VVPS
VIDYA VIKAS PUBLIC SCHOOL
Morabadi-Boreya Road, Ranchi -834006, Jharkhand. Phone: 0651-2910081.E-Mail:vvpsranchi@gmail.com
(An English Medium Co-Educational Sr.Sec. (+2) School-Affiliated to CBSE, New Delhi, Affiliation No: 3430297)

SPLIT UP SYLLABUS FOR CLASS XI (2024-25)

MATHEMATICS

TEXT BOOK: MATHEMATICS TEXT BOOK FOR CLASS XI (NCERT)
LABORATOARY MANUAL MATHEMATICS – XI (ARIHANT)
REFERENCE BOOKS: EXEMPLAR (MATHS PROBLEMS CLASS XI (NCERT)
RS AGARWAL MATHS BOOK FOR CLASS XI

MONTHS	NO. OF WORKING DAYS	TOPICS TO BE TAUGHT	ACTIVITIES	LEARNING OUTCOMES
JUNE	**18 DAYS**	**UNIT-1 : SETS AND FUNCTIONS** • **SETS** Sets and their representation, Empty set , Finite and infinite sets , Equal sets , subsets ,Subsets of a set of real numbers especially intervals . Power set, Venn diagrams. Union and intersection of sets, difference of sets, Complement of set, Properties of complement sets. • **RELATION & FUNCTIONS** Ordered pair, Cartesian product of the sets. Number of elements in the Cartesian product of two finite sets. Definition of Relation, pictorial diagram, 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. Different types of function.	1. To find the number of subsets of a given set and verify that if a set has n number of elements, then the total number of subsets is 2^n. 2. To verify distributive law for three given non empty sets. 3.To identify relation and a function	After studying this chapters , one should be able to : • Define the set and represent the set in different forms. • Find union, intersection and difference of two sets. • Solve practical problems using cardinality of sets and venn diagram. • Define ordered pair. • Find Cartesian product of two sets.
JULY	**25 DAYS**	**TRIGNOMETRIC FUNCTIONS** Positive and negative angles. Measuring angles in radian and in degrees and conversion from one measure of another. Definition of trigonometric functions with he help of unit circle. Signs of trigonometric functions. Domain and range of trigonometric functions and their graph. **UNIT-IV CALCULUS**	4. To verify the relation between the degree measure and the radian measure of an angle. 5. To find the value of sine and cosine function in second, third and fourth quadrant using	**TRIGNOMETRIC FUNCTIONS** 1. Understand to define positive and negative angles in degree and radian measure. 2. Establish the formulae for multiple and submultiples of angles.

		• **LIMITS AND DERIVATIVES** Derivative introduced as rate of change both as that of distance function and geometrically. Limits of polynomials and rational functions, trigonometric ,exponential and logarithmic function. Definition of derivatives , relate it to tangent of the curve, derivative of sum , difference. Product and quotient of the function. Derivative of polynomial and trigonometric function.	their given values in first quadrant.	3. Find general solution of trigonometric angles. **LIMITS AND DERIVATIVES** 1. Define the limit of a function. 2. To use the basic theorems on algebra of derivatives. 3. To find the derivative of the function using first principle.
AUGUST	**23 DAYS**	**REVISION FOR HALF YEARLY** **+** **QUESTION PAPER DISCUSSION** **+** **UNIT-II ALGEBRA** • **PRINCIPLE OF MATHEMATICAL INDUCTION** Process of the proof by induction, motivating the application of the method by looking at natural numbers at least inductive subset of real numbers. The principle of mathematical induction and simple applications.		Understand to prove mathematical statements of all types involving sum of series based on divisibility and general mathematical statements.
SEPT.	**23 DAYS**	**2.COMPLEX NUMBER** Need for complex numbers. Algebraic properties of complex numbers, Argand plane and polar representation of complex number. Statement of fundamental theorem of algebra. Square root of complex number. **3.LINEAR INEQUALITIES** Linear inequalities, Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical representation of linear inequalities in two variables. **4.PERMUTATION AND COMBINATION** Fundamental principle of counting. Factorial n , permutation and combination derivation of formulae, simple applications.	6. To obtain a quadratic equation with the help of linear function graphically. 7. To interpret geometrically the meaning of and its integrals power.	• Define the complex number and its standard form. • Identify real and imaginary part of complex number. • Represent complex number in polar form. • Discriminate between equation and inequality. • To represent linear

				inequality using graphs.
OCT	**19 DAYS**	**5.BINOMIAL THEOREM** History, statement and proof of binomial theorem for positive integral indices. Pascal's triangle , general and middle term in binomial expansion , simple applications. **6.SEQUENCE AND SERIES** Sequence and series, Arithmetic Progression, arithmetic mean (AM) , Geometric progression. General term of GP, Geometric mean, relation between Arithmetic and Geometric mean.	8. To construct a Pascal's triangle and to write binomial expansion for a given positive integral constant. 9. To demonstrate that the arithmetic mean of two different positive numbers is always greater than the geometric mean	• Describe binomial theorem for positive integers. • Describe a sequence and series. • Apply concepts of AP and GP in daily life.
NOV	**20 DAYS**	**UNIT-III: COORDINATE GEOMETRY** **1.STRAIGHT LINES** Brief recall of two dimensional geometry. Shifting of origin. Slope of a line and angle between two lines. Various forms of equation of a line: parallel to axis , point-slope form, slope-intercept form , two-point form , intercept form and normal form. General equation of a line. Equation of family of lines passing through the point of intersection of two lines. Distance of a point from a line **2.CONIC SECTIONS** Sections of a cone: circle, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines. Standard equation 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. Coordinate of a point. Distance		1. To find the coordinate of the point after shifting the origin. 2. To find the distance b/w two parallel lines. 3. Understand the concept of hyperbola, parabola and Ellipse.

		between two points and section formula.		
DEC	**22 DAYS**	**UNIT-V : MATHEMATICAL REASONING** • **MATHEMATICAL REASONING** Mathematically acceptable statements. Connecting words and phrases, validating the statements involving the connecting words, difference between contradiction, converse and contra positive. **UNIT-VI : STATISTICS AND PROBABILITY** • **STATISTICS** Measures of dispersion: Range, mean deviation , variance and standard deviation of ungrouped/grouped data. • **PROBABILITY** Random experiments: outcomes, sample spaces. Events: occurrence of events. 'not', ór', 'and'events. Exhaustive events, mutually exclusive events. Probability of an event, probability of 'not', ánd'ot 'not'events.	10. To find the number of ways in which three cards can be selected from given five cards.	• To illustrate the properties of variance and standard deviation. • Understand various measures of mean deviation variance and standard deviation. • Understand the meaning of random experiment • Understand the probability of occurrence of the event. • Establish and apply the addition theorem of probability.
JAN	**20 DAYS**	**REVISION + ANNUAL EXAMINATION COMMENCEMENT**		

PHYSICS

Prescribed Textbooks :1. Physics for Class XI NCERT

Reference Books :1. New simplified Physics (Vol. I & II) by S. L Arora(DHANPAT RAI AND CO.)
2. Pradeep fundamental physics (K.l.GOMBER&k.L. GOGIA)

Month	W. days	CHAPTER/ Topic	Activity / Art integration	Learning outcomes
JUNE	18	**PHYSICAL WORLD AND MEASUREMENT :** Units and Measurements Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Significant figures. Dimensions of physical quantities, dimensional analysis and its applications. **KINEMATICS:** Frame of reference, Motion in a straight line, Elementary concepts of	To measure the external diameter, internal diameter, thickness, depth of a hollow cylinder and to calculate the volume of solid cylinder using Vernier Calliper	Able to understand about the scope and excitement of physics. Able to understand about the system of units. Able to understand about the accuracy and precision of the measuring instrument. Able to understand about the dimensional formula for various physical quantity.

		differentiation and integration for describing motion, uniform and non uniform motion, and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical treatment). **VECTOR ANALYSIS:** Position and displacement vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity. Unit vector; Resolution of a vector in a plane rectangular components. **MOTION IN A PLANE**. Cases of uniform velocity and uniform acceleration-projectile motion. Uniform circular motion		Able to understand about the motion(uniform and non uniform motion) Able to understand about the resolution of vector components. Able to understand about the projectile motion.
August	23	**LAWS OF MOTION :** Intuitive concept of force. Inertia, Newton's first law of motion; momentum and Newton's second law of motion, impulse, Newton's third law of motion. Law of conservation of linear momentum and its applications Equilibrium of concurrent forces. Static and kinetic friction, laws of friction, rolling friction. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road). **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,	To measure the radius of curvature of a convex surface using spherometer To calculate the effective length of a second's pendulum by plotting L - T2 graph To verify the principle of moment of using normal ruler as beam balance To measure the coefficient of friction by plotting applied force Vs frictional	Able to understand about the newtons law of motion. Able to understand about the momentum and its conservation. Able to understand about the friction(static and kinetic friction) Able to understand about the work done by a force. Able to understand about the energy (Kinetic and potential) Able to understand about the collision (elastic and inelastic)

		conservative forces, conservation of mechanical energy (kinetic and potential energies), non-conservative forces, elastic and inelastic collisions in one and two **MOTION OF PARTICLES AND RIGID BODY**: 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 uniform rod. Moment of a force, torque, angular momentum, conservation of angular momentum with some examples. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions, moment of inertia, radius of gyration. Values of moments of inertia for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.	force for a normal surface To measure the radius of curvature of a convex surface using spherometer To calculate the effective length of a second's pendulum by plotting L - T graph To verify the principle of moment of using normal ruler as beam balance	
September	23	**Revision** **Half year Examination**		
October	19	**GRAVITATION:** Kepler's laws of planetary motion. The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy, gravitational potential. Escape velocity. Orbital velocity of a satellite **PROPERTIES OF BULK MATTER**: Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk	To measure the surface tension of water by capillary rise of liquid (Using travelling microscope) To measure the coefficient of viscosity of a given liquid by calculating terminal velocity of a small	Able to understand about the planetary motion Able to understand about the universal law of gravitation. Able to understand about the acceleration due to gravity and its variation with altitude and depth. Able to understand about the stress- strain relationship. Able to understand pressure exerted by fluid column, Bernoulli's theorem.

		modulus, shear, modulus of rigidity Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, Reynold's number, streamline and turbulent flow. Bernoulli's theorem and its applications. Surface energy and surface tension, angle of contact, application of surface tension ideas to drops, bubbles and capillary rise.	spherical object	Able to understand about the surface tension and surface energy
November	20	**THERMAL PROPERTIES OF MATTER:** Heat, temperature, thermal expansion, specific heat – calorimetry, change of state - latent heat. Heat transfer-conduction, convection and radiation, thermal conductivity, Newton's law of cooling. **THERMODYNAMICS:** Thermal equilibrium and definition of temperature (zeroth law of thermodynamics). Heat, work and internal energy. First law of thermodynamics. Second law of thermodynamics, reversible and irreversible processes. Heat engines and refrigerators Equation of state of a perfect gas, work done on compressing a gas.	To determine the speed of sound by using resonance tube for two different resonant positions To observe the phenomenon of surface tension for detergent water	Able to understand about the Heat, temperature and thermal expansion Able to understand about the conduction, convection and radiation. Able to understand about the law of thermodynamics. Able to understand about the reversible and irreversible processes.
December	22	**BEHAVIOUR OF PERFECT GAS AND KINETIC THEORY:** Kinetic theory of gases - assumptions, concept of pressure. Kinetic energy and temperature, r.m.s speed of gas molecules, degrees of freedom, law of equi-	To calculate the specific heat capacity of a solid by the method of mixture	Able to understand about the kinetic theory of gases and its assumption. Able to understand about the r.m.s speed of gas molecule and degrees of freedom.

		partition of energy (statement only) and application to specific heats of gases, concept of mean free path, Avogadro's number		
January	20	**OSCILLATIONS AND WAVES:** Periodic motion - period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (S.H.M) and its equation; phase, oscillations of a spring-restoring force and force constant; energy in S.H.M.-kinetic and potential energies, Periodic motion - period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (S.H.M) and its equation; phase; oscillations of a spring-restoring force and force constant; energy in S.H.M.-kinetic and potential energies; simple pendulum-derivation of expression for its time period, free, forced and damped oscillations (qualitative ideas only), resonance Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Doppler effect.	To study the relationship between the temperature of a hot body and time by plotting a cooling curve	Able to understand about periodic motion and its characteristics. Able to understand about S.H.M. and its equation. Able to understand about the waves (longitudinal and transverse waves.)
February	22	**Revision**		
March	23	**Annual examination**		

CHEMISTRY

MONTH	WD	TOPIC	ACTIVITIES/ EXPERIMENTS	LEARNING OUTCOMES
JULY	25	**Some basic concepts of chemistry:** General introduction, nature of matter, laws chemical combination, Dalton's atomic theory, concept of atoms and molecules, atomic and molecular mass, mole concept, molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculation based on stoichiometry. **Structure of atoms:** Discovery of electrons, proton and neutron, atomic number, isotopes and isobars, Thompson's model and it's limitations, Bohr's atomic model and it's limitations, Rutherford atomic model and it's limitations, concept of shells and subshells, dual nature of matter and light, de-Broglie relationship, Heisenberg's uncertainity principle, concept of orbitals, quantum numbers, shapes of s,p,d and f sublevel, rules of filling electrons in orbitals- Aufbau principle, Pauli exclusion principle and Hund's rule, electronic configuration of atoms, stability of full filled and half filled orbitals.	→Cutting and bending of glass tube →Draw the mole conversion diagram in a chart paper. →Titration of M/10 NaOH solution with unknown solution of HCl. →Draw the diagram of Thompson's and Rutherford atomic model in chart paper.	→Able to understand basic stoichiometric concepts and elucidating concentration of different types of solution. →Able to understand about the properties of subatomic particles. →Modern approach of atomic model and it's properties. →Able to understand different ways for writing electronic configuration. →Able to understand the concept of half filled and full filled configuration. →Able to say the exact position of electrons.
August	23	**Classification of elements and periodicity in properties:** Significance of classification, brief history of development of periodic table, modern periodic law	→Draw the modern periodic table in a chart paper.	→Able to understand the journey of periodic table, modern periodic table, modern

		and modern 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. **Chemical bonding:** Valence electrons, ionic bond, covalent bond, bonding parameters, Lewis dot structure, polar character of covalent bond, covalent character of ionic bond, VBT, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization involving s,p,d,f orbitals and shape of simple molecules, MOT of homonuclear diatomic molecules(qualitative idea only), hydrogen bonding.	→Titration of M/20 Mohr's salt solution with unknown solution of $KMnO_4$. →Draw the structure of compounds of each hybridization.	periodic law and periodic trends. →Able to understand different types of bonding and bonding parameters, strength of covalent bond, molecular orbital diagram showing the molecular orbitals, hybridization and shape of different compounds.
September	23	**TERM-1 EXAM**	**QUESTION PAPER DISCUSSION AND ASSIGNMENT-1**	**RECALL AND REMEMBER ALL THE CONCEPTS.**

October	19	**Chemical Thermodynamics:** Concepts of system and types of system, surroundings, work, heat, energy, extensive and intensive properties, state function, first law of thermodynamics, internal energy and enthalpy, heat capacity and specific heat measurements of U and H, Hess law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization sublimation, phase transition ionization, solution and dilution, second law of thermodynamics (brief discussion), introduction of entropy as a state function, Gibb's free energy change for spontaneous and non spontaneous processes, criteria of equilibrium, third law of thermodynamics (brief introduction)	→Detection of acid radicals in a given compounds (halogens) →Detection of acid radicals in a given compounds (nitrate ions) →Draw a figure to show path dependent and state function properties.	→Able to understand different types of system and their properties, surroundings. →Able to understand first law of thermodynamics and their different applications. →Able to understand second and third law of thermodynamics and their applications.
November	20	**Redox reaction:** Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reaction in terms of loss and gain of electrons and change in oxidation number, balancing redox reactions, application of redox reactions. **Equilibrium:** Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium- Le chatellier's principle, ionic equilibrium, ionization of acids and	→Detection of acid radicals in a given compounds. (sulphate). →Draw a table of Le Chatelier principle in a chart paper.	→Able to understand redox reaction by loss and gain of electrons, calculation of oxidation states, types of redox reaction and balancing redox reaction by ion-electron method and oxidation number method. →Able to understand different types of equilibrium: physical equilibrium and chemical equilibrium, factors affecting

		bases, strong and weak electrolytes, degree of ionization ionization of polybasic acids, acid strength, concept of ph, Henderson equation, hydrolysis of salts(elementary idea), buffer solutions, solubility product, common ion effect.		equilibrium, le-chatelier principle and ionic equilibrium.
December	22	**Organic Chemistry- Some basic principles and technique:** General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds, electronic displacement in a covalent bond: Inductive effect, electrometric effect, resonance and hyper conjugation, hemolytic and heterolytic fission of covalent bond, free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reaction.	→Detection of basic radicals in a given compounds. (Lead ion). →Show the resonance of benzene with the help of match sticks.	→Able to understand different types of hydrocarbons and their IUPAC nomenclature. → Able to understand different types of inductive effects and their properties.
January	20	**Hydrocarbons:** Aliphatic hydrocarbons: Alkanes: Nomenclature, isomerism, conformations (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes- Nomenclature, structure of double bond (ethane), physical properties, geometrical isomerism, physical properties, methods of preparation, chemical reactions, mechanism of electrophilic addition reaction, markonikovs and anti markonikovs principle. Alkynes: nomenclature, structure of triple bond (ethyne), physical properties, methods of	→Bromine water test to show unsaturation in a organic compound. →Show the resonance of benzene with the help of match stick.	→Able to understand the nomenclature, physical and chemical properties of alkanes, alkanes and alkynes.

		preparation, chemical reactions: acidic character of alkynes, addition reaction, aromatic hydrocarbons: introduction, IUPAC nomenclature, benzene, resonance, aromaticity. Chemical properties: electrophilic substitution reaction, mechanisim of electrophilic substitution reactions, directive influence of functional group in mono substituted benzene.		
February	22	**REVISION**	**REVISION TEST**	
March	23	**FINAL EXAM**		

PHYSICAL EDUCATION

Month	W.D	Topic	Activity	Learning outcomes
JUNE	18	C hanging trends and career in physical education: • Meaning and definition of physical education • Aim and objective of physical education • Career options in physical education • Competitions in various sports at national and international level • Khelo- India program	Make the banner of fit India	• Knowing about the career option in the field of physical education
JULY	25	Olympic value education: • Olympics , Paralympic and special Olympics • Olympic symbols , Ideals , Objective and values of Olympics • International Olympic Committee • Indian Olympic Association	Draw and colour the olympic ring & olympic torch	• Understanding about the concept of Olympic, Paralympics and special olympic
AUGUST	23	REVISION+ Half yearly paper discussion Physical fitness , welness & lifestyle:		• Defining physical fitness , wellness and lifestyle

		• Meaning and Importance of Physical Fitness , Wellness and Life Style • Component of Physical Fitness and Welness • Component of Health Related Fitness		
SEPTEMBER	23	Physical education and sports for CWSN: • Aims and Objective of Adaptive physical Education • Organisations Programing Adaptive sports • Concept of Inclusion , its Need and Implementation • Role of Various Professionials for Children With Special Needs		• Knowing about the concept of inclusion its need and implementation
OCTOBER	19	Yoga: • Meaning and Importance of Yoga • Elements of Yoga • Introduction • Yoga for Concentration and related Asanas • Relaxation Techniques for Improving Concentration	Make the poster of asanas and suryanamaskar	• Understanding about the concept of yoga • Defining Yoga and its importance
NOVEMBER	20	Physical activity and leadership training: • Leadership Qualities and Role of a Leader • Creating leaders through Physical Education • Meaning , Objective and types of Adventure Sports • Safety Measures to Prevent Sports injuries		Knowing about the leadership qualities and role of a leader
DECEMBER	22	Test measuremente and evalution : • Difine Test , Measurement and Evaluation	Make a chart of balanced diet	Knowing about the centre of gravity and its application in sports

		• Importance of Test , Measurement and Evaluation in Sports • Calculation of BMI and Waist - Hip Ratio • Somatotypes • Mesurement of Height Related Fitness phychology and sports: • Difination and Importance of Psychology in Physical Education and Sports • Difine and Differentiate Between Growth and Development • Developmental Characteristics at Different Stage of Development • Adolencent Problems and their Management fundamentals of anatomy , physiology and kinesiology in sports : • Difinition and Importance of Anatomy , Physiology and Kinesiology • Function of Skeleton System , Classification of Bones and Types of Joints • Properties and Function of Muscles • Function and Structure of Respiratory System and Circulatory System • Equilibrium Training and doping in sports: • Meaning and Concept of Sports Training • Principles of Sports Training • Warming Up and Limbering down • Skill , Technique and Style		Understanding about the concept of sports training

		• Concept and Classification of doping • Prohibited Substances and their Side Effects Dealing With Alcohol and Substance Abuse		
JANUARY	20	Revision + Annual exam commencement		

PRACTICAL

- PHYSICAL FITNESS TEST MARKS
- PROFICIENCY IN GAMES AND SPORTS (SKILL OF ANY ONE GAME OF CHOICE FROM THE GIVEN LIST)
- YOGIC PRACTICES MARKS
- RECORD FILE
- VIVA VOICE (HEALTH / GAMES & SPORTS / YOGA)
  - ATHLETICS, ARCHERY, BADMINTON, BOXING, CHESS, JUDO, SHOOTING, SKATING, SWIMMING, TACKWONDO, TENNIS, AEROBICS, GYMNASTICS, ROPE- SKIPPING, YOGA, BOCCE AND UNIFIED BASKET BALL (CWSN).
  - RECORD FILE SHALL INCLUDED
    PRACTICAL – 1 : LABELED DIAGRAM OF 4X100 M TRACK & FIELD WITH COMPETITION
    PRACTICAL – 2 : CALCULATION OF BMI FOR FAMILY OR NEIGHBORHOOD & GRAPHICAL REPRESENTATION OF THE DATA
    PRATICAL – 3 : LABELED DIAGRAM OF FIELD & EQUIPMENT OF ANY ONE GAME CHOOSE OUT OF THE ABOVE LIST
    PRACTICAL – 4 : LIST OF CURRENT NATIONAL AWARDS (DRONACHARYA AWARD, ARJUN AWARD & RAJIV GANDHI KHEL RATNA AWARD
    PRACTICAL – 5 : PICTORIAL PRESENTATION OF ANY FIVE ASANAS FOR IMPROVING CONCENTRATION

INFORMATION TECHNOLOGY

MONTHS	NO. OF WORKING DAYS	TOPICS TO BE TAUGHT	LEARNING OUTCOMES
JUNE	**18**	**COMPUTER ORGANIZATION & OS: USER PRESPECTIVE.** Understanding of Hardware Basics of Operating System	1. Understand and appreciate fundamentals of computer and its characteristics. 2. Understand operating system. 3. Troubleshooting in computer system. 4. Understand the importance of utilities.
JULY	**25**	**NETWORKING AND INTERNET** Network safety concerns Network Security tools and services Cyber Security Safe practices on social networking	1. Understand computer networking. 2. To understand internet and its terminology. 3. Understand cybercrimes and cyber security.
AUGUST	**23**	**REVISION FOR HALF YEARLY** **+** **QUESTION PAPER DISCUSSION** **+**	HALF YEARLY EXAMINATION

		INTRODUCTION TO MS OFFICE	
SEPTEMBER	**23**	**OFFICE AUTOMATION TOOLS** Spreadsheet Word Processing Presentation	Understand the concept of Word processor, excel and PowerPoint.
OCTOBER	**19**	**MULTIMEDIA DESIGN** Interface and drawing tools in GIMP Applying Filters Creating and handling multiple layers	Understand the concept of multimedia through various medium.
NOVEMBER	**20**	**Troubleshooting : Hardware , Software and Networking** Commonly encountered problems Monitor: No display, KB/Mouse not responding, monitor giving beeps, printer not responding, check for virus, delete temporary files if system is slow.	Understand the concept of trouble shooting of software (System and application) and hardwareS like monitor, keyboard & printer
DECEMBER	**22**	**PRACTICAL WORK + PROJECT**	
JANUARY	**20**	**REVISION + COMMENCEMENT OF FINAL EXAM**	

FINE ARTS CLASS : 11				
Month	W.D	Topic	Activity / Practicals	Learning outcome
June	18	**Introduction of art:** Some techniques of drawing and colouring (by water colour)	Water colour drawing on paper	Element of art explained in detail.
July	25	Element of art. Pre-historic rock painting . Period and location. Free hand drawing .	Glass painting.	Encourages creative expression of observation in art.
Aug	23	Buddhist ,jain,and hindu art. Landscape and waterscape drawing by water colour.	Poster making.	Students will be Able to observe And draw a variety of natural.
Sept	23	Question paper discussion and assessment – 1	Term – 1 exam	Recall and remember all the concepts.
Oct	19	Introduction of Ajanta caves (period ,no of caves ,chaitya and vihara,paintings and sculptures,subject matter).	Still life drawing by pencil shading.	Development of skill and technique.

Nov	20	Study and appreciation of south Indian bronze. Part of human figure. Portrait by pencil shading.	Canvas painting by acrylic colour.	How to make canvas Painting step-by-step.
Dec	22	Some techniques of water colour painting. Human figure painting by water colour.	Free hand drawing .	Improvement hand coordination.
Jan	20	Temple sculpture ,bronzes,and artistic aspects of indo-islamic architecture. Composition drawing on canvas.	New year card making .	Development of Fine motor skill.
Feb	22	Revision + Final term		

SUBJECT: BIOLOGY BOOK : NCERT					
Month	**W.D**	**Chapter**	**Topic**	**Learning Outcomes**	**Activities/Practical**
June	18	-	Basic Concept	-	-
July	25	The Living World	What is living? Biodiversity; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature	Students will understand the basis of classification and its applications	1. To prepare a herbarium
July		Chapter-2: Biological Classification	Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups: Lichens, Viruses and Viroids.	1.Describes contribution of scientists/researchers all over the world in systematic evolution of concepts, scientific discoveries and inventions in the field of biology based on historical scientific events/ timelines etc; such as;, Aristotle was the earliest and then Linnaeus proposed two kingdom classification and later R. H. Whittaker proposed five kingdom classification, etc.	1. To prepare a chart showing diversity in organisms
July		Chapter-3: Plant Kingdom	Salient features and classification of plants into major groups - Algae, Bryophyta, Pteridophyta, Gymnospermae and	Structure of various lower plants, their evolution with respect to modern day plants	To prepare a chart work on contrasting features of thallophyta,

			Angiospermae (three to five salient and distinguishing features and at least two examples of each category); Angiosperms - classification upto class, characteristic features and examples.		Bryophyta and Pteridophyta.
August	23	Chapter-4: Animal Kingdom	Salient features and classification of animals non-chordates up to phyla level and chordates up to class level (three to five salient features and at least two examples of each category).	classifies organisms, phenomena and processes, based on certain characteristics / salient features systematically in more scientific and organized manner; such as five kingdom classification system of organisms under various hierarchical structural organizations;	1. Study of virtual specimens/slides/models and identification with reasons - Amoeba, Hydra, liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
August		Chapter-5: Morphology of Flowering Plants	Morphology and modifications: Internal Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed	applies scientific terminology for organisms, processes, and phenomena based on internationally accepted conventions, such as, systematic technical description of flowers, taxonomic study of plants and animals; actinomorphic and zygomorphic flowers, aestivations, placentations.	1.Study and description of three locally available common flowering plants, one from each of the families Solanaceae, Fabacceae and Liliaceae (Poaceae, Asteraceae or Brassicaceae.
August		Chapter-6: Anatomy of Flowering Plants	Anatomy and functions of different tissues.	1differentiates organisms, phenomena and processes based on certain characteristics and salient features, such as, meristematic tissues and permanent tissues.	1. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
September	23	Chapter-7: Structural Organisa	Animal tissues; Morphology, anatomy and functions of different systems (digestive, circulatory,	1. Differentiates organisms, phenomena and processes based on certain characteristics and salient features, such as,	Study of tissues and diversity in shapes and sizes of animal

		tion in Animals	respiratory, nervous and reproductive) of an insect (cockroach/Frog)	squamous epithelium and cuboidal epithelium. 2. explains efficiently systems, relationships, processes and phenomena such as; organ systems in frog, cockroach and earthworms, structures and function of cell organelles, 3. exhibits creativity in designing models using eco-friendly resources / preparing charts / paintings / sketching/ etc. on different topics; such as; structure of cockroach/Frog	cells squamous epithelium, muscle fibers and mammalian blood smear) through temporary/per manent slides.
Octo ber	19	Chapter-17: Breathin g and Exchang e of Gases	Respiratory organs in animals (recall only); Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volume; disorders related to respiration - asthma, emphysema, occupational respiratory disorders.	1. analyses and interprets graphs and figures such as, oxygen dissociation curve etc.	1. To calculate the total lung capacity in an organism
Octo ber		Chapter-18: Body Fluids and Circulati on	Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure.	1.relates processes and phenomena with causes and effects, such as, pumping of heart with circulation of blood, hormones with various physiological functions, digestive enzymes electrocardiograph (ECG) and heart diseases; smoking and lung diseases; etc.	1.To calculate the pulse rate and breathing rate
Nove mber	20	Chapter-19: Excretor y Products and Their	Modes of excretion - ammonotelism, uricotelism, uricotelism; human excretory system – structure and function; urine formation,	1. applies scientific concepts of Biology in daily life and solving problems, such as; drinking less/more water changes the concentration and volume of urine.	1.To make a chart showing urine formation

		Elimination	osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH and diabetes Insipidus; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant	2. appreciates technological applications and processes in Biology towards the improvement in the quality of life and sustainable development, such as, dialysis for kidney failure patients;	
November		Chapter-20: Locomotion and Movement	Types of movement - ciliary, flagellar, muscular; skeletal muscle- contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal system - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.	Study of human skeletal system and its disorders associated to it	1.Study of human skeleton and different types of joints with the help of virtual images/models only
November		Chapter-21: Neural Control and Coordination	Neuron and nerves; Nervous system in humans - central nervous system; peripheral nervous system and visceral nervous system; generation and conduction of nerve impulse; reflex action; sensory perception; sense organs; elementary structure and functions of eye and ear	Learning of various parts of brain and its co ordination with various parts of the body.	1.To study the various parts of human brain via different models
December	22	Chapter-22: Chemical Coordination and Integration	Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and	Action of various hormones and their impact on body	1.To show the various modes of action of hormones graphically

			related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease.		
December		Chapter-8: Cell- The Unit of Life	Cell theory and cell as the basic unit of life: Structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system, endoplasmic reticulum, Golgi bodies, lysosomes, vacuoles; mitochondria, ribosome, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus.	differentiates organisms, phenomena and processes based on certain characteristics and salient features, such as, prokaryotes and eukaryotes, plant cell and animal cell, diffusion and osmosis, Metacentric, submetacentric, acrocentric and Telocentric chromosomes; etc.	Preparation of fluid mosaic model of plasma membrane
December		Chapter-9: Biomolecules	Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids; Enzymes- types, properties, enzyme action.	1. Write chemical formulae of biomolecules, bio-chemical equations, etc.,	1. Test for the presence of sugar, starch, proteins and fats. Detection in suitable plant and animal materials.
January	20	Chapter-10: Cell Cycle and Cell Division	Cell cycle, mitosis, meiosis and their significance	1. Prepares slides for study the structural intricacies of life forms and structural organisations, such as, transverse sections of root, stem and leaves mitosis and meiosis. 2. Analyses and interprets graphs and figures such as, Enzyme activity temperature, pH and substrate concentration	1. Study of mitosis in onion root tip cells and animals cells (grasshopper) from permanent slides

January		Chapter-13: Photosynthesis in Higher Plants	Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C3 and C4 pathways; factors affecting photosynthesis.	1. Makes linkages at the interface of Biology with other disciplines by relating various interdisciplinary concepts such as; absorption and transfer of light energy in photosynthesis. 2. draws labelled diagrams, flow charts, concept maps, graphs and floral diagrams, such as, Zscheme of light reaction, calvin cycle Etc.	1. Study of distribution of stomata in the upper and lower surface of leaves 2. Comparative study of the rates of transpiration in the upper and lower surface of leaves. 3. Separation of plant pigments through paper chromatography.
February	22	Chapter-14: Respiration in Plants	Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient.	1. Uses scientific conventions, symbols, and equations to represent various 81 quantities, elements, and units, such as, SI units, symbols of elements, formulae of simple compounds, pathways of aerobic and anaerobic respiration, organic compounds in living organisms.	1. To make a chart showing events occurring in glycolysis, Kreb cycle etc.
February		Chapter-15: Plant - Growth and Development	Seed germination; phases of plant growth and plant growth rate; conditions of growth; differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; growth regulators - auxin, gibberellin, Cytokinin, ethylene, ABA; seed dormancy;	1. Makes linkages at the interface of Biology with other disciplines by relating various interdisciplinary concepts such as; mathematical models on arithmetic and geometric growth rates in plants/organisms.	1.Observation and comments on the experimental set up for showing: a) Anaerobic respiration b) Phototropism c) Effect of apical bud removal d) Suction due to transpiration
March	23	**Annual Examination**			

CLASS - XI

SUBJECT: ENGLISH CORE (301)

TEXT BOOK: HORNBILL & SNAPSHOTS

REFERENCE BOOKS: FULL MARKS ASSIGNMENTS IN ENGLISH FOR CLASS XI
WRITING & GRAMMAR BOOK (ARIHANT)

Month	WD	Chapter/Topic	Activities	Learning Outcome
June	18	1. Revision (Bridging Class) (i) Grammar (ii) Writing: (iii) Breifing on new introductions 2. Hornbill-L-1-The Portrait of a Lady	Ice-Breaker Activity - for better understanding of the students' current level of understanding of the subject. Worksheets - solving worksheets based on the topics Solo Presentation - Daily (on any random topic) PPT Presentation - summing up the Bridging classes (different topics to different groups of students) Portrait of your grandparents Research - Author & his famous works	To Revise the previous content - useful for the current session as well. To Bridge gaps, as found in the Ice Breaker Activity. To strengthen concept clarity. Development of optimistic attitude Respect for grandparents Family values
July	25	1. Hornbill-Poem-1-A Photograph Grammar :- Tenses Clauses 2. Snapshots-L-1-The Summer of the Beautiful White Horse 3. Writing Skills - Advertisement Writing - Classified Adv.- To Let, Tuitions, Lost and Found, Kennel, Travel & Tours, Matrimonials 4. Hornbill-L-2-We're Not	Read out poem on similar theme. Figures of Speech with examples Powerpoint presentation Research onn Armenian genocide PPT - group presentation 1. Collection – Advertisement Samples. 2. Art Integration – Design Advertisements. 3. Subject Integration – History of Advertisements. Class reading (with suitable expression, pronunciation and information) PPT - individual presentation.	Comparative study of the previous prose and the current poem. Poetic Devices and About the Poet Group Discussion - Childhood and passing time. Would be able to apply literal, interpretative and critical level in analyzing a short story. To determine the tone of a short story Comprehend the irony hidden in the story. 1. To Learn to Write Advertisements (Classifieds & Commercials) 2. Role of Advertisements in day to day life. Problem Solving Skils About the author. To inculcate the values of determination and will power.

		Afraid To Die If We Can All Be Together		
August	23	1. Note Making & Summarising	Research – research on acceptable and widely used abbreviations. Practice sample questions.	To be able to differentiate between annotation, outline notes, column notes, mind maps and summary notes from a text. To sue note taking suggestions to develop a summary and a good note. To understand and learn the skill of squeezing main ideas into shortened content. To learn the format of note making, numbering and abbreviating To understand its usefulness in the busy schedules of the world.
		2. Snapshots-L-2-The Address	Research - types of addresses (Home and foreign country) War and its impacts - powerpoint presentation. Pre-Reading Activity: Prevention of things (at home, in general) While Reading Activity: Research on the Pharao dynasty. Post Reading Activity: Our Actions and its impact on history	Attachment to the origin of a person. Feelings of nationalism and nativity. Respect of the feelings of others. To grasp the theme and meaning of the prose. Their critical and creative thinking sills would be enhanced.
		3. Hornbill-L-3-Discovering Tut – The Saga Continues	Research with the pictures and present in the form of an article. Collection of poems on nature. Video presentation - changes in nature.	Would be ready to accept the reality of life. Vocabulary enrichment. Enhance writing skills. Importance of nature. Summarisation of the poem with poetic devices.
		4. Hornbill-Poem-2-The Laburnum Top	Watch Sample videos of ASL. Mock ASL.	To practice speaking and listening skills though mock ASL assessments.

		5. ASL		
September	23	1. Writing Skills – Poster Writing 2. Grammar – Gap Filling, Sentence Reordering, Sentence Transformation 3. Hornbill-Poem-3-Voice of the Rain	Collection – collect sample posters and arrange them in a file. Slogan Creation – write slogans on basic social issues Solve sample questions Worksheets to be practised. Sample questions to be practiced. Group activity - Poetry writing (on nature) Class discussion - on the title of the poem.	To be able to create visual impact through creative poster designing using appropriate language tools, like Slogans and Tag lines. To be able to highlight social concerns and requirements through the help of posters. To practice grammar questions and apply the knowledge of Language skills. To enhance the grammar skills and practice sentence structure To be able to read and infer. Recitation - with proper tone. Strengthening of vocabulary. To draw a comparative study between human life and nature.
October	19	1. Snapshots-L-3-Mother's Day	Classroom interaction - My mother's daily lessons. Discussion on the title of the lesson. About the author - background Reading - aloud with expressions, pronunciation and modulation. Role play - enact different parts of the play in the classroom. Writing - write a script (of your own) on Mother's Day.	To facilitate making connectins between similar situations in different storylines/life experiences through the genre of theatre/drama that is more credible and realistic to comprehend the mother's stereotype and understand her significant role in family bonding. To empathize with her problems and seek resolution. To develop basic skills of language. To develop reading skills and listening skills. To be able to comprehend the role of a mother and inculcate the values of respect and obedience.

		2. Hornbill-Poem-4-Childhood	Presentation - PPT presentation to show the synopsis. Discussion - the theme of the poem and difficult words. Poetic devices - Chart presentation by a group activity.	To facilitate making connections between similar situations in different stroylies/life experiences To read and recognize the purpose of human loss and the hidden pathos and nuances of the lines, correlating them with personal experiences - to build up didactics, empathy and sympathy with the loss of the speaker and the final resigned acceptance and optimism. Vocabulary enrishment. Enhancement of analytical skills.
November	20	1. Writing Skills - Speeches & Debates 2. Hornbill-L-4-The Adventure 3. Vistas-L-4-Birth	Video Watching – watching videos of famous orators. Classroom presentation – child to present on the given topic. Debate & Speech competitions. Sample questions. PPT Presentation – on any famous science fiction story/movie/series. Research – find about any other writing of the author (Jayant Vishnu Narlikar) and read. Classroom presentation – Presentation of the author's ideas in the form of dialogue delivery. Presentation - PPT presentation by the students. Discussion - on the title. About the author - background. Role play - on critical situations (students to gather the information) Drawing - draw a sketch of the last scene of the room from the story.	To understand the difference between Speech and Debate To know about different formats of speech and debate. To learn the phrases most widely used in speeches and debates. To be able to express one's view points on a given topic or discussion. To be able to read, understand and summarise the story. To develop imaginative skills. Connecting science to imagination. To allow problem solving - identifying the problem; considering the options; weighing the pros and cons of each option; reaching an empathetic decision with the protagonist. To facilitate making connections between similar situations in different storylines/life experiences.

				To encourage the uncovering of motives; absorbing didactics.
		4. Hornbill-Poem-5-Father to Son	Interaction & Interpretatiion - on the title of the poem. About the author - background Recitation - aloud Presentation - Slide presentation by the students.	To read and recgnize the purpose of economy of words and the hidden pathos and nuances of a precious father-chold relationships that is crumbling, correlating with personal experiences-to build up didactics, empathy and sympathy with the loss of the father. To help the learners distinguish different perspectives; analyzing them; drawing conclusion/s. The learners would unfold their logical thinking skills.
December	22	1. Hornbill-L-5-Silk Road	Subject integration – Map of Kailash Mansarovar Yatra Research – know about the beliefs associated with Mt. Kailash. Collection – collect examples of other travelogues.	To learn about the author's experiences through his journey to Mt. Kailash. Understand the writing of a travelogue.
		2. Vistas-Poem-1-The Tale of the Melon City	Discussion - on the title of the poem. About the poet - background information. Recitation - aloud with proper intonatin rhyme and rhythm. Explanation - difficult terms and words Reasearch - on the literary laureate Vikram Seth and relate the poem to one of his other poems. Presentation - poetic devices. (audio-visual presentation.)	To read and recognize the purpose of economy and theh hidden satire, iron and pun in the nuances - to build up didactics on the role of democracy in a state. To grasp the theme and meaning of the poem. To be able to read the poem with proper tone and rhyme and develp an interest in poetry. To be able to raise their concern and sensitize themselves for establishing inner as well as outer peace. To practice speaking and listening skills.

January	20	Revision		
February	22	Annual Examination		
March	23	Annual Examination & Open Day		