

SYLLABUS - 2017 - 2018

Class - XI

Sub - English

Prescribed Books :

- 1) Hornbill - Text Book published by NCERT, New Delhi
- 2) Snapshots - Supplementary Reader published by NCERT, New Delhi.
- 3) The Canterville Ghost : By Oscar Wilde (Long Reading Text)

Months	No. of Working Days	Portion
June/ July	10+21 =31 days	<p>Hornbill -</p> <ol style="list-style-type: none"> 1) The Portrait of a Lady 2) A Photograph (Poem) 3) The Voice of the Rain (Poem) <p>Snapshots</p> <ol style="list-style-type: none"> 1) The Summer of the Beautiful White Horse 2) The Address <p>The Canterville Ghost - Ch. 1, 2 & 3</p> <p>Grammar -</p> <ol style="list-style-type: none"> 1) Determiners 2) Modals 3) Tenses <p>Writing</p> <ol style="list-style-type: none"> 1) Notice 2) Poster 3) Letter to Editor 4) Note making

Months	No. of Working Days	Portion
Aug.	22 days	<p>Hornbill -</p> <ol style="list-style-type: none"> 1) We're Not Afraid to Die If we Can All Be Together. 2) Discovering Tut : The Saga Continues 3) The Ailing Planet : The Green Movement's Role <p>Snapshots -</p> <ol style="list-style-type: none"> 1) Ranga's Marriage <p>The Canterville Ghost Chapter. 4</p> <p>Grammar -</p> <ol style="list-style-type: none"> 1) Reordering Sentences <p>Writing -</p> <ol style="list-style-type: none"> 1) Article 2) Job Application <p>ASL - Starts</p>
Sept.	18 days	<p>Revision</p> <p>Half Yearly Examination</p>
Oct.	16 days	<p>Hornbill -</p> <ol style="list-style-type: none"> 1) The Browning Version 2) Childhood (Poem) <p>The Canterville Ghost Chapter - 5</p> <p>Grammar - Voice</p> <p>Writing -</p> <ol style="list-style-type: none"> 1) Advertisement 2) Letter of Complaint 3) Speech

Months	No. of Working Days	Portion
Nov.	22 days	Snapshots - 1) Albert Einstein at School 2) Mother's Day The Canterville Ghost Chapter - 6 Grammar 1) Clauses Writing - Report Writing
Dec.	24 days	Hornbill 1) Father to Son (Poem) Snapshots 1) Birth 2) The Tale of Melon City (Poem) The Canterville Ghost Chapter - 7 Grammar - Integrated Writing - 1) Business Letters - Placing Orders 2) Letter to the School authorities ASL Starts.
Jan. & Feb	16+12 = 28 days	Revision Annual Examination

Subject - Mathematics

Months	No. of Working Days	Unit	Name of Unit	Sub-Unit
June	10	1.	Set Theory	Definition and representation; types of set like empty set, Finite set, Infinite set etc; Equal sets, Subsets, Intervals, powersets Universal set, Venn-diagrams; Algebra of set as union, Intersection, difference, compliments and their properties.
July	21	2.	Relation and Function	Ordered pair; cartesian product; definition of relation and its pictorial diagrams; domain, co-domain and range of a relation Definition of function and its pictorial representation; domain, co-domain and range of a function; types of function like constant, identity, polynomial, rational, modulus, signum, greatest integer and their graphs; sum, differences, product and quotients of functions.
		3.	Trigonometry	Measurement of angles in radians and degrees and their conversion; positive and negative angle; domain and range of trigonometric functions with their graphs Trigonometric Ratio of compound angle, multiple, Sub-multiple Angles with their deductions; general solution of simple trigonometric equations. Proof

Months	No. of Working Days	Unit	Name of Unit	Sub-Unit
				and application of sine and cosine formula.
Aug.	22	4	Calculus	Definition of limit of a function and its geometrical meaning; definition of derivatives, first principle, derivative of sum, difference, product and quotient of function; derivatives of algebraic and trigonometric functions.
		5	Principle of M.I	Process of the proof by induction method and its application at natural nos. specially.
		6	Linear inequalities	Algebraic solutions of Linear inequalities in one variable and their representation on the number line; algebraic and graphical solution of system of linear inequalities in two variables.
		8	Complex nos. & quadratic equations	Need for complex no.; modulus, amplitude, addition, subtraction, multiplication, and quotients of complex nos., Argand plane and polar representation. Solution of quadratic equations of imaginary roots.
Sept.	06	8		Revision for Exam.
Oct.	17	7	Permutation & combination	Fundamental principle of counting; factorial notation, Permutations and combinations; derivation of formulae and their connections; simple applications.

Months	No. of Working Days	Unit	Name of Unit	Sub-Unit
		10	Probability	Random experiments; outcomes, sample spaces; events; occurrence of events, "not", "and", and "or", events, exhaustive events, mutually exclusive events; axiomatic (set theoretic) probability, probability of an event; probability of "not", "and" and "or" events.
		9	Binomial Theorem	Pascal's triangle, statement and proof of the binomial theorem for positive integral index; general and middle term of binomial expansion; simple applications.
Nov.	22	11	Sequence and series	Sequence; series; A.P. general term and sum upto n terms in A.P., A.M., G.P., its General term and sum upto n & infinite terms in G.P; G.M; sum to n terms of special series involving $\sum_{k=1}^n k, \sum_{k=1}^n k^2, \sum_{k=1}^n k^3$
		12	Straight line	Slope of a line and angle between two straight lines; various forms of equations of a line; Parallel to axes, slope-intercept form, point-slope form, two point form, intercept form, normal form. General equation of line; distance of a point from a line.

Months	No. of Working Days	Unit	Name of Unit	Sub-Unit
Dec.	24	13	Conic Sections	Sections of a cone : Circles, Parabola, ellipse, hyperbola, and their standard equations and simple properties.
		14	Three dimensional geometry	Co-ordinate axes and Co-ordinate plane in three dimensions. Co-ordinates of a point; distance between two points and section formulae.
		16	Mathematical Reasoning	Mathematically acceptable statements; connecting words / phrases, if and only if condition, implies, and/or, implied by, there exists and their use through variety of examples related to real life and mathematics. Converse and contrapositive statement. Validity of the statements.
Jan		16	Statistics	Measures of dispersion; mean deviation, variance and standard deviation of ungrouped / grouped data. Analysis of frequency distributions with equal means but different variances. Applications.
Feb.		07		Revision of Exam

Sub - Physics

Months	No. of Working Days	Topics to be Covered
June/ July	16+21	<p><u>Physical World & Measurement :</u> Physics - scope, nature of physical laws : Physics, technology and society. Need for measurement, Units, systems of units, S.I. units, fundamental and derived units, accuracy and precision of measuring instruments ; errors, significant figures. Length, mass and time measurements. Dimensions of physical quantities, dimensional analysis and applications.</p> <p><u>Kinematics</u> Frame of reference, motion in a straight line, position-time graph, speed and velocity, differentiation and integration (concepts). Uniform and non-uniform motion. Average speed /velocity, instantaneous speed / velocity. Uniformly accelerated motion; Relations for uniformly accelerated motion, scalars and vectors, position and displacement vectors, equality of vectors, multiplication of a vector by a real number, addition and subtraction of vectors, Relative velocity, unit vector, Resolution of vectors, Scalar and Vector products; Motion in a plane, Cases of uniform velocity and uniformly accelerated motion; Projectile motion, Uniform circular motion.</p>
Aug.	22	<p><u>Laws of Motion</u> Force, Inertia, Newton's first law of motion, momentum and Newton's second law of motion, Impulse, Newton's 3rd law,</p>

Months	No. of Working Days	Topics to be Covered
		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. Revision & Half Yearly Exam
Sept	15	Half Yearly Exam <u>Work, Energy and Power</u> Work done by a constant force and variable force, kinetic energy, work-energy theorem, Power, 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.
Oct.	17	<u>Motion of a system of particles and rigid body</u> Centre of mass of a two particle system, momentum conservation and motion of Centre of Mass, Centre of mass of a rigid body, centre of mass of a uniform rod; Moment of force or Torque; Angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation, equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, M.I. for simple geometrical objects (no derivation). Statement of Parallel and perpendicular axes theorems, applications.

Months	No. of Working Days	Chapter / Topics
		<u>Gravitation</u> Kepler's law of planetary motion, Universal law of gravitation; Acceleration due to gravity and its variation with altitude and depth.
Nov.	22	Gravitational potential energy. Gravitational potential, Escape velocity, Orbital velocity of a satellite, Geo-stationary satellites. <u>Properties of Bulk Matter</u> Elastic behaviour, stress-strain relationship, Hooke's law, Young's Modulus, Bulk Modulus, Shear Modulus of rigidity, Poisson's Ratio, Elastic Energy, Pressure due to a fluid column, Pascal's law and application (hydraulic lifts and brakes). Viscosity, Stoke's law, Terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its applications.
Dec.	24	Surface energy and surface tension, angle of contact, excess pressure, application to drops; bubbles and capillary rise. Heat, temperature, thermal expansion of solids, liquids and gases. Calorimetry, heat transfer, Thermal conductivity. <u>Thermodynamics.</u> Thermal equilibrium and definition of temperature (Zeroth law), Heat, work, internal energy, 1st law, Isothermal and Adiabatic processes, 2nd law; Reversible and irreversible processes. Heat engine and refrigerator.

Months	No. of Working Days	Chapter / Topics
		<p><u>Behaviour of Perfect Gases and Kinetic Theory of Gases</u></p> <p>Equation of state of a perfect gas, Kinetic theory of gases, assumptions, concept of pressure, Kinetic interpretation of temperature, rms speed, free path.</p>
Jan.	16	<p><u>Oscillations and Waves</u></p> <p>Periodic motion, Time period, frequency, displacement as a function of time, periodic functions, S.H.M., it's equation, phase, Oscillations of a spring, restoring force and force Constant, energy in S.H.M., K.E., P.E., simple pendulum- expression for time period.</p> <p>Free, damped and forced vibrations (qualitative ideas only), resonance.</p> <p>Wave motion - Transverse and longitudinal waves, speed of wave motion, displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, Fundamental mode and harmonics, Beats, Doppler's Effect.</p>
Feb.	22	<p>Revision for Annual Examination</p> <p>Annual Examination</p>

Sub - Physics (Practicals)	
Month	Experiments
June/ Aug	<ol style="list-style-type: none"> To measure the internal diameter and depth of a given breaker / Calorimeter using vernier callipers and hence find it's volume. To measure the diameter of a given wire using a screw gauge. To measure the thickness of a given sheet using a screw gauge. To determine the radius of curvature of a given spherical surface by a spherometer. To determine the mass of two different objects using a beam balance. To find the weight of a given body using parallelogram law of vectors. Using a simple pendulum, plot L-T and L-T² graphs. Hence find the effective length of a second's pendulum using appropriate graph.
Sept. Oct.	<ol style="list-style-type: none"> To study the relationship between force of limiting friction and normal reaction and to find the coefficient of friction between a block and a horizontal surface. To find the force constant of a helical spring by plotting a graph between load and extension. To study the relationship between temperature of a hot body and time by plotting a cooling curve. To determine the surface tension of water by the capillary rise method. To determine the coefficient of viscosity of a given viscous liquid by measuring the terminal velocity of a given spherical body. To study the relation between frequency and length of a given wire under constant tension using sonometer. To study the relation between the length of a given wire and tension for constant frequency using sonometer. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.

Sub - Chemistry

Month	No. of Working Days	Unit	Name of Unit	Sub Unit	Weightage
June	16	I	Some basic concepts of Chemistry	General Introduction : Importance & scope of chemistry. Nature of matter, law of chemical combination, Dalton's atomic theory : concept of elements, atoms & molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical & molecular formula. Chemical reactions, stoichiometry & calculations based on stoichiometry.	15
July	21	II	Structure of Atom	Discovery of Sub- atomic particles isotopes & Isobars, Thomson's model, Rutherford's Model Bohr's model & their limitations, concept of shells dual nature of matter & light, de Broglie's relation, Heisenberg uncertainty principle, concept of orbitals, quantum numbers & shapes of orbital, rules for filling electrons in orbitals-Aufbau Principle,	20

Month	No. of Working Days	Unit	Name of Unit	Sub Unit	Weightage
				Pauli's exclusion principle and Hund's rule Electronic Configuration of atoms.	
		III	Classification of Elements and Periodicity in Properties	Significance of classification, brief history of the development of periodic table, modern periodic law & 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, valency. Nomenclature of elements with atomic number greater than 100.	15
		IV	Chemical Bonding and Molecular Structure	Valence electrons, ionic bond, covalent bond; bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory. (Contd.)	20
Aug.	22	IV		Concept of hybridization, involving	

Month	No. of Working Days	Unit	Name of Unit	Sub Unit	Weightage
			Chemical Bonding and Molecular Structure	s, p and d- orbitals and shape of some simple molecules, molecular orbital theory of homonuclear diatomic molecules hydrogen bond. Half Yearly Exam	
Sept.	18	XII	Organic Chemistry - Some basic Principle and Technique	General introduction, methods of purification, qualitative & quantitative analysis, classification & IUPAC nomenclature of organic compound. Electronic displacement in a covalent bond : Inductive effect, electromeric effect, resonance & hyperconjugation, Homolytic & heterolytic fission of a covalent bond, free radicals, carbocations, carbanions, electrophiles & nucleophiles, types of organic reactions.	06
Oct	17	XIII	Hydrocarbon	Classification of Hydrocarbons Alkanes -Nomenclature & isomerism of alkanes methods of preparation of alkanes, physical and chemical properties of alkanes, uses.	10

Month	No. of Working Days	Unit	Name of Unit	Sub Unit	Weightage
				Alkenes - Isomerism of alkenes, General methods of preparation Physical properties chemical reactions of Alkenes. Alkynes - Structure of alkyne, physical properties and chemical reaction of alkynes. Arenes: Classifications & nomenclature of Arenes. Structure of Benzene, Physical and chemical properties. Mechanism of electrophilic substitution. Directive influence of substituent. Gases and Liquids Types of intermolecular force, three states of matter. Different Gaseous laws, Kinetic theory of Gas. Deviation of gas, Ideal gas & real gas. Compressibility factor. Reasons for deviation, Vander Waal's gas equation, Vander.Waal's unit, Vapour pressure, viscosity and surface tension.	10
Nov	22	VI	Chemical Thermodynamics	Concepts of system & types of system, surroundings, work, heat, energy, extensive and	10

Month	No. of Working Days	Unit	Name of Unit	Sub Unit	Weightage
		VIII	Redox Reaction	<p>intensive properties. State function. Work done</p> <p>First law of thermodynamics-Statements & its Mathematical form internal energy, enthalpy, Different form of enthalpies. Heat capacity & relation between Cp & Cv Hess's law of constant heat of summation, introduction of entropy Gibb's energy change for spontaneous process. Criteria for equilibrium. Concept of oxidation & reduction, redox reactions, oxidation number, balancing of redox reactions (oxidation no. method & Ion electron method)</p> <p>Reactions & Electrode Process : Electrode potential, salt bridge, Galvanic Cell, standard H-Electrode, Electrode, Electro Chemical Series.</p>	
Dec.	24	VII	Equilibrium	Equilibrium in physical & chemical processes. Dynamic nature of equilibrium.factors affecting equilibrium-Le Chatelier's principle, ionic equilibrium of acids &	10

Month	No. of Working Days	Unit	Name of Unit	Sub Unit	Weightage
		IX	Hydrogen	<p>bases, strong & weak electrolytes, Degree of ionization, Hydrolysis of salts, Buffer solution, solubility product.</p> <p>Position of hydrogen in periodic table, preparation & properties of hydrogen hydrides & their types, water (soft & hard water) Removal of hardness, Hydrogen peroxide :- Preparation & properties.</p>	04
Jan	16	X	s-Block elements	<p>Gr. 1 & Gr. 2 Elements</p> <p>General Introduction : Electronic configuration anomalous properties of the first elements diagonal relationship. Trends in Chemical reactivity.</p> <p>Preparation & properties of some important compounds</p> <p>Sodium Carbonate, sodium chloride, sodium hydroxide Biological importance of Na & K. Calcium oxide, calcium carbonate, Plaster of Paris, portland Cement.</p>	04

Month	No. of Working Days	Unit	Name of Unit	Sub Unit	Weightage
		XI	p - Block Elements	Group - 13 Elements : General introduction, electronic configuration, trends in chemical reactivity Boron, Borax, Boric acid, Boron hydride, Aluminium : Reactions with acids and alkalis, uses. Group- 14 Elements : General introduction, electronic configuration, trends in chemical reactivity, anomalous properties of Carbon, Carbon Tetrachloride silicones and silicates, Zeolites.	05
		XIV	Environmental Chemistry	Environment and environmental pollutants, air or atmospheric pollution, some effects of air pollution, soil pollution, strategy for control of environmental pollution	03
Feb	20			Revision Work ANNUAL EXAM	

Sub - Chemistry (Practicals)

1. Volumetric Analysis	-	08
2. Salt Analysis	-	08
3. Content based experiment	-	06
4. Project Work	-	04
5. Class record and Viva	-	04

Subject - Biology

Months	Unit	No. of Working Days	Topics / Chapters
June	I	16	DIVERSITY IN LIVING WORLD Ch. 1. The Living World - What is living ? - Diversity in the living world - Taxonomic Categories - Taxonomical Aids Ch. 2. Biological Classification - Kingdom Monera - Kingdom Protista - Kingdom Fungi - Kingdom Plantae - Kingdom Animalia - Viruses, Viroids and Lichen
July	I/II	21	Ch. 3. Plant Kingdom - Algae - Bryophytes - Pteridophytes - Gymnosperms - Angiosperms - Plant life cycles and Alternation of Generations 4. Animal Kingdom - Basis of Classification - Classification of animals STRUCTURAL ORGANISATION IN PLANTS & ANIMALS

Months	Unit	No. of Working Days	Topics / Chapters
			Ch. 5. Morphology of Flowering Plants - The Root, Stem, Leaf, Inflorescence Flower, Fruit, Seed - Description of a Typical Flowering plant Ch. 6. Anatomy of Flowering Plants - The Tissues - The Tissues System - Anatomy of Dicotyledenous and Monocotyledenous Plants - Secondary Growth 7. Structural Organisation in Animals - Animal Tissues - Organ and Organ System - Cockroach
Aug.	III	22	CELL : STRUCTURE AND FUNCTION Ch. 8. Cell : The Unit of Life - What is a Cell ? - Cell Theory - An Overview of Cell - Prokaryotic Cells - Eukaryotic Cells Ch. 9. Biomolecules - How to Analyse Chemical Composition ? - Primary and Secondary Metabolites - Biomacromolecules - Proteins - Polysaccharides - Nucleic Acids - Structure of Proteins

Months	Unit	No. of Working Days	Topics / Chapters
			- Nature of Bond Linking Monomers in a Polymer - Concept of Metabolism - Metabolic Basis for Living - The Living State - Enzymes
Sept		18	REVISION HALF YEARLY EXAM.
Oct.	IV	17	Ch. 10. Cell Cycle and Cell Division - Cell Cycle - Mitosis - Significance of Mitosis - Meiosis - Significance of Meiosis PLANT PHYSIOLOGY Ch. 11. Transport in Plant - Means of Transport - Plant Water Relations - Long Distance Transport of Water - Transpiration - Uptake and Transport of Mineral Nutrients - Phloem Transport : Flow from source to sink Ch. 12. Mineral Nutrition - Methods to study the mineral requirements of plants - Essential Mineral Elements - Mechanism of Absorption of Elements - Translocation of Solutes - Soil as Reservoir of Essential Elements - Metabolism of Nitrogen.

Months	Unit	No. of Working Days	Topics / Chapters
Nov.		22	<p>Ch. 13. Photosynthesis in Higher Plant</p> <ul style="list-style-type: none"> - Early Experiments - Where does Photosynthesis take place ? - How many Pigments are involved in Photosynthesis ? - What is light Reaction ? - The Electron Transport - Where are the ATP and NADPH used ? - The C₄ Pathway - Photorespiration - Factors affecting Photosynthesis. <p>14. Respiration In Plants</p> <ul style="list-style-type: none"> - Do plants Breathe ? - Glycolysis - Fermentation - Aerobic Respiration - The Respiratory Balance Sheet - Amphibolic Pathway - Respiratory Quotient <p>Ch. 15. Plant Growth & Development</p> <ul style="list-style-type: none"> - Growth - Differentiation, Dedifferentiation and Redifferentiation - Plant Growth regulators - Photoperiodism - Vernalisation <p>HUMAN PHYSIOLOGY</p> <p>Ch. 16. Digestion and Absorption</p> <ul style="list-style-type: none"> - Digestive System

Months	Unit	No. of Working Days	Topics / Chapters
			<ul style="list-style-type: none"> - Digestion of Food - Absorption of Digested Products - Disorders of Digestive System
Dec.		24	<p>Ch. 17. Breathing and Exchange of Gases</p> <ul style="list-style-type: none"> - Respiratory Organs - Mechanism of Breathing - Exchange of Gases - Regulation of Respiration - Disorders of Respiratory System <p>Ch. 18. Body Fluids and Circulation</p> <ul style="list-style-type: none"> - Blood - Lymph (Tissue Fluid) - Circulatory Pathways - Double Circulation - Regulation of Cardiac Activity - Disorders of Circulatory system <p>Ch. 19. Excretory Products & their Elimination</p> <ul style="list-style-type: none"> - Human Excretory System - Urine Formation - Function of the Tubules - Mechanism of Concentration of the Filtrate - Regulation of Kidney Function - Micturition - Role of other Organs in Excretion - Disorders of the Excretory system <p>Ch. 20. Locomotion and Movement</p> <ul style="list-style-type: none"> - Types of Movement

BIOLOGY PRACTICAL SYLLABUS 2017-18
CLASS - XI
TERM - I

1. Study parts of compound microscope.
2. Study of the specimens and identification with reasons
 - Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledenous plant and one dicotyledenous plant and one lichen.
3. Study of specimens and identification with reasons-
 Amoeba, Hydra, Liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
4. Study of tissues and diversity in shapes and sizes of plant and animal cells (e.g. palisade cells, guard cells, parenchyma, collenchyma, sclerenchyma, xylem, phloem, squamous epithelium, muscle fibers and mammalian blood smear) through temporary/permanent slides.
5. Study and describe three locally available common flowering plants from each of the following families (Solanaceae, Fabaceae and Liliaceae) including dissection and display of floral whorls and anther and ovary to show number of chambers. Types of root (Tap and Adventitious); Stem (Herbaceous and woody); Leaf (arrangement, shape, venation, simple and compound).
6. Preparation and study of T.S. of dicot and monocot roots and stems (Primary).
7. Study of different modifications in root, stem and leaves.
8. Study and identification of different types of inflorescence.
9. Study of external morphology of cockroach through models.

Months	Unit	No. of Working Days	Topics / Chapters
			<ul style="list-style-type: none"> - Muscle - Skeletal System : Structure & Function - Joints - Disorders of Muscular and Skeletal System
Jan		16	<p>Ch. 21. Neural Control & Co-ordination</p> <ul style="list-style-type: none"> - Neural System - Human Neural system - Neuron as Structural and Functional Unit of Neural System - Central Neural System - Relflex Action and Reflex Arc. - Sensory Reception and Processing <p>Ch. 22. Chemical Co-ordination and Integration.</p> <ul style="list-style-type: none"> - Endocrine Glands and Hormones - Human Endocrine System - Hormones of Heart, Kidney and Gastrointestinal Tract. - Mechanism of Hormone Action.
Feb.		20	REVISION + FINAL EXAM.

TERM - II

1. Study of osmosis by potato osmometer.
2. Study of plasmolysis in epidermal peels (e.g. Rhoeo leaves)
3. Study of distribution of stomata in the upper and lower surface of leaves.
4. Comparative study of the rates of transpiration in the upper and lower surface of leaves.
5. Separation of plant pigments through paper chromatography.
6. To study the rate of respiration in flower buds/leaf tissue and germinating seeds.
7. To test the presence of urea in urine.
8. To detect the presence of albumin in urine.
9. To detect the presence of sugar in urine/blood sample.
10. To detect the presence of bile salts in urine.
11. Test for the presence of sugar, starch, proteins and fats. To detect them in suitable plant and animal materials.
12. Study of mitosis in onion root tips cells and animals cells (grasshopper) from permanent slides.
13. Study of imbibition in seeds/raisins.
14. Observation and comments on the experimental set up for showing :
 - a) Anaerobic respiration
 - b) Phototropism
 - c) Apical bud removal
 - d) Suction due to transpiration
15. Study of human skeleton and different types of joints.

SUB - ECONOMICS

Months	No. of Working Days	Unit / Topics
June/ July	16+21	<p>PART - A (STATISTICS)</p> <p>Unit -1- Introduction Meaning, scope and importance of Statistics.</p> <p>Unit -2- Collection, Organisation and Presentation of data</p> <p>Collection - Sources of Data, Methods of collecting data, Some important source of secondary data.</p> <p>Organisation of Data : Meaning and Type of variables frequency distribution</p> <p>Presentation of Data :- Tabular and Diagrammatic Presentation Frequency diagrams</p> <p>PART - B (INDIAN ECONOMY)</p> <p>Unit - 4 - Development Experience (1947 - 1990)</p> <p>Ch. 1 - Indian Economy on the eve of Independence, State of Indian Economy, Agriculture, Industry, Trade, Demography, Infrastructure.</p>
Aug	22	<p>PART - B (INDIAN ECONOMY)</p> <p>Development Experience (1947 - 1990) Indian Economy (1950 - 1990) Introduction of economic system, meaning and objective of economic planning Agriculture : Reforms in Agriculture, Green</p>

Months	No. of Working Days	Unit / Topics
		Revolution, Subsidy Benefits & Loss. Industry : Industrial policy Resoulation JPR 1948, 1956 Trade : Import Substitution Occupational Structure Part - A (Statistics) Unit - 3 - Statistical Tools Measures of Central tendency mean, (simple and weighted) Mathematical properties Medain, Mode
Sept / Oct	18+17	Revision for Half Yearly Exam Part - A Statistics Remaining part of measures of Central tendency continued Median and Mode Revision for Half Yearly Exam Topic : Measures of Dispersion Absolute Dispersion and Relative Dispersion - Range, Inter quartle Range, Quartile Deviation, mean deviation, standard deviation, Coefficient of Dispersion, Lorenz Curve Indian Economy Economic Reforms Since - 1991 Need & Main features, Liberalisation, Globlisation, Privatisation, An appraisal of L.P.G. Policies.
Nov	22	Part - A - Statistics Correlations :- Meaning, Scatter diagram, measure of correlation, Karl pearson and spearman's correlation method.

Months	No. of Working Days	Unit / Topics
		Part - B - Indian Economy Poverty : Absolute & Relative poverty, Categories of poverty magnitude & nature of poverty, main programmes for poverty Alleviation. Employment : basic concepts, self employed & Hired workers, distribution of work force, Casualisation and informalisation of workforce. Types of unemployment and measures of solve unemployment problem. Employment generation programme.
Dec	24	Part - A - Statistics Index number :- Weighted and unweighted index number Types of Index number - CPI, WPI, IIP uses & problems of Index number Part - B - Indian Economics Human Capital formation - - Sources of Human Capital formation - Role of Human capital in Economic growth, Educational Achievement in India
Jan	16	Part - B - Indian Economy Topic - Rural Development - Key Issues of Rural Development, Rural credit, Agriculture Marketing, Diversification of Agriculture activities, sustainable organic farming, concept importance & Appraisal Revision for Annual Examination

Sub - Engineering Graphics (Code-046) (Theory)
Marks -70

Months	No. of Working Days	Topics
June	16	1. Plane Geometry : Lines, Angles, Circle, Tangent 2. Projections of Points : Point is above the H.P. and below V.P. (In 1st Qrd. 2nd Qrd. 3rd Qtrd., 4th Qrd.)
July	21	3. Projections of St. Lines : Line is Parallel to both H.P. and V.P., Perpendicular to H.P. and V.P. line is inclined to H.P. and V.P. 4. Projections of Plane : Square Plane, Hexagonal, Pentagonal, Circle, Plane Perpendicular to H.P. and V.P. inclined to H.P. Practicals - Hexagonal Prism
Aug	22	5. Projections of Plane : Plane is perpendicular to V.P., inclined to V.P. (Circle, Triangular, Pentagonal, Hexagonal) 6. Projections of Solids : Pyramid, Prism, Cone, Perpendicular to H.P. Practicals -Pentagonal Pyramid
Sept.	18	6. Projections of Solids : Pentagonal Pyramid, Hexagonal Pyramid, Square Prism, Triangular Prism, Axis Perpendicular to H.P. and V.P. inclined to the H.P. and V.P. Practicals - Development of Prism

Months	No. of Working Days	Topics
Oct	17	6. Projections of Solids : Solids perpendicular to H.P. (Square prism, Pentagonal, Cone) side of Prism and Pyramids parallel to V.P., Perpendicular to V.P. Axis is inclined to H.P. and V.P., double inclinations. 7. Sections of Solids : Section of prism (Triangular, Square, Pentagonal)
Nov.	22	8. Sections of Solids : Sections of Pyramid (Triangular, Square, Hexagonal, Pentagonal), Section of Cone, Section of Cylinder, Section Plane - Perpendicular to V.P. and H.P., inclined to H.P. and V.P. Practicals - Development of surface of solids.
Dec	24	9. Isometric Projections of Plane Construct an Isometric, Scale, Isometric Projections of Circle, Pentagonal Plane, Hexagonal, Triangular, Invertical Position, In Horizontal position.
Jan	16	10. Orthographic Projections of Solids Simple machine blocks, Front view, Top view and side views.
Feb.	10	11. Development of Surface : Prism, Pyramids, Cube

Practicals - One Paper (Marks - 30)

1. Developing - Prism, Pyramid , cube by soap.
2. Draw Section of Prism and Pyramid by thick paper.
3. Pyramid and prism by "CAD"

SUB - PHYSICAL EDUCATION (048)

Months	Topics / Sub Topics	No. of Theory Period	No. of Practical Period	Total
June	Changing trends and career in physical education 1) Aim and objective of Physical Education 2) Development of physical education 3) Concept and principles of integrated physical education. 4) Concept and Principles of adaptive physical education 5) Special Olympic Bharat 6) Career options in Physical Education	09	02	11
July	Physical fitness, wellness and lifestyle 1) Meaning of Physical Fitness 2) Meaning of wellness 3) Importance of physical fitness and wellness 4) Meaning of lifestyle 5) Importance of lifestyle 6) Components of Physical fitness 7) Components of wellness 8) Preventing health threats through lifestyle changes. 9) Components of positive lifestyle Olympic Movement 1) Introduction 2) Ancient Olympics 3) Modern Olympics	12	03	21
		06		

Months	Topics / Sub Topics	No. of Theory Period	No. of Practical Period	Total
	4) Olympic Symbol, Ideals, Objectives and Values 5) International Olympic Committee 6) Indian Olympic Committee 7) Dronacharya Award, Arjuna Award and Rajiv Gandhi Khel Ratna Award 8) CBSE Sports 9) Chacha Nehru Sports Award 10) Paralympics Movement			
Aug	Physical activity environment 1) Introduction to physical activity 2) Concept and need of sports environment 3) Essential elements of positive sports environment 4) Principles of physical activity environment 5) Components of health related fitness 6) Behaviour change technique for physical activity 7) Exercise guidelines at different stages of growth Training in sports 1) Introduction 2) Meaning and concept of sports training 3) Principles of sports training 4) Warming up and limbering down	10	03	22
		09		

Months	Topics / Sub Topics	No. of Theory Period	No. of Practical Period	Total
	5) Limbering Down 6) Load Adoption and Recovery 7) Skill, Technique and style 8) Symptoms of overload and how to overcome it			
Sept	Revision of First Semester Examination Portion	06	00	06
Oct	Fundamentals of anatomy and physiology : 1) Define Anatomy, Physiology and its importance 2) Structure of our body 3) Functions of skeletal system, Classification of bone and types of joints 4) Properties of Muscles 5) Function and structure of muscles 6) Function and structure of Respiratory system, Mechanism of respiration 7) Structure of Heart and Introduction to circulatory system 8) Oxygen Debt and Second wind Yoga 1) History of Yoga 2) Meaning of Yoga 3) Importance of Yoga	07	02	17
		05		

Months	Topics / Sub Topics	No. of Theory Period	No. of Practical Period	Total
	4) Asanas 5) Pranayama 6) Meditation 7) Yogic Kriyas 8) Physiological Benefits of Asanas and pranayama 9) Prevention and management of common lifestyle diseases Doping 1) Concept of Doping 2) Classification of Doping 3) Prohibited substances and methods 4) Side effects of prohibited substance 5) Athletes Responsibilities 6) Ergogenic acid and doping in sports 7) Doping control procedure	05		
Nov	Psychology and Sports 1) Definition and Importance of psychology in physical education and sports 2) Define and Differentiate between growth and development 3) Developmental characteristics at different stage of development 4) Adolescent problem and their management 5) Define learning, laws of learning and transfer of learning	11	01	12

Months	Topics / Sub Topics	No. of Theory Period	No. of Practical Period	Total
	6) Plateau and causes of plateau 7) Emotion : Concept and Controlling of emotions			
Dec	Biomechanics and Sports 1) Meaning of Biomechanics 2) Importance of Biomechanics in Physical Education and Sports 3) Newton's law of motion and its Application in sports 4) Lever 5) Equilibrium 6) Center of Gravity and its Application in Sports 7) Force	21	03	24
Jan	Test and Measurement in sports 1) Test 2) Measurement 3) Test and measurement in sports 4) Importance of Test and Measurement in Sports 5) Calculation of BMI 6) Calculation of Waist Hip Ratio 7) Somato types of Body types 8) Anthropometric Measurement	14	02	16
Feb	Revision for Board Exam			

SUB - COMPUTER SCIENCE

Months	No. of Working Days	Unit / Topics
June	16	<ul style="list-style-type: none"> • Computer Overview - Evolution, Functional Components and their Inter-connections.
July	21	<ul style="list-style-type: none"> • Software Concepts - Types & Application of Softwares as a tool, Introduction of Operating System, Manages and Services offered by OS, Processor Management and Job Scheduling Techniques. • Programming Methodology - Modular Programming Approach, Types of error occurred in the program, Problem Solving methodologies. • Working with Operating System - Functions and Services of Operating System, Graphical User Interface based OS, Time sharing and Distributed types OS, Versions of OS.
Aug.	22	<ul style="list-style-type: none"> • Object Oriented Programming Approach - Classes and Objects, Polymorphism, Data Abstraction, Inheritance, Modularity, Advantages and Disadvantages of OOP approach. • Introduction to C++ - Tokens, Pre-processor directives, Header files, Cascading of I/O operators, Use and basic command editors, compilation, linking and execution of programs. • Data Representation - Number System, and its significance, Binary Number System, Decimal Number System, Octal Number System, Hexadecimal Number

Months	No. of Working Days	Unit / Topics
		System, Number conversions from different bases, Binary representation of Integers and real numbers, 1's and 2's complement, ASCII and ISCII codes, Decoding. Revision for Half yearly exam
Sep	18	Half yearly exam <ul style="list-style-type: none"> • Operators and Expressions - Arithmetic, unary, relational, logical and conditional operators, Precedence of operators, Automatic Type Conversion and Explicit Type Conversion (Typecasting) • Data Types in C++ - Variables & Constants, Built in Data Types, Integer constants, Character constants, String Constants, Declaration of variables, Signed and Unsigned data modification. • Branching in C++ - Conditional statements - (if, if.. else, if ... else if, nested if, switch case statements), break, continue, exit etc.
Oct	17	<ul style="list-style-type: none"> • Loops in C++ - Introduction to loops, for loop statement, while loop statement, do...while loop statement, Program of patterns, logic development and implementation with nested loops.
Nov	22	<ul style="list-style-type: none"> • Arrays in C++ - Introduction to structured data type, Declaration and Initialization of One dimensional Array, Input and Accessing of Array elements, String manipulations, Introduction and Initialization of Two - Dimensional Array.

Months	No. of Working Days	Unit / Topics
Dec	24	<ul style="list-style-type: none"> • Functions - Types of Functions, Library functions - character functions, string functions, mathematical functions, Random functions. • User Defined Functions - Function definition, Function Prototypes, Invoking function, passing arguments to function, default argument, Actual and Formal Parameters, Call by Value and Call by reference method, Returning values, calling function with arrays, Local and Global variables.
Jan	16	<ul style="list-style-type: none"> • Structure - Defining a structure, Declaring structure variables, Accessing structure elements, Passing structure of functions as value and reference arguments, Function returning structure, Array of structures, passing an array of structure as an argument to a function.
Feb	20	Revision and Annual Examination

SUB - INFORMATION PRACTICES

Months	No. of Working Days	Unit / Topics
June	13	<p>Unit - 1 : Hardware Concepts: Computer organization (basic concepts): CPU, Memory (RAM and ROM), I/O devices, communication bus, ports (serial, parallel), device specific ports;</p> <p>Input devices: Keyboard, Mouse, Light pen, Touch Screen, Graphics Tablet, Joystick, Microphone, OCR, Scanner, Smart Card reader, Barcode reader, Biometric sensor, web camera;</p> <p>Output Devices: Monitor/Visual Display Unit (VDU), LCD screen, Television, Printer (Dot Matrix printer, DeskJet/ InkJet/ Bubble jet printer, Laser printer), Plotter, Speaker;</p> <p>Secondary Storage Devices: Floppy Disk, Hard Disk, Compact Disk, Magnetic Tape, Digital Versatile Disk (DVD), Flash Drive, Memory cards. Comparative properties of storage media;</p> <p>Memory Units: bit, Byte (Kilobyte, Megabyte, Gigabyte, Terabyte, Petabyte)</p> <p>Encoding scheme: ASCILISCII & UNICODE λ, E-waste disposal.</p> <p>Security of computer system: Sources of attack and possible damages, malware - virus, worms, spyware and cookies as security threat, malware detection using a tool. Computer security, digital certificate, digital signature, firewall, password, file access permissions.</p>

Months	No. of Working Days	Unit / Topics
July	21	<p>Types of Software:</p> <p>(a) System Software: (i) Operating systems: Need for operating system, major functions of Operating System; Examples of OS for mainframe, PC/Server, and mobile devices.</p> <p>(ii) Language Processors: Assembler, Interpreter, and Compiler</p> <p>(b) Utility Software: Compression tools, disk defragmenter, anti-virus (c) Application</p> <p>Software:</p> <p>(i) General Purpose Application Software: Word Processor, Presentation Tool, Spreadsheet Package, Database Management System, Integrated Development Environment (IDE)</p> <p>(ii) Specific Purpose Application Software: Inventory Management System, Purchasing System, Human Resource Management System, Payroll System, Financial Accounting, Hotel Management and Reservation System etc.</p> <p>Unit 2: Introduction To Programming: Getting started with Programming using IDE:</p> <p>Introduction, Rapid Application Development using IDE (Integrated Development Environment) such as Netbeans; Familiarization of IDE using basic Interface components-Label, Text Field, Text Area, Button, Checkbox, Radio Button. Developing General Application, Getting Familiar with Java Swing User Interface components-</p>

Months	No. of Working Days	Unit / Topics
		Frame, Dialog, JoptionPane, Panel, ScrollPane, Label, TextField, PasswordField, TextArea, Button, CheckBox, RadioButton, ComboBox, ListBox.
Aug	22	<p>Basic component handling methods and properties: setText(), getText(), isSelected(), setSelected()</p> <p>Programming Fundamentals:</p> <p>Data Types: Concept of data types; Built-in data types - byte, short, int, long, float, double, char, string, Boolean</p> <p>Variables: Need to use variable, declaring variables, variable naming convention, assigning value to variables;</p> <p>Integer object method: parseInt</p> <p>Double object method: parseDouble, parseFloat</p> <p>Control Structures: Decision Structure - if, if- else, switch; Looping Structure- while(), do .. while(), for();</p>
Sept	18	<p>Programming Guidelines: General Concepts; Modular approach;</p> <p>Stylistic Guidelines: Clarity and simplicity of expressions and names; Comments, Indentation; Running and debugging programs, Syntax Errors, Run-Time Errors, Logical Errors; Problem Solving Methodology: Understanding of the problem, Identifying minimum number of inputs required for output, breaking down problem into simple logical steps.</p>

Months	No. of Working Days	Unit / Topics
		<p>Unit 3 : Relational Database Management System:</p> <p>Database Management System</p> <p>Introduction to database concepts: Database, Relational database, Relation/ Table, Attribute/Field, Tuple / Row;</p> <p>Data Types: Text (CHAR, VARCHAR), Number (DECIMAL, INT/INTEGER), Date and Time</p> <p>Keys: Candidate key, Primary key, Alternate key, Foreign key;</p> <p>Examples of common Database Management System: MySQL, Ingres, Postgres, Oracle, DB2, MS SQL, Sybase etc.; Common Database management tools for mobile devices.</p>
Oct	17	<p>Introduction to MySQL :</p> <p>Classification of SQL Commands:</p> <p>DML - SELECT, INSERT, UPDATE, DELETE</p> <p>DDL - CREATE, DROP, ALTER</p> <p>Creating and using a database: SQL CREATE command to create a database, USE command to select a database.</p> <p>Creating a table: CREATE command to create a table, DESC command to display a table structure, INSERT command for inserting new rows, inserting new rows with null values and values of all the studied data types.</p>

Months	No. of Working Days	Unit / Topics
		<p>Displaying table data: SELECT command for selecting all the columns, selecting specific column(s) using arithmetic operators, operator precedence</p> <p>Defining and using column alias</p> <p>Eliminating duplicate values from display using DISTINCT keyword</p> <p>Limiting rows during selection (using WHERE clause)</p> <p>Using Comparison operators: =, <=, >=, <>, BETWEEN, IN, LIKE(%,_); Logical Operators: AND, OR, NOT and corresponding operator precedence; Working with NULL values.</p> <p>ORDER BY clause: Sorting in Ascending/ Descending order, sorting by column alias name, sorting on multiple columns;</p> <p>Manipulating Data of a Table/Relation : Update command to change existing data of a table, Delete command for removing row(s) from a table.</p> <p>Restructuring a table: ALTER TABLE for adding new column(s) and deleting column (s); Functions in MySQL:</p> <p>String Functions: ASCII(), CHAR(), CONCATQ, INSTR(), LCASEQ, UCASEQ, LEFT(), LOWER(), LENGTH(), LTRIM(), MID(), RIGHT(), RTRIMQ, SUBSTRQ, TRIM(), UPPER(), ASCII()</p> <p>Mathematical Functions: POWERQ, ROUND)), TRUNCATE().</p> <p>Date and Time Functions: CURDATE(), DATE(), MONTH(), YEAR(),</p>

Months	No. of Working Days	Unit / Topics
		DAYNAME(), DAYOFMONTH(), DAYOFWEEK(), DAYOFYEAR(), NOW(), SYSDATE().
Nov.	22	<p>Unit 4 : IT Applications:</p> <p>e-Governance: Definition, benefits to citizens, e-Governance websites and their salient features and societal impacts; e-Governance challenges.</p> <p>e-Business: Definition, benefits to customers and business, e-Business websites and their salient features and societal impacts; netbanking, mobile banking e-Business challenges.</p> <p>e-Learning: Definition, benefits to students (learners), teachers (trainers) and school (Institution) management; MooCs (Massive Open Online Courses); e-Learning websites and their salient features and societal impacts; e-Learning Challenges.</p>
Dec	24	Revision
Jan	16	Revision & Project Work
Feb	20	Revision & Project Work

विषय - हिन्दी

निर्धारित पाठ्य पुस्तकें :-

आरोह (भाग - 1) एन.सी.इ.आर.टी.

वितान (भाग - 1) एन.सी.इ.आर.टी.

माह	कार्य दिवस	विषय वस्तु
जुन/ जुलाई	16+21	आरोह (गद्य) - नमक का दारोगा, मियाँ नसीरुद्दीन, अप्पू के साथ ढाई साल पद्य - कबीरदास, मीराबाई, पथिक- रामनरेश त्रिपाठी वितान- लता मंगेशकर निबंध - सूचनाक्रांति, भारतीय नारी- कल, आज और कल-फीचर पत्र - स्ववृत्त के साथ अध्यापक पद पर आवेदन हेतु अभिव्यक्ति और माध्यम - संचार- माध्यम
अगस्त	22	आरोह (गद्य) - विदाई संभाषण पद्य - वे आँखें, घर की याद वितान- राजस्थान की रजत बूँदें निबंध - ओलंपिक खेलों में भारत का प्रदर्शन पत्र- नगर निगम अध्यक्ष को सफाई की अव्यवस्था की शिकायत करते हुए पत्र लिखें। अभिव्यक्ति और माध्यम। श्रवण एवं वाचन कौशल अभ्यास
सितम्बर/	18	आवधिक परीक्षा

माह	कार्य दिवस	विषय वस्तु
अक्टूबर	17	आरोह (पद्य) - चंपा काले अक्षर नहीं चीन्हती गद्य- स्पीति में बारिश, गलता लोहा व्याकरण - अभिव्यक्ति और माध्यम, निबंध - बालमजदूरी, बेरोजगारी फीचर - वर्तमान शिक्षा नीति पत्र - दूरदर्शन कार्यक्रमों में बढ़ती अश्लीलता पर चिंता प्रकट करते हुए दूरदर्शन निदेशक को पत्र लिखें।
नवंबर/ दिसम्बर	22+ 24	आरोह (गद्य) - रजनी, जामुन का पेड़ पद्य- गजल वितान - आलो आंधारि संचार माध्यम, श्रवण-वाचन कौशल जाँच, रिपोर्ट लेखन पत्र - शहर में बढ़ते अपराधों के लिए चिंता व्यक्त करते हुए पुलिस अध्यक्ष को पत्र लिखें।
जनवरी	16	आरोह (गद्य) - भारतमाता, आत्मा का ताप वितान - आलो आंधारि आरोह (पद्य) - हे भूख मत मचल, सबसे खतरनाक
फरवरी	20	आरोह - आओ मिलकर बचाएँ फीचर - इंटरनेट का चमत्कार आलेख - घोटालों की राजनीति, श्रवण कौशल, अपठित काव्यांश, अपठित गद्यांश
मार्च	24	वार्षिक परीक्षा

अंक योजना :

अंक विभाजन

खण्ड 'क' - अपठित अवबोध

काव्यांश- 5 + गद्यांश -10 = 15

खण्ड 'ख' - रचना

निबंध - 5 + संचार(अभिव्यक्ति) - 5+ पत्र - 5 +

फीचर - 5 + आलेख - 5 = 25

खण्ड 'ग'

गद्य- 20 + पद्य- 15 = 35

वितान- 15 = 15

खण्ड 'घ'

मौखिक अभिव्यक्ति श्रवण - 5 + वाचन - 5 = 10

Subject - Business Studies

Months	No. of Working Days	Unit	Topic
June	13	1.	<u>Nature & Purpose of Business</u> <ul style="list-style-type: none"> • Concept & Characteristics of business • Business, Profession & Employment • Objectives of business - Multiple Objectives • Business Risk - Meaning, Nature, Causes • Factors to be considered for starting a Business.
July	21	2.	<u>Forms of Business Organisations</u> <ul style="list-style-type: none"> • Sole Proprietorship - Meaning, Features, Merits & Demerits

Months	No. of Working Days	Unit	Topic
			<ul style="list-style-type: none"> • Joint Hindu Undivided Family Business : Meaning, Features, Merits & Demerits. • Partnership - Meaning, Features, Merits & Demerits • Types of partners, Partnerships. • Partnership Deed & Registration • Cooperative Society - Meaning, Features, Merits, Demerits, Types • Joint stock Company - Meaning, Features, Merits, Demerits, types. • Choice of form of Business Organisation. • Company, Promotion • Documents required, Incorporation
Aug.	23	3	<u>Public, Private and Global Enterprises</u> <ul style="list-style-type: none"> • Meaning • Forms of Organising PSE • Forms - Features, Merits, Limitations • Changing role of Public Sector • Global Enterprises - Meaning & Features • Joint Ventures - Meaning, Benefits.
		4	<u>Business Services</u> <ul style="list-style-type: none"> • Meaning, Nature of Services • Differences between Services & Goods • Types of Services • Banking, Type of Banks • Functions of Commercial Banks • e-Banking, Benefits • Insurance - Meaning, Functions, Principles

Months	No. of Working Days	Unit	Topic
			<ul style="list-style-type: none"> Types of Insurance - Life Insurance Fire Insurance & Marine Insurance - Meaning Communication Services.
Sept.			Revision & I Semester/Half Yearly Exam
Oct.	17	5	<u>Emerging Modes of Business</u> <ul style="list-style-type: none"> Meaning, Scope e-business versus traditional business Benefits of e-business Limitation of e-business On-line transaction Security and Safety of e-transaction Outsourcing - Concept, Scope, Need, concerns
		6	<u>Social Responsibility & Business Ethics</u> <ul style="list-style-type: none"> Concept, Need Arguments for & against Social Responsibility Reality, Kinds of Social Responsibility S.R. towards different interest groups Causes of pollution control Need for pollution control Business Ethics, Concept, Elements
Nov.	22	7	<u>Sources of Business Finance</u> <ul style="list-style-type: none"> Concept, meaning, Nature Classifications Chart Sources of Business Finance Retained Earnings - Merits / Limitation Trade Credit - Merits / Limitation

Months	No. of Working Days	Unit	Topic
			<ul style="list-style-type: none"> Factoring - Merits / Limitation Lease Financing - Merits / Limitation Public Deposits - Merits / Limitation Commercial Paper - Merits / Limitation Issue of Shares - Merits / Limitation Debentures - Merits / Limitation Commercial Banks - Merits / Limitation Financial Institution - Merits / Limitation International Financing - GDR/ADR, FCCB
		8	<u>Small Business</u> <ul style="list-style-type: none"> Factors affecting the choice of source of funds Meaning & Nature Role of Small Business in India
Dec	24	8	<u>(Small Business Continues)</u> <ul style="list-style-type: none"> Problems of Small Business. Government Assistance (a) Institutional Support (b) Incentives
		9	<u>Internal Trade</u> <ul style="list-style-type: none"> Meaning, Wholesale Trade, Retail Trade Services of Wholesalers to manufactures, retailers. Services of Retailers to manufacturers, Wholesalers, Consumers Types of Retail Trade - Features, Advantages & Limitations Differences between Departmental Stores & Multiple Shops Super Markets Vending Machines Role of Commerce & Industry, Associations in Promotion of Internal Trade.

Months	No. of Working Days	Unit	Topics
Jan.	14	10	<u>International Business I & II</u> <ul style="list-style-type: none"> ● Meaning, Reason ● International Business Vs Domestic Business ● Benefits of International Business ● Modes of Entry into International business ● Exporting / Importing ● Licensing / Franchising ● Joint Ventures ● Import / Export Procedures ● World Bank - functions, meaning ● IMF - Meaning & Objectives, Functions ● WTO - Objectives, Functions & Benefits

Sub - Accountancy

Months	No. of Days	Topics
June	05	PART- A - FINANCIAL ACCOUNTING - 1 Unit - 1 - Theoretical Frame Work Introduction to Accounting (15 Marks) <ul style="list-style-type: none"> ● Accounting - Objectives, advantages and limitations, types of accounting information, users of accounting information and their needs. ● Basic accounting terms : Business transaction, account, capital, drawings, liability (Non current and current); assets (Non-Current and Current), Receipts (Capital and Revenue), expenditure

Months	No. of Days	Topics
June	05	(Capital, Revenue and Deferred), Expenses, income, profits, gains and losses, Purchases, Purchase returns, sales, sales returns, stock, trade Receivables (debtors and bills receivable), trade Payables (creditors and bills payable) goods, cost, vouchers, discount (trade and cash). Unit - 2 -Theory Base of Accounting : <ul style="list-style-type: none"> ● Fundamental Accounting assumptions : Going concern, consistency and accrual. ● Accounting Principles - Accounting entity, money measurement, accounting period Full disclosure, materiality, prudence, cost concept, matching concept and dual aspect concept. ● Basis of Accounting - Cash basis and accrual basis. ● Accounting standards IFRS, concept and objectives.
July	21	Unit - 3 - Accounting Process and Special Accounting Treatment Recording of Transactions : (35 Marks) <ul style="list-style-type: none"> ● Accounting Equation : Analysis of Transactions using accounting equation. ● Rules of debit and credit : For assets, liabilities, capital, Revenue and Expenses ● Origin of transactions - Source documents (Invoice, Cash Memo, Pay-in-Slip, Cheque), preparation of vouchers - Cash (debit & credit) and non cash (transfer) ● Books of original entry : Format and recording journal.

Months	No. of Days	Topics
		<ul style="list-style-type: none"> ● Cash Book : Simple cash Book, Cash Book with Discount column and cash Book with Bank and discount columns, petty cash book. ● Other Books : Purchases Book, - Sales Book, Purchase Returns book, Sales Returns Book and Journal Proper.
Aug.	10	Unit - 4 - Preparation of Bank Reconciliation Statement - Calculating bank balance at an accounting date, need and preparation corrected cash book balance. Ledger-Format, Posting from Journal, Cash Book and Special purpose Books, balancing of accounts. Trial Balance : Objectives and Preparation (Scope T.B. with balance method only)
Aug.	12	Unit - 5- Accounting for Bills of Exchange : <ul style="list-style-type: none"> ● Bills of exchange and promissory note, definition, features parties, specimen and distinction. ● Important terms : Term of bill, due date, days of grace, date of maturity, discounting of bill, endorsement of bill, bill sent for collection, dishonour of bill, noting of bill, retirement and renewal of a bill. ● Accounting treatment of bill transactions - Conditions of the bill - Journal entries for Honouring the bill and Dishouring the bill in the books of both the parties (Drawer & Drawee).

Months	No. of Days	Topics
Aug/ Sept.		Assignment - 1 Revision & Half Yearly Examination
Oct.	10	Unit - 6 - Depreciation, Provisions and Reserves : <ul style="list-style-type: none"> ● Depreciation : Concept, need and factors affecting depreciation, methods of computation of depreciation : Straight line and written down value method. ● Accounting treatment of depreciation : by charging to asset account, by creating provision for depreciation/accumulated depreciation account, treatment of disposal of asset. ● Provisions and Reserves : Concept, objectives and difference between provision and reserves, types of reserves - revenue reserve Capital reserve, general Reserve and specific reserve.
Oct. / Nov.	07 07	Assignment - 2 Unit - 7 - Rectification of Errors : <ul style="list-style-type: none"> ● Errors : Types - errors of omission, commission, principles and compensating and their effect on trial balance. ● Detection and verification of errors : Preparation of suspense account.
Nov Dec	15 05	PART- B - FINANCIAL ACCOUNTING - II Unit - 8 - Financial Statements of Sole Proprietorship : From complete and Incomplete Records (15 Marks) <ul style="list-style-type: none"> ● Financial Statements : Objectives and importance.

Months	No. of Days	Topics
		<ul style="list-style-type: none"> ● Trading Account - Profit and Loss account, gross profit, operating profit and net profit. ● Balance Sheet : Need, grouping, marshalling of assets and liabilities. ● Adjustments in preparation of Financial statements : with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, Income received in advance, depreciation, bad debts, provision for doubtful debts, provision for discount on debtors, Manager's commission, abnormal loss, goods taken for personal use and goods distributed as free samples. ● Preparation of trading and profit and loss account and balance sheet of sole proprietorship.
Dec	14	<ul style="list-style-type: none"> ● Incomplete records : Meaning, Use, limitations Ascertainment of profit / loss by statement of affairs method. Preparation of Op. St. of Affairs, Closing statement of affairs, with adjustments. Preparation of Debtors account and creditors account to find out the missing information like credit sales, credit purchases etc. <p>Winter Break Assignment and Project Work</p>
Dec,17	05	Unit - 9 - Financial Statements of Not for Profit Organisation : (15 Marks)
Jan, 2018	10	<ul style="list-style-type: none"> ● N.P.O : Concept, Terms - Subscription, Legacy, Donation etc.

Months	No. of Days	Topics
		<ul style="list-style-type: none"> ● Receipts and Payments account : Features. ● Income and Expenditure a/c : Features preparation of Income and expenditure a/c and Balance Sheet from the given receipts and payments a/c with the given additional information.
Jan	06	<p>Unit - 10 - Computers in Accounting (10 Marks)</p> <ul style="list-style-type: none"> ● Introduction to Computers in Accounting- Elements, Capabilities, Limitations. ● Introduction to operating software, utility software and applications software, Introduction to AIS as a part of MIS ● Automation of Accounting process-meaning. ● Stages in automation (a) Acc. process in a computerised environment (Comparison between manual and computerised accounting process) (b) Sourcing of accounting software (kinds: ready to use, customised, and tailor made) generic considerations before sourcing accounting software .
Feb.		<p>Assignment - 4 Project Work (10 Marks) Revision - Practical, Annual Examination</p>

Sub - Fine Art (Painting) Code No. 049

Months	Theory/ Practical	Topics
June	Theory	Introduction of Fine Arts. Its different branches, medium and scope. Principles of Composition, Method and Materials. What is painting ? Element of composition, point, line, form, colour, tone, texture and space, Principal of composition, Unity, Harmony, Balance, Rhythm, Proportion.
	Practical	Introduction of Method and material, Still life study, Fixed point view, Drawing, Sketching & Colouring, Vegetable, Foliage, and daily used object.
July	Practical	Difference between Painting, Graphics, Sculpture, Design and its different types. Theory of different kind of art form and differences. Pre-Historic Rock-Paintings and study of different Pre-historic Paintings. Bhimbetka rock shelters.
	Theory	Nature and object study, Geometrical form objects, natural form life plants and flower, Pen & ink and water colour. What is design ? 3D design and abstract design.
Aug.	Theory	Art of Indus Valley Civilization. Study of different Sculptures and Terracottas of Indus Valley Civilization.
	Practical	What is composition, black and white composition and colour composition, Human figure study with colour composition, Portrait study with drawing, sketching, shading, pastel colour and water colour.

Months	Theory/ Practical	Topics
Sept.	Theory	Study of different Seal and decorative earthen wares of Indus Valley Civilization.
	Practical	Concept of perspective, colour perspective, perspective with composition, What is landscape ? Landscape with colour, use aerial perspective. HALF YEARLY EXAM
Oct	Theory	Buddhist, Jain and Hindu Art. General Introduction to Art and Sculptures of Mauryan, Shunga, Kushana, Gandhara and Mathura style and Gupta period.
	Practical	Animal and bird composition, any imaginative composition with human figure using different textures.
Nov.	Theory	Introduction to Ajanta. Study of different Painting and Sculptures of Ajanta. Artistic aspects of Indian Temple sculpture and study of different Temple-Sculptures.
	Practical	Flower study with white and white flower, landscape painting with mixed medium technique, water resistance technique with landscape painting, landscape in pastel colour, monochrome painting with landscape.
Dec.	Theory	Introduction to Indian Bronzes and study of different South Indian Bonzes.
	Practical	Method material and technique of water colour and acrylic colour and oil colour. Transparent water colour, opaque water colour and tempera water colour, Illusionistic painting, optical illusionistic painting, 3D painting, block painting, block design and outdoor study.

Sub - Fine Art (Graphics) Code No. 050

Months	Theory/ Practical	Topics
Jan.	Theory	Artistic aspects of the Indo-Islamic architecture & study of different Mughal architectures.
	Practical	Human figure with composition, rainy day, festival, market, city life, village life, study room. Practical Exam.
Feb.	Theory	Revision for Final Examination.
	Practical	Practical Exam :- Portfolio presentation with 20 best work. Pencil and pen ink two painting, 4 landscape painting, 4 human figure composition, 2 still life painting, 2 imaginative work 2 painting, black and white design, opaque, 2 illusion stick painting, 2 portrait study, project elements of art and perspective.
Materials Required for Practical		Artist water colour, pen, pencil eraser, brushes, big bowl, big colour palate, rough cloth, A/3 size drawing copy, A/3 size chart papers (unrolled), file board, shading pencil, oil pastel, marker, paint brush pen, Acrylic colours. Portfolio of your art works.
Main Subjects		Drawing and shading, colour compositions on human figure, still life, foliage, landscape etc. as per syllabus

Months	Theory/ Practical	Topics
June	Theory	Introduction of Fine Arts. Its different branches, medium and scope. Principles of Composition, Method and Materials.
	Practical	Sketching, Shading, Textures Colouring with Oil Pastel and Poster Colour, Composition, Still life, 3D object making.
July	Theory	Difference between Painting, Graphics, Sculpture, Design and its different types. Pre-Historic Rock-Paintings and study of different Pre-historic Paintings. Bhimbetka rock shelters.
	Practical	Human figure Drawing, Proportion, Object drawing, Perspective, Craft making. Black and white compositions.
Aug.	Theory	Art of Indus Valley Civilization. Study of different Sculptures and Terracottas of Indus Valley Civilization.
	Practical	Colour and Colour Composition, Black and White Composition, Potato Print, Craft making, Stencil, Colour and Mono colour / Black & White Layouts.
Sept.	Theory	Study of different Seal and decorative earthen wares of Indus Valley Civilization.
	Practical	Linocut, Woodcut, Black and White compositions, Writing Artists Proof and signature in prints.

Months	Theory/ Practical	Topics
Oct	Theory	Buddhist, Jain and Hindu Art. General Introduction to Art and Sculptures of Mauryan, Shunga, Kushana, Gandhara and Mathura style and Gupta period.
	Practical	Woodcut Printing in black and white, using different textures.
Nov.	Theory	Introduction to Ajanta. Study of different Painting and Sculptures of Ajanta. Artistic aspects of Indian Temple sculpture and study of different Temple-Sculptures.
	Practical	Coloured printing in Woodcut using Registration methods.
Dec.	Theory	Introduction to Indian Bronzes and study of different South Indian Bonzes.
	Practical	Colography, Silk screen printing introduction - Method Material and technique, Monochrome compositions for Silkscreen.
Jan	Theory	Artistic aspects of the Indo-Islamic architecture & study of different Mughal architectures.
	Practical	Portfolio making - Finishing, mounting and file preparation, with record of the entire year's performance from sketch to finished Art work. The selected prints (from Linocuts/Woodcuts/Paper-cardboard/Colography Prints) prepared. Practical Exam.

Months	Theory/ Practical	Topics
Feb.	Theory	Revision for Final Examination.
	Practical	Practical Exam : - Portfolio presentation with 10 best Graphics work. Black and white layout, tracing on MDF, cutting & creating different textures, printing, writing Artist's Proof & signature in prints. Submit two identical prints along with layout as your final exam.
Materials Required		<p>March to August : Small poster colour set, Artists water colour box (Camel), for Good synthetic Brushes, Bowl, Palette, Drawing copy A/3 size on 1/4th chart paper, A/3 size plastic leaf file, Shading Pencil set, Rough Cloths, in a carry bag. Write your names in all.</p> <p>September to February : Poster colour set of 6 colours, 5 MDF Board, 1 Linocut, Linocut Tools, Carbon Paper, Big Paper knife cutter, Few bushes, Pencil, Small steel bowl-1, Tarpine oil-1L (keep at home), Few chart papers (Cut in 1/4th size unrolled), Big spoon, Waste cloths small pieces, Fevicol tube, Old news Papers, Apron, in a big carry bag. Few file board for mounting Portfolio.</p>

Subject - Entrepreneurship

Months	No. of Working Days	Unit	Topics
June	13	1.	<p><u>Entrepreneurship : What, Why and How</u></p> <ul style="list-style-type: none"> - Entp. :- Meaning, concepts , functions, Need & importance - Myths about Entp. - Pros and Cons of Entp. - Process of Entp.
July	21	2.	<p><u>An Entrepreneur</u></p> <ul style="list-style-type: none"> - Types of entrepreneurs - Types of enterprises - Competencies & characteristics of ethical entp. (towards different interest groups) - Entrepreneurial value : Values (Innovativeness & creativity, Independence on Ownership, Quest for O/s performance, respect for work) - Attitudes (+ve & -ve, sources & essentials) - Entrepreneurial Motivation - Mindset of an employee and an entrepreneur - difference - Importance of Intrapreneur in an Organisation.
July/ Aug.	Ctd. 22	3.	<p><u>Entrepreneurship Journey</u></p> <ul style="list-style-type: none"> - Self assessment of qualities, skills, Resources and dreams. - Generation of Idea - Feasibility study - Opportunity Assessment

Months	No. of Working Days	Unit	Topics
			<ul style="list-style-type: none"> - Business plan - Role of Society and Family in growth of an entrepreneur - Challenges faced by women
Aug.	Ctd.	4	<p><u>Entrepreneurship As Innovation and Problem Solving</u></p> <ul style="list-style-type: none"> - A problem solver - Innovation leading to Entrepreneurial ventures - Social Entrepreneurship (Concept & Importance) - Business Risk - The role of technology & social media in creating new forms of firms, organisations, network & Cooperative clusters. - Barriers to Entrepreneurship (Environmental & Personal) - Help and support to entp : (Meaning, classification, stages of growth, education and training) - Training institutions of entpship : in India - Business Incubator and Innovation Centre
Sept.	18		<p>Preparation for Half Yearly Exam - 2017-18 (Viva and Project Test)</p>
Oct	17	5	<ul style="list-style-type: none"> - Concept of Market - Market (Traditional, Modernised, Emerging)

Months	No. of Working Days	Unit	Topics
			<ul style="list-style-type: none"> - E- business vs E- Commerce - Benefits of E- business (Difference of E-business vs Traditional business) - Analysing the market environment (Micro & Macro Env:) - Researching the market (Characteristics, Process) - Research Instruments (Markey Survey, Process, Importance) - Types of Market survey (Survey sample) - Expanding markets - Market expansion grid (Intensification, Integration and Diversification). - Ways of entering into International business (Contract manufacturing, Licencing & Franchising, Joint Venture, setting-up wholly owned subsidiaries, Exporting and Importing) - Know the business - Types of business (Manufacturing Trading and Services) - The marketing mix.
Ctd.....			<u>Business Arithmetic</u>
Oct./	17	6.	- Cash register and Record keeping
Nov.	22		- Unit of sale, unit cost and unit price - Cost

Months	No. of Working Days	Unit	Topics
			<ul style="list-style-type: none"> - Income Statement - Cash flow projections - Preparing a cash flow projection - Taxes (Direct & Indirect)
Ctd.....			<u>Resource Mobilization</u>
Nov/	22	7.	- Meaning and Types (Human, Capital and other)
Dec	24		<ul style="list-style-type: none"> - Resource mobilisation (Planning) - Selection of Personnel - Factors for a suitable source of Business finance - Estimating financial requirement - Estimating Capital requirement - Capitalisation (Over & Under) - Sources of Finance (Equity, Personal, Venture, Debt) - Mentoring (Types) - Classification of business enterprises (Meaning, Nature) - Sources of Information (Primary, Secondary and Tertiary)
Jan/	16		Revision for Finals
Feb	20		(Project and VIVA Test) Finals

माह	कार्य दिवस	विषय वस्तु
अक्टूबर	17	आरोह (पद्य) – चंपा काले अक्षर नहीं चीन्हती गद्य- स्पीति में बारिश, गलता लोहा व्याकरण – अभिव्यक्ति और माध्यम, निबंध – बालमजदूरी, बेरोजगारी फीचर – वर्तमान शिक्षा नीति पत्र – दूरदर्शन कार्यक्रमों में बढ़ती अश्लीलता पर चिंता प्रकट करते हुए दूरदर्शन निदेशक को पत्र लिखें।
नवंबर/ दिसम्बर	22+ 24	आरोह (गद्य) – रजनी, जामुन का पेड़ पद्य- गजल वितान – आलो आंधारि संचार माध्यम, श्रवण-वाचन कौशल जाँच, रिपोर्ट लेखन पत्र – शहर में बढ़ते अपराधों के लिए चिंता व्यक्त करते हुए पुलिस अध्यक्ष को पत्र लिखें।
जनवरी	16	आरोह (गद्य) – भारतमाता, आत्मा का ताप वितान – आलो आंधारि आरोह (पद्य) – हे भूख मत मचल, सबसे खतरनाक
फरवरी	20	आरोह – आओ मिलकर बचाएँ फीचर – इंटरनेट का चमत्कार आलेख – घोटालों की राजनीति, श्रवण कौशल, अपठित काव्यांश, अपठित गद्यांश
मार्च	24	वार्षिक परीक्षा

Months	Unit	No. of Working Days	Topics / Chapters
			Ch. 5. Morphology of Flowering Plants - The Root, Stem, Leaf, Inflorescence Flower, Fruit, Seed - Description of a Typical Flowering plant Ch. 6. Anatomy of Flowering Plants - The Tissues - The Tissues System - Anatomy of Dicotyledenous and Monocotyledenous Plants - Secondary Growth 7. Structural Organisation in Animals - Animal Tissues - Organ and Organ System - Cockroach
Aug.	III	22	CELL : STRUCTURE AND FUNCTION Ch. 8. Cell : The Unit of Life - What is a Cell ? - Cell Theory - An Overview of Cell - Prokaryotic Cells - Eukaryotic Cells Ch. 9. Biomolecules - How to Analyse Chemical Composition ? - Primary and Secondary Metabolites - Biomacromolecules - Proteins - Polysaccharides - Nucleic Acids - Structure of Proteins

