

Curriculum Chemistry Class-IX

S.No	Content	Objectives (Class IX)	Skills	Learning Styles	Activity	Subject Integration	Outcome	Assessment
1	Matter in our surroundings Chapter 1	Students should be able to :- (i) differentiate between physical properties of three states of matter. (ii) identify the property of matter responsible for a particular observation (iii) describe the reason for certain observations of three states of matter (iv) sketch the effect of temperature and pressure on the states of matter. (v) convert temperature from Celsius scale to Kelvin & vice versa (vi) define the terms Latent heat of fusion and vaporisation, evaporation, sublimation, humidity (vii) enlist the factors affecting evaporation (viii) analyse how evaporation cause cooling.	— Experimentation — Observation — Critical thinking — Analytical reasoning	(i) Bodily-kinesthetic (by doing experiments) (ii) Visual (by experiments) (iii) Interpersonal (by group work) (iv) Intrapersonal (by solving numericals)	(i) To check that matter is made up of particles by dissolving salt/sugar in water (Bodily-Kinesthetic) (ii) To observe that particles of matter are continuously moving by burning incense stick or dissolving ink in water (Bodily-Kinesthetic) (iii) To observe force of attraction between particles by breaking chalk piece, iron nail, stream of water (Bodily Kinesthetic) (iv) To check compressibility in three states of matter by using piston (Bodily Kinesthetic) (v) To study sublimation of NH ₄ Cl (Bodily Kinesthetic) (vi) To determine M.P & B.P. of water (Bodily Kinesthetic) (vii) By simulating particles of matter to show force of attraction between different state of matter (Bodily Kinesthetic)		Students will be able to :- (i) differentiate between physical properties of three states of matter. (ii) explain the reason behind certain observations of matter. (iii) predict the effect of temperature & pressure on the states of matter (iv) Convert temp. from Degree C to K & vice-versa (v) define terms like latent heat of fusion, vaporisation, evaporation, sublimation, humidity (vi) explain the factors controlling the rate of evaporation (vii) explain how evaporation cause cooling	1) PreMid Term 2) Group discussion 3) Practical + Viva 4) Mid Term 5) Post Mid Term 4) Final Exam
2	Is Matter Around Us Pure ? Chapter 2	Students should be able to :- (i) differentiate between true solution, suspension & colloid, mixture & compound, homogenous & heterogeneous mixture (ii) solve numericals to find concentration of substances (iii) enlist some examples of true solution, suspension & colloids. (iv) identify the technique to be used for separation of substances (v) explain the process of separation of components of air (vi) enlist a few applications of different techniques of separating substances. (vii) explain tyndall effect. (viii) classify the changes as physical or chemical	— Experimentation — Observation — Critical thinking — Analytical thinking	(i) Bodily Kinesthetic (by experiments) (ii) Visual (by experiments) (iii) Interpersonal (by group work) (iv) Interpersonal (by doing black board practice) (v) Logical (identifying which separating technique to be used) (vi) Intrapersonal (by solving worksheets)	(i) To prepare true solution, suspension & colloid (Bodily kinesthetic) (ii) To prepare a mixture and compound using iron filing & sulphur powder (Bodily-Kinesthetic) (iii) To carry out diff. reactions and classify them as physical or chemical (Bodily-Kinesthetic) (iv) To separate the components of a mixture of sand, common salt & NH ₄ Cl by sublimation (Bodily-Kinesthetic) (v) To carry out experiments showing different separating techniques (Bodily-Kinesthetic)		Students will be able to : (i) differentiate between true solution, suspension & colloid, mixture & compound, homogenous & heterogeneous mixture (ii) Solve numericals to find concentration of substances. (iii) enlist some examples of true solution, suspension & colloids (iv) identify the technique to be used for separating substances. (v) describe a few applications of separating techniques (vi) explain the process of separation of components of air, tyndall effect (vii) classify the changes as physical or chemical	1) PreMid Term 2) Group discussion 3) Practical + Viva 4) Mid Term 5) Post Mid Term 4) Final Exam

3	Atoms and Molecules Chapter-3	Students should be able to :- (i) State law of conservation of mass, law of definite proportion. (ii) define atoms, molecules, ions, mole (iii) differentiate between atoms and molecules (iv) recall the symbols, atomic number, mass number and valencies of first twenty elements of periodic table. (v) derive chemical formulas of compounds (vi) recall the symbols of ions (vii) Calculate the molecular mass and the number of moles in a substance. (viii) Understand the relation between mole and molecular mass.	— Experimentation —Observation —Calculation —Drawing conclusion Group work	(i) Bodily-kinesthetic (by doing experiments) (ii) Logical (by mind map, solving numericals) (iii) Visual (by flash cards) (iv) Interpersonal (by doing group activity) (v) Intrapersonal (by doing black board practice)	(i) Proving Law of conservation of Mass (in lab using sodium carbonate & barium chloride) (ii) Activity using empty medicine wrappers to make chemical formula (iii) Activity using flash cards to derive chemical formula	○ Maths (Calculations) ○ Arts (flash cards)	Students will be able to :- (i) state law of conservation of mass & definite proportion (ii) define atoms, molecule, ion, mole (iii) derive chemical formula of compounds (iv) differentiate between atoms, molecules & ions (v) calculate the molecular mass and number of moles in a substance	(i) 1) PreMid Term 2) Group discussion 3) Practical + Viva 4) Mid Term 5) Post Mid Term 4) Final Exam
4	Structure of the Atom Chapter-4	Students should be able to :- (i) define and differentiate between electrons, protons and neutrons (ii) understand the experimental concept of discovery of electrons, protons, neutrons and nucleus. (iii) Compare the structure of atom proposed by Thomson, Rutherford and Bohr. (iv) understand the relation between valency and valence electrons (v) describe and differentiate between Isotopes and Isobars (vi) understand the reason for the fractional atomic masses of the Elements.	—Calculation —Drawing —Group work	(i) Visual (by showing videos of Rutherford Scattering experiment) (ii) Logical (by solving numericals) (iii) Interpersonal (by doing group discussion) (iv) Interpersonal (by doing black board practise)		○ Maths (calculations) ○ Drawing (diagrams) ○ Maths (calculations)	Students will be able to :- (i) define electrons, protons & neutrons (ii) explain the experiments for the discovery of electrons, protons neutrons & nucleus (iii) diagrammatically show the atomic structure proposed by Thomson, Bohr & Rutherford (iv) calculate the valency of an element from the valence electrons (v) differentiate isotopes & isobars (vi) calculate the atomic masses of Isotopes	(i) 1) PreMid Term 2) Group discussion 3) Practical + Viva 4) Mid Term 5) Post Mid Term 4) Final Exam

Curriculum Physics Class -IX

S.No	Content	Objectives (Class IX)	Skills	Learning Objectives	Activity	Subject Integration	Outcome	Assessment
1	Motion (Ch-8)	To enable the students to • define the state of rest & motion. • comprehend that motion is relative. • differentiate between scalar & vector quantities, distance & displacement, uniform and non-uniform motion • to draw distance-time and velocity time graphs for various types of motion • prove graphically the three equations of motion: $v = u + at$ — (1) —(2) —(3)	Comprehension Comprehension Graphical Representation Cognitive	Interpersonal Linguistic Visual Logical mathematical	by quoting examples from daily life. by quoting examples from daily life. by learning new scientific terms graphs will be drawn on the board & students to draw in their registers	Maths (for graphs & solving numerical)	The students will be able to • explain the state of rest & motion and that motion is a relative term. • identify scalar & vector quantities and list the differences between distance & displacement & calculate them differently. • prove the thread equations of motion graphically. • interpret data from the given graphs • solve numerical based on graphs • understand uniform circular motion and that earth revolves with this motion	– Quiz Pre Mid Term, Mid Term Post Mid Term Final Exam

		<ul style="list-style-type: none"> Solve numericals based on these equations interpret information from the given distance time and velocity time graphs. Comprehend uniform circular motion and quote examples depicting this motion 	<p>Calculative</p> <p>Interpretation</p>	<p>Logical Mathematical Application Based Intrapersonal</p>	<p>numericals will be solved referring to other publisher's books from library (other than the NCERT) for practice</p> <p>Class activities + Motion is relative</p>			
2	<p>Force & Laws of Motion (Ch-9)</p>	<p>To enable the students to</p> <ul style="list-style-type: none"> recollect the concept of force, its effects, types, resultant force when more than one force acts on a body, balanced & unbalanced forces, friction its types etc comprehend the terms 'inertia' state and comprehend Newton's three laws of motion. apply the knowledge of the laws in daily life to give reasons for the activities or phenomenon occurring, like why we tend to fall forward when a moving bus suddenly stops etc state the laws/principles on which various activities are based like launching of jets, recoiling of gun etc. appreciate the works done by Sir Isaac Newton in define momentum. State & prove the law of conservation of momentum. solve numericals based on force, acceleration, momentum etc using the three laws of motion & the three equations of motion. 	<p>Recollection Revision Experimentative</p> <p>Linguistic</p> <p>Comprehension Memorisation Application of knowledge in daily life Scientific (approach)</p> <p>diagrammatic representation</p> <p>Research work working in groups</p> <p>Calculative & cognitive</p>	<p>Intrapersonal & Interpersonal Bodily Kinesthetic</p> <p>Kinesthetic Intrapersonal Visual/Spatial</p> <p>Visual</p> <p>Logical Mathematical Logical Mathematical</p>	<p>through classroom discussions.</p> <p>Lab activity : To find the value of limiting friction & relate it to increase in weight.</p> <p>When the card placed over a glass is flicked, the coin on it falls in the tumbler.</p> <p>When stricker in a carrom board is struck hard, only the coin at the bottom of a pile moves.</p> <p>through diagrams</p> <p>students to do research on sir Isaac Newton's life</p> <p>Solving numericals. activities : related to laws of motion</p>	<p>Maths</p> <p>(for solving numericals)</p> <p>Arts (for diagrammatic representation)</p> <p>History (by</p> <p>Class</p>	<p>Students will be able to</p> <p>define inertia, momentum etc.</p> <p>state the three laws of motion & the law of conservation of momentum.</p> <p>give reasons for activities related to motion in daily life like.</p> <p>Why should we wear seat belts while driving a car</p> <p>Why does a cricket player lowers his hands to catch a speedy ball.</p> <p>why leaves are detached from a tree</p> <p>Why does a gum recoil back when a shot is fired from it etc. etc</p> <p>solve numericals based on motion</p> <p>explain the three laws of motion & law of conservation of momentum</p> <p>mention the principle on which various phenomenon/activities are based.</p>	<p>Project/ Research Work on the life of Sir Isaac Newton</p> <p>Test Based on Numericals</p> <p>Pre Mid Term, Mid Term</p> <p>Post Mid Term</p> <p>Final Exam</p>
3	<p>Gravitation</p> <p>NCERT Book from page 131-137</p> <p>(Ch-10)</p>	<p>To enable the student to</p> <ul style="list-style-type: none"> recollect that everything falls on earth, planets revolve around sun etc. state & comprehend the universal law of gravitation and Kepler's laws of motion give reasons for the natural phenomenon like why tides are caused, why moon revolves around the earth & planets around the sun etc. Calculate the Universal Gravitation constant, G using the universal law of Gravitation. 	<p>Recollection & revision</p> <p>diagrammatic representation</p> <p>Scientific (approach) thinking by finding reasons behind things</p> <p>Calculative</p>	<p>Interpersonal</p> <p>Linguistic</p> <p>Visual logical mathematical</p> <p>Visual</p>	<p>through classroom discussions</p> <p>by writing & understanding the new scientific terms</p> <p>by solving numericals</p>	<p>Maths (for derivations, formulae & solving numericals.</p> <p>English (Creative writing on weightlessness)</p> <p>Astronomy (for knowing about heavenly bodies)</p>	<p>The students will be able to</p> <p>State and explain and appreciate universal law of gravitation/Kepler's law of motion.</p> <p>Give reasons for many natural phenomenon like</p> <p>–why planets revolve around sun, moon revolves around earth–why are tides caused</p> <p>–why does apple fall on earth, why not earth move towards the apple even if the force of attraction is the same between the two</p>	<p>Class Test</p> <p>Quiz</p> <p>Pre Mid Term, Mid Term</p> <p>Post Mid Term</p> <p>Final Exam</p>
		<ul style="list-style-type: none"> know the importance of the universal law of 	<p>appreciation</p>	<p>logical</p>	<p>through interactive session in the class</p>		<p>know why things weigh more at poles than</p>	<p>Final Exam</p>

		<ul style="list-style-type: none"> comprehended the concept of "Free Fall" Calculate the value of 'g' acceleration due to gravity differentiate between 'G' & 'g' modify the equations of motion of an object under free fall. differentiate between mass and weight Calculate the weight of objects on moon or other planets if the 'g' is known. Analyse that 'g' is not same everywhere even on earth know the concept of weightlessness 	comprehension		through mathematical derivations to be done in the registers		<p>Calculate the weight of an object on moon</p> <p>solve numericals based on facts</p> <p>differentiate between mass and weight</p> <p>find out the condition for weightlessness (a body having mass but no weight)</p>	
4	Thrust & Pressure Chapter 10	<p>To enable the students to understand :-</p> <ul style="list-style-type: none"> the meaning & definition of thrust & pressure, buoyancy & density able to solve numericals related to it. the factors on which pressure & buoyancy depends. apply this knowledge in day to day life, for example, why is it easier to cut with a sharp knife as compared to a blunt one, how increasing the surface area can reduce pressure etc. state, understand & explain Archimede's principle. able to reason out why some objects float & others sink. able to relate density of an object (relative density) with floating/sinking. 	<ul style="list-style-type: none"> Observation Experimentation Application Diagram making Calculation Group work drawing conclusions 	<ul style="list-style-type: none"> (i) Bodily-kinesthetic (by doing experiments) (ii) Visual (by drawing pictures) (iii) Logical mathematical (by solving numericals) (iv) Naturalistic (by giving examples from nature) (v) Interpersonal (by discussion) 	<ul style="list-style-type: none"> (i) Activity showing that Pressure is inversely proportional to the are of contact (e.g. inserting a blunt softboard pin & a sharp pin on board etc.) (ii) Showing relation between density & floating/sinking (using aluminium foil & water) (iii) proving Archimede's principle (in science laboratory) 	<ul style="list-style-type: none"> Maths (solving numericals) Arts (diagrams) 	<p>Students will be able to :-</p> <ul style="list-style-type: none"> understand the meaning & define thrust, pressure, buoyancy & denisty etc. state Archimede's principle reason out why some objects sink or float relate pressure with force and area of contact & reason out the same in different daily life situations 	<ul style="list-style-type: none"> 1) Practicals + Viva 2) Oral questions based on reasoning 3) Pre Mid Term 4) Mid Term 5) Post Mid Term 6) Final Exam
5	Work & Energy Chapter 11	<p>To enable the students to :-</p> <ul style="list-style-type: none"> deifne work, energy & its types, power and their units. calculate the work done by a body if force and distance is known. to identify the situtations where the work done is positive, negative & zero. calculate potential & kinetic energies, if the data is given. solve numericals based on power. understand the concept of transformation of energy by various examples like at a hydroelectric power house, Thermal power house etc. state the law of conservation of energy 	<ul style="list-style-type: none"> Calculation Logical Skill Social skill (to conserve energy) spiritual (worshipping sun, water etc. as God as they are powerful sources of energy) 	<ul style="list-style-type: none"> (i) logical mathematical (by solving numericals) (ii) visual (by seeing pictures) (iii) Interpersonal (by discussion) (iv) Naturalistic (using water, sun, wind as sources of energy) 	<ul style="list-style-type: none"> Students to discuss in small groups how certain sources of energy are due to the sun Also to list those sources of energy which are not due to the sun. Object thrown from a greater height harms more than at a lower height (because of more Potential energy) students to list some human activities and the gadgets they use which involve conversion of energy from one form to another. 	<ul style="list-style-type: none"> Maths (solving numericals) Social science (collecting name of various hydroelectric power platns in India, Thermal power plants etc. in India) 	<p>Students will be able to :-</p> <ul style="list-style-type: none"> define work, energy, power & their units solve numericals to calculate work done, potential energy, kinetic energy, total energy, power etc. identify situations for positive, negative or zero work done State the law of conservation of energy tell the various energy transformations that take place in a given situation or phenomenon 	<ul style="list-style-type: none"> 1) Worksheet based on numericals 2) Unit Test 3) Pre Mid Term 4) Mid Term 5) Post Mid Term 6) Final Exam

6	Sound Chapter 12	<p>To enable the students to :-</p> <ul style="list-style-type: none"> o define and differentiate between longitudinal and transverse waves. (graphically also) o identify that sound waves are longitudinal waves o define and describe the various characteristics of a sound wave and derive the relationship between them. o comprehend the phenomenon of production & propagation of a sound wave. o prove that sound needs a material medium to travel (it cannot travel through vacuum) <p>To enable the students to :-</p> <ul style="list-style-type: none"> o retell the speed of sound in air. o compare & contrast ultrasonics & infrasonics and their applications o analyse reflection of sound and its laws o describe the various applications of reflection of sound o extend the phenomenon of Echo o calculate the minimum distance to hear an echo. o comprehend the concept of multiple reflections & reverberation. o illustrate the various applications of multiple reflections of sound. o know about SONAR & how is it useful to us o draw & label the structure of human ear and retell the functions of its inner parts. 	<ul style="list-style-type: none"> — Listening/Speaking (through reading) — Mathematical calculation (graphs & solving numericals based on the relationship) — Analytical reasoning — reasoning — Experimentation (by practical) — Research (by finding out in detail the given applications) — Calculative Skills — Linguistic (new terms) — Calculative — Drawing Skills 	<ul style="list-style-type: none"> (i) Linguistic (ii) Logical/mathematical (iii) bodily kinesthetic (iv) Logical — Logical Style — Bodily Kinesthetic — Intrapersonal & Interpersonal (by discussing it in class) — Logical mathematical — Logical Mathematical — Visual/bodily kinesthetic 	<ul style="list-style-type: none"> — Listening keywords — Solving numericals Lab Practical - <ul style="list-style-type: none"> — Activity using tuning fork — discussion of bell Jar experiment Give reasons <ul style="list-style-type: none"> — Why we see lightning first & hear thunderstorm later etc. LAB Practical : <ul style="list-style-type: none"> — by proving the laws of sound in lab using iron rods etc. — Group presentations on various applications. Solving numericals + deriving the minimum distance to hear an echo. Solving numericals based on it <ul style="list-style-type: none"> — drawing & labelling of the structure of human ear 	<ul style="list-style-type: none"> o Maths (graphs & solving numericals) o Medical (applications of ultrasound etc.) o Arts (for diagrams) o Arts 	<p>Students will be able to :-</p> <ul style="list-style-type: none"> (i) retell that sound needs a medium to travel (ii) reason out why we cannot hear on moon (iii) describe the various characteristics of sound and which characteristic is associated to which quality of sound <p>Students will be able to :-</p> <ul style="list-style-type: none"> o retell the speed of sound in air & compare the speed of sound to the speed of light o know the hearing frequency range in humans o differentiate between ultrasonics & infrasonics & their applications o learn the laws of reflection of sound o reason out why an echo occurs & what are the conditions to hear an echo o Draw a well labelled diagram of human ear and retell functions of each part . o solve numericals based on multiple reflections of sound o identify, draw & label the various parts of a human ear and retell the functions of each part. 	<ul style="list-style-type: none"> 1) Presentations (Group Activity) 2) Practicals + Viva 3) Pre Mid Term 4) Mid Term 5) Post Mid Term 6) Final Exam
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Curriculum : Class IX Biology

S.N	Content	Objectives	Skills	Learning Styles	Activity	Subject Integration	Outcome	Assessment
1	The Fundamental Unit of Life	<p>Students should be able to:</p> <ul style="list-style-type: none"> i) list unicellular and multicellular organisms. ii) discuss why cell is the structural and functional unit of life. iii) draw neat and labelled diagrams of prokaryotic cell, plant and animal cell and cell organelles. 	<ul style="list-style-type: none"> Experimentation Observation Drawing diagrams Critical thinking 	<ul style="list-style-type: none"> * Visual (by drawing diagrams) * Bodily-Kinesthetic (by preparing slide of onion peel and performing experiments, preparing models) * Naturalistic (by performing experiments on plants and plant products) * Logical (by solving crossword) 	<ul style="list-style-type: none"> # To prepare stained temporary mount of onion peel and human cheek cell. (Bodily-kinesthetic & Naturalistic) # To observe plasmolysis in leaf. (Naturalistic) # To study the process of osmosis in different types of solutions. (Bodily-kinesthetic, Naturalistic & logical) # To observe the percentage of water imbibed by the raisins. (Bodily-kinesthetic & Naturalistic) 	Drawing (diagrams)	<p>Students should be able to:</p> <ul style="list-style-type: none"> i) name some unicellular and multicellular organisms. ii) draw neat and labelled diagrams. iii) recall the functions of different cell organelles. 	<ul style="list-style-type: none"> 1) Pre Mid Term 2) Mid Term 3) Post Mid Term 4) Group discussion

		<p>iv) enlist the functions of different cell organelles.</p> <p>v) differentiate between prokaryotic cell and eukaryotic cell, diffusion and osmosis, mitosis and meiosis.</p> <p>vi) define the terms like plasmolysis, endocytosis, exosmosis, endosmosis.</p> <p>vii) predict the situation of an animal or a plant cell when kept in a particular solution.</p> <p>viii) perform simple experiments and handle the apparatus.</p>	Analytical reasoning	<p>* Interpersonal (by group discussion)</p> <p>* Intrapersonal (by practising diagrams and composing poems or riddles)</p>	# To prepare models of animal and plant cell. (Bodily-kinesthetic)		<p>iv) differentiate between prokaryotic cell and eukaryotic cell, diffusion and osmosis, hypotonic, hypertonic and isotonic solutions, mitosis and meiosis.</p> <p>v) define the terms like plasmolysis, endocytosis, exosmosis, endosmosis.</p> <p>vi) predict the situation of an animal or a plant cell when kept in a particular solution.</p>	5) Final Exam
2	Tissues	<p>Students should be able to:</p> <p>i) enlist different plant and animal tissues.</p> <p>ii) explain the structure, location and function of different plant and animal tissues.</p> <p>iii) evaluate why plant and animal tissues are different?</p> <p>iv) draw neat and labelled diagrams of plant and animal tissues.</p> <p>v) differentiate between simple permanent tissues, bone and cartilage, blood and lymph, tendon and ligament.</p>	<p>Experimentation</p> <p>Observation</p> <p>Drawing diagrams</p>	<p>* Visual (by charts & diagrams)</p> <p>* Bodily-Kinesthetic (by performing experiments)</p> <p>* Naturalistic (by observing plant and animal tissue slides)</p> <p>* Intrapersonal (by practising diagrams)</p>	<p># To locate the position of meristematic tissue in onion roots. (naturalistic)</p> <p># To identify parenchyma, collenchyma & sclerenchyma tissues in plants. (Naturalistic)</p> <p># To identify striped muscle fibres & nerve cells in animals. (Naturalistic)</p>	Drawing (diagrams)	<p>Students should be able to:</p> <p>i) name different plant and animal tissues.</p> <p>ii) recall the structure, location and function of different plant and animal tissues.</p> <p>iii) draw neat and labelled diagrams of plant and animal tissues.</p> <p>iv) differentiate between simple permanent tissues, bone and cartilage, blood and lymph, tendon and ligament.</p>	<p>1) Pre Mid Term</p> <p>2) Mid Term</p> <p>3) Post Mid Term</p> <p>4) Group discussion</p> <p>5) Final Exam</p>
3	Improvement in Food resources	<p>Students should be able to:</p> <p>i) enlist rabi and kharif crops.</p> <p>ii) understand the need and summarize the techniques of bringing improvement in crops.</p> <p>iii) identify different methods of crop production improvement and crop protection management.</p> <p>iv) differentiate between manures and fertilizers, indigenous and exotic breed, mariculture and aquaculture.</p> <p>v) record the shelter and feeding requirements of cattles, poultry, fish & bee keeping.</p> <p>vi) understand the need for improving the breeds of domestic animals.</p>	<p>Experimentation</p> <p>Observation</p> <p>Critical thinking</p> <p>Analytical reasoning</p>	<p>* Visual (by charts)</p> <p>* Interpersonal (by group discussion)</p> <p>* Naturalistic (by performing experiments on food material)</p> <p>* Intrapersonal (by worksheets)</p> <p>* Bodily-Kinesthetic (by performing experiments)</p>	<p># To test the presence of starch in the given food sample. (Bodily- kinesthetic & Naturalistic)</p> <p># To test the presence of adulterant metanil yellow in dal. (Bodily- kinesthetic & Naturalistic)</p>	Geography	<p>Students should be able to:</p> <p>i) name a few rabi and kharif crops.</p> <p>ii) explain the need and the techniques of bringing improvement in crops.</p> <p>iii) explain different methods of crop production improvement and crop protection methods.</p> <p>iv) differentiate between manures and fertilizers, indigenous and exotic breed, mariculture and aquaculture.</p> <p>v) record the shelter and feeding requirements of cattles, poultry, fish & bee keeping.</p> <p>vi) name few exotic and indigenous breed of domestic animals & the need to hybridize</p>	<p>1) Pre Mid Term</p> <p>2) Mid Term</p> <p>3) Post Mid Term</p> <p>4) Group discussion</p> <p>5) Final Exam</p>

		vii) appreciate the role of scientific advancements in improving food production. viii) analyse how to get maximum benefits from the farm by applying some practices judiciously.				them.	
4 Diversity in living organisms	Students should be able to: i) write the hierarchy of categories in classification. ii) draw flowcharts showing the five kingdom classification, Classification of kingdom Plantae and Kingdom Animalia. iii) differentiate between phanerogams and cryptogams, vertebrates & invertebrates, monocots & dicots. iv) write a few characteristics of different divisions of Kingdom Plantae and phylums of Kingdom Animalia. v) recall a few common and scientific names of each division and phylum of Plantae and Animalia. vi) differentiate between different classes of Vertebrates	Observation Collection Drawing conclusion Group work Application	* Bodily-Kinesthetic (by collecting plant specimens) * Visual (by charts, specimens, power point presentation etc.) * Interpersonal (by group discussion) * Logical (by drawing flowcharts) * Naturalistic (by observing different flowering plants & categorising as monocot & dicot))	# Observing different plant specimens and write their identifying features. (Verbal- linguistic, Naturalistic) # Observing different animal specimens and write their identifying features and classify them. (Verbal- linguistic, Naturalistic) # Observing different flowering plants & classify them as monocot & dicot. (Naturalistic) # Classify observed organisms into different kingdoms. (Logical)		Students will be able to: i) understand the need of classification. ii) write the hierarchy of categories in classification. iii) draw flowcharts showing the five kingdom classification, Classification of kingdom Plantae and Kingdom Animalia. iv) differentiate between phanerogams and cryptogams, vertebrates & invertebrates, monocots & dicots. v) write a few characteristics of different divisions of Kingdom Plantae and phylums of Kingdom Animalia.	1) Pre Mid Term 2) Mid Term 3)Post Mid Term 4) Group discussion 5) Final Exam 6) Hands on practical
5 Why do we fall ill?	Students should be able to: i) understand personal and community health. ii) differentiate between acute and chronic diseases, being disease free and healthy. iii) classify different disease causing factors. iv) explain different means of spread of diseases. v) understand the principles of treatment of diseases. vi) understand the principles of prevention of disease. vii) understand the method of action of a vaccine and its need. viii) enlist causes and preventive measures of AIDS.	Observation, Drawing Conclusion Application	* Interpersonal (by neighbourhood survey) * Naturalistic (by observing disease causing microbes and their life cycle) *Logical (by drawing conclusions after survey) *Visual (by observing life cycle of mosquito and other disease causing microbes)	# Survey of neighbourhood to find how many people suffered from acute and chronic diseases. (Interpersonal) # Survey of neighbourhood to find the role of food in humans body growth and immunity. (Interpersonal) # List out the human diseases that are caused by micro-organisms and their preventive measures. # To study life cycle of mosquitoes.		Students will be able to: i) define personal and community health. ii) differentiate between acute and chronic diseases, being disease free and healthy. iii) enlist different modes of spread of diseases. iv) enlist the principles of treatment and prevention of diseases. v) explain the method of action of a vaccine and its need. vi) enlist causes and preventive measures of AIDS.	1) Pre Mid Term 2) Mid Term 3)Post Mid Term 4) Group discussion 5) Final Exam 6) Hands on practical

6 Natural Resources	Students should be able to: <ul style="list-style-type: none"> i) understand the role of atmosphere in climate control. ii) analyse why life is not there on moon? iii) relate land breeze and sea breeze with temperature. iv) outline the reasons of air water and soil pollution. v) compare the growth of lichen with pollution level. vi) uncover the factors that lead to the formation of soil. vii) reason out the causes of ozone layer depletion and their effects. 	Observation, Drawing Conclusion Inferential skill	*Visual (by charts, videos showing lichen and pollution causing scenes) * Bodily- Kinesthetic (by doing experiment)	# Comparing the temperature difference in glass bottles with air, water and sand when kept in sunlight and then in shade. #Burning of incense stick to show movement of hot air. # comparing the temperature difference inside and outside a car parked in open on a sunny day to study green house effect.		Students will be able to: <ul style="list-style-type: none"> i) describe the role of atmosphere in climate control, factors affecting ozone layer depletion and their effects. ii) differentiate between land breeze and sea breeze . iii) list out the causes of air, water and soil pollution. iv) compare the growth of lichen with pollution level. vi) explain the factors that lead to the formation of soil. 	<ol style="list-style-type: none"> 1) Pre Mid Term 2) Mid Term 3) Post Mid Term 4) Group discussion 5) Final Exam
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