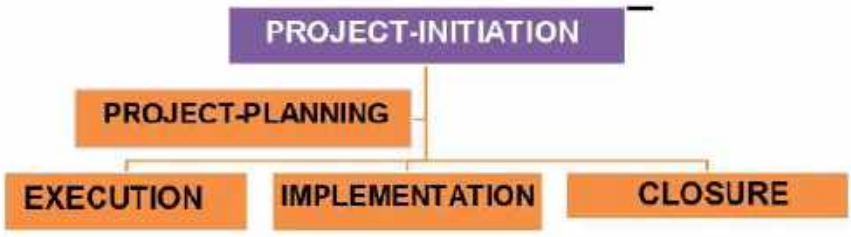
- Cover page, with title of project, school details/details of students.
- Statement of purpose/objectives/goals
- Certificate of completion under the guidance of the teacher.
- Students Action Plan for the completion of assigned tasks.
- Materials such as scripts for the theatre/role play, questionnaires for interview, written assignments, essays, survey-reports and other material evidence of learning progress and academic accomplishment.
- The 800-1000 words essay/Script/Report.
- Student/group reflections.
- If possible, Photographs that capture the positive learning experiences of the student(s).
- List of resources/bibliography

The following points must be kept for consideration while assessing the project portfolios:

- Quality of content of the project
- Accuracy of information
- Adherence to the specified timeline
- Content in respect of (spellings, grammar, punctuation)
- Clarity of thoughts and ideas
- Creativity
- Contributions by group members
- Knowledge and experience gained

V. Suggestive Timeline:

The FIVE Steps in Project Plan



Month	Objectives
Planning and Research for the Project Work **Preferably till November-December**	• Teachers plan a day to orient students about the ALS projects, details are shared with all stakeholders. • Students choose a project, select team members and develop project- plan. • Group meets (preferably online) and reports to the team leader about the progress: shortfalls and successes are detailed. • Team leader apprises teacher-mentor. • Students working individually or in pairs also update the teachers. • A logical, deliverable and practical plan is drafted by the team/ pair/individual. Goals/objectives are clearly defined for all. • Work is delegated to team members by the team leader. Students wishing to work alone develop their own plan of Action. • Detailed project schedules are shared with the teacher.
December- January	• Suggestions and improvements are shared by the teacher, wherever necessary. • Group members coordinate and keep communication channels open for interaction. • Gaps (if any) are filled with the right skill sets by the Team Leader/ individual student. • The final draft of the project portfolio/ report is prepared and submitted for evaluation.
January-February	• Students are assessed on their group/pair/individual presentations on allotted days. Final Viva is conducted by the External/Internal examiner.
February-March or as per the timelines given by the Board	• Marks are uploaded on the CBSE website.

SAMPLE RUBRIC FOR ALS Project Work (For Theatre/Role Play/Oral presentation/ Interview/ Podcast)

CATEGORY	1	2	3	4	5
TIME LIMIT	Presentation is less than or more than 5 minutes long	Presentation exceeded or less than specified time limit by 4 to 5 minutes	Presentation exceeded or less than specified time limit by 3 to 4 minutes	Presentation exceeded or less than specified time limit by 2 to 3 mins	Student/ group adhered to the given time limit
CONTENT/ SCRIPT/ QUESTIONNAIRE	Script is not related to topic or issue	Well written script/content shows little understanding of parts of topic	Well written script/content shows good understanding of parts of topic	Well written script/content shows a good understanding of subject topic	Well written script/content shows full understanding of subject topic
CREATIVITY	No props/ costumes/ stage presentation lack-lustre	Some work done, average stage set-up and costumes	Well organized presentation, could have improved	Logical use of props, reasonable work done, creative	Suitable props /effort seen/ considerable work done/ Creative and relevant costumes
PREPAREDNESS	Student/ group seems to be unprepared	Some visible preparedness but Rehearsal is lacking	Somewhat prepared, rehearsal is lacking	Good preparedness but need better rehearsal	Complete Preparedness /rehearsed presentation
CLARITY OF SPEECH	Lack of clarity in presentation many words mis-pronounced	Speaks clearly some words are mis-pronounced	Speaks clearly 90% of the time/ a few mis-pronounced words	Speaks clearly and distinctly 95% of time/ Few mis-pronounced words	Speaks clearly distinctly 95% of time/ fluency in pronunciation
USE OF PROPS (Theatre/Role Play)	Only 1/no relevant props used Very little use of facial expressions /body language, Does not generate much interest	1 to 2 relevant props used Little Use of facial expressions and body language	2 to 3 relevant props used Facial expressions and body language is used to try to generate some enthusiasm	3 to 4 relevant props used Facial expression and body language sometimes generate enthusiasm with the topic	4 to 5 relevant props used Facial expression and body language generate enthusiasm with the topic
PORTFOLIO-PRESENTATION	Inadequate & unimpressive	Somewhat suitable & convincing	Adequate & relevant	Interesting, enjoyable & relevant	Brilliant, creative& exceptional

CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2025-2026

ARTIFICIAL INTELLIGENCE (SUB. CODE - 843)

JOB ROLE: AI Assistant

CLASS – XI

OBJECTIVES OF THE COURSE

AI is a discipline in computer science that focuses on developing intelligent machines, machines that can learn and then teach themselves. These machines, then, can process vast amounts of data than humans can, and several times faster. However, AI can go across all disciplines to change the world for the better– from creating new healthcare solutions, to designing hospitals of the future, improving farming and our food supply, helping refugees acclimatize to the new environments, improving educational resources and access, and even cleaning our oceans, air, and water supply. The potential for humans to improve the world through AI is endless, as long as we know how to use it.

LEARNING OUTCOMES

In this course, the students will develop knowledge, skills and values to understand AI and its implications for our society and the world and to use AI to solve authentic problems, now and in the future. The students will engage with a host of multi-media online resources, as well as hands-on activities and sequence of learning experiences.

The following are the main objectives of the course:

1. Develop informed citizens with an understanding of AI and the skills to think critically and knowledgeably about the implications of AI for society and the world.
2. Develop engaged citizens with a rigorous understanding of how AI can be harnessed to improve life and the world we live in.
3. Stimulate interest and prepare students for further study to take up careers as AI scientists and developers to solve complex real-world problems.

SCHEME OF UNITS

This course is a planned sequence of instructions consisting of units meant for developing employability and vocational competencies of students opting for skill subject along with other education subjects. The unit-wise distribution of hours and marks for class XI is as follows:

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ARTIFICIAL INTELLIGENCE (SUBJECT CODE - 843)

CLASS – XI (SESSION 2025-2026)

Total Marks: 100 (Theory-50 + Practical-50)

	UNITS	NO. OF HOURS		MAX MARKS
PART A	**Employability skills**			
	Unit 1: Communication Skills – III	15		2
	Unit 2: Self-Management Skills – III	10		2
	Unit 3: ICT Skills – III	15		2
	Unit 4: Entrepreneurial Skills – III	10		2
	Unit 5: Green Skills – III	10		2
	TOTAL	**60**		**10**
PART B	**Subject specific skills**	**Theory**	**Practical**	
	Unit 1: Introduction: Artificial Intelligence for Everyone	4	10	4
	Unit 2: Unlocking your Future in AI	6	10	5
	Unit 3: Python Programming	10	20	5
	Unit 4: Introduction to Capstone Project	6	15	5
	Unit 5: Data Literacy – Data Collection to Data Analysis	6	15	6
	Unit 6: Machine Learning Algorithms	9	15	6
	Unit 7: Leveraging Linguistics and Computer Science	5	10	5
	Unit 8: AI Ethics and Values	4	5	4
	TOTAL	**50**	**100**	**40**
PART C	**PRACTICAL WORK / PROJECT WORK**			
	IBM Skills Build Certification/any other industry certification			5
	Capstone Project			12
	Bootcamps/ Internship/other startups			7
	Practical File			10
	Lab Test/ Written Exam (based on practical file)			10
	Viva Voce (based on practical file and project)			6
	TOTAL			**50**
	GRAND TOTAL			**100**

DETAILED CURRICULUM/TOPICS:

Part-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills – III	15
2.	Unit 2: Self-Management Skills – III	10
3.	Unit 3: Basic Information and Communication Technology Skills – III	15
4.	Unit 4: Entrepreneurial Skills – III	10
5.	Unit 5: Green Skills – III	10
	TOTAL	**60**

NOTE: Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

Part-B – SUBJECT SPECIFIC SKILLS

- Unit 1 – Introduction: Artificial Intelligence for Everyone
- Unit 2 – Unlocking your Future in AI
- Unit 3 – Python Programming
- Unit 4 – Introduction to Capstone Project
- Unit 5 – Data Literacy – Data Collection to Data Analysis
- Unit 6 – Machine Learning Algorithms
- Unit 7 – Leveraging Linguistics and Computer Science
- Unit 8 – AI Ethics and Values

UNIT 1 - INTRODUCTION: ARTIFICIAL INTELLIGENCE FOR EVERYONE

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Students will be able to – • Communicate effectively about AI concepts and applications in written and oral formats. • Describe the historical development of AI. • Differentiate between various types and domains of AI, including their applications. • Recognize the key terminologies and concepts related to machine learning and deep learning. • Formulate informed opinions on the potential benefits and limitations of AI in various contexts.	• What is Artificial Intelligence? • Evolution of AI • Types of AI • Domains of AI • AI Terminologies • Benefits and limitations of AI	• Categorize the given applications into the three domains. Examples of Machine Learning & Reinforcement Learning given in the course below: IBM Skills Build – Introduction to AI

UNIT 2 - UNLOCKING YOUR FUTURE IN AI

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Students will be able to – • Articulate the demand for AI professionals and the diverse career opportunities available in the field. • Identify the requisite skills and tools needed to pursue a career in artificial intelligence. • Understand the potential roles and responsibilities of AI professionals across different industries. • Explore resources for further learning and skill development in the field of AI. • Evaluate their own interests and skills to determine potential pathways for a career in AI.	• The Global Demand • Some Common Job Roles In AI • Essential Skills and Tools for Prospective AI Careers • Opportunities in AI across Various Industries	• Identify ten companies currently hiring employees for in specific AI positions. • Note down the technical skills and soft skills listed by any two companies for the specific AI position. IBM Skills Build: Your Future in AI: The Job Landscape

UNIT 3 - PYTHON PROGRAMMING

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Students will be able to – • Explain the basics of python programming language and write programs with basic concepts of tokens. • Use selective and iterative statements effectively. • Gains practical knowledge on how to use the libraries efficiently.	**Level 1:** Basics of python programming, character sets, tokens, modes, operators, datatypes, Control Statements **Level 2:** CSV Files, Libraries – NumPy, Pandas, Scikit-learn	• Minimum five programs to be taught using operators, data types, control statements (**Level 1**) • Minimum 5 programs on NumPy, Pandas, Scikit-learn (**Level 2**) IBM SkillsBuild - Python for Data Science

UNIT 4 - INTRODUCTION TO CAPSTONE PROJECT

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Students will be able to – • Decompose any problem using the 5W1H method. • Apply Design thinking methodology. • Create empathy maps. • Align problems to SDGs. • Apply all the learnings in solving real world problems. • Express their solution to a problem in non-technical words.	• Design Thinking • Empathy Map • Sustainable Development Goals • Capstone Project	• Create an empathy map for a given scenario. • Project Abstract Creation Using Design Thinking Framework. IBM SkillsBuild - What is Design thinking?

UNIT 5 - DATA LITERACY – DATA COLLECTION TO DATA ANALYSIS

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Students will be able to – • Explain the importance of data literacy in AI. • Identify different data collection methods and their applications. • Comprehend mathematical concepts related to matrices, its operations, and applications. • Apply basic data analysis techniques to analyse data. • Visualize the data using different techniques.	• What is Data Literacy? • Data Collection • Exploring Data • Statistical Analysis of data • Representation of data, Python Programs for Statistical Analysis and Data Visualization • Introduction to Matrices • Data Pre-processing • Data in Modelling and Evaluation	• Identification of the level of measurement. • Python programs to demonstrate the use of mean, median, mode, standard deviation and variance. • Python programs to visualise the line graph, bar graph, histogram, scatter graph and pie chart using matplotlib. rainfall.csv IBM SkillsBuild - Data Visualisation with Python (Modules 1,2,3)

UNIT 6 – MACHINE LEARNING ALGORITHMS

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Students will be able to – • Differentiate the different types of machine learning methods. • They will be able to understand the concept behind each machine learning methods. • Apply these methods to develop simple solutions for some day-to-day situations. • Build up this knowledge to the next level to apply during Capstone Project development.	• Machine Learning in a nutshell • Types of Machine Learning • Supervised Learning • Understanding Correlation, Regression, Finding the line, Linear Regression algorithm • Classification – How it works, Types, k – Nearest Neighbour algorithm • Unsupervised Learning • Clustering – How it works, Types, k -means Clustering algorithm	• Calculation of Pearson correlation coefficient in MS – Excel. • Demonstration of Linear regression in MS – Excel. • Demonstration of Linear regression using python program. (**For Advanced Learners) • Demonstration of k – Nearest Neighbour using python program. (**For Advanced Learners) • Demonstration of k – means clustering using python program. (**For Advanced Learners) IBM SkillsBuild - Machine learning with Python

UNIT 7 – LEVERAGING LINGUISTICS AND COMPUTER SCIENCE

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL

1	Students will be able to –
	• Develop a better understanding of the complexities of language and the challenges involved in NLP tasks.
	• Learn new techniques and algorithms for NLP tasks.
		• Understanding Human Language Complexity
		• Introduction to Natural Language Processing (NLP) - Emotion Detection and Sentiment Analysis, Classification Problems, Chatbot
		• Phases of NLP
		• Applications of NLP
			• Write an article on "IBM Project Debater – Interesting facts".
			• Create a chatbot on ordering ice-creams using any of the following platforms:
			  • Google Dialogflow
			  • Botsify.com
			  • Botpress.com
			• Program to print the POS tags of a statement. (**For Advanced Learners)
			• Creating a simple rule based chatbot using Python. (**For Advanced Learners)
			
			IBM SKillsBuild - Natural Language Processing

UNIT 8 – AI ETHICS AND VALUES

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	Students will be able to – • Demonstrate an understanding of the fundamental principles of ethics and gain insight into ethical considerations related to AI technologies. • Develop an understanding of AI bias, its sources, and its real-world implications, as well as the ethical considerations. • Identify and apply strategies for mitigating bias in AI systems to promote fairness and transparency in technology. • Recognize the significance of AI policies in promoting responsible, safe, and ethical use of AI technologies.	• Ethics in Artificial Intelligence • The five pillars of AI Ethics • Bias, Bias Awareness, Sources of Bias • Mitigating Bias in AI Systems • Developing AI Policies • Moral Machine Game • Survival of the Best Fit Game	• Summarize your insights and interpretations from the video "Humans need not apply." • Activity: Role Play on biased AI systems • Comparative study of AI policies (that involve examining guidelines and principles) established by various organizations and regulatory bodies. • Understanding ethical dilemma using: Moral machine Survival of the best fit IBM SkillsBuild - AI Ethics

****Note- All portions under Advanced Learners are not to be evaluated in Theory or Practical Examinations.**

PART – C

1. Practical File

Note: The following to be included in the Practical File

- ***One certification (IBM SkillsBuild (any of the courses listed above) /any other industry certification)***
- ***At least one activity from each unit***
- ***One participation certificate of bootcamp/internship***

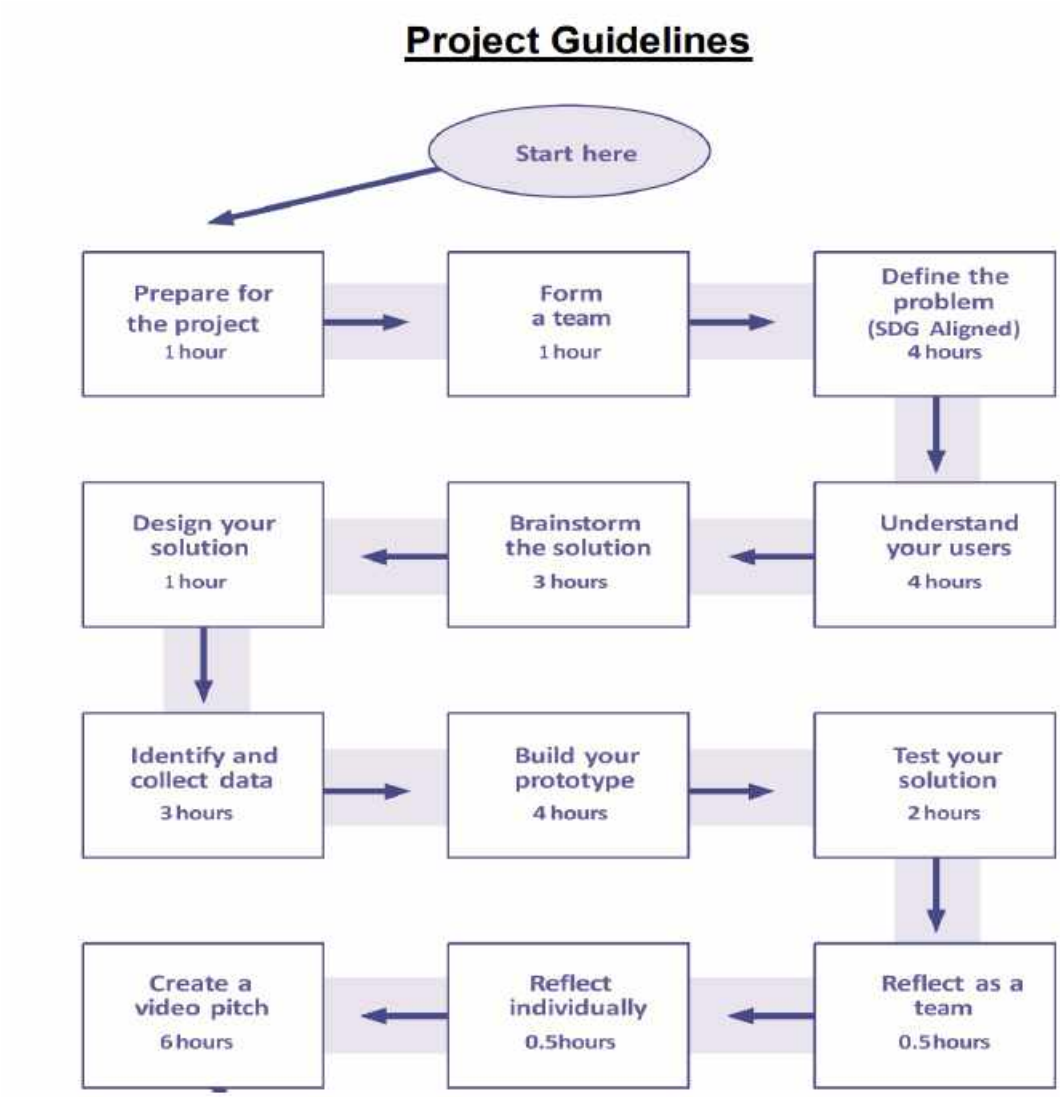
Unit-wise sample activities for Practical file given as below:

1. Categorize the given applications into the three domains as given on pg. 5 of the Students Handbook.
2. Identify ten companies currently hiring employees for in specific AI positions.
3. Note down the technical skills and soft skills listed by any two companies for the specific AI position.
4. Python programs using operators, data types, control statements (**Level 1**)
5. Python programs on NumPy, Pandas, Scikit-learn (**Level 2**)
6. Create an empathy map for a given scenario.
7. Project Abstract Creation Using Design Thinking Framework.
8. Python programs to demonstrate the use of mean, median, mode, standard deviation and variance.
9. Python programs to visualise the line graph, bar graph, histogram, scatter graph and pie chart using matplotlib.
10. Calculation of Pearson's correlation coefficient in MS – Excel.
11. Demonstration of Linear regression in MS – Excel.
12. Create a chatbot on ordering ice-creams using any of the following platforms:
    a. Google Dialogflow
    b. Botsify.com
    c. Botpress.com
    d. Any other online platform
13. Summarize your insights and interpretations from the video "Humans need not apply."
14. Comparative study of AI policies (that involve examining guidelines and principles) established by various organizations and regulatory bodies.
15. Understanding ethical dilemma using
    Moral machine
    Survival of the best fit

Additional programs for Practice (not to be evaluated)

Sample programs for regression, classification and clustering along with the dataset is in this link.

2. Capstone Project



Note: Prepare for the project; Form a team; Define the problem (SDG aligned); Understand your users; Brainstorm the solution; Design your solution; stages must be completed in the project documentation.
Project Documentation(As per the process given in "Project Guidelines", on page 2 of CBSE IBM Projects Cookbook)

LIST OF EQUIPMENTS/ MATERIALS:

The list given below is suggestive and an exhaustive list should be compiled by the teacher(s) teaching the subject. Only basic tools, equipment and accessories should be procured by the Institution so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience.

S. NO.	ITEM NAME, DESCRIPTION & SPECIFICATION
A	**HARDWARE**
1	Computer with latest configuration or minimum core I5 Processor or equivalent with minimum 8 GB RAM, 512 GB SSD, 17" LED Monitor, NIC Card, 3 button Mouse, Camera, 105 keys keyboard, speakers, mic, Wi-Fi / Internet connectivity, Webcam, UPS, Dual Band Wireless Connectivity Min 100 Mbps and integrated graphic cards
2	Fire extinguisher
B	**SOFTWARE SPECIFICATIONS**
1	Any Operating System with antivirus activated
2	Python IDLE
3	Anaconda Navigator Distribution – Python IDE installed with software: NumPy, Pandas, Matplotlib, Scikit Learn)
4	Productivity Suite: Any (Google+ Suite recommended)

Additional Recommendations:

- Ensure regular updates and maintenance for all installed software to benefit from bug fixes, security patches, and new features.
- Provide licenses for commercial software, such as MS Office, as per the school's requirements and budget.
- Encourage teachers and students to stay updated with the latest versions of the software and tools and provide resources for learning and support.
- Consider implementing version control systems (e.g., Git) to facilitate collaborative coding and project management.

TEACHER'S/ TRAINER'S QUALIFICATIONS:

Qualification and other requirements for appointment of teachers/trainers for teaching this subject, on contractual basis should be decided by the State/ UT. The suggestive qualifications and minimum competencies for the teacher should be as follows:

Qualification	Minimum Competencies	Age Limit
Diploma in Computer Science/ Information Technology **OR** Bachelor Degree in Computer Application/ Science/ Information Technology (BCA, B.Sc. Computer Science/ Information Technology) **OR** Graduate with PGDCA OR DOEACCA Level Certificate. The suggested qualification is the minimum criteria. However higher qualifications will also be acceptable.	The candidate shouldhave a minimum of 1 year of work experiencein the same job role. S/he should be able to communicate in English and local language. S/he should have knowledge of equipment, tools, material, Safety, Health & Hygiene.	18-37 years (as on Jan. 01 (year)) Age relaxation to be provided as per Govt. rules

Teachers/Trainers form the backbone of Skill (Vocational) Education being imparted as an integral part of Rashtriya Madhyamik Shiksha Abhiyan (RMSA). They are directly involved in teaching of Skill (vocational) subjects and also serve as a link between the industry and the schools for arranging industry visits, On-the-Job Training (OJT) and placement.

These guidelines have been prepared with an aim to help and guide the States in engaging quality Teachers/Trainers in the schools. Various parameters that need to be looked into while engaging the Vocational Teachers/Trainers are mode and procedure of selection of Teachers/ Trainers, Educational Qualifications, Industry Experience, and Certification/ Accreditation.

The State may engage Teachers/Trainers in schools approved under the component of scheme of Vocationalisation of Secondary and Higher Secondary Education under RMSA in following ways:

(i) Directly as per the prescribed qualifications and industry experience suggested by the PSS Central Institute of Vocational Education (PSSCIVE), NCERT or the respective Sector Skill Council (SSC).

OR

(ii) Through accredited Vocational Training Providers accredited under the National Quality Assurance Framework (NQAF*) approved by the National Skill Qualification Committee on 21.07.2016. If the State is engaging Vocational Teachers/Trainers through the Vocational Training Provider (VTP), it should ensure that VTP should have been accredited at NQAF Level2 or higher.

The National Quality Assurance Framework (NQAF) provides the benchmarks or quality criteriawhich the different organizations involved in education and training must meet in order to be accredited by competent bodies to provide government- funded education and training/skills activities. This is applicable to all organizations offering NSQF-compliant qualifications.

The educational qualifications required for being a Teacher/Trainer for a particular job role are clearly mentioned in the curriculum for the particular NSQF compliant job role. The State should ensure that teachers/ trainers deployed in the schools have relevant technical competencies for the NSQF qualification being delivered. Teachers/Trainers preferably should be certified by the concerned Sector Skill Council for the particular Qualification Pack/Job role which he will be teaching. Copies ofrelevant certificates and/or record of experience of the teacher/trainer in the industry should be kept as record.

To ensure the quality of the Teachers/Trainers, the State should ensure that a standardized procedure for selection of (Vocational) Teachers/Trainers is followed. The selection procedure should consist of the following:

(i) Written test for the technical/domain specific knowledge related to the sector;
(ii) Interview for assessing the knowledge, interests and aptitude of trainer through a panel of experts from the field and state representatives; and
(iii) Practical test/mock test in classroom/workshop/laboratory.

In case of appointment through VTPs, the selection may be done based on the above procedure by a committee having representatives of both the State Government and the VTP. The State should ensure that the Teachers/ Trainers who are recruited should undergo induction training of 20 days for understanding the scheme, NSQF framework and Vocational Pedagogy beforebeing deployed in the schools. The State should ensure that the existing trainers undergo in-service training of 5 days every year to make them aware of the relevant and new techniques/approaches in their sector and understand thelatest trends and policy reforms in vocational education. The Head Master/Principal of the school where the scheme is being implemented should facilitate and ensure that the (Vocational) Teachers/Trainers:

- Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;
- Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;
- Make effective use of learning aids and ICT tools during the classroom sessions;
- Engage students in learning activities, which include a mix of different methodologies, such as project-based work, team work, practical and simulation-based learning experiences;
- Work with the institution's management to organise skill demonstrations, site visits, on job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;
- Identify the weaknesses of students and assist them in up-gradation of competency;
- Cater to different learning styles and level of ability of students;
- Assess the learning needs and abilities, when working with students with different abilities
- Identify any additional support the student may need and help to make special arrangements for that support;
- Provide placement assistance

Assessment and evaluation of (Vocational) Teachers/Trainers is very critical for making them aware of their performance and for suggesting corrective actions. The States/UTs should ensure that the performance of the (Vocational) Teachers/Trainers is appraised annually. Performance based appraisal in relation to certain pre-established criteria and objectives should be done periodically to ensure the quality of the (Vocational) Teachers/Trainers.

Following parameters may be considered during the appraisal process:

- Participation in guidance and counseling activities conducted at Institutional, District and State level;
- Adoption of innovative teaching and training methods;
- Improvement in result of vocational students of Class X or Class XII;
- Continuous up-gradation of knowledge and skills related to the vocational pedagogy, communication skills and vocational subject;
- Membership of professional society at District, State, Regional, National and International level;
- Development of teaching-learning materials in the subject area;
- Efforts made in developing linkages with the Industry/Establishments;
- Efforts made towards involving the local community in Vocational Education
- Publication of papers in National and International Journals;
- Organization of activities for promotion of vocational subjects;
- Involvement in placement of students/student support services.

हिंदी (आधार)
विषय कोड – 302
कक्षा 11वीं (2025 -26)
परीक्षा हेतु पाठ्यक्रम विनिर्देशन

- **प्रश्न -पत्र तीन खण्डों – खंड- क, ख और ग में होगा।**
- **खंड- क में अपठित बोध पर आधारित प्रश्न पूछे जाएँगे I सभी प्रश्नों के उत्तर देने होंगे।**
- **खंड- ख में अभिव्यक्ति और माध्यम पाठ्यपुस्तक के आधार पर प्रश्न पूछे जाएँगे। प्रश्नों में आंतरिक विकल्प दिए जाएँगे ।**
- **खंड- ग में आरोह भाग – 1 एवं वितान भाग – 1 पाठ्यपुस्तकों के आधार पर प्रश्न पूछे जाएँगे। प्रश्नों में आंतरिक विकल्प दिए जाएँगे ।**

भारांक-80 **निर्धारित समय - 03 घंटे**

वार्षिक परीक्षा हेतु भार विभाजन

	खंड-क (अपठित बोध)	18 अंक
1	01 अपठित गद्यांश (लगभग 250 शब्दों का) पर आधारित बोध, चिंतन, विश्लेषण पर बहुविकल्पीय प्रश्न, अतिलघूत्तरात्मक प्रश्न, लघूत्तरात्मक प्रश्न पूछे जाएँगे I (बहुविकल्पीय प्रश्न 01 अंक x 03 प्रश्न = 03 अंक, अतिलघूत्तरात्मक प्रश्न 01 अंक x 01 प्रश्न = 1 अंक, लघूत्तरात्मक प्रश्न 02 अंक x 3 प्रश्न = 6 अंक)	10 अंक
2	01 अपठित पद्यांश (लगभग 100 शब्दों का) पर आधारित बोध, सराहना, सौंदर्य, चिंतन, विश्लेषण आदि पर बहुविकल्पीय प्रश्न, अतिलघूत्तरात्मक प्रश्न, लघूत्तरात्मक प्रश्न पूछे जाएँगे I (बहुविकल्पीय प्रश्न 01 अंक x 03 प्रश्न = 03 अंक, अतिलघूत्तरात्मक प्रश्न 01 अंक x 01 प्रश्न = 01 अंक, लघूत्तरात्मक प्रश्न 02 अंक x 02 प्रश्न = 04 अंक)	08 अंक
	खंड- ख (अभिव्यक्ति और माध्यम पाठ्यपुस्तक के आधार पर) पाठ संख्या 1, 2, 9, 10, 14, 15 तथा 16 पर आधारित	22 अंक
3	दिए गए 03 अप्रत्याशित विषयों में से किसी 01 विषय पर **आधारित** लगभग 120 शब्दों में रचनात्मक लेखन (06 अंक x 01 प्रश्न)	06 अंक
4	औपचारिक पत्र लेखन। (विकल्प सहित) (05 अंक x 01 प्रश्न)	05 अंक
5	**पाठ संख्या 1, 2, 9, 10, 14, 15 तथा 16 पर आधारित** 04 प्रश्न (विकल्प सहित) (02 अंक x 04 प्रश्न= 8 अंक) (लगभग 40 शब्दों में), (03 अंक x 01 प्रश्न = 3 अंक) (लगभग 60 शब्दों में)	11 अंक

	खंड- ग (आरोह भाग – 1 एवं वितान भाग-1 पाठ्य पुस्तकों के आधार पर)	40 अंक
6	पठित काव्यांश पर आधारित 05 बहुविकल्पी प्रश्न (01 अंक x 05 प्रश्न)	05 अंक
7	काव्य खंड पर आधारित 03 प्रश्नों में से किन्हीं 02 प्रश्नों के उत्तर (लगभग 60 शब्दों में) (03 अंक x 02 प्रश्न)	06 अंक
8	काव्य खंड पर आधारित 03 प्रश्नों में से किन्हीं 02 प्रश्नों के उत्तर (लगभग 40 शब्दों में) (02 अंक x 02 प्रश्न)	04 अंक
9	पठित गद्यांश पर आधारित 05 बहुविकल्पी प्रश्न (01 अंक x 05 प्रश्न)	05 अंक
10	गद्य खंड पर आधारित 03 प्रश्नों में से किन्हीं 02 प्रश्नों के उत्तर (लगभग 60 शब्दों में) (03 अंक x 02 प्रश्न)	06 अंक
11	गद्य खंड पर आधारित 03 प्रश्नों में से किन्हीं 02 प्रश्नों के उत्तर (लगभग 40 शब्दों में) (02 अंक x 02 प्रश्न)	04 अंक
12	वितान के पाठों पर आधारित 03 में से 02 प्रश्नों के उत्तर (लगभग 60 शब्दों में) (05 अंक x 02 प्रश्न)	10 अंक
13	**(अ) श्रवण तथा वाचन** **(ब) परियोजना कार्य**	10+10 = 20 अंक
कुल अंक		**100** अंक

निर्धारित पाठ्यपुस्तकें :

1. **आरोह, भाग-1**, एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित
2. **वितान भाग-1**, एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित
3. **अभिव्यक्ति और माध्यम**, एन.सी.ई.आर.टी., नई दिल्ली द्वारा प्रकाशित

नोट – पाठ्यक्रम के निम्नलिखित पाठ हटा दिए गए हैं I

आरोह भाग - 1	काव्य खंड	• कबीर (पद 2) - संतो देखत जग बौराना • मीरा (पद 2) - पग घुंगरू बांधि मीरा नाची • रामनरेश त्रिपाठी - पथिक (पूरा पाठ) • सुमित्रानंदन पंत - वे आँखें (पूरा पाठ)
	गद्य खंड	• कृष्णनाथ - स्पीति में बारिश (पूरा पाठ) • सैयद हैदर रज़ा - आत्मा का ताप (पूरा पाठ)

INFORMATICS PRACTICES
Subject Code - 065
Class XI (2025-26)

1. **Prerequisite**. None
2. **Learning Outcomes**

At the end of this course, students will be able to:

- Identify the components of computer system.
- Create Python programs using different data types, lists and dictionaries.
- Understand database concepts and Relational Database Management Systems.
- Retrieve and manipulate data in RDBMS using Structured Query Language
- Identify the Emerging trends in the fields of Information Technology.

3. Distribution of Marks and Periods

Unit No	Unit Name	Marks
1	Introduction to computer system	10
2	Introduction to Python	25
3	Database concepts and the Structured Query Language	30
4	Introduction to Emerging Trends	5
	Practical	30
	Total	**100**

4. Unit Wise syllabus

Unit 1: Introduction to Computer System

Introduction to computer and computing: evolution of computing devices, components of a computer system and their interconnections, Input/output devices.
Computer Memory: Units of memory, types of memory – primary and secondary, data deletion, its recovery and related security concerns.

Software: purpose and types – system and application software, generic and specific purpose software.

Unit 2: Introduction to Python

Basics of Python programming, execution modes: - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operator, precedence of operators, data types, mutable and immutable data types, statements, expression evaluation, comments, input and output statements, data type conversion, debugging.
Control Statements: if-else, if-elif-else, while loop, for loop
Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions – len(),list(),append(),insert(), count(),index(),remove(), pop(), reverse(), sort(), min(),max(),sum()
Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions – dict(), len(), keys(), values(), items(), update(), del(), clear()
Introduction to NumPy: Introduction, Creation of NumPy Arrays from List

Unit 3: Database concepts and the Structured Query Language

Database Concepts: Introduction to database concepts and its need, Database Management System.
Relational data model: Concept of domain, tuple, relation, candidate key, primary key, alternate key
Advantages of using Structured Query Language, Data Definition Language, Data Query Language and Data Manipulation Language, Introduction to MySQL, creating a database using MySQL, Data Types
Data Definition: CREATE DATABASE, CREATE TABLE, DROP, ALTER
Data Query: SELECT, FROM, WHERE with relational operators, BETWEEN, logical operators, IS NULL, IS NOT NULL
Data Manipulation: INSERT, DELETE,UPDATE

Unit 4: Introduction to the Emerging Trends

Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.

Practical Marks Distribution

S.No.	Unit Name	Marks
1	Problem solving using Python programming language	11
2	Creating database using MySQL and performing Queries	7
3	Practical file (minimum of 14 python programs, and 14 SQL queries)	7
4	Viva-Voce	5
	Total	**30**

5. Suggested Practical List

5.1 Programming in Python

1. To find average and grade for given marks.
2. To find sale price of an item with given cost and discount (%).
3. To calculate perimeter/circumference and area of shapes such as triangle, rectangle, square and circle.
4. To calculate Simple and Compound interest.
5. To calculate profit-loss for given Cost and Sell Price.
6. To calculate EMI for Amount, Period and Interest.
7. To calculate tax - GST / Income Tax.
8. To find the largest and smallest numbers in a list.
9. To find the third largest/smallest number in a list.
10. To find the sum of squares of the first 100 natural numbers.
11. To print the first 'n' multiples of given number.
12. To count the number of vowels in user entered string.
13. To print the words starting with an alphabet in a user entered string.
14. To print number of occurrences of a given alphabet in each string.
15. Create a dictionary to store names of states and their capitals.
16. Create a dictionary of students to store names and marks obtained in 5 subjects.
17. To print the highest and lowest values in the dictionary.

5.2 Data Management: SQL Commands

1. To create a database
2. To create student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.

3. To insert the details of at least 10 students in the above table.
4. To display the entire content of table.
5. To display Rno, Name and Marks of those students who are scoring marks more than 50.
6. To display Rno, Name, DOB of those students who are born between '2005- 01-01' and '2005-12-31'.

Suggested material

NCERT Informatics Practices - Text book for class - XI (ISBN- 978-93-5292-148-5)

MASS MEDIA STUDIES (SUB. CODE 835)

CLASS – XI (SESSION 2025-2026)

Total Marks: 100 (Theory-60 + Practical-40)

	UNITS	NO. OF HOURS for Theory and Practical		MAX. MARKS for Theory and Practical
Part A	**Employability Skills**			
	Unit 1: Communication Skills-III	10		2
	Unit 2: Self-management Skills-III	10		2
	Unit 3: ICT Skills-III	10		2
	Unit 4: Entrepreneurial Skills-III	15		2
	Unit 5: Green Skills-III	05		2
	Total	**50**		**10**
Part B	**Subject Specific Skills**	**Theory**	**Practical**	
	Unit 1: Introduction of Mass Communication	10	15	07
	Unit 2: Evolution of the Media	25	20	09
	Unit 3: Understanding Media	30	45	17
	Unit 4: Preproduction Skills	25	40	17
	Total	**90**	**120**	**50**
Part C	**Practical Work**			
	Practical Examination / Written Test			15
	Viva Voce			05
	Total			**20**
Part D	**Project Work/Field Visit/ Practical File/ Student Portfolio**			15
	Viva Voce			05
	Total			**20**
		260		**100**

DETAILED CURRICULUM/TOPICS FOR CLASS XI

Part-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-III	10
2.	Unit 2: Self-management Skills-III	10
3.	Unit 3: Information and Communication Technology Skills-III	10
4.	Unit 4: Entrepreneurial Skills-III	15
5.	Unit 5: Green Skills-III	05
	TOTAL DURATION	**50**

Note: The detailed curriculum/ topics to be covered under Part A: Employability Skills can be downloaded from CBSE website

Part-B – SUBJECT SPECIFIC SKILLS

UNIT–I: INTRODUCTION TO MASS COMMUNICATION

11. Definition and functions of Mass Media and Mass Communication
12. Aspects of Mass Communication
13. Barriers to Communication

UNIT–II: EVOLUTION OF THE MEDIA

Evolution of Cinema

1. Hindi Cinema
   - DG Phalke and silent era
   - Coming of sound, Studio era, Post-Independence era
2. Satyajit Ray and non-mainstream cinema

Evolution of Television

1. Doordarshan in the first phase of local stations and black and white transmission

Site Experiment

- Colour television, AASUAD 1982-Satellite Transmission (INSAT)
- Evolution of Print media
- Development of print journalism in India

Evolution of radio

1. Pre and post-independence development of radio in India

Evolution of new media

1. Evolution of the internet in India

UNIT–III: UNDERSTANDING MEDIA

Chapter 1: Media Literacy

1. Introduction of Media Literacy
2. Introduction to Mass Media
3. Audience Theories
4. Media Ownership
5. Media Representation
6. Media and Violence

Chapter 2: Analysis of Films

1. The concept of mise en scene
2. Film Analysis
   1. Short film-fiction (5) Short film-nonfiction (5)
      OR
   2. Feature film

Chapter 3: Analysis of TV Programmes

1. The concept of a soap opera - Daily soap, Weekly soap
2. Genres of Soap Opera, primary audience of each genre
3. The Segmented nature of the audience
4. Gaze of the audience, concept of a flow, continuous interruption
5. Culture of Film based programmes
6. Culture of Music based programmes
7. Educational TV, non-fiction on TV

Chapter4: Content Analysis of Radio Programmes

News - the format, the language, frequencyTalks, magazine programmes-unidirectional nature, feedback with a time phase difference Dramas - the unique nature of radio plays Interactive programmes - phone in, live interaction, music, experiences, memories as content of these programmes

Chapter 5: Content Analysis of Newspapers and Periodicals

Newspapers –

1. The Macro composition of a daily-various sections like the front page, edit page, sports page, business page.
2. The Micro composition of a daily-proportion of visual and text, language, highlighting.

Periodicals –

1. The Macro composition of a periodical - various sections like the cover page, cover story, features, columns, business page.
2. The Micro composition of a periodical - proportion of visual and text, language, highlighting.

UNIT–IV: Pre-Production Skills

Understanding Fiction

1. Story as a self content world
2. Story as a subjective experience
3. Content of a story
   Theme/subject Plot, time and space Characters
4. Techniques of story telling
   Description
   Dialogue View point

UNIT–V: Pre-Production Skills (Project)

1. Fiction
2. Researcher
3. Script
4. Storyboard
5. Nonfiction

5. TEACHING ACTIVITIES

The teaching and training activities have to be conducted in classroom, laboratory/ workshops and field visits. Students should be taken to field visits for interaction with experts and to expose them to the various tools, equipment, materials, procedures and operations in the workplace. Special emphasis should be laid on the occupational safety, health and hygiene during the training and field visits.

CLASSROOM ACTIVITIES

Classroom activities are an integral part of this course and interactive lecture sessions, followed by discussions should be conducted by trained teachers. Teachers should make effective use of a variety of instructional or teaching aids, such as audio-video materials, colour slides, charts, diagrams, models, exhibits, hand-outs, online teaching materials, etc. to transmit knowledge and impart training to the students.

PRACTICAL WORK IN LABORATORY/WORKSHOP

Practical work may include but not limited to hands-on-training, simulated training, role play, case based studies, exercises, etc. Equipment and supplies should be provided to enhance hands-on learning experience of students. Only trained personnel should teach specialized techniques. A training plan that reflects tools, equipment, materials, skills and activities to be performed by the students should be submitted by the I teacher to the Head of the Institution.

SKILL ASSESSMENT (PRACTICAL)

Assessment of skills by the students should be done by the assessors/examiners on the basis of practical demonstration of skills by the candidate, Practical examination allows candidates to demonstrate that they have the knowledge and understanding of performing a task. This will include hands-on practical exam and viva voce. For practical, there should be a team of two evaluators. The same team of examiners will conduct the viva voce.

Project Work (individual or group project) is a great way to assess the practical skills on a certain time period or timeline. Project work should be given on the basis of the capability of the individual to perform the tasks or activities involved in the project. Projects should be discussed in the class and the teacher should periodically monitor the progress of the project and provide feedback for improvement and innovation. Field visits should be organised as part of the project work. Field visits can be followed by a small-group work/project work. When the class returns from the field visit, each group might be asked to use the information that they have gathered to prepare presentations or reports of their observations. Project work should be assessed on the basis of practical file or student portfolio.

Student Portfolio is a compilation of documents that supports the candidate's claim of competence. Documents may include reports, articles, photos of products prepared by students in relation to the unit of competency.

Viva voce allows candidates to demonstrate communication skills and content knowledge. Audio or video recording can be done at the time of viva voce. The number of external examiners would be decided as per the existing norms of the Board and these norms should be suitably adopted/adapted as per the specific requirements of the subject. Viva voce should also be conducted to obtain feedback on the student's experiences and learning during the project work/field visits.

6. ORGANISATION OF FIELD VISITS/EDUCATIONAL TOURS

In field visits, children will go outside the classroom to obtain specific information from experts or to make observations of the activities. A checklist of observations to be made by the students during the field visits should be developed by the Teachers for systematic collection of information by the students on the various aspects. Principals and Teachers should identify the different opportunities for field visits within a short distance from the school and make necessary arrangements for the visits. At least three field visits should be conducted in a year.

7. PRACTICAL GUIDELINES

Portfolio Assessment:

The Portfolio will consist of a compilation of all written submissions over the duration of the course. It is the sum total of the creative work executed by the student over the year. The Portfolio will consist of all written submissions over the duration of the course. The assignments would include written, project work and production output will be collected. The submission would include both the original and improved versions of assigned tasks reflective of gradual improvement.

Aims of the exercise of Portfolio are –

- To create a desire in the student to go beyond the text and class room learning
- To inculcate in the student the spirit of research
- To offer the scope for imaginative thinking
- To develop the power of interpretation
- To imbibe the notions of subjectivity and objectivity Objectives of the exercise of Portfolio are –

- The student begins to think independently and critically about the subject
- The student learns to develop his/her own themes
- The student learns to systematically gather facts and sift the data
- The student learns to use the data in a coherent and logical manner
- The student learns to follow one's imagination to create an original work
- The student learns the difference between analyzing someone else's work and creating one's own
- The student learns to develop distinct creative approaches to Fiction and Nonfiction
- The student learns to conceive and execute ideas that are medium-specific
- The student learns to identify upon his/her own strengths and weaknesses

Assessment of the Portfolio-

The basic guideline for Assessment of the Portfolio is to judge the student's individual growth along the aims and objectives stated above. Both quality and quantity of the work done cumulatively should receive equal consideration.

PROJECT - NON-FICTION: STUDENTS WILL CONCEIVE, WRITE, DIRECT AND EDIT A NON-FICTION FILM PROJECT OF 3-5 MINUTES DURATION.

Guidelines

In this, they will follow the film making process of going through the pre- production, production and post-production process. The idea will be submitted to the teacher first. It shall be discussed and approved. It is only after that, the student can undertake to do further research and writing of the script. The script shall be submitted along with the shooting schedule, the same will be approved by teacher and only after the clearance from the teacher will the shooting take place. Students will complete the project on video tape and submit it along as a video tape as well as in the DVD format with the docket containing all the paper work done by them.

1. Subjects of the films should be suitable for the audience of their own age group.
2. Social issues like Gender issues, Environmental issues, Education, Health, Livelihood, Rights on disability, Access, Road Safety, documentaries on Historical monuments, Art and Craft can be chosen. Initial research is very important with regard to pre-production and production. Students must understand and read about media ethics and understand the sensitivity of the issue concerned. Students must take up issues which they closely relate to in their everyday lives and are able to work on within their academic concerns.
3. Themes to illustrate facets of other arts could also be chosen. Issues relating to media could also be a domain. Students must understand their roots and cultural heritage which surrounds them. It is part of what they are. This consists of not just historical monuments; it surpasses subjects like rituals, traditional medicinal practices, folklore and anecdotes from their grandparents, about the city they live in, various performing arts and more.
4. Portraits of personalities with respect to their contribution to life may also be chosen. People who have made a difference within their community, their role models, people they look up to, those who inspire them or have encouraged them, they could be their relative, teacher, a household help or anyone known to them.
5. Basic Handycam video cameras and basic editing software like Adobe Premier or Windows Movie maker should suffice. Technical quality is important, but technological sophistication by itself will not carry much weight, as the purpose is to judge the overall programme making ability.
6. The preparation is as important as the product and will carry half the percentage in the total assessment of the project.
7. The time limit of 3-5 minutes is to be strictly observed. Anything drastically more or less in duration will negatively affect the assessment.

   These guidelines should be very clearly explained to the students and there should be no basic doubts about the approach in their minds.

8. LIST OF EQUIPMENT AND MATERIAL

CAMERA

1. One DSLR minimum 18 mega pixels, output 18-55mm and 70-300mm lens with external microphone connectivity.
2. One HD handycam video camera with external microphone connectivity. Video format MOV or MPEG4. OR One smart phone with external microphone connectivity.
3. One tripod.

MICROPHONE

1. One gun microphone with RCA output.
2. One lapel microphone with RCA output.
3 One mic for Radio studio multidirectional or unidirectional.

(*If school is not able to arrange microphone try to put subject closer to camera and in silence area for their byte and record dialogue and must off fan and air conditioner during without microphone shoot. These steps will help students to shoot without specific equipment.*)

LIGHTS

To create basic three-point lighting in any studio or classroom required lights are mentioned below-

a. Two LED soft lights
b. Two Baby spot lights
c. Two flood Cool lights
d. Multi 10 and multi 20 Reflectors silver and Gold or thermocol sheets.
e. Light Cutter stands with black clothes.

(If school is not capable for arranging lighting equipment so shoot is preferred in natural sunlight.)

EDITING SYSTEM

1. One computer system windows or Mac. Software required FCP (final cut pro) or Adobe premiere pro, Adobe Photoshop, Adobe After effects, capture card, Graphics card sound card.

SCHOOL STUDIO SETUP

1. Green Chroma wall.
2. Teleprompter.
3. Monitor.

These are the basic requirements for any Television or Radio production.

A screening room equipped with a television set or projector and speakers for playback of video or screening images through a computer.

Physical Education (Subject Code 048)

CLASS XI (2025-26)

UNIT NO.	UNIT NAME	THE WEIGHTAGE (MARKS) ALLOTTED
UNIT 1	Changing Trends & Career in Physical Education	04 + 04***b****
UNIT 2	Olympic Value Education	05
UNIT 3	Yoga	06+01***b****
UNIT 4	Physical Education & Sports for CWSN	04+03***b****
UNIT 5	Physical Fitness, Wellness	05
UNIT 6	Test, Measurements & Evaluation	08
UNIT 7	Fundamentals of Anatomy and Physiology in Sports	08
UNIT 8	Fundamentals of Kinesiology and Biomechanics in Sports	04+04***b****
UNIT 9	Psychology and Sports	07
UNIT 10	Training & Doping in Sports	07
PRACTICAL (LAB)#	**Including 3 Practical**	30
TOTAL	**Theory 10 + Practical 3**	**Theory 70 + Practical 30 = 100**

Note: b*are the Concept based questions like Tactile diagram/data interpretation/ case base study for visually Impaired Child.

CLASS XI

COURSE CONTEMT

Unit No.	Unit Name & Topics	Specific learning objectives	Suggested Teaching Learning process	Learning Outcomes with specific Competencies
Unit 1	**Changing Trends and Careers in Physical Education** 1. Concept, Aims & Objectives of Physical Education 2. Development of Physical Education in India – Post Independence 3. Changing Trends in Sports-playing surface, wearable gear and sports equipment, technological advancements 4. Career options in Physical Education 5. Khelo-India Program and Fit – India Program	• To make the students understand the meaning, aims, and objectives of Physical Education. • To Teach students about the development of physical education in India after Independence. • To educate students about the development of sports surfaces, wearable gear, sports equipment, and technology. • To make students know the different career options available in the field. • To make them know about the Khelo India Program	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Recognize the concept, aim, and objectives of Physical Education. • Identify the Post-independence development in Physical Education. • Categorize Changing Trends in Sports-playing surface, wearable gear, sports equipment, technological • Explore different career options in the field of Physical Education. • Make out the development of Khelo India and Fit India Program.

Unit 2	**Olympism Value Education** 1. Olympism – Concept and Olympics Values (Excellence, Friendship & Respect) 2. Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind 3. Ancient and Modern Olympics 4. Olympics - Symbols, Motto, Flag, Oath, and Anthem 5. Olympic Movement Structure - IOC, NOC, IFS, Other members	• To make the students aware of Concepts and Olympics Values (Excellence, Friendship & Respect) • To make students learn about Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind • To make students understand ancient and modern Olympic games. • To make the students aware of Olympics - Symbols, Motto, Flag, Oath, and Anthem • To make students learn about the working and functioning of IOC, NOC and IFS, and other members.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Incorporate values of Olympism in your life. • Differentiate between Modern and Ancient Olympic Games, Paralympics, and Special Olympic games • Identity the Olympic Symbol and Ideals • Describe the structure of the Olympic movement structure

Unit 3	**Yoga** 1. Meaning and importance of Yoga 2. Introduction to Astanga Yoga 3. Yogic Kriyas (Shat Karma) 4. Pranayama and its types. 5. Active Lifestyle and stress management through Yoga	• To make the students aware of the meaning and importance of yoga • To make them learn about Astanga yoga. • To teach students about yogic kriya, specially shat karmas. • To make the learn and practice types of Pran • To make them learn the importance of yoga in stress management.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Recognize the concept of yoga and be aware of the importance ; of it • Identify the elements of yoga • Identify the Asanas, Pranayama' s, meditation, and yogic kriyas • Classify various yogic activities for the enhancement of concentration • Know about relaxation technique s for improving concentrat ion
Unit 4	**Physical Education and Sports for Children with Special Needs** 1. Concept of Disability and Disorder 2. Types of Disability, its causes & nature (Intellectual disability, Physical disability).	• To make the students aware concept of Disability and Disorder. • To make students aware of different types of disabilities. • To make students learn about Disability Etiquette	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Identify the concept of Disability and Disorder. • Outline types of disability and describe their causes and nature. • Adhere to

	3. Disability Etiquette 4. Aim and objectives of Adaptive physical Education 5. Role of various professionals for children with special needs (Counselor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist, and Special Educator)	• To make the students Understand the aims and objectives Adaptive Physical Education • To make students aware of role of various professionals for children with special needs.		and respect children with special needs by following etiquettes. • Identify possibilities and scope in adaptive physical education • Relate various types of professional support for children with special needs along with their roles and responsibilities.
Unit 5	**Physical Fitness, Wellness, and Lifestyle** 1. Meaning & importance of Wellness, Health, and Physical Fitness. 2. Components/ Dimensions of Wellness, Health, and Physical Fitness 3. Traditional Sports & Regional Games for	• To make the students understand the Meaning & importance of Wellness, Health, and Physical Fitness • To make students aware of the Components/ Dimensions of Wellness, Health, and Physical Fitness • To make students learn Traditional Sports & Regional Games to	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Explain wellness and its importance and define the components of wellness. • Classify physical fitness and recognize its importance in life. • Distinguish between skill-related and health-related

	promoting wellness 4. Leadership through Physical Activity and Sports 5. Introduction to First Aid – PRICE	promote wellness • To develop Leadership qualities through Physical Activity and Sports in students • To make students learn First Aid and its management skills		components of physical fitness. • Illustrate traditional sports and regional games to promote wellness. • Relate leadership through physical activity and sports • Illustrate the different steps used in first aid - PRICE.
Unit 6	**Test, Measurement & Evaluation** 1. Define Test, Measurements and Evaluation. 2. Importance of Test, Measurements and Evaluation in Sports. 3. Calculation of BMI, Waist – Hip Ratio, Skin fold measurement (3-site) 4. Somato Types (Endomorphy Mesomorphy & Ectomorphy	• To Introduce the students with the terms like test, measurement and evaluation along with its importance • To Introducing them the methods of calculating BMI, Waist- hip ratio and Skin fold measurement. • To make the students aware of the different somatotypes. To make the students learn the method to measure health-related fitness.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and Expeditionary learning.	**After completing the unit, the student s will be able to:** • Define the terms test, measurement, and evaluation, • Differentiate norm and criterion referenced standards, • Differentiate formative and summative evaluation, • Discuss the importance of measurement and evaluation processes, • Understand

	5. Measurements of health-related fitness			BMI: A popular clinical standard and its computation • Differentiate between Endomorphy, Mesomorphy & Ectomorphy h describe the procedure of Anthropometric Measurement
Unit 7	**Fundamentals of Anatomy, Physiology in Sports** 1. Definition and importance of Anatomy and Physiology in Exercise and Sports. 2. Functions of Skeletal System, Classification of Bones, and Types of Joints. 3. Properties and Functions of Muscles. 4. Structure and Functions of Circulatory System and Heart. 5. Structure and Functions of Respiratory System.	• The students will learn the meaning and definition & identify the importance of anatomy, physiology, and kinesiology. • Students will understand the main functions and Classification of Bone and the Types of Joints. . • The students will learn the Properties and Functions of Muscles. • The students will learn the Structure and Functions of the Circulatory System and Heart. • The students will learn the Structure and Functions of Respiratory System.	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game - based learning and Expeditionary learning.	**After completing the unit, the students will be able to:** • Identify the importance of anatomy and physiology. • Recognize the functions of the skeleton. • Understand the functions of bones and identify various types of joints. • Figure out the properties and functions of muscles and understand how they work. • Understand the anatomy of the respiratory system and describe it's working. • Identify and analyses the layout and functions of Circulatory System.

Unit 8	**Fundamentals Of Kinesiology And Biomechanics in Sports** 1. Definition and Importance of Kinesiology and Biomechanics in Sports. 2. Principles of Biomechanics 3. Kinetics and Kinematics in Sports 4. Types of Body Movements - Flexion, Extension, Abduction, Adduction, Rotation, Circumduction, Supination & Pronation 5. Axis and Planes – Concept and its application in body movements	• The students will learn the meaning and definition & identify the importance of Kinesiology and Biomechanics in sports. • To make the students learn the principles of biomechanics • To make the students understand the concept of Kinetics and Kinematics in Sports • To make the students learn about different types of body movements. • To make the students understand the concept of Axis and Planes and its application in body movements.	• Lecture-based instruction, • Technology-based learning, Group learning • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning.	**After completing the unit, the students will be able to:** • Understand Kinesiology and Biomechanics with their application in sports • Explain biomechanical principles and their utilization in sports and physical education. • Illustrate fundamental body movements and their basic patterns. • Learn about the Axis and Planes and their application with body movements
Unit 9	**Psychology and Sports** 1. Definition & Importance of Psychology in Physical Education & Sports; 2. Develop-	• The students will identify the definition and importance of Psychology in Physical Education and sports. • The students will	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning,	**After completing the unit, the students will be able to:** • Identify the role of Psychology in Physical Education and Sports

	mental Characteristics at Different Stages of Development. 3. Adolescent Problems & their Manageme nt; 4. Team Cohesion and Sports; 5. Introduction to Psychological Attributes: Attention, Resilience, Mental Toughness	be able to differentiate characteristics of growth and development at different stages. • - Students will be able to identify the issues and management related to adolescents • The students will be able to understand the importance of team cohesion in sports • Students will distinguish different Psychological Attributes like Attention, Resilience, and Mental Toughness.	• Inquiry-based learning, • Kinesthetic learning, Game-based learning and • Expeditionary learning	• Differentiate characteristics of growth and development at different stages. • Explain the issues related to adolescent behavior and Team Cohesion in Sports • Correlate the psychological concepts with the sports and athlete specific situations
Unit 10	**Training & Doping in Sports** 1. Concept and Principles of Sports Training 2. Training Load: Over Load, Adaptation, and Recovery 3. Warming-up & Limbering Down – Types, Method & Importance. 4. Concept of Skill, Technique, Tactics &	• To make the students aware about of concepts and principles of sports training. • To make students learn and understand the Training Load, Over Load, Adaptation, and Recovery concepts. • To make students Understand the importance of warning up and limbering down exercises. • To introduce the terms like Skills, Techniques, Tactics, and Strategies to the	• Lecture-based instruction, • Technology-based learning, • Group learning, • Individual learning, • Inquiry-based learning, • Kinesthetic learning, • Game-based learning and • Expeditionary learning	**After completing the unit, the students will be able to:** • Understand the concept and principles of sports training. • Summarise training load and its concept. • Understand the concept of warming up & limbering down in sports training and their types, method & importance.

	Strategies 5. Concept of Doping and its disadvantages	students. • To make students aware of the doping substances and their disadvantages in sports.		• Acquire the ability to differentiate between the skill, technique, tactics & strategies in sports training • Interpret concept of doping.

GUIDELINES FOR INTERNAL ASSESSMENT

(PRACTICAL/ PROJECTS ETC.)

PRACTICAL (Max. Marks 30)	
Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT)*	6 Marks
Proficiency in Games and Sports (Skill of any one IOA recognized Sport/Game of Choice)**	7 Marks
Yogic Practices	7 Marks
Record File ***	5 Marks
Viva Voce (Health/ Games & Sports/ Yoga)	5 Marks

- *Test for CWSN (any 4 items out of 27 items. One item from each component: Aerobic Function, Body Composition, Muscular strength & Endurance, Range of Motion or Flexibility)
- **CWSN (Children with Special Needs – Divyang): Bocce/ Boccia, Sitting Volleyball, Wheel Chair Basketball, Unified Badminton, Unified Basketball, Unified Football, Blind Cricket, Goalball, Floorball, Wheel Chair Races and Throws, or any other Sport/Game of choice.
- **Children with Special Needs can also opt any one Sport/Game from the list as alternative to Yogic Practices. However, the Sport/ Game must be different from Test - 'Proficiency in Games and Sports'

******Record File shall include:***

- ***Practical-1:*** Fitness tests administration. (SAI Khelo India Test)
- ***Practical-2:*** Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.
- ***Practical-3:*** Anyone one IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.

COURSE STRUCTURE
CLASS XI (2025-2026)
Theory Paper

Time : 3 Hours **Marks: 70**

Units	Topics	Marks
I	Understanding Psychology	11
II	Methods of Enquiry in Psychology	13
III	Human Development	11
IV	Sensory, Attentional and Perceptual Processes	8
V	Learning	9
VI	Human Memory	8
VII	Thinking	5
VIII	Motivation and Emotion	5
	Total	**70**

COURSE STRUCTURE

	Name of the Units
Unit I	**Understanding Psychology** *The topics in this unit are:* 1. Introduction 2. Nature of Psychology: • Psychology as a Discipline • Psychology as a Natural Science • Psychology as a Social Science 3. Understanding Mind and Behaviour 4. Popular Notions about the Discipline of Psychology 5. Evolution of Psychology 6. Development of Psychology in India 7. Branches of Psychology 8. Psychology and Other Disciplines 9. Psychology in Everyday Life
Unit II	**Methods of Enquiry in Psychology** *The topics in this unit are:* 1. Introduction 2. Goals of Psychological Enquiry • Steps in Conducting Scientific Research • Alternative Paradigms of Research 3. Nature of Psychological Data

	4. Some Important Methods in Psychology • Observational Method • Experimental Method • Correlational Research • Survey Research • Psychological Testing • Case Study 5. Analysis of Data • Quantitative Method • Qualitative Method 6. Limitations of Psychological Enquiry 7. Ethical Issues
Unit III	**Human Development** *The topics in this unit are:* 1. Introduction 2. Meaning of Development • Life-Span Perspective on Development 3. Factors Influencing Development 4. Context of Development 5. Overview of Developmental Stages • Prenatal Stage • Infancy • Childhood • Challenges of Adolescence • Adulthood and Old Age
Unit IV	**Sensory, Attentional and Perceptual Processes** *The topics in this unit are:* 1. Introduction 2. Knowing the world 3. Nature and varieties of Stimulus 4. Sense Modalities • Functional limitation of sense organs 5. Attentional Processes • Selective Attention • Sustained Attention 6. Perceptual Processes • Processing Approaches in Perception 7. The Perceiver 8. Principles of Perceptual Organisation

	9. Perception of Space, Depth and Distance • Monocular Cues and Binocular Cues 10. Perceptual Constancies 11. Illusions 12. Socio-Cultural Influences on Perception
Unit V	**Learning** *The topics in this unit are:* 1. Introduction 2. Nature of Learning 3. Paradigms of Learning 4. Classical Conditioning • Determinants of Classical Conditioning 5. Operant/Instrumental Conditioning • Determinants of Operant Conditioning • Key Learning Processes 6. Observational Learning 7. Cognitive Learning 8. Verbal Learning 9. Skill Learning 10. Factors Facilitating Learning 11. Learning Disabilities
Unit VI	**Human Memory** *The topics in this unit are:* 1. Introduction 2. Nature of memory 3. Information Processing Approach : The Stage Model 4. Memory Systems : Sensory, Short-term and Long-term Memories 5. Levels of Processing 6. Types of Long-term Memory • Declarative and Procedural; Episodic and Semantic 7. Nature and Causes of Forgetting • Forgetting due to Trace Decay, Interference and Retrieval Failure 8. Enhancing Memory • Mnemonics using Images and Organisation
Unit VII	**Thinking** *The topics in this unit are:* 1. Introduction 2. Nature of Thinking

	• Building Blocks of Thought 3. The Processes of Thinking 4. Problem Solving 5. Reasoning 6. Decision-making 7. Nature and Process of Creative Thinking • Nature of Creative Thinking • Process and strategies of Creative Thinking 8. Thought and Language 9. Development of Language and Language Use
Unit VIII	**Motivation and Emotion** *The topics in this unit are:* 1. Introduction 2. Nature of Motivation 3. Types of Motives • Biological Motives • Psychosocial Motives 4. Maslow's Hierarchy of Needs 5. Nature of Emotions 6. Expression of Emotions • Culture and Emotional Expression • Culture and Emotional Labeling 7. Managing Negative Emotions 8. Enhancing Positive Emotions

Practical (Projects/small study, experiments, etc.) **30 marks**

The students shall be required to undertake ***one project /small study and conduct two experiments.*** The project/small study would involve the use of different methods of enquiry like observation, survey, interview, questionnaire related to the following topics:

- Bullying/Cyberbullying
- Mental health and wellbeing
- Impact of social media on the youth today
- Altruism and its impact on wellbeing
- Peer Pressure
- Anger management
- Sleep Hygiene
- Changing Gender roles and stereotypes
- Cooperation and Competition
- Compliance and Obedience

You may also choose to do a project on any topic covered in the course (e.g., Human development, Learning, Memory, Motivation, Perception, Attention and Thinking). Experiments could focus on cause-and-effect relationships.

Practical Examination

• Practical (Experiments) file	05 Marks
• Project File	05 Marks
• Viva Voce (Project and experiment)	05 Marks
• One experiment (05 marks for conduction of experiment and 10 marks for reporting)	15 Marks
Total	**30 Marks**

QUESTION PAPER DESIGN
CLASS –XI (2025-26)

I. Theory : 70 Marks

Time: 3 Hours		**Maximum Marks: 70**	
S. No.	**Competencies**	**Total Marks**	**% Weightage**
1	**Remembering and Understanding:** Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers; Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas	35	50%
2	**Applying:** Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way	25	35%
3	**Formulating, Analysing, Evaluating and Creating:** Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions	10	15%
	Total	**70**	**100%**

II. Practical: 30 Marks

CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2025-2026

YOGA (SUBJECT CODE - 841)

CLASS – XI

COURSE OVERVIEW:

In view of today's global problems, the course of yoga is compulsory, as mental and physical stress is increasing everywhere, students will benefit from this course. Just as the word yoga means to connect, the students will also have loyalty and engagement towards their duty towards society and our society will move towards a positive thinking.

WHO has also emphasized the role of yoga in prevention therapy. For this reason, the popularity of yoga will increase globally.

Yoga is a new topic for the international community, which is why the world is trying to understand yoga more. For this reason, yoga has very good opportunities internationally.

OBJECTIVES OF THE COURSE:

Following are the main objectives of this course.

- To enable the student to have good health.
- To practice mental hygiene.
- To possess emotional stability.
- To integrate moral values.
- To attain higher level of consciousness.

SALIENT FEATURES:

- Yoga course is cost effective.
- Another very important feature for this course is that students of all category can do this course very easily

LIST OF EQUIPMENT AND MATERIALS:

The items required for the course are as follows:

Teaching/Training Aids:

- Computer (optional)
- Sutra Neti
- Rubber Neti
- Jalneti
- Jalneti pot
- Vastra Dhoti
- Soap
- Tratak stand
- Candle
- Yoga Mat

CAREER OPPORTUNITIES:

- Yoga teacher
- Yoga therapist
- Resource officer in yoga
- Yoga instructor
- Naturopathy Doctor

VERTICAL MOBILITY:

After, following career options are available in field:

- Paramedical physiotherapist
- Fitness trainer
- Aerobic or Zumba trainer

CURRICULUM:

This course is a planned sequence of instructions consisting of Units meant for developing employability and skills competencies of students of Class XI and XII opting for the subject along with other subjects.

YOGA (SUBJECT CODE - 841)
CLASS –XI (SESSION 2025-2026)
Total Marks: 100 (Theory - 50 + Practical - 50)

	UNITS	NO. OF HOURS for Theory and Practical	MAX. MARKS for Theory and Practical
Part A	**Employability Skills**		
	Unit 1 : Communication Skills - III	13	2
	Unit 2 : Self-Management Skills - III	07	2
	Unit 3 : ICT Skills - III	13	2
	Unit 4 : Entrepreneurial Skills - III	10	2
	Unit 5 : Green Skills - III	07	2
	Total	**50**	**10**
Part B	**Subject Specific Skills**		
	Unit 1 – Introduction to Yoga and Yogic Practices - I	25	12
	Unit 2 – Introduction to Yoga Texts - I	40	12
	Unit 3 – Yoga for Health Promotion - I	40	16
	Total	**105**	**40**
Part C	**Practical Work**		
	Project	105	10
	Viva		05
	Practical File		15
	Demonstration of skill competency via Lab Activities		20
	Total	**105**	**50**
	GRAND TOTAL	**260**	**100**

NOTE: Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

DETAILS OF THE UNITS OF CLASS - XI

Total Marks: 100 (Theory - 50 + Practical - 50)

PART-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration in Hours
1.	Unit 1: Communication Skills-III	13
2.	Unit 2: Self-Management Skills-III	07
3.	Unit 3: Information and Communication Technology Skills-III	13
4.	Unit 4: Entrepreneurial Skills-III	10
5.	Unit 5: Green Skills-III	07
	TOTAL DURATION	**50**

NOTE: Detailed Curriculum/ Topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

Part-B – SUBJECT SPECIFIC SKILLS

- ❖ Unit 1 – Introduction to Yoga and Yogic Practices - I
- ❖ Unit 2 – Introduction to Yoga Texts - I
- ❖ Unit 3 – Yoga for Health Promotion – I

Unit 1 – Introduction to Yoga and Yogic Practices - I

- Yoga Etymology, definition, Aim, objective and misconception text
- Yoga origin, history and development
- Rules and regulations to be followed by yoga practitioners
- Introduction to Major schools of Yoga (Janan, Yoga Bhakti, Yoga Karma, Patanjali, Hatha)
- Introduction to yogic practices (Sukshama Vyayama, Surya Namaskar and Asanas)

Unit 2 – Introduction to Yoga Texts - I

- Introduction and study of Patanjali Yoga Sutra including memorization of selected Sutra
- Introduction and study of Bhagavad Gita including memorization of selected Slokas
- Introduction of Hata Pradpika.
- Introduction and study of Gheranda Samhita.

Unit 3 – Yoga for Health Promotion – I

- Brief introduction to human body
- Role of yoga for health promotion
- Yogic attitudes and practices
- Holistic approach of yoga towards the health and diseases
- Introduction to yoga diet and its relevance and importance in yoga Sadhana
- Dincharya and Ritucharya with respect of yogic lifestyle

PRACTICAL GUIDELINES FOR CLASS - XI

Assessment of performance:

The two internal examiners, assigned for the conduct and assessment of Practical Examinations each in **Senior Secondary School Curriculum (Under NSQF).** Question for the viva examinations should be conducted by two internal examiners. Question to be more of General nature, project work or the curriculum. Investigatory Project especially those that show considerable amount of effort and originality, on the part of the student, should get suitable high marks, while project of a routine or stereotyped nature should only receive MEDIOCRE marks.

Procedure for Record of Marks in the Practical answer-books:

The examiner will indicate separately marks of practical examination on the title page of the answer-books under the following heads:

Project -10 marks

Projects for the final practical is given below. Student may be assigned

Viva based on Project -05 marks

The teacher conducting the final practical examination may ask verbal questions related to the project, if any, done by the student. Alternatively, if no project has been assigned to the students, viva may be based on questions of practical nature from the field of subject as per the Curriculum

Practical File -15 Marks

Students to make a power point presentation / assignment / practical file / report. Instructor shall assign them any outlet to study the elements in Yoga.

Suggested list of Practical –

1. Practice of Sukshmavyayama
2. Practice of Surya Namaskar
3. Practice of Asanas

4. Practice of Halasana
5. Practice of Pawanmuktasana
6. Practice of Bhujangasana
7. Practice of Shalabhasana
8. Practice of Gomukhasana
9. Practice of Vakrasana
10. Practice of Ustrasana
11. Practice of Mandukasana
12. Practice of Sasankasana
13. Practice of Janusirasana
14. Practice of Virkshasana
15. Practice of Padhastasana
16. Practice of Nadi Shudhi
17. Practice of Dhyana Mudra
18. Meditation
19. Project on Patanjali Yoga Sutras
20. Yoga effect on Human Body
21. Steps of Sithaili Pranayama
22. Steps of Ujjayai Pranayam
23. Steps of Paschimottansana
24. Conducting Yoga project on common diseases Yoga sessions on suryanamaskar
25. Asanas board
26. Yoga for Weight loss
27. Improved Posture. Let's face it, all of us have slouched at some time or another
28. Increased flexibility of body through Yoga.
29. Practical Asana, Pranayama, Meditation, Mudras and Bandha

Demonstration of skill competency in Lab Activities -20 marks

Guidelines for Project Preparation:

The final project work should encompass chapters on:

a) Introduction,
b) Identification of core and advance issues,
c) Learning and understanding and
d) Observation during the project period.