# Yash Memorial School

**Sector 58, Gautam Buddh Nagar, Noida, Uttar Pradesh-201307**
**Yearly Syllabus of (2024-25)**
**Class -9**

## SUBJECT: ENGLISH

Prescribed Books:
1) **Text Book** – Beehive (NCERT)
2) **Supplementary Reader** – Moments (NCERT)

APRIL
**BEEHIVE** -The Fun They Had, The Road Not Taken (poem), Wind (poem), The Sound of Music [1. Evelyn Glennie, 2. Ustad Bismillah Khan],
**MOMENTS** - The Lost Child, The Adventures of Toto, Iswaranthe Story Teller
**GRAMMAR** - Determiners, Tenses, Integrated Grammar
**WRITING**–Formal Letter

JUNE
**BEEHIVE**- Rain on The Roof,The Little Girl
**MOMENTS**- In the kingdom Of Fools,The Happy Prince
**GRAMMAR**- Parts of Speech,Sentence & It's Kind
**WRITING** – Comprehension, Story Writing

JULY
**BEEHIVE** -The Lake Isle of Innisfree (poem), A Truly Beautiful Mind, A Legend of The Northland (poem)
**MOMENTS** - Weathering the Storm InErsama
**GRAMMAR** - Passive voice, Subject-verb Agreement, Integrated
**WRITING** – Short Composition

AUGUST
**BEEHIVE** - The Snake and The Mirror, My Childhood, Packing, No Men are Foreign
**MOMENTS** - Weathering the Storm InErsama
**GRAMMAR** –Punctuation & Spelling, Prepositions, Integrated Grammar
**WRITING**–Application Writing

SEPTEMBER - Revision for Half yearly Exams

OCTOBER
**BEEHIVE** - The Duck And the Kangaroo, Reach For the Top [1. Santosh Yadav, 2. Maria Sharapova]
**MOMENTS**- The Last Leaf
**GRAMMAR** - Direct& Indirect Speech
**WRITING** - Diary Entry

NOVEMBER
**BEEHIVE** - The Bond of Love, Kathmandu, On Killing A Tree,The Snake trying (poem)
**MOMENTS** - A House Is Not a Home
**GRAMMAR** - Integrated Grammar (Revision)
**WRITING** - Revision (Story Writing , Letter Writing)

DECEMBER

**BEEHIVE** - A Slumber Did My Spirit Seal, If I Were You
**MOMENTS** - The Accidental Tourist, The Beggar
**GRAMMAR** - Integrated Grammar
**WRITING** - Revision (Article writing, Comprehension)

JANUARY - Revision full Syllabus
FEBRUARY- Mock Test
MARCH- Final Exam

## Subject :- Hindi

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## Subject:-Mathematics

| MONTH | UNIT/TOPIC | PRACTICALS/ART INTEGRATED ACTIVITIES /INNOVATIVE PEDAGOGY | LEARNING OUTCOMES |
|---|---|---|---|
| APRIL | Number system<br><br>Polynomials | **Lab activity/ Art Integrated activity:**<br>□ To construct square root spiral with coloured paper<br>□ Using coloured papers,To verify identity $(a+b+c)^2=a^2+b^2+c^2+2ab+2bc+2ca$.<br>**Worksheets:**<br>□ MCQ based.<br>□ Hots question based.<br>□ Based on simple concepts.<br>**Audio Visual teaching aids:**<br>□ Smart class module. | **Students would be able to –**<br>• Represent natural numbers, integers, rational numbers on the number Line and terminating / non-terminating recurring decimals on the number Line through successive magnification.<br>• Recall of Laws of exponents with integral powers. Rational exponents with positive real bases.<br>• Method of Rationalization.<br>• find Factors and multiples. Zeros of a polynomial.<br>• State the Remainder Theorem with examples. Statement and proof of the Factor Theorem.<br>• Recall of algebraic expressions and identities. |

<table>
<tr>
<td rowspan="2">MAY</td>
<td>Lines and angles</td>
<td rowspan="2">Lab activity/ Art Integrated activity:<br>To verify Pythagoras theorem by paper cutting method<br><br>Worksheets:<br>• MCQ based.<br>• Hots question based.<br>• Based on simple concepts.</td>
<td rowspan="2">Students will be able to-<br>• Recall if a ray stands on a Line, then the sum of the two adjacent angles so formed is $180^O$ and the converse.<br>• Recall if two Lines intersect, vertically opposite angles are equal.<br>• Results on corresponding angles, alternate angles, interior angles when a transversal intersects two parallel Lines.<br>• Understand that a Linear equation in two variables has infinitely many solutions.<br>• Draw graph of Linear equations in two variables.</td>
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<td>Linear equation in two variables</td>
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|---|---|---|---|
| JUNE | Coordinate geometry<br><br>Heron's formula | **Lab activity:**<br>**Geo gebra as a tool can be used for Coordinate geometry.**.<br>**Worksheets:**<br>• MCQ based.<br>• Hots question based.<br>• Based on simple concepts.<br>**Audio Visual teaching aids:**<br>• Smart class module.<br>• Different software can be used like Geo Gebra. | **Students will be able to:**<br>• Define the Cartesian plane, coordinates of a point, names and terms associated with the coordinate pLane, notations, plotting points in the plane.<br>• Find area of a triangle using Heron's formula (without proof) and its application . |
| JULY | Triangles<br><br>Quadrilateral | **Lab activity:**<br>To verify that sum of external angles of a regular polygon is 360°.<br>• To verify Pythagoras theorem by papercutting method.<br>**Worksheets:**<br>• MCQ based.<br>• Hots question based.<br>• Based on simple concepts.<br>**Quiz based on different concept can be organize.**<br>**Audio Visual teaching aids:**<br>• Smart class module.<br>• Different software can be used like Geo Gebra. | **Students will be able to:**<br>• Recall rules of congruency i.e. SSS, ASA, SAS and RHS.<br>• Prove of the angles opposite to equal sides of a triangle are equaland vice versa.<br>• Recall The sum of the angles of a triangle is $180^{O}$.<br>• If a side of a triangle is produced, the exterior angle so formed is equal to the sum of the two interior opposite angles.<br>• Prove that diagonal divides a parallelogram into two congruent triangles.<br>• Recall in a parallelogram opposite sides are equal, and conversely. If a pair of its opposite sides is parallel and equal. |

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<td rowspan="2">AUGUST</td>
<td>Quadrilateral(contd.)</td>
<td rowspan="2">Lab /Sports Integrated activity:<br>
 To measure the area of Basketball court, Badminton court, Volume of cylindrical Pole .<br>
 To verify mid-point theorem.<br>
 To verify that the quadrilateral obtained by joining the mid points of the sides of the quadrilateral is a parallelogram.<br>
 Art Integrated Project<br>
 State paired with Arunachal Pradesh<br>
Audio Visual teaching aids:<br>
 Smart class module.<br>
 Different software can be used like Geo Gebra.</td>
<td rowspan="2">Students will be able to:<br>
 Proof of Midpoint theorem i.e. in a triangle, the Line segment joining the mid points of any two sides is parallel to the third side and in half of it and its converse.<br>
 Problems based on parallelogram divides it into twocongruent triangles.<br>
 Proof the diagonal of a quadrilateral bisect each other,then it is a parallelogram.<br>
 Integrate Maths with differentart forms.<br>
➢ Understand the diverse culture of our country create awareness aboutthe different art forms in other States.<br>
➢ Help students toimprovetheir cognitive abilities.<br>
➢ Exploremoreinthe weaving technology andtoidentify the Mathematical concepts involved inthe artform-<br>
➢ Most popular motives are Zig-Zag lines and angular designs</td>
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<td>Art Integrated projectwork under Ek BharatShrestha Bharat Programme</td>
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<tr>
<td>SEPTEMBER</td>
<td>Surface area and volume</td>
<td>Lab activity:<br>
• To find the area of a right circular cylinder.<br>
• To transform a square into a triangle both having equal area.<br>
Worksheets:<br>
• MCQ based.<br>
• Hots question based.<br>
• Based on simple concepts.</td>
<td>Students will be able to:<br>
• Find surface areas and volumes of cubes, cuboids, spheres (including hemispheres) and right circular cylinders/cones.</td>
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| OCTOBER | Statistics | **Lab activity:**<br>• Introduce the processof constructing Mathematical Models<br>• The process of Modeling, its Advantage and Limitations.<br>**Worksheets:**<br>• MCQ based.<br>• Hots question based.<br>• Based on simple concepts. | **Students would be able to:**<br>• Understand the concept of collection of data, presentation of data — tabular form, ungrouped / grouped, bar graphs, |
| NOVEMBER | Circles | **Worksheets:**<br>• MCQ based.<br>• Hots question based.<br>• Based on simple concepts. | **Students would be able to:**<br>• Proof of the angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle.<br>• Angles in the same segment of a circle are equal. |
| DECEMBER | Probability | **Worksheets:**<br>• MCQ based.<br>• Hots question based.<br>• Based on simple concepts.<br>**Audio Visual teaching aids:**<br>• Smart class module.<br>• Different software can be used like Geo Gebra. | **Students would be able to:**<br>• Understand experiments and observed frequency approach to probability. Focus is on empirical probability. |
| JANUARY | Construction | **Worksheets:**<br>• MCQ based.<br>• Hots question based. Based on simple | **Students would be able to:**<br>• Construct bisectors of Line segments and angles of measure60°, 90°, 45° etc., equilateral triangles.<br>• Construct triangle given its base, sum/difference of the other two sides and one base angle. |

**SCIENCE**

**PHYSICS**

| **Content / Topic** | **1st & 2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|
| **Chapter 8:** Motion | **Chapter 8:**<br>• Introduction<br>• Rest & motion – Definition with Examples<br>• Scalar and vector quantities<br>• Motion along a straightline<br>• Distance<br>• Displacement | **Chapter 8:**<br>• Uniform motion<br>• Non uniform motion<br>• Speed<br>• Average speed<br>• Speed with direction<br>• Average velocity<br>• SI units<br>• Numerical | **Chapter 8:**<br>• Acceleration and retardation<br>• Uniform accelerationand non uniform acceleration<br>• Numerical | **Chapter 8:**<br>• Graph : concept and importance<br>• Graphical representationof motion by d- t graph<br>• Calculation of speed from d-t graph. |
| **Practical** | Recognition of the apparatus in the lab. | | | |
| **Learning Objectives** | Students will be able to<br>• Get aware about meaning of rest and motion<br>• differentiate between distance and displacement.<br>• calculate the average speed in a given situation.<br>• state the examples of uniformly accelerated motion.<br>• Understand the difference between acceleration and retardation<br>• identify the type of motion from d-t graph. | | | |
| **Expected Learning Outcome** | The learners would be able to<br>• explain about motion and rest state of a body.<br>• Differentiate between scalar and vector quantities<br>• Explore the concepts of acceleration and critically analyze different types of graphs.<br>• find difference between speed and velocity and its calculation<br>• Develop meaning of speed and its unit<br>• Calculate speed from distance time graph. | | | |

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| | • evaluate the numerical value speed, velocity, acceleration distance and displacement.<br>• to correlate various physical quantities like distance, displacement, average speed, acceleration and retardation etcwith day to day observations. |
| **Teaching Aid** | • Smart Class Module |
| **Assessment** | • Ready question bankClass test |

**MONTH: June**

| **Content / Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| **Chapter 8:** Motion | **Chapter 8:**<br>• Graphical representation of motion by v - t graph<br>• Calculation of acceleration fromv-t graph<br>• Numericals basedon graphs | **Chapter 8:**<br>• Calculation of distance from v-t graph<br>• Numericals based on graphs<br>• Equations of motionby graphical method-<br>• Equation for velocity time relation | **Chapter 8:**<br>• Equations of motionby graphical method-<br>• Equation for position time relation<br>• Equation for position velocity relation<br>• Numerical problems based on equations of motion. | **Chapter 8:**<br>• Uniform circular motion<br>• Discussion of NCERT exercise<br>• **SUMMER BREAK** |
| **Practical/Activity** | • To determine the direction of motion of a body moving in a circular path. | | | |
| **Learning Objectives** | Students will be able to<br>• understand the importance of graphs for representing different types of motion.<br>• identify the type of motion from v-t graph.<br>• develop numerical solving skills<br>• understand the concept of equations of motion.<br>• learn concept of circular motion | | | |

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| **Expected Learning Outcome** | The learners would be able to<br>• Evaluate acceleration and distance from v-t graphs.<br>• Derive the three equation of motion graphically<br>• represent motion of given situation in graphical manner<br>• Solve numerical based on equation of motion.<br>• Explain uniform circular motion, and reason out why it is known as an accelerated motion with the help of anactivity. |
| **Teaching Aid** | • Smart Class Module |
| **Assessment** | • Ready question bank |

**MONTH: JULY**

| **Content / Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter 9 :** Force and Lawsof Motion | **Chapter 9 :**<br>• Force – Definition , effects<br>• Types of force<br>• Balanced and unbalanced forces. | **Chapter 9 :**<br>• Newton's first law of motion<br>• Definition of inertia<br>• Reasoning questions basedon first law. | **Chapter 9 :**<br>• Newton's second law of motion.<br>• Derive F=ma<br>• Momentum, impulse – definition and units. | **Chapter 9 :**<br>• Reasoning questionsand numericals based on second law.<br>• Newton's third lawof motion | **Chapter 9:**<br>• Reasoning Questions based on third law.<br>• Discussion of NCERT questions |
| **Practical/Activities** | • To find relation between the directions of action and reaction forces.<br>• To demonstrate third law of motion. | | | | |

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| **Learning Objectives** | Students will be able to<br>• understand force and its effects<br>• understand meaning of balanced and unbalanced forces<br>• understand newton's laws and their applications in daily life.<br>• explain the terms like inertia, impulse and momentum.<br>• calculate force acting on an object, the momentum associated with any moving object. |
| **Expected Learning Outcome** | The learners would be able to<br>• recall what is force and its effects and cite examples.<br>• differentiate between balanced and unbalanced forces<br>• give examples of inertia of rest, inertia of motion and explain how inertia is related to mass.<br>• evaluate the numerical value of force and momentum.<br>• explain the laws of motion in various situations.<br>• formulate Newton's second law of motion mathematically.<br>• relate different physical quantities |
| **Teaching Aid** | • Smart Class Module |
| **Assessment** | • Ready question bank<br>• Class Test |

**MONTH: AUGUST**

| Content / Topic | 1st Week | 2nd Week | 3rd Week | 4th Week |
|---|---|---|---|---|
| **Chapter 9 :** Force and Laws ofMotion<br><br>**Chapter 10:** Gravitation (Part I) | **Chapter 9 :**<br>• Conservation of momentum.<br>• Numerical problems based on conservation of momentum<br>• Discussion of NCERT exercise | **Chapter 10 :**<br>• Introduction<br>• Newton's Lawof gravitation<br>• Importance<br>• Numericals | **Chapter 10:**<br>• Free fall<br>• Difference between 'g'and 'G'.<br>• Derive formula of 'g<br>• Value of 'g' on earth. | **Chapter 10:**<br>• Variation in g from poles to equator<br>• Factors on which 'g' Depends<br>• Equations of motion during free fall Numericals based on free fall<br>• Difference between mass and weight.<br>• Weight of an object on moon. |
| **Practical** | • To find out least count of spring balance and understand its working. | | | |
| **Learning Objectives** | Students will be able to<br>• Understand the concept of conservation of momentum<br>• Understand the concept of Newton's law of gravitation.<br>• Differentiate between g and G; mass and weight.<br>• Calculate quantities using equations of motion during a free fall. | | | |
| **Expected Learning Outcome** | The learners would be able to<br>• calculate change in momentum in different situations.<br>• state universal law of gravitation and derive it mathematically and give its importance.<br>• evaluate the numerical value of g at different places like earth and moon.<br>• comprehend to the concept of acceleration due to gravity and its variation with poles.<br>• differentiate between mass and Weight and their calculation<br>• calculate the weight of given object on moon and earth. | | | |
| **Teaching Aid** | • Smart Class Module | | | |
| **Assessment** | • Note book Assessment | | | |

**MONTH: SEPTEMBER**

| **Content / Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th week** |
|---|---|---|---|---|---|
| | • Revision | • Revision<br>• PTII | • PTII | • PTII | • Distribution and discussion of PT-II answer sheets and correction of the same. |
| **Practical** | --- | | | | |
| **Learning Objectives** | Students will be able to<br>know and correct the mistakes done in the answer sheets of PT-II | | | | |
| **Expected Learning Outcome** | The learners would be able to<br>Understand and evaluate the errors and mistakes done in the paper and would be able to improve upon the same throughcorrection. | | | | |
| **Teaching Aid** | Sample Papers, Answer sheets and suggested answers. | | | | |
| **Assessment** | Class Tests | | | | |

**MONTH: OCTOBER**

| **Content / Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| **Chapter 10 :** Gravitation(Part II )<br>**Chapter 11:** Work and Energy | **Chapter 10:**<br>• Thrust<br>• Pressure<br>• Applications<br>• Numericals on Thrust and pressure<br>• Up thrust<br>• Buoyancy<br>• Why do objects float and sink? | **Chapter 10:**<br>• Archimedes Principle<br>• Numericals | **Chapter 10:**<br>• Density<br>• Relative density<br>• Numericals basedon density and relative density | **Chapter 11:**<br>• Introduction<br>• Work done by constant force<br>• Positive work<br>• Negative work<br>• Numerical |

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| **Practical** | • To determine density of solid (denser than water) by using a spring balance and a measuring cylinder |
| **Learning Objectives** | Students will be able to<br>• to explain the applications of thrust and pressure.<br>• understand the concept of flotation.<br>• relate Archimedes' principle with floating objects.<br>• understand the formula for work and types of work |
| **Expected Learning Outcome** | The learners would be able to<br>• define thrust and pressure and solve numerical problems based on them.<br>• calculate the density of a given solid.<br>• Explain the concept of buoyancy and explain why certain objects float or sink .<br>• comprehend to the meaning of work according to science<br>• explain the reason of considering work as positive or negative work.<br>• Solve numerical based on work done |
| **Teaching Aid** | • Smart Class Module |
| **Assessment** | • Ready question bank<br>• Class test |

**MONTH: NOVEMBER**

| **Content / Topic** | **1st & 2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|
| **Chapter 11:** Work and Energy | **Chapter 11:**<br>• Energy and its forms<br>• Kinetic energy<br>• Derive the expression forKE<br>• Numericals on KE | **Chapter 11:**<br>• Potential energy<br>• Derive the expression forPE<br>• Numericals on PE<br>• Transformation of energy | **Chapter 11:**<br>• Law of conservation of energy<br>• Conversion ofPE to KE | **Chapter 11:**<br>• Relation between SI unitand commercial unit energy<br>• Numerical |

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|---|---|---|---|---|
| | | | during a free fall<br>• Power<br>• Commercial unit of electrical energy | |
| **Practical** | To establish the relation between the loss in weight of a solid when fully immersed in (a) tap water (b) strongly saltywater, with the weight of water displaced by it by taking at least two different solids | | | |
| **Learning Objectives** | Students will be able to<br>• Identify and list different types of energy.<br>• understand the phenomenon of transformation of energy<br>• understand the relation between commercial and SI unit of energy. | | | |
| **Expected Learning Outcome** | The learners would be able to<br>• comprehend various examples showing transformation of energy.<br>• Define energy and classify mechanical energy into kinetic and potential energy.<br>• derive expression of KE and PE<br>• explain different types of energy.<br>• Comprehend to energy transformation in case of pendulum.<br>• State law of conservation of energy and Establish relation between SI and commercial unit of energy. | | | |
| **Teaching Aid** | • Smart Class Module | | | |
| **Assessment** | • Ready question bank<br>• Class test | | | |

**MONTH: DECEMBER**

| Content / Topic | 1st Week | 2nd Week | 3rd Week | 4th Week | 5th Week |
|---|---|---|---|---|---|
| **Chapter 12 :** Sound | **Chapter 12:**<br>• Introduction<br>• Production of sound<br>• Propagation of sound | **Chapter 12:**<br>• Sound needs medium to travel<br>• Types of waves – Longitudinal and transverse waves | **Chapter 12:**<br>• Characteristicsof wave – Wavelength , speed , amplitude and frequency<br>• Numericals | **Chapter 12:**<br>• Speed of sound in different media<br>• Reflection of sound | **Chapter 12:**<br>• Echo<br>• Numericals based on echo.<br>• Reverberation |
| **Practical** | • To determine velocity of a pulse propagated through a stretched string/slinky<br>• To verify laws of relection of sound | | | | |
| **Learning Objectives** | Students will be able to<br>• understand the phenomena of production as well as the propagation of sound<br>• list various characteristics of a wave<br>• differentiate between different types of waves.<br>• understand the phenomenon of reflection of sound | | | | |
| **Expected Learning Outcome** | The learners would be able to<br>• visualize sound as waves and explain that sound cannot produce without vibrating object.<br>• Able to explain different characteristics of sound waves and represent the propagation of sound with densityand pressure variations graphically.<br>• establish the relationship between velocity, frequency and wavelength of a sound wave.<br>• Solve simple numericals based on relation between velocity, frequency and time period<br>• identify the medium where speed of sound becomes maximum | | | | |
| **Teaching Aid** | • Smart Class Module | | | | |
| **Assessment** | • question bank | | | | |

**MONTH: JANUARY**

| Content / Topic | 1st Week | 2nd Week | 3rd Week | 4th Week |
|---|---|---|---|---|

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|---|---|---|---|---|
| **Chapter 12 :** Sound | Winter Break | • Recap of previous topics<br>**Chapter 12 :**<br>• Uses of multiple reflectionof sound<br>• Range of Hearing<br>• Infrasound<br>• Ultrasound | **Chapter 12:**<br>• Applications of ultrasound<br>• SONAR<br>• Working of a SONAR<br>• Numericals based on SONAR | **Chapter 12:**<br>• Structure of human ear<br>• Functions of various parts of human ear<br>• Discussion of NCERT exercise |
| **Practical** | Practice of practical based questions | | | |
| **Learning Objectives** | Students will be able to<br>• understand the meaning of reverberation<br>• comprehend the concept of infrasound, ultrasound and their applications.<br>• students will be able to solve numerical based on echo, SONAR etc.<br>• understand the functions of various parts of human ear. | | | |
| **Expected Learning Outcome** | The learners would be able to<br>• know about condition that is required for echo to take place<br>• apply concept of multiple reflection of sound in real life situations<br>• classify sound waves as infrasonic and ultrasonic and list their applications in daily life.<br>• Appreciate use of 'ultra-sounds' by animals / birds like dogs and bats and by fishes, like the dolphin<br>• Do numerical calculations associated with 'SONAR'.<br>• Draw the structure of human ear and explain the functions of its parts. | | | |
| **Teaching Aid** | Smart Class Module | | | |
| **Assessment** | • Note book Assessment<br>• Subject Enrichment Activity Assessment | | | |

**MONTH: FEBRUARY**

| **Content / Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| Revision | Revision | Annual exam | Annual exam | ------ |
| **Learning Objectives** | Students will be able to<br>• know and correct the mistakes done in the answer sheets of Final Examination. | | | |

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| **Expected Learning Outcome** | The learners would be able to<br>• understand and evaluate the errors and mistakes done in the paper and would be able to improveupon the same through correction |
| **Teaching Aid** | Sample papers, Answer sheets and suggested answers |
| **Assessment** | Annual exam |

**CHEMISTRY**

**MONTH-APRIL**

| **Content/Topic** | **1st Week and 2nd Week** | | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter 1:**<br><br>**Matter In Our Surroundings** | **Chapter 1**<br><br>• Physical nature of matter.<br>• Matter- Characteristics ofthe particles of matter. | • States of matter: - forces of attraction and space between particles of Matter.<br>• The solid state<br>• The liquid state | • The gaseous state.<br>• Interconversion of the states of matter.<br>• Effect of change of temperature and pressure on the stateof matter. | • Conversion formula (K=C+273).<br>• Latent Heat.<br>• Latent heat of fusion.<br>• Latent heat of vaporization. | • Evaporation<br>• Factors affecting the rate of Evaporation<br><br>Discussion of NCERT exercise. |
| **Practical** | • To determine the melting point of ice and boiling point of water. | | | | |
| **Learning Objectives** | It will enable the students to:<br><br>• describe matter and the characteristics of the particles of matter.<br>• understand the differences between the various states of matter.<br>• evaluate the conditions for the interconversion of various states of matter.<br>• explain latent heat of fusion and latent heat of vaporization.<br>• discuss Evaporation and explain various factors influencing evaporation. | | | | |
| **Expected Learning Outcomes** | Students would be able to:<br><br>• Understand the concept of matter and its characteristic<br>• State the difference between solid, liquid and gas on the basis of intermolecular force, density,rigidity, compressibility, diffusion, shape, volume and fluidity<br>• Show the relation between Kelvin and Celsius temperature and their effect of change oftemperature on the states of matter<br>• Understand the effect of change of temperature, pressure and both on the states of matter<br>• Understand the concept of melting, boiling, freezing, sublimation and condensation<br>• Understand the concept of latent heat of fusion and latent heat of vaporization | | | | |

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| | • Understands and state the factor affecting the rate of evaporation<br>• Understand how evaporation causes cooling | |
| **Teaching aids** | • Smart Board Content | |
| **Assessment** | • Ready Question bank<br>• Class Test | |

**MONTH: JUNE**

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| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| **Chapter 2:**<br>**Is Matter Around UsPure?** | **Chapter 2**<br>• Mixtures and pure substances.<br>• Mixtures – homogeneous and heterogeneous. | • Mixtures as solutions or true solutions.<br>• Solution: Homogeneous and heterogeneous solution.<br>• Properties of a solution. | • Concentration of a solution.<br>• Numericals on solubility and concentration of solution. | • Solubility of a substance (Temperature and Pressure dependence)<br>• Saturated and unsaturated solution. |
| **Practicals** | • To the study of the properties of mixture (iron fillings and sulphur powder) and compound (iron sulphide) on the basis of their behaviour towards magnet, behavior towards carbon disulphide, effect of heat and reaction with dil.<br>HCl (aq). | | | |
| **Learning Objectives** | It will enable the students to:<br>• describe and differentiate between elements, compounds and mixtures with examples.<br>• discuss homogeneous and heterogeneous mixtures with examples.<br>• explain physical and chemical changes with examples.<br>• describe the different types of solutions and their properties<br>• understand the properties of True solution | | | |

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| **Expected Learning Outcomes** | Students would be able to: -<br><br>• classify substances as pure (element, compound) and impure (mixture) substances. |

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| | • analyse the differences in the properties of elements, compounds and mixtures.<br>• classify elements as metals, non-metals and metalloids based on their general physical properties.<br>• Understand the concept of mixture and compound<br>• classify mixtures as homogeneous and heterogeneous mixtures with examples from daily lives.<br>• State the difference between physical change and chemical change<br>• Ana lyse the differences in physical and chemical changes and apply their knowledge and understanding in dailylives.<br>• analyse the characteristics of true solution and various types of true solutions |
| **Teaching aids** | • Smart Board Content, Ready reckoner |
| **Assessment** | • Ready Question Bank,<br>• Class Test |

**MONTH: JULY**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter 2:**<br>**Is Matter Around UsPure?** | **Chapter 2**<br>• Suspension<br>• Properties of suspension. | • Colloids<br>• Properties of colloids.<br>• Various types of colloids. | • Separating the components of Mixtures: - (techniqueused, principle involved and applications).<br>• How can we obtain coloured component (dye) from blue/ blackink? (Evaporation) | • How can we separate cream frommilk?<br>• Disussion on Churning and Centrifugation.<br>• How can we separate a mixture oftwo immiscible liquids?<br>• Discussion on use of separating funnel. | • How can we separate a mixtureof salt and camphor?<br>• Discussion on process of Sublimation. |
| **Practicals** | • To study the properties of true solution, suspension and colloid and distinguish between them on the basis oftransparency, stability and filtration. | | | | |
| **Learning Objectives** | It will enable the students to:<br>• calculate the solubility and concentration of the solution.<br>• evaluate the dependence of solubility on temperature and pressure.<br>• describe the properties of suspensions and colloids | | | | |

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| | • comprehend the difference between true solution, suspension and colloids on the basis of their properties |
| **Expected Learning Outcomes** | Students would be able to:<br>• classify solutions as true solution, suspension and colloid on the basis of properties shown by them-transparency,stability and filtration.<br>• categorise solutions as true solution, suspension and colloid with examples from daily lives with understanding.<br>• explain tyndall effect with examples from day today life.<br>• apply their knowledge and understanding of solubility and concentration of a solution in numericals. |
| **Teaching aids** | • Smart Board Content |
| **Assessment** | • Ready Question Bank<br>• Class Tests |

**MONTH: AUGUST**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| **Chapter 2:**<br>**Is Matter AroundUs Pure?** | **Chapter 2**<br>• Is the dye in black ink a single colour?<br>• Discussion on the technique of Chromatography and its applications.<br>• How can we separate a mixture of two miscible liquids?<br>• Discussion on distillation and its applications. | • Discussion on fractional distillation and its applications.<br>• How can we obtain different gases from air?<br>• Discussion on the effectof pressure and temperature for the separation of gases of air. | • How can we obtain pure copper sulphate from an impure sample?<br>• Discussion on the technique of crystallization for obtaining pure substances.<br>• Water purification system.<br>• Physical and chemical changes. | • Classification of Elements – metals, nonmetals and metalloids.<br>• Elements and Compoundsas pure substances.<br>• Discussion of NCERT textbook exercise questions. |
| **Practicals** | • To separate the components of a mixture of ammonium chloride, common salt and sand by sublimation. | | | |

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| | • To study the following chemical reactions:-displacement reaction and double displacement reaction , combination reaction and decomposition reaction. |
| **Learning Objectives** | The students will be able to:-<br>• differentiate between various separations techniques and analyse them on the basis of principle involved and theirapplications.<br>• appreciate the role of various techniques in the separation of the components of mixture. |
| **Expected Learning Outcomes** | The students would be able to:-<br>1. apply their knowledge and understanding of principle involved in each technique in day today life activities. compare and analyze the parameters of technique to be applied in various situations. (evaporation/crystallisation) or(distillation/fractional distillation) or (filtration/centrifugation)<br>• Separating component of a mixture<br>• Separation of ink from dye and its application<br>• Separation of two miscible and immiscible liquid<br>• Separating through distillation and fractional distillation and its application<br>• Separating through crystallisation and its application<br>2. appreciate the role of each technique and it's applicability in large scenario.<br>3. Critically analyse separation techniques in separation of components of air and water purification and amalgamatethem to design better techniques. |
| **Teaching aids** | • Smart Board Content |
| **Assessment** | • Note books Assessment<br>• Class tests<br>• Ready Question Bank. |

**MONTH: SEPTEMBER**

| **Content/Topic** | **1st Week** | **2nd Week , 3rd Week & 4th Week** | **5th Week** |
|---|---|---|---|
| **Revision**<br>**PT II Exam** | **Revision** | **Periodic Test II Exam** | Distribution and discussion of answer sheets |
| **Practicals** | Discussion of Practical based questions | | |

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| **Learning Objectives** | It will enable the students to:<br>• Recall and remember all the concepts<br>• Know and correct the mistakes done in the answer sheets of Term end I examination. |
| **Expected Learning Outcome** | Students would be able to:<br>• Recall and remember all the concepts<br>• The learners would be able to understand and evaluate the errors and mistakes done in thepaper and would be able to improve upon the same through correction |
| **Teaching aids** | • Smart Board Content, Reference Book |
| **Assessment** | • Ready question bank |

**MONTH: OCTOBER**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| **Chapter 3:**<br>**Atoms and Molecules** | **Chapter 3:**<br>• Introduction of the Laws of Chemical combination<br>• Law of conservation of mass. | • Law of constant proportion<br>• Dalton's Atomic Theoryand its postulates.<br>• Practice of questions basedon Laws of chemical combinations | • Numerical –<br>a) Ratio by mass of atoms and by number of atoms.<br>b) Percentage compositionof the compound by weight | • What is an atom?<br>• Atomic mass.<br>• Atomic mass unit.<br>• Existence of atoms.<br>• Molecules of elements and compounds. |
| **Practical** | • To verify the law of conservation of mass. | | | |
| **Learning objectives** | It will enable the students to:<br>• state the laws of chemical combination.<br>• describe the laws of chemical combination.<br>• evaluate Dalton's atomic theory with the present situation.<br>• understand atoms, molecules and atomicity.<br>• describe the role of unified Mass and Carbon 12 as standard for reference. | | | |

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| **Expected Learning Outcomes** | Students would be able to:-<br>• state the laws of chemical combination.<br>• state both the laws of chemical combination with examples.<br>• analyse the importance and interdependence of both the laws of chemical combination on each other.<br>• relate the postulates of Dalton's atomic theory with the laws of chemical combination and give explanation to thepostulates of Dalton's atomic theory which are being challenged now.<br>• differentiate between an atom and a molecule.<br>• write atomicity for similar and dissimilar elements.<br>• define unified mass, relative atomic mass and give reason for the use of c-12 as standard for atomic mass.<br>• recall the atomic masses of some prominent elements along with their symbols<br>• comprehend the constituting elements in a compound and their combination on the basis of their mass ratios. |
| **Teaching aids** | • Smart Board Content, Practice of numericals from reference books, |
| **Assessment** | • Class tests<br>• Ready Question Bank. |

**MONTH: NOVEMBER**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week and 5th Week** |
|---|---|---|---|---|
| **Chapter 3:**<br>**Atoms and Molecules** | • Ions<br>• Writing chemical formulae | • Formulae of simple compounds.<br>• Molecular mass | • Formula unit mass<br>• Molar mass<br>• Numerical and practiceof molecular mass , formula unit mass of compounds | • Introduction to Mole concept (relationship of mole and mass of a substance)<br>• Numerical on mole Concept (relationship of mole and number of particles) |
| **Practical** | | | | |
| **Learning Objectives** | It will enable the students to:<br>• discuss various ions and using them for writing chemical formula.<br>• calculate Molecular Mass and Molar Mass<br>• understand the significance of mole in terms of mass and number of particles | | | |

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| **Expected Learning Outcomes** | Students would be able to:-<br>• Understand the concept of molecules and atomicity.<br>• Write the ratio by mass or ratio by number of atom of a compound<br>• differentiate between an atom and an ion<br>• define and write examples of cations, anions and polyatomic ions.<br>• apply their knowledge of ions in writing chemical formulae.<br>• calculate the molecular mass and molar mass.<br>• analyse the role of unified mass and gram molecular/atomic mass.<br>• define the term mole and explain it's significance in daily life situations.<br>• apply the concept of mole in terms of mass and number of particles |
| **Teaching aids** | • Smart Board Content, Practice of numericals from reference books, |
| **Assessment/ Activity** | • Ready question bank, Class Tests |

**MONTH: DECEMBER**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter 3: Atomsand Molecules**<br><br>**Chapter 4: Structure of Atom** | **Chapter-3**<br>• Numericals on mole Concept<br>(relationship of mole and number of particles) | • Discussion of NCERT text book exercise questions | **Chapter - 4**<br>• Charged particlesin matter.<br>• Discovery of electrons and protons and their properties.<br>• Thomson's modelof atom. | • Drawbacks of Thomson's model of atom.<br>• Rutherford's model of an atom:<br>• Experimental set up, observations and conclusions.<br>• Nuclear model of an atom by Rutherford<br>• Limitations of Rutherford's model of an atom. | • Introduction to the Neil Bohr model of atom.<br>• Bohr's model of atom. |
| **Practical** | | Discussion of Practical based questions. | | | |

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| **Learning Objectives** | It will enable the students to:<br>• The students will be able to:-<br>• understand the significance of mole in terms of mass and number of particles.<br>• comprehend the existence of various sub atomic particles.<br>• explain Thomson's and Rutherford's model of an atom. |
| **Expected Learning Outcomes** | Students would be able to:<br>• apply the concept of mole in terms of mass and number of particles.<br>• analyse Thomson's model of an atom<br>• critically analyse alpha scattering experiment by comparing with the previous proposed model of atom.<br>• compare the properties of the sub-atomic particles.<br>• Knowhow and who discovered the electron and canal rays<br>• Understand the Thomson's model of atom<br>• Justify the use of Gold foil by Rutherford in his alpha rays scattering experiment.<br>• explain the observations of alpha scattering experiment in detail along with the supporting reasons.<br>• Analysing the observations of Rutherford's experiment and deducing its drawbacks<br>• Compare and contrast on the details of Thomson and Rutherford model of an atom. |
| **Teaching aids** | • Videos, Smart Board Content, Practice of numericals from reference books |
| **Assessment/ Activity** | • Power point presentations<br>• Ready Question bank |

**MONTH: JANUARY**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| **Chapter 4: Structure of Atom** | **Winter Break** | • Discovery of neutrons.<br>• How are electrons distributed in different shells?<br>• Valency | • Atomic number<br>• Mass number<br>• Isotopes, Isobars<br>• Average atomic masses. | • Numericals on Average Atomic masses of isotopes<br>• Discussion of NCERT exercise questions. |
| **Practical** | • Discussion of Practical based questions | | | |

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| **Learning Objectives** | It will enable the students to:<br>• explain Bohr's model of an atom<br>• understand the distribution of various electrons in shells<br>• comprehend the concept of valency<br>• write the electronic configurations of first twenty elements along with their valency with explanation.<br>• explain atomic number and mass number<br>• differentiate between isotopes and isobars<br>• discuss the applications of Isotopes.<br>• describe the concept of average atomic mass of the isotopes with examples through numericals. |
| **Expected Learning Outcomes** | Students would be able to:<br>• explain Bohr's model of an atom and critically analyse by comparing with the previous proposed models ofatom.<br>• write the electronic configurations of first twenty elements along with their valency with explanation.<br>• write electronic configuration of the ions formed by the first twenty elements excluding the noble gases.<br>• comprehend the meanings of atomic number and mass number and try to represent the element with them.<br>• Analyse the difference between isotopes and isobars with examples.<br>• compare the number of sub atomic particles of various isotopes of the same element.<br>• write electronic configuration of the various isotopes of the same element.<br>• write the applications of isotopes in day today life.<br>• calculate the average atomic mass of the isotopes and give explanation for fractional atomic masses. |
| **Teaching aids** | • Smart Board Content, Videos |
| **Assessment/ Activity** | • Notebook assessment<br>• Subject Enrichment Activity |

**MONTH: FEBRUARY**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| Revision<br><br>**Final Exams** | Revision | **Final Exams** | **Final Exams** | ---------- |

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| **Practical** | • Discussion of Practical based questions |
| **Learning Objectives** | It will enable the students to:<br>• Recall and remember all the concepts |
| **Expected Learning Outcomes** | Students would be able to:<br>• Recall and remember all the concepts |
| **Teaching aids** | • Sample papers, suggested answers. |
| **Assessment/ Activity** | • Final Exams |

**MONTH APRIL** **BIOLOGY**

| **Content/Topic** | **1st Week and 2nd Week** | | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter- 5**<br><br>**The Fundamental Unit of Life** | **Chapter- 5**<br>• Discovery of cell<br>• Shapes of cell<br>• Unicellular and multicellular organisms | • Division of labour<br>• Cell organelles<br>• Plasma membrane | • Diffusion and osmosis<br>• Cell wall<br>• Structures and functions of Nucleus | • Cytoplasm<br>• Endoplasmic reticulum<br>• Golgi bodies<br>• Lysosome<br>• Mitochondria | • Plastids<br>• Vacuoles<br>• Cell Division<br>• Discussion of NCERT Exercise Questions. |
| **Practicals** | • To prepare stained temporary mounts of:<br>(a) onion peel and (b) human cheek cells and to record observations and draw their labelled diagrams. | | | | |
| **Learning Objectives** | It will enable the students to:<br>• understand the discovery of cells<br>• understand the importance of types of cells<br>• understand the meaning of division of labour in a body<br>• explain the functioning of cell organelles<br>• differentiate between osmosis and diffusion<br>• draw various parts of a cell<br>• compare between plant cell and animal cell<br>• Understand the meaning and concept of tissues<br>• know the tissue and its types | | | | |

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| **Expected Learning Outcomes** | Students would be able to:<br>• analyse the history behind discovery of cells<br>• interpret the importance of types of cells<br>• differentiate between prokaryotic and eukaryotic cell<br>• explain the structure and functions of plasma membrane<br>• explain the structure and functions of different organelles.<br>• Draw labelled diagrams of all important cell organelles. | |
| | • differentiate between diffusion and osmosis with daily based examples.<br>• Correlate the change in shape in certain plant parts with this process.<br>• Compare the change in shape with the direction of movement of water molecules.<br>• interpret various types of tissues | |
| **Teaching aids** | • Class Board, Smart Board Content, Permanent slides, | |
| **Assessment** | • Ready Question bank<br>• Class Test<br>• Diagram based assessment | |

**MONTH: June**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| Chapter-6 Tissues | **Chapter- 6**<br>•Tissues<br>•Types of Tissues<br>•Plant tissues | • Meristematic Tissues: Types and characteristics.<br>• Permanent tissue<br>• Types of permanent tissues | • Simple permanent tissue: Typesand characteristics.<br>• Complex permanent tissue- Types and characteristics.<br>• Animal tissues and its types | • Epithelial Tissues<br>• Connective tissue<br>• Muscular tissue<br>• Nervous tissue<br>• Discussion of NCERT Exercisequestions. |
| **Practicals** | • Identification of Parenchyma, Collenchyma and Sclerenchyma tissues in plants, striped, smooth and cardiacmuscle fibers and nerve cells in animals from prepared slides. Drawing of their labeled diagrams.<br>• To prepare a temporary stained mount of leaf to show the distribution of stomata on leaf surfaces. | | | |
| **Learning Objectives** | It will enable the students to:<br>• Identify and locate the meristematic and permanent tissue on plant body<br>• understand the structure and functions of meristematic and permanent tissues<br>• classify permanent tissues as simple and complex tissues.<br>• Analyse the function of vascular tissue in plant body.<br>• explain structure the functioning of various animal tissues<br>• draw the shapes of various plant and animal tissues<br>• differentiate between various epithelial tissues and connective tissues | | | |

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| | • explain importance of nervous and muscular tissues |
| **Expected Learning Outcomes** | Students would be able to: -<br>• differentiate between meristematic and permanent tissues<br>• locate different tissues in the plant body.<br>• locate various animal tissues in the living organisms.<br>• corelate various animal tissues and their functions.<br>• Establish interdependence of animal tissues to carry out body functions. |
| **Teaching aids** | • Smart Board Content, Power Point Presentations, Permanent slides, Ready reckoner |
| **Assessment** | • Ready Question Bank<br>• Diagram based assessment<br>• Class Test |

**MONTH: JULY**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter 7:**<br>**Diversity in Living Organisms** | • Basic features of organisms<br>• Importance of diversity<br>• Basis of classification<br>• Hierarchy of Classification | • Introducing Five Kingdoms of classification.<br>• Kingdom Monera (Archae-bacteria and Eubacteria). | • Kingdom Protista.<br>• Kingdom Fungi.<br>• Characteristics and comparative account.<br>• Basis of classification of Plant kingdom. | • Division of kingdom Plantae<br>• Thallophyta<br>• Bryophyta<br>• Pteridophyta Characteristics and comparative account. | • Gymnospermae, Angiospermae<br>• Dicotyledonous and monocotyledonous plants<br>• Discussion of NCERT Exercise Questions |
| **Practicals** | • Study of the characteristics of Spirogyra / Agaricus, Moss / Fern, Pinus (either with male or female cone) and anAngiospermic plant. Drawing and providing two identifying features of the groups they belong to.<br>• Study of the external features of root, stem, leaf and flower of monocot and dicot plants. | | | | |
| **Learning Objectives** | It will enable the students to:<br>• understand the concept and importance of diversity | | | | |

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| | • explain the method of classification<br>• classify organisms into various groups on the basis of five kingdom classification<br>• correlate different plant groups |
| **Expected Learning Outcomes** | Students would be able to:<br>• analyse the importance of biodiversity<br>• State the importance of hierarchy in classifying organisms.<br>• Understand the role of evolution in classification of organisms.<br>• Stress upon the specific charcteristics to classify living beings into categories.<br>• identify the organisms according to their biological names.<br>• Justify the comparative account across all the Kingdoms.<br>• Give a detailed comparison between divisions of plant kingdom. |
| **Teaching aids** | • Microscope, Permanent Slides, Smart Board Content, Ready reckoner.<br>• Specimen study |
| **Assessment** | • Ready Question Bank<br>• Diagram based assessment.<br>• Field study. |

**MONTH: AUGUST**

| **Content/Topic** | **1st Week &** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| **Chapter 7:**<br>**Diversity in Living Organisms** | • Animal Kingdom<br>• Basis of classification of animal kingdom.<br>• Phyla- Porifera Coelenterata<br>• Characteristics and comparative account of above mentioned Phyla. | • Phyla Platyhelminthes Nematoda<br>• Characteristics and comparative accountof above mentioned Phyla. | • Phyla- Annelida Arthropoda Mollusca Echinodermata<br>• Characteristics and comparative account of above mentioned Phyla. | • Phylum Vertebrata Classes – Pisces Amphibia Reptilia Aves Mammalia<br>• Characteristics and comparative account of above mentioned Classes. |

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| | | | | • Binomial nomenclature<br>• Discussion of NCERT ExerciseQuestions. |
| **Practicals** | • Observing the given pictures / charts / models of earthworm, cockroach, bony fish and bird.<br>• For each organism, drawing of their picture and recording:<br>a) one specific feature of its phylum.<br>b) one adaptive feature with reference to its habitat. | | | |
| **Learning Objectives** | It will enable the students to:<br>• Identify the basis of classification of Kingdom Animalia.<br>• Categories animals into groups.<br>• State the comparative account of animal kingdom.<br>• understand the concept of binomial nomenclature ( its need and application) | | | |
| **Expected Learning Outcomes** | Students would be able to: -<br>• identify different types of animals based on characters<br>• differentiate chordates from non-chordates<br>• classify chordates based on features<br>• learn the method of nomenclature of organisms<br>• understand naming of organisms | | | |
| **Teaching aids** | • Smart Board Content, Specimens, | | | |
| **Assessment** | • Note books Assessment<br>• Class tests<br>• Ready Question Bank. | | | |

**MONTH: SEPTEMBER**

| Content/Topic | 1st Week | 2nd Week, 3rd Week & 4th Week | 5th Week |
|---|---|---|---|
| **Revision**<br>**PT III Exams** | **Revision** | **Periodic Test II Exam** | Distribution and discussion of answer sheets. |
| **Practicals** | Discussion of Practical based questions | | |
| **Learning Objectives** | It will enable the students to:<br>• Recall and remember all the concepts | | |
| **Expected Learning Outcome** | Students would be able to:<br>• Recall and remember all the concepts | | |
| **Teaching aids** | • Class Board, Smart Board Content | | |
| **Assessment** | • Ready Question Bank | | |

**MONTH: OCTOBER**

| Content/Topic | 1st Week | 2nd Week | 3rd Week | 4th Week |
|---|---|---|---|---|
| **Chapter 13:**<br>**Why Do We Fall Ill?** | • Health<br>• Difference between healthy and diseased person.<br>• Symptoms and signs of a disease. | • Acute and chronic disease.<br>• Causes of a disease<br>• Infectious agents | • Infectious and non-infectious disease.<br>• Spreading of a disease. | • Organ and tissue specific manifestations<br>• Principle of treatment<br>• Principle of Prevention |
| **Practical** | • Undertake a case study of a diseased person and prepare a detailed report. | | | |
| **Learning objectives** | It will enable the students to:<br>• understand meaning of health<br>• correlate diseases with their symptoms and signs | | | |

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| | • differentiate between acute and chronic disease<br>• classify various diseases into infectious and non-infectious diseases<br>• correlate symptoms and organs<br>• explain the principle of immunization<br>• correlate vaccination and immunization |
| **Expected Learning Outcomes** | Students would be able to:-<br><br>• discuss necessary conditions for good health.<br>• Implement the necessary conditions for having a good health.<br>• identify various symptoms of a disease.<br>• identify various chronic and infectious diseases.<br>• Categorise the diseases according to the type of pathogen causing the disease.<br>• classify infectious diseases and their agents from own experience.<br>• correlate immunization and vaccine for a disease.<br>• Explain the mechanism of vaccine action.<br>• Justify the modes of prevention of diseases rather than their cure.<br>• Carry out a survey to do a case study on new born babies and their vaccination schedule and its importance.<br>• Carry out a survey in their locality to identify and report the occurance of any specific infection. |
| **Teaching aids** | • Videos, Smart Board Content, Mind Map, |
| **Assessment** | • Class tests<br>• Ready Question Bank<br>• Project based assessment. |

**MONTH: NOVEMBER**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter 14: Natural Resources** | • Natural Resources<br>• Wind formation<br>• Role of air in temperature control | • Air pollution<br>• Acid rain<br>• Smog<br>• Water as a resource | • Importance of water for a living organism<br>• Water pollution<br>• Effects of water pollution. | • Weathering of rocks<br>• Agents of soil formation- wind, water, sun, organisms. | • Soil pollution. |

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| **Practical** | • Discussion of practical based Questions |
| **Learning Objectives** | It will enable the students to:<br>• Identify the natural resources.<br>• understand the concept of air as blanket.<br>• explain the causes of air pollution.<br>• differentiate between smoke and smog<br>• understand the concept of water pollution<br>• explain weathering of rocks<br>• know various agents of weathering |
| **Expected Learning Outcomes** | Students would be able to:-<br>• signify the importance of various natural resources<br>• Explain the formation of wind and soil.<br>• Explain the role of air in controlling the temperature of atmosphere.<br>• explain the various modes of polluting the resources.<br>• Explain the importance of water for all the biotic and abiotic factors.<br>• classify the different pollutants of water and soil.<br>• Explain in detail the effects of water and soil pollution on plants and animals.<br>• Explain the factors leading to weathering of rocks and soil formation. |
| **Teaching aids** | • Videos on importance of natural resources, Smart Board Content, Mind Map |
| **Assessment/ Activity** | • Class discussions<br>• Class tests<br>• Ready Question Bank |

**MONTH: DECEMBER**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
|---|---|---|---|---|---|
| **Chapter-14: Natural Resources** | • Biogeochemical cycles- water | • Carbon cycle and oxygen cycle. | • Ozone layer depletion | **Chapter-15**<br>• Kharif and Rabi crops<br>• Photoperiodism | • Factors of crop variety improvement |

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| **Chapter- 15: Improvement in FoodResources** | • Biogeochemical cycles- nitrogen cycle. | • Significance of biogeochemical cycles.<br>• Green house effect, Global Warming. | • Discussion of NCERT ExerciseQuestions. | • Hybridisation | • Green revolution<br>• White revolution |
| **Practical** | Discussion of practical based Questions | | | | |
| **Learning Objectives** | It will enable the students to:<br>• understand the concept of carbon and oxygen recycling<br>• explain the role of various organisms in recycling<br>• correlate pollution and ozone depletion<br>• classify the causes of ozone depletion<br>• recognize the pictures related to various sources<br>• understand the Green revolution<br>• understand the concept of photoperiodism<br>• describe crop improvement techniques<br>• explain meaning of term hybridization | | | | |
| **Expected Learning Outcomes** | Students would be able to:<br>• Explain the interdependence of organisms on biogeochemical cycles<br>• Explain the formation of ozone and its importance to earth atmosphere.<br>• explain stability of oxygen in comparison to ozone.<br>• Analyse the effects of ozone layer depletion.<br>• Identify the Kharif and Rabi crops and justify their seasons of growth and harvest.<br>• Understand the improvisation of genetically modified crops.<br>• Interpret importance of hybridization | | | | |
| **Teaching aids** | • Videos, Smart Board Content, Mind Map | | | | |
| **Assessment/ Activity** | • Power point presentations<br>• Ready Question bank | | | | |

**MONTH: JANUARY**

| Content/Topic | 1st Week | 2nd Week | 3rd Week | 4th Week and 5th Week |
|---|---|---|---|---|
| **Chapter-15:**<br><br>**Improvement in Food Resources** | **Winter Break** | **Chapter-15**<br><br>• Manure and fertilizers<br>• Irrigation<br>• Cropping patterns<br>• Crop protection- pests and weeds<br>• Storage of grains. | • Animal husbandry<br>• Cattle farming<br>• Cattle feed<br>• Indigenous variety and exotic variety.<br><br>• Poultry farming. | • Cross breeding Egg and broiler production<br><br>• Poultry feed and management.<br>• Fish production<br>• Inland fisheries<br>• Bee keeping<br>• Discussion of NCERT Exercise Question. |
| **Practical** | • Discussion of practical based Questions<br>• Practical exams for Subject enrichment activity | | | |
| **Learning Objectives** | It will enable the students to:<br><br>• differentiate between manure and fertilizers<br>• explain ways for crop variety improvement<br>• explain the cropping patterns<br>• explain the importance of grain storage<br>• know the meaning of animal husbandary<br>• differentiate between indigenous and exotic variety of animals<br>• differentiate between roughage and concentrate<br>• understand the concept of poultry farming<br>• explain the food requirement of poultry animals<br>• understand the concept of composite fish culture and capture fishing<br>• explain the types of bees<br>• correlate pasturage and quality of honey | | | |
| **Expected Learning Outcomes** | Students would be able to:<br><br>• apply the knowledge of manure and fertilizers in everyday life<br>• differentiate between irrigation and watering<br>• interpret the cropping patterns in a field<br>• understand importance of crop maintainance<br>• explain organic system plans, plant pests and their control<br>• understand the importance of pesticides and fertilizers<br>• explain the importance of animal farming | | | |

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| | • understand the importance of poultry<br>• explain hybridization and its advantages<br>• differentiate between capture fishing and fish culturing<br>• analyse types of fishing environment and their existence<br>• interpret utility of honey |
| **Teaching aids** | • Smart Board Content, Pictures, Videos |
| **Assessment/ Activity** | • Notebook assessment<br>• Subject Enrichment Activity |

**MONTH: FEBRUARY**

| **Content/Topic** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** |
|---|---|---|---|---|
| Revision<br><br>**Final Exams** | Revision | **Final Exams** | **Final Exams** | **----** |
| **Practical** | • Revision | | | |
| **Learning Objectives** | It will enable the students to:<br>• Recall and remember all the concepts | | | |
| **Expected Learning Outcomes** | Students would be able to:<br>• Recall and remember all the concepts | | | |
| **Teaching aids** | • Class Board, Smart Board Content, Question Bank | | | |
| **Assessment/ Activity** | • Final Exam | | | |

| Unit Number | Unit Name | Marks |
|---|---|---|
| I | India and the Contemporary World – I | 20 |
| II | Contemporary India – I | 20 |
| III | Democratic Politics | 15 |
| IV | Economics | 15 |
| V | Internal assessment | 30 |
| | **Total** | **70 Marks** |



| Month | Text book(part) | Content/Chapter | Learning outcomes |
|---|---|---|---|
| April | India and the Contemporary World – | **Ch-1. The French Revolution:**<br>● French Society During the Late Eighteenth | Familiarize with the names of people involved, the different types of ideas that inspired the revolution, |

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|---|---|---|---|
| | I(History)<br><br>Contemporary India – I(Geography) | Century<br>● The Outbreak of the RevolutionFrance Abolishes Monarchy and Becomes a Republic<br>● Did Women have a Revolution?<br>● The Abolition of SlaveryThe Revolution and Everyday Life<br><br>**Ch-1 .India**<br>● Size and Location<br>● India and the World<br>● **I**ndia's Neighbours | the wider forces that shaped it.<br><br>Know the use of written, oral and visual material to recover the history of revolutions.<br><br>Identify the location of India in the Indian subcontinent. |
| June | Democratic Politics(Civics) | **Ch.1: What is Democracy?**<br>● Why Democracy?<br>● What is Democracy?,<br>● Features of Democracy,<br>● Why Democracy?,<br>● Broader Meaning of Democracy | Develop conceptual skills of defining democracy. Understand how different historical processes and forces have promoted democracy. Develop a sophisticated defense of democracy against common prejudices. Develop a historical sense of the choice and nature of democracy in India. |
| June | Economics<br><br>Contemporary India – I(Geography) | **Ch.1: The Story of Village Palampur**<br>● Overview,<br>● Organization of production<br>● , Farming in Palampur<br>● , Non-farm activities of Palampur.<br>**Ch.2: Physical Features of India:**<br>● Major Physiographic Divisions- The Himalayan Mountains, the Northern Plains, The Peninsular | Familiarize with basic economic concepts through an imaginary story of a village.<br><br>45<br><br>Understand the major landform features and the underlying geological structure; their association with various rocks and minerals as well as nature of soil types. |

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| | Democratic Politics(Civics) | Plateau, The Indian Desert, The Island<br><br>**Ch-2 Constitutional Design:**<br>● Why do we need a Constitution?<br>● Making of the Indian Constitution<br>● Guiding Values of the Indian Constitution | Understand the process of Constitution making. Develop respect for the Constitution and appreciation for Constitutional values. Recognize the Constitution as a dynamic and living document. |
| August | India and the Contemporary World – I(History)<br><br>Economics | **Ch-2 Socialism in Europe and the Russian Revolution**:<br>● The Age of Social Change,<br>● The Russian Revolution,<br>● The February Revolution in Petrograd,<br>● What Changed after October?,<br>● The Global Influence of the Russian Revolution and the USSR<br><br>**Ch.2: People as Resource:**<br>● Overview,<br>● Economic activities by men and women,<br>● Quality of Population, Unemployment | Explore the history of socialism through the study of Russian Revolution.<br><br>Familiarize with the different types of ideas that inspired the revolution,<br><br>Understand the demographic concepts.<br><br>Understand how population can be as asset or a liability for the nation. |
| September | India and the Contemporary World – | **Ch-3. Nazism and the Rise of Hitler**:<br>● Birth of the Weimar Republic,<br>● Hitler's Rise to | Discuss the critical significance of Nazism in shaping the politics of the modern world.<br><br>Get familiarized students |

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| | I(History)<br><br>Contemporary India – I(Geography)<br><br>Economics | Power,<br>● The Nazi Worldview,<br>● Youth in Nazi Germany,<br>● Ordinary People and the Crimes Against Humanity<br>**Ch-3. Drainage**<br><br>**Ch.3: Poverty as a Challenge**:<br>● Two typical cases of poverty,<br>● Poverty as seen by Social Scientists,<br>● Poverty Estimates,<br>● Vulnerable Groups,<br>● Interstate Disparities,<br>● Global Poverty Scenario,<br>● Causes of Poverty,<br>● Antipoverty measures,<br>● The Challenges | with the speeches and writings of Nazi leaders.<br><br>Identify the river systems of the country.<br><br>Understand poverty as a challenge.<br><br>Identify vulnerable group and interstate disparities.<br><br>Appreciate the initiatives of the government to alleviate poverty. |
| October | Contemporary India – I(Geography) | **Ch-4 Climate+Map work**<br>● Concept<br>● Climatic Controls<br>● Factors influencing India's climate<br>● The Indian Monsoon<br>● Distribution of Rainfall<br>● Monsoon as a unifying bond | Identify various factors influencing the climate and explain the climatic variation of our country and its impact on the life of the people.<br><br>Explain the importance and unifying role of monsoons.<br><br>47 |
| November | India and the Contemporary World – I(History) | **Ch-5 Pastoralists in the Modern World**<br><br>● **Pastoral Nomads and their Movements** | **Comprehend the nature of pastoral life and the change in the life of pastoralists in the modern world**<br><br>Identify the varying |

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| | | • **Colonial Rule and Pastoral Life**<br>• **Pastoralism in Africa** | patterns of development within pastoral societies.<br><br>Understand the impact of colonialism on pastoralists. |
| | Democratic Politics(Civics) | **Ch-3. Electoral Politics:**<br>• Why Elections?<br>• What is our System of Elections?<br>• What makes elections in India democratic? | Understand representative democracy via competitive party politics.<br>Familiarize with Indian electoral system.<br>Reason out for the adoption of the present Indian Electoral System.<br>Develop an appreciation of citizen's increased participation in electoral politics.<br>Recognize the significance of the Election Commission. |
| | Contemporary India – I(Geography) | **Ch-5. Natural Vegetation and Wild Life:**<br>• Factors affecting Vegetation<br>• Vegetation types<br>• Wild Life<br>• Conservation | Explain the nature of diverse flora and fauna as well as their distribution.<br><br>Develop concern about the need to protect the biodiversity of our country. |
| December | Democratic politics- I(Civics) | **Ch-4 Working of Institutions:**<br>• How is the major policy decision taken?<br>• Parliament & Political Executive<br>• Judiciary | Get an overview of central governmental structures.<br>**I**dentify the role of Parliament and its procedures.<br>Distinguish between political and permanent executive authorities and functions.<br>Understand the parliamentary system of |

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| | | | the executive's accountability to the legislature.<br>Understand the working of Indian Judiciary. |
| January | Economics<br><br>Contemporary India-I (Geography) | **Ch-4 Food Security in India**<br><br>● Overview<br>● What is Food Security?<br>● Why Food Security?<br>● Who are food insecure?<br>● Food Security in India<br>● What is Buffer Stock?<br>● What is the Public Distribution System?<br>● Current Status of Public Distribution System<br><br>**Ch-6. Population:**<br><br>● Size<br>● Distribution Population Growth and Process of Population Change | Understand the concept of food security.<br><br>Appreciate and analyse the role of government in ensuring food supply<br><br>Analyse the uneven nature of population distribution and show concern about the large size of our population.<br>Identify the different occupations of people and explain various factors of population change.<br>Explain various dimensions of National Population Policy. |

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| February | Democratic politics-I(Civics) | **Ch-5. Democratic Rights:**<br>● Life without rights Rights in a Democracy<br>● Rights in the Indian Constitution<br>● Expanding the scope of rights.<br><br>**Revision for Examination** | Recognize the need for rights in one's life.<br><br>Understand the availability /access of rights in a democratic system/government.<br><br>Identify and be able to comprehend the Fundamental Rights given by the Indian Constitution to its citizens.<br><br>Create awareness regarding the process of safeguarding rights. |
| March | | **Examination** | |
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**LIST OF MAP ITEMS CLASS IX (2019-20) SUBJECT - HISTORY**

Chapter-1: The French Revolution Outline Political Map of France
(For locating and labeling / Identification)

- Bordeaux
- Nantes
- Paris
- Marseilles



Chapter-2: Socialism in Europe and the Russian Revolution Outline Political Map of World (For locating and labeling / Identification)

- Major countries of First World War (Central Powers and Allied Powers)
- Central Powers - Germany, Austria-Hungary, Turkey (Ottoman Empire)
- Allied Powers - France, England, Russia, U.S.A.

Chapter-3: Nazism and Rise of Hitler Outline Political Map of World (For locating and labeling / Identification)

- Major countries of Second World War Axis Powers – Germany, Italy, Japan
- Allied Powers – UK, France, Former USSR, USA
- Territories under German expansion (Nazi Power) Austria, Poland, Czechoslovakia (only Slovakia shown in the map), Denmark, Lithuania, France, Belgium

**SUBJECT – GEOGRAPHY (**Outline Political Map of India)

Chapter -1: India-Size and Location

- India-States with Capitals,
- Tropic of Cancer,
- Standard Meridian (Location and Labelling)

Chapter -2: Physical Features of India

- Mountain Ranges: The Karakoram, The Zasker, The Shivalik, The Aravali, The Vindhya, The Satpura, Western & Eastern Ghats
- Mountain Peaks – K2, Kanchan Junga, Anai Mudi
- Plateau - Deccan Plateau, Chotta Nagpur Plateau, Malwa Plateau
- Coastal Plains - Konkan, Malabar, Coromandal & Northern Circar (Location and Labelling)

Chapter -3: Drainage

- Rivers: (Identification only)
- The Himalayan River Systems-The Indus, The Ganges, and The Satluj
- The Peninsular rivers-The Narmada, The Tapi, The Kaveri, The Krishna, The Godavari, The Mahanadi
- Lakes: Wular, Pulicat, Sambhar, Chilika

Chapter - 4: Climate Areas receiving rainfall less than 20 cm and over 400 cm (Identification only)

Chapter - 5: Natural Vegetation and Wild Life

- Vegetation Type: Tropical Evergreen Forest, Tropical Deciduous Forest, Thorn Forest, Montane Forests and Mangrove- For identification only
- National Parks: Corbett, Kaziranga, Ranthambor, Shivpuri, Kanha, Simlipal & Manas Bird Sanctuaries: Bharatpur and Ranganthitto
- Wild Life Sanctuaries: Sariska, Mudumalai, Rajaji, Dachigam (Location and Labelling)

Chapter - 6: Population (location and labelling)

- The state having highest and lowest density of population
- The state having highest and lowest sex ratio Largest and smallest state according to area

Subject:- Computer

| Lesson No and Name | Practicals |
|---|---|
| 1. computer fundamental | *Introduction to computer, History, types of computer, hardware ,software and its types, computer networking |
| 2. Computer system | Digital and analog operation, Binary data, Binary number system |
| 3. Operating system<br>4. operating system (Linux) | Introduction, work, types ,components, Difference in linux, windows,and DOS<br>* History of Linux, features<br>*GUI,logging in and out, Directory, sub directory, wild card characters and its use<br>*Basic commands( create, display, copy, save files and directories)<br>* Filteing Records<br>* Advance commands(format, Backup, Print) |
| 5. Introduction to office(in linux environment) | *Basic, elements, methods, advantage of word proccessing<br><br>* formatting, editing, designing, printing of document<br>*create slide show, and make it function<br>* modify and enter data in spreadsheet |
| Half Yearly Exams | |
| 6. Programming techniques | *Introduction<br>* algorithm<br>* Branching looping, Modular design<br>* Creating Unordered List<br>* Linking Web pages |
| 7. Basic programming in C | * Importance of C<br>working with C, Character set, constant and veriables<br>* Expression, console Input/Output in C<br>* Formatted Input/ Output<br>*Jumping and Branching statements |
| 8. Computer Applicatiions and its advantage | computer in school, library, banking<br>* Census and Environment |
| Revision | |