

## ENGLISH

S. No	Lesson/ Chapter Name	Objectives/Learnig Outcomes	Methodology	Teaching Aids	Activity
1.	The Portrait of a Lady  By Khushwant Singh	-make the students identify the genre to which the story belongs. -to understand the techniques used by the author - To enhance vocabulary -to strengthen family bonds - To enable them to comprehend the cultural background of the story. -to facilitate making connections between similar situations in different storylines/life Experiences	The session would begin with an interactive session wherein the learners would interpret the title of the lesson. The background knowledge of the author and his works would be given. The facilitator would develop the chain of events, with TEXT sequence or discourse/spoken with reference to the educational and personal domains. Difficult words and terms would be discussed. The prose will be explained. All possible questions and answers would be discussed and assigned. Enriching Vocabulary: veritable bedlam of chirruping, frivolous rebukes, serenity, seclusion with resignation, sagging skins of dilapidated drum.	-They would develop their optimistic attitude towards life amidst many struggles.  Will be able to develop an attitude to become more independent in thought and action, responsible and cooperative, understanding and tolerance, improved working relations respect for identities in relation to other people.	Group Discussion  on  The Portrait Of A Lady is a reminder about a growing distance between the young and the older generation. Group activity comprising all range of learners.
2.	Poetry:  A Photograph by Shirley Toulson	-to encourage the students to appreciate poetry and read aloud with proper intonation  -to prepare the students for poetic forms and adept them with the figures of speech, rhyme and rhythm  -to read and recognize the purpose of economy of words and the hidden pathos and nuances of the lines, correlating them with author's background and personal experiences- to build up didactics, empathy and sympathy with the loss of the speaker.	-pre-reading activity would be the first step where in the students would develop deep into the title of the poem and make an interpretation of the title indicates the subject and theme. (student- teacher interaction) They would compare the previous lesson The Portrait of a Lady with the title of the poem. The background of the poet would be discussed. The poem would be read aloud with proper intonation rhyme and rhythm. Difficult terms and words would be explained so that the students can predict the atmosphere of the world inside the poem. The poem would be explained covering the phrases, sentences and discourse as well as their structuring. Silent reading of the poem by the students within five minutes and listing the difficult terms. The figures of speech and rhyme scheme would be discussed. WORD JOURNEY: paddling, transient, perennial, labored ease, wry, snapshot.	- the students would be able to grasp the theme and meaning of the poem.  They would be able to read the poem with proper tone and rhyme and develop an interest in poetry.  Their vocabulary would be strengthened.  They would be able to draw a comparative study between human life and nature.  They would be able to study a photograph	A comparative study of the prose The Portrait of a Lady and the poem A Photograph.  The learners would discuss in their groups and draw a comparative analysis and present the synopsis of the discussion in the class.  Group Activity For all range of learners comprising three students in one team-

3	The Summer of the Beautiful White Horse	<p>-To enhance familiarizing with specific background information of author/ book excerpt / history</p> <p>- To facilitate an attitude to become honest and Trust worthy in thought and action, Responsible cooperative, understanding and tolerance, respect for national identities in relation to other people-democratic citizenship. [global aim]. Recognize Marginalization.</p> <p>-to recognize the technique of repetition As an element of style.</p>	<p>The session would begin with an interactive phase wherein the learners would interpret the title of the story.</p> <p>The background of the author would be given. The story would be read aloud. The theme and underlying meaning would be discussed.</p> <p>Difficult words would be listed and explained. The moral of the story would be discussed.</p> <p>Vocabulary Enrichment: magnificence, wealthiest, pious, stillness, humours, irrigation ditches, crazy streak, enormous, capricious, vagrant.</p>	<p>The learners would be able to apply the literal, interpretative and critical level in analyzing a short story.</p> <p>They would be able to determine the tone of a short story.</p> <p>They would be able to comprehend the irony hidden in the story.</p>	<p>Research on the Armenian genocide.PPT (a group presentation comprising all range of learners)</p> <p>Three students in one group comprising:</p>
4.	(GRAMMAR) : Determiners.	<p>-to establish a clear understanding of determiners</p> <p>-to enable the learners To identify the types of determiners and use them in sentences.</p>	<p>-the session would be started with an audio-visual song of determiners.</p> <p>Quiz on determiners would be conducted. The learners would be asked to arrive at the rules.(Inductive method)</p> <p>The purpose and functions of the different types of determiners would be discussed with examples.</p>	<p>The learners would be able to identify determiners and use them appropriately.</p> <p>The comprehending skills would be improved.</p> <p>Sentence construction skills would be strengthened</p>	<p>1. Worksheets for all range of learners.</p> <p>2. Articles Grammar Auction (Group Activity for all range of learners)</p> <p>3. Shopping list game.</p>
5.	WRITING SKILLS Notice Writing	<p>-to enable the students to apply the correct format while writing a notice.</p> <p>-to make the students comprehend why a notice is written and the style and procedure.</p>	<p>Warm up session: Learners would share their knowledge on the importance of a notice (Student- Teacher interaction)</p> <p>The Learners would be asked to speak About a notice they received and they remember still.</p> <p>The teacher would explain what a Notice is and its purpose. The standard format of notice writing would be Shown in the class. The teacher would Discuss in detail what a notice should contain. The wide range of themes and objectives covered by notice would be discussed with examples Special note on; What, Where, When, Who, Whom.</p>	<p>Students will be able to analyse any NOTICE shown to them on the basis of the knowledge imparted.</p> <p>They will be able to frame notice about any event.</p> <p>They will be able to identify important information in any given notice.</p> <p>Students will be able to use appropriate style and format to write a NOTICE effectively.</p>	<p>Group Activity: Groups would be formed according to the range of Learners and distributed the role of 5 Ws and frame a notice on the subject given.</p> <p>Notice Writing exercises Different topics on different fields of notice for all range of learners.</p>
6.	We're Not Afraid to Die	<p>-To allow a problem solving: identifying the problem; considering the options; weighing the pros and cons of each option; reaching a decision</p>	<p>The session would start with an interactive session wherein the lessons.</p> <p>The back ground of the author would be given. Theme and storyline would be explained.</p>	<p>The learners would be able to enhance their problem solving skills.</p>	<p>Class Reading with suitable expression, pronunciation and intonation. (Individual Activity)</p>

7.	The Addres s	<p>-To facilitate making connections between similar situations in different storylines/life experiences</p> <p>-To help learners distinguish different perspectives; analyzing them; drawing conclusion/s</p> <p>-To encourage the uncovering of motives;</p>	<p>The teacher would develop the format in sequence or discourse (spoken with reference to the ethical/global and personal domains. Vocabulary Enrichment: Honing the sea faring skills, pin prick sin the vast ocean, ominous silence, a tousled head. Forensic reconstruction, scudded across, casket grey, resurrection, funerary treasures, circumvented, computed tomography, eerie detail.</p>	<p>They would be able to inculcate the values of determination and will power.</p> <p>Their Reading skills would be developed.</p>	<p>Class Reading with suitable expression, pronunciation and intonation.</p>
8	Discovering Tut	<p>-To enhance familiarizing with specific background information of author/ book excerpt / history of Tutankhamun.</p> <p>--to guide the students to relate the characteristics of literature to larger cultural and human values</p> <p>-identify the techniques used by the writer.</p>	<p>Pre- reading Activity: The session would start with an interaction on the ways you think we could help prevent the extinction of languages and dialects. The title of the prose would be open for class interpretation.</p> <p>The facilitator would develop the format of text in sequence or discourse (spoken with reference to the ethical/global, public and personal domains of social and personal life.</p>	<p>The students would be able to grasp the theme and meaning of the prose. Their critical and creative thinking skills would be enhanced. They would be able to derive the moral values. They will be ready to accept the reality of life. Their vocabulary would be enriched. They would enhance their writing skills.</p>	<p>Pair Activity (for all range of learners comprising: Activity: research with pictures and present it in the form of an article.</p>
9	Ranga 's Marriage	<p>-to guide the students to relate the characteristics of literature to larger cultural and human values.</p> <p>-To facilitate making connections between similar situations in different storylines/life experiences.</p> <p>-To appreciate the timeless significance of the issue of marriage institution, role of English and gender stereotyping</p>	<p>The session would begin with an interactive stage where in the students would discuss on ' the on the role of English in a man's life' on basis of the theme of the story. The title of the lesson would be opened to the class for interpretation. The background knowledge of the author would be given. The prose would be explained. Difficult words would be listed and explained. The moral of the story would be discussed.</p>	<p>The students would be able to effectively provide a synopsis of the story. They will be able to analyze the values and thought process of the story. Positive values and attitudes would be inculcated in the students. They would be able to appreciate the language , content and style of the prose. Vocabulary would be enriched. Their Listening skills would be enhanced.</p>	<p>Listening Activity for all range of Learners to note their progress and as training ground for their ASL.</p> <p>Activity: Listen to an Article about the issue Of marriage and gender stereotyping and complete the Work sheet.</p>

10	Letter to the Editor	-To express ideas Fluently and relevantly without difficulty in expressions and purpose, grammar usage, format usage, relevant vocabulary.	The usage of language would be taught and students would be assigned written tasks	They would develop an interest towards writing thus enhancing their writing skills.  Their thinking skills would be enhanced.	Writing a report/letter To the editor on a recent disaster/metro with congruent newspaper Clip.
11	GRAMMAR: Sentence Reordering	To be able to comprehend and use grammatical organization for quantifying and sentence completion.	The session would begin with few sentences read out by the teacher and written on the interactive board. (Brain boosters) The teacher would wait for the students' responses to know whether they are able to point the errors. The teacher discusses the errors and comes to the rules. (inductive Learning)	They will be able to participate in the class discussion actively. They will be able to identify errors and frame grammatically correct sentences.	Worksheets for all range of learners.
12	POETRY: The Voice of the Rain	To recognize the purpose of economy of words and the nuances of the lines that highlights the cyclic nature of rain and appreciates the diligence and divine quality of the speaker.	The teacher would play a snippet of the sound of rain and the learners would in ride as and involve in an interactive session. The title of the poem would be open for class interpretation.  The knowledge background of the poet would be given. The poem would be read aloud with proper stress and intonation. The teacher would discuss the theme, poetic devices and structure and rhyme. Word Journey:	The students would be able to grasp the theme and meaning of the poem. They would be able to read the poem with proper tone and rhyme and develop an interest in poetry. Their vocabulary would be strengthened. They would be able to draw a comparative study between human life and nature.	Recitation and self-study  [group work of 3 on poetry writing on the wind, sun, moon or snow-highlighting the pride in their narration  for all range of learners comprising-
13	Albert Einstein at School	-To enhance familiarizing with specific background information of author/ book excerpt / history  -To facilitate making connections between similar situations in different storylines/life experiences.	The teacher shows a video clipping and asks students to recognize and name the personality seen in the clipping. The teacher introduces Albert Einstein and opens the title for class interaction. The prose would be read aloud and discussed.  Vocabulary Enrichment:	The students would be able to express their understanding through discussions. They would skim and scan the words according to their meaning. They would enhance their reading as well as writing skills.	Write the contents of short story in the form of note making. (Individual Activity) For all range of learners to note progress.

14	The Ailing Planet-The Green Movement's Role	<p>-To sensitize learners to the imminent issues of declining health of planet Earth.</p> <p>-To facilitate making connections between similar situations in different storylines/life experiences</p> <p>-To initiate the role of an ambassador in the educated students and make them stewards of the Earth</p>	<p>The session would begin with a video clipping showing the plight of our planet. The title of the lesson would be related to the video by the students in the class interaction phase.</p> <p>The background knowledge of the author would be given. The prose would be explained. Difficult words would be listed and explained. The moral of the story would be discussed.</p>	<p>The Learners would be able to sensitize themselves towards the earth and environment.</p> <p>They would inculcate the values of Leadership and contribute to make our Earth green.</p>	<p>Slogan Writing on Go Green</p> <p>For all range of learners.</p>
15	Mother's Day	<p>To facilitate making connections between similar situations in different storylines/life experiences through the genre of theatre/drama that is more credible and realistic to comprehend the mother's stereotype and understand her significant role in family bonding- to empathize with her problems and seek resolution .</p>	<p>The session would begin with an interaction on my mother's daily lessons.</p> <p>The title of the lesson would be open for class interpretation.</p> <p>The back ground of the author would be given. The lesson would be read aloud and discussed. Difficult words would be listed out and discussed.</p>	<p>The learners would be able to develop their basic skills of language.</p> <p>They would develop their reading skills and listening skills</p> <p>They would be able to comprehend the role of a mother and inculcate values of respect and obedience.</p>	<p>Write a Script and present a Role Play on Mother's Day.</p> <p>For all range of learners in a group of six comprising-</p>
16	Poster Making	<p>-To express ideas aesthetically and relevantly with definition in purpose, expressions, grammar usage, format usage, relevant vocabulary.</p>	<p>The teacher will acquire and display several different posters from various sources. Some examples may include: Movie posters, Community events, Advertisements Campaign signs, Billboard pictures Full-page newspaper ads</p> <p>Learners will brainstorm the purpose of posters. (Student-Teacher Interaction) Some responses may include: To get people's attention To get people to do something To give people information.</p> <p>The teacher would discuss and demonstrate the presentation stage, consolidation stage and the closing stage.</p>	<p>Comprehend an effective Poster making as a tool of Visual Communication.</p> <p>Focus on the message to be delivered.</p> <p>Keep the sequence well ordered.</p> <p>Use graphs and images effectively. Plan and organize a poster presentation. Use spacing, margins, colours, and layout to Maximize effectiveness and list information about their invention.</p>	<p>Poster Making for all range of learners.</p>

17	The Browning Version [H]	<p>-To facilitate making connections between similar situations in different storylines/life experiences through the genre of drama. Understanding the universal theme of teacher-student relationship and the sanctity of it.</p> <p>-To facilitate making connections between similar situations in different storylines/life experiences</p> <p>-To read and recognize the purpose of human loss and the hidden pathos and nuances of the lines, correlating them with personal experiences- to build</p>	<p>The session would start with an interaction on the title of the lesson</p> <p>The title of the lesson would be open for class interpretation</p> <p>The background of the author would be given. The lesson would be read aloud and discussed .Difficult words would be listed out and discussed</p>	<p>The learners will be able to stimulate language development and increase the students' ability to write spontaneously</p> <p>They would be able to respond to a particularly dilemma.</p>	<p>Theatrical presentation by a group of three students comprising –</p>
18	Childhood	<p>up didactics, empathy and sympathy with the loss of the speaker and the final resigned acceptance and optimism.</p>			
19	Birth	<p>To allow a problem solving: identifying the problem; considering the options; weighing the pros and cons of each option; reaching an empathetic decision with the protagonist</p> <p>-To facilitate making connections between similar situations in different storylines/life experiences</p> <p>-To help learners distinguish different perspectives; analyzing them; drawing conclusion/s</p> <p>-To encourage the uncovering of motives; absorbing didactics</p>	<p>The background of the author would be given.</p> <p>The lesson would be read aloud and discussed. Difficult words would be listed out and discussed.</p> <p>The synopsis would be shown with the help of a PPT.</p>	<p>The learners would unfold their logical thinking skills.</p>	

# PHYSICS

S. No	Chapter Name	Learning outcomes/Objectives	Methodology	Teaching aids	Activity
1.	Physical world	Student will be able to understand about <ul style="list-style-type: none"> <li>• Scope and excitement</li> <li>• Nature of physical laws</li> <li>• Physics, technology and society.</li> </ul>	Discussion, Questioning	Multimedia, charts, pictures, power point presentation	To collect information about scientists.
2.	Unit and measurements	Student will be able to understand about <ul style="list-style-type: none"> <li>• Units of measurement;</li> <li>• Systems of units; SI units, fundamental and derived units.</li> <li>• Length, mass and time measurements</li> <li>• Accuracy and precision of measuring instruments;</li> <li>• errors in measurement;</li> <li>• Significant figures.</li> </ul> Dimensions of physical quantities, dimensional analysis and its applications	Lecture-cum-demonstration, Conceptual understanding method	Multimedia, charts, pictures, power point presentation	To measure diameter of a small spherical/cylindrical body using Vernier calipers. To measure thickness of a given sheet using screw gauge.
3.	Motion in a straight line	Student will be able to understand about <ul style="list-style-type: none"> <li>• Uniform and non-uniform motion,</li> <li>• Average speed and instantaneous velocity.</li> <li>• Uniformly accelerated motion, velocity-time and position-time graphs,</li> <li>• Relations for uniformly accelerated motion (graphical treatment).</li> </ul>	Explanation, Discussion.	Multimedia, charts, pictures, power point presentation	To make a paper scale of given least count, e.g. 0.2cm, 0.5cm.
4.	Motion in a plane	Student will be able to understand about <ul style="list-style-type: none"> <li>• Scalar and vector quantities:</li> <li>• Position and displacement vectors,</li> <li>• General vectors and notation,</li> <li>• Equality of vectors,</li> <li>• Multiplication of vectors by a scalar number;</li> <li>• Addition and subtraction of vectors.</li> <li>• Relative velocity.</li> <li>• Unit vectors. Resolution of a vector in a plane – rectangular components</li> <li>• Scalar and Vector products of Vectors.</li> <li>• Motion in a plane. Cases of uniform velocity and uniform acceleration –</li> <li>• Projectile motion.</li> <li>• Uniform circular motion.</li> </ul>	Experiment and, observation.	Multimedia, charts, pictures, power point presentation	To find the weight of a given body using parallelogram law of vectors.

5.	Laws of motion	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Concept of force. Inertia,</li> <li>• Newton's first law of motion;</li> <li>• momentum and Newton's second law of motion; impulse;</li> <li>• Newton's third law of motion.</li> <li>• Law of conservation of linear momentum and its applications.</li> <li>• Equilibrium of concurrent forces.</li> <li>• Static and kinetic friction,</li> <li>• Laws of friction, rolling friction, lubrication.</li> <li>• Dynamics of uniform circular motion:</li> <li>• Centripetal force,</li> <li>• Examples of circular motion (vehicle on level circular road, vehicle on banked road).</li> </ul>	Demonstration and observing the changes, analyzing the data,	Multimedia, charts, pictures, power point presentation .	To study the relationship between force of limiting friction and normal reaction and to find the coefficient of friction between a block and a horizontal surface.
6.	Work energy and power	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Work done by a constant force and a variable force;</li> <li>• Kinetic energy,</li> <li>• Work-energy theorem, power.</li> <li>• Notion of potential energy, potential energy of a spring,</li> <li>• Conservative forces;</li> <li>• conservation of mechanical energy(kinetic and potential energies);</li> <li>• non-conservative forces; motion in a vertical circle,</li> <li>• elastic and inelastic collisions in one and two dimensions.</li> </ul>	Lecture-cum-demonstration, Conceptual understanding method	Multimedia, charts, pictures, power point presentation .	To study the conservation of energy of a ball rolling down on inclined plane(using a double inclined plane).
7.	System of particles and rotational motion	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Centre of mass of a two-particle system,</li> <li>• Momentum conservation and centre of mass motion.</li> <li>• Centre of mass of a rigid body; centre of mass of uniform rod.</li> <li>• Moment of a force, torque, angular momentum,</li> <li>• Conservation of angular momentum with some examples.</li> <li>• Moment of inertia, radius of gyration.</li> <li>• Values of M.I. for simple geometrical objects (no derivation).</li> </ul>	Observation, data collection etc. Lecture-cum-demonstration, Conceptual understanding method	Multimedia, charts, pictures, power point presentation .	To study the factors affecting the rate of loss of heat of a liquid.
8.	Gravitation	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• The universal law of gravitation.</li> <li>• Acceleration due to gravity and its variation with altitude and depth.</li> <li>• Gravitational potential energy; gravitational potential.</li> <li>• Escape velocity, orbital velocity of a satellite.</li> <li>• Geostationarysatellites.</li> </ul>	Observation, data collection etc. Lecture-cum-demonstration, Conceptual understanding method	Multimedia, charts, pictures, power point presentation .	Collect information about various satellites and compare with latest technologies.



9.	Mechanical properties of solids	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Stress-strain relationship,</li> <li>• Hooke's law, Young's modulus, bulk modulus.</li> </ul>	<p>Observation, data collection etc. Lecture-cum-demonstration, Conceptual understanding method.</p>	<p>Multimedia, charts, pictures, power point presentation</p>	<p>To determine Young's modulus of elasticity of the material of a given wire.</p>
10	Mechanical properties of fluids	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Pressure due to a fluid column;</li> <li>• Pascal's law and its applications (hydraulic lift and hydraulic brakes).</li> <li>• Effect of gravity on fluid pressure.</li> <li>• Viscosity, Stokes 'law, terminal velocity,</li> <li>• Streamline and turbulent low.</li> <li>• Critical velocity,</li> <li>• Bernoulli's theorem and its applications.</li> <li>• Surface energy and surface tension, angle of contact,</li> <li>• Excess of pressure,</li> <li>• application of surface tension ideas to drops,</li> <li>• bubbles and capillary rise.</li> </ul>	<p>Experimentation, Discussion, Analysis of observations.</p>	<p>Multimedia, charts, pictures, power point presentation</p>	<p>To study the effect of detergent on surface tension of water by observing capillary rise.</p>
11	Thermal properties of matter	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Heat, temperature,</li> <li>• Thermal expansion;</li> <li>• Thermal expansion of solids, liquids, and gases.</li> <li>• Anomalous expansion.</li> <li>• Specific heat capacity: <math>C_p</math>, <math>C_v</math>–calorimetry;</li> <li>• Change of state–latent heat.</li> <li>• Heat transfer –conduction and thermal conductivity, convection and radiation.</li> <li>• Qualitative ideas of Black Body Radiation,</li> <li>• Wien's displacement law and Green House effect.</li> </ul>	<p>Class room discussion, experimenting and Power Point presentations.</p>	<p>Multimedia, charts, pictures, power point presentation</p>	<p>To study the relationship between the temperature of a hot body and time by plotting a cooling curve</p>
12	Thermodynamics	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Thermal equilibrium and definition of temperature (zeroth law of Thermodynamics).</li> <li>• Heat, work and internal energy.</li> <li>• First law of thermodynamics. Isothermal and adiabatic processes.</li> <li>• Second law of thermodynamics:</li> <li>• Reversible and irreversible processes.</li> </ul>	<p>Class room discussion, experimenting and Power Point presentations.</p>	<p>Multimedia, charts, pictures, power point presentation</p>	<p>To observe and explain the effect of heating on a bi-metallic strip.</p>

13	Kinetic theory	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Equation of state of a perfect gas,</li> <li>• Work done on compressing a gas.</li> <li>• Kinetic theory of gases: Assumptions, concept of pressure.</li> <li>• Kinetic energy and temperature; rms speed of gas molecules;</li> <li>• Degrees of freedom,</li> <li>• Law of equipartition of energy (statement only) and application to specific heat capacities of gases;</li> <li>• Concept of mean free path, Avogadro's number.</li> </ul>	<p>Observation, data collection etc. Lecture-cum-demonstration, Conceptual understanding method.</p>	<p>Multimedia, charts, pictures, power point presentation</p>	<p>To measure the time period of a simple pendulum.</p>
14	Oscillations	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Periodic motion –period, frequency, displacement as a function of time.</li> <li>• Periodic functions.</li> <li>• Simple harmonic motion (SHM) and its equation; phase; oscillations of a spring</li> <li>• Restoring force and force constant;</li> <li>• Energy in SHM –kinetic and potential energies;</li> <li>• Simple pendulum –derivation of expression for its time period;</li> <li>• Free, forced and damped oscillations(qualitative ideas only),</li> <li>• Resonance.</li> </ul>	<p>Observation, data collection etc. Lecture-cum-demonstration, Conceptual understanding method</p>	<p>Multimedia, charts, pictures, power point presentation</p>	<p>To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.</p>
15	Wave	<p>Student will be able to understand about</p> <ul style="list-style-type: none"> <li>• Wave motion.</li> <li>• Longitudinal and transverse waves,</li> <li>• Speed of wave motion.</li> <li>• Displacement relation for a progressive wave.</li> <li>• Principle of superposition of waves,</li> <li>• Reflection of waves,</li> <li>• Standing waves in strings and organ pipes,</li> <li>• Beats.</li> </ul>	<p>Observation, data collection etc. Lecture-cum-demonstration, Conceptual understanding method</p>	<p>Multimedia, charts, pictures, power point presentation</p>	<p>To study the effect of load on depression of a suitably clamped meter scale loaded at (i) at its end (ii) in the middle.</p>

# CHEMISTRY

S. No	Chapter name	Objective/learning outcome	Methodology	Teaching aids	Activity
1.	Some basic concepts of Chemistry	Students will be able to: <ul style="list-style-type: none"><li>• Understand and appreciate the role of Chemistry in daily life.</li><li>• Explain three states of matter and laws of chemical combinations.</li><li>• Define SI units, significant figures, Scientific notation and perform mathematical operations on these.</li><li>• Understand precision and accuracy</li><li>• Calculate atomic mass, molecular mass, empirical and chemical formula.</li><li>• Perform stoichiometric calculations.</li></ul>	Recap of previous knowledge.  Lecture discussion  Brainstorming  Project method	Multimedia  NCERT Text book , Reference books, pdfs, Videos	Experiment: preparation of solutions of given molarity and normality in lab practical periods.
2.	Structure of atom	Students will be able to <ul style="list-style-type: none"><li>• Describe Bohr's atomic model and its limitations</li><li>• Understand the important features of the quantum mechanical model of atom.</li><li>• Describe dual behaviour and Plank's quantum theory.</li><li>• State the De-Broglie relation and Heisenberg's uncertainty principle.</li><li>• Understand how to write quantum numbers for an electron in a given orbital.</li><li>• Write electronic configuration of different atoms following the rules that governs it.</li></ul>	Recap of previous knowledge.  Lecture discussion  Brainstorming  Project method	Multimedia  NCERT Text book , Reference books  Chart (showing shapes of different atomic orbitals) Videos and pdfs	Make a chart to compare different atomic models.
3.	Classification of elements and periodicity in properties	Students will be able to: <ul style="list-style-type: none"><li>• State modern periodic law and the modern periodic table.</li><li>• Explain the periodic trends in properties of elements in the periodic table.</li><li>• Name elements with <math>Z &gt; 100</math> according to IUPAC system</li></ul>	Recap of previous knowledge.  Lecture discussion Brainstorming Project method	Multimedia NCERT Text book , Reference books Periodic table Videos and pdfs	Make a chart to show periodic trends in different properties in the periodic table.

4.	Chemical bonding and molecular structure	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Understand the Kossel and Lewis hypothesis and its limitations.</li> <li>Define, VSEPR, VBT and hybridization and use these concept to explain shape of different molecules</li> <li>Understand molecular orbital theory and draw molecular energy level diagrams of few di atomic molecules.</li> <li>Explain hydrogen bonding with its types.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>Ball and stick model</p> <p>NCERT Text book , Reference books, pdfs and videos</p>	<p>Draw molecular energy level diagrams of <math>O_2^{2-}</math> and <math>N_2^+</math> on a chart paper also calculate bond order and magnetic behavior.</p>
5.	States of matter: Gases and liquids	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Explain three states of matter on the basis of intermolecular interactions, types of bonding, melting and boiling point.</li> <li>Elucidate the role of gas laws and derive ideal gas equation</li> <li>Explain kinetic molecular theory of gases.</li> <li>Explain the cause of deviation from ideal gas behavior.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>NCERT Text book , Reference books, pdfs and videos</p>	<p>Experiment: Determination of boiling point of given liquid in lab period.</p> <p>Determination of melting point of a given solid.</p>
6.	Thermodynamics	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Understand the terms: system and their types, surroundings, intensive and extensive properties.</li> <li>Illustrate first law of thermodynamics and apply this for calculating internal energy, enthalpy, heat capacity and specific heat.</li> <li>Explain applications of Hess's law.</li> <li>Understand second law of thermodynamics in terms of spontaneity and state third law.</li> <li>Explain third law of thermodynamics.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>NCERT Text book , Reference books, pdfs and videos.</p>	<p>Find out the role of thermodynamics in refrigerators, air conditioners, industrial refrigeration system and in deep freezers.</p>
7.	Equilibrium	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Identify the dynamic nature of equilibrium involved in physical and chemical process along with its characteristics.</li> <li>State law of equilibrium and the factors which affect equilibrium.</li> <li>Understand Arrhenius, Bronsted-Lowry and Lewis concept of acids and bases.</li> <li>Explain the dependence of degree of dissociation on concentration and common ion.</li> <li>Describe pH and use of buffer solutions.</li> <li>Illustrate common ion effect.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>NCERT Text book , Reference books, pdfs and videos</p> <p>pH scale</p>	<p>Experiment: Comparing the pH of solutions of strong and weak acids of same concentration.</p> <p>Study the shift in equilibrium between ferric ions and thiocyanate ions by increasing/decreasing the concentration of either of the ions.</p>

8.	Redox reaction	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Identify and explain the mechanism of redox reactions by electron transfer process.</li> <li>Calculate the oxidation number.</li> <li>Balance redox reactions.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>NCERT Text book ,</p> <p>Reference books, pdfs and videos</p> <p>Specimen showing rusting and rancidity as redox reactions.</p>	<p>Experiment: Acid base titrations to find out the strength of the given solution in lab period.</p>
9.	Hydrogen	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Understand the position of hydrogen in the periodic table.</li> <li>Identify the mode of occurrence, small and commercial scale preparation of hydrogen.</li> <li>Describe hydrides with their types.</li> <li>Explain structure and properties of water along with purification methods.</li> <li>Describe heavy water and use of hydrogen as fuel.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>NCERT Text book ,</p> <p>Reference books, pdfs and videos</p> <p>Ball and stick model</p>	<p>Make a flow chart for removing permanent hardness of water by synthetic resin method.</p>
10.	s-block elements	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Understand general electronic configuration and characteristics of alkali and alkaline earth metals.</li> <li>Describe the manufacture properties and uses of industrially important sodium and calcium compounds including Portland cement.</li> <li>Appreciate the biological significance of sodium, potassium, magnesium and calcium.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>NCERT Text book ,</p> <p>Reference books, pdfs and videos</p> <p>Periodic table</p>	<p>Experiment: Detection of <math>\text{Ca}^{2+}</math>, <math>\text{Sr}^{2+}</math>, <math>\text{Ba}^{2+}</math>, <math>\text{Mg}^{2+}</math> in the given salt in the lab period.</p>
11.	p-block elements	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Write general electronic configuration and trends in properties of these elements.</li> <li>Explain anomalous behavior of boron and carbon.</li> <li>Know the chemistry of some important compounds of boron, carbon and silicon.</li> <li>List uses of group 13 and group 14 elements and their compounds.</li> </ul>	<p>Recap of previous knowledge.</p> <p>Lecture discussion</p> <p>Brainstorming</p> <p>Project method</p>	<p>Multimedia</p> <p>Periodic table</p> <p>Ball and stick model</p> <p>NCERT Text book ,</p> <p>Reference books, pdfs and videos</p>	<p>Experiment: Detection of <math>\text{Pb}^{2+}</math>, <math>\text{S}^{2-}</math>, <math>[\text{SO}_3]^{2-}</math>, <math>[\text{SO}_4]^{2-}</math>, <math>[\text{NO}_3]^-</math>, <math>\text{Cl}^-</math>, <math>\text{Br}^-</math>, <math>\text{I}^-</math>, <math>[\text{PO}_4]^{3-}</math>, <math>[\text{C}_2\text{O}_4]^{2-}</math>, <math>\text{CH}_3\text{COO}^-</math> in the given salt in lab period.</p>

12.	Organic Chemistry: some basic principles and techniques	Students will be able to: <ul style="list-style-type: none"> <li>• Understand reason for tetravalency of carbon and shapes of organic compound.</li> <li>• Classify and write names of organic compounds according to IUPAC system.</li> <li>• Explain the mechanism of organic reactions along with electron displacement effects.</li> </ul>	Recap of previous knowledge.  Lecture discussion  Brainstorming  Project method	Multimedia  Ball and stick model  NCERT Text book , Reference books , pdfs and videos	Experiment: Purification of impure copper sulphate by crystallization in the lab period.
13.	Hydrocarbons	Students will be able to: <ul style="list-style-type: none"> <li>• Classify hydrocarbons into alkanes, alkenes, alkynes aromatic compounds.</li> <li>• Learn about nomenclature, method of preparation, physical and chemical properties.</li> <li>• Comprehend the structure of benzene, explain aromaticity and understand the mechanism of electrophilic substitution reactions.</li> <li>• Predict the directive influence of functional group.</li> </ul>	Recap of previous knowledge.  Lecture discussion  Brainstorming  Project method	Multimedia  Ball and stick model  NCERT Text book , Reference books, pdfs and videos.	Prepare a chart showing carcinogenic and toxic effects of hydrocarbons.

## **BIOLOGY**

S. No	Chapter name	Learning outcome	Methodology	Teaching aids	Activity
1	<b>The living world</b>	Student will be able to- <ul style="list-style-type: none"> <li>• Understand the concept of distinctive characteristics exhibited by living organisms. <ul style="list-style-type: none"> <li>• Concept of biodiversity.</li> <li>• Concept of classification identification and nomenclature.</li> <li>• Explain Taxonomy.</li> <li>• Rule of nomenclature</li> <li>• Explain Herbarium, Botanical garden, Museum, Key &amp; Zoological park.</li> </ul> </li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book  2 Multimedia	Draw a chart of herbarium, botanical garden, museum, key and zoological park.

2	<b>Biological classification</b>	Student will be able to- <ul style="list-style-type: none"> <li>• Understand the types of classification</li> </ul> *Natural *Artificial & Phylogenetic classification <ul style="list-style-type: none"> <li>• Define two, three, four &amp; five kingdom of classification</li> <li>• Explain kingdom</li> </ul> *MONERA *PROTISTA *FUNGI <ul style="list-style-type: none"> <li>• Viruses, Viroids, &amp; Lichens.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia	Specimens/slides of bacteria, fungi, protozoans.
3	<b>Plant kingdom</b>	Student will be able to- <ul style="list-style-type: none"> <li>• Understand the concept of artificial, natural &amp; phylogenetic system of classification.</li> <li>• Understand the category of cryptogam &amp; phanerogamae.</li> <li>• Explain the silent feature of algae reproduction classification &amp; economic importance of algae.</li> <li>• Explain the salient feature of bryophytes, pteridophytes, gymnosperms &amp; angiosperms.</li> <li>• Explain double fertilisation event</li> <li>• Concept of alternation of generation in plants.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 Specimens	Specimens of plants.
4	<b>Animal kingdom</b>	Student will be able to – <ul style="list-style-type: none"> <li>• understand the concept level of organisation, symmetry, coelomic cavity, types of circulatory system, germ layers, presence of notochord &amp; segmentation.</li> <li>• Concept of invertebrates &amp; vertebrates with their features &amp; classification.</li> <li>• Difference between non chordate &amp; chordate.</li> <li>• Features of respective phylum of Animal kingdom.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 Specimens	Specimens of animals

5	<b>Morphology of flowering plants</b>	<p>Student will be able to –</p> <ul style="list-style-type: none"> <li>• Understand the structure of roots, stem, leaves &amp; flowers.</li> <li>• Explain the types of roots, modification &amp; examples.</li> <li>• Explain the types of stem and their &amp; examples</li> <li>• Types of leaves, venation, phyllotaxy, modification &amp; examples.</li> <li>• Inflorescence, parts of flower, racemose &amp; cymose, symmetry in flower concept of unisexual &amp; bisexual.</li> <li>• Types of aestivation with examples.</li> <li>• Placentation .</li> <li>• Parthenocarpic fruits</li> <li>• Structure of monocot &amp; dicot seeds .</li> <li>• Comparative account of important families &amp; its economical importance.</li> </ul>	<p>1 Lecture cum demonstration method with explanation of all the learning objectives involved. 2 Project method .</p>	<p>1 Text book 2 Multimedia 3 Specimens</p>	<p>Study and identification of different types of inflorescence.</p>
6	<b>Anatomy of flowering plants</b>	<p>Student will be able to –</p> <ul style="list-style-type: none"> <li>• Understand the Histology of plants.</li> <li>• Explain the types of tissue in plant.</li> <li>• Describe the features of meristematic tissue, permanent tissue, location &amp; functions.</li> <li>• Anatomy of dicot &amp; monocot root, stems &amp; leaf.</li> <li>• Secondary growths in plants.</li> <li>• Lenticels &amp; its functions</li> </ul>	<p>Lecture cum demonstration method with explanation of all the learning objectives involved.</p>	<p>1 Text book 2 Multimedia 3 Chart paper 4 Permanent slides</p>	<p>Study of the different modification in root, stem and leaves.</p>
7	<b>Structural organisation in animals</b>	<p>Student will be able to –</p> <ul style="list-style-type: none"> <li>• Understand the concept of tissue, function &amp; histology.</li> <li>• Understand the classification of animal tissue with respected types of epithelia, connective, muscular &amp; nervous tissue.</li> <li>• Explain the structure, location &amp; function of connective &amp; Muscular tissue.</li> <li>• Neuron –structure &amp; function</li> <li>• cockroach – Morphology &amp; Anatomy</li> </ul>	<p>Lecture cum demonstration method with explanation of all the learning objectives involved.</p>	<p>1 Text book 2 Multimedia 3 Specimens</p>	<p>Study of external morphology of cockroach through models.</p>



8	<b>Cell: The Unit Of Life</b>	Student will be able to – <ul style="list-style-type: none"> <li>• know the discovery of cell and modern cell theory</li> <li>• Understand the concept of prokaryotic &amp; eukaryotic cells</li> <li>• Explain the structure of prokaryotic cell &amp; their functions.</li> <li>• Components of cell present in eukaryotes.</li> <li>• Structure and function of cell organelles &amp; cell membrane</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 permanent slides 4 chart paper	Study different shape of cells through chart paper.
9	<b>Biomolecules</b>	Student will be able to – <ul style="list-style-type: none"> <li>• Understand the importance of biomolecules for living organisms</li> <li>• Understand the structure of carbohydrates, amino acids, fats, &amp; oils, N-bases nucleosides &amp; nucleotides.</li> <li>• Explain the concept of primary &amp; secondary metabolites</li> <li>• Structure &amp; function of DNA.</li> <li>• Concept of enzymes in living organisms.</li> <li>• Know the nomenclature of enzymes.</li> <li>• Concept of catalytic activity.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 chart paper	Think of picture analogy for each of the four macromolecules (protein, carbohydrates, lipids, nucleic acids). The picture should include the following parts: 1 An analogy for each macromolecules structure. 2 An analogy for each macromolecules function.
10	<b>Cell cycle and cell division</b>	Student will be able to – <ul style="list-style-type: none"> <li>• Understand what is cell cycle?</li> <li>• know Significance of cell division.</li> <li>• Explain the types of cell division, their significances</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 chart paper 4 Biological slides	Study different shape of cells through chart paper.
11	<b>Transport in plants</b>	Students will be able to know. <ul style="list-style-type: none"> <li>• .Understand the means of transport.</li> <li>• .Know plant water relation</li> <li>• Explain long distance transport of water and transpiration</li> <li>• Describe phloem transport: flow from source to sink.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 chart paper	Comparative study of the rates of transpiration in the upper and lower surface of leaves.

12	<b>Mineral Nutrition</b>	Student will be able to- <ul style="list-style-type: none"> <li>• Understand the concept of minerals &amp; its importance for plants.</li> <li>• Know some major deficiency symptoms of essential elements.</li> <li>• Explain the mechanisms of absorption of elements</li> <li>• Explain the process of translocation of solutes.</li> <li>• Explain the symbiotic association nodules formation.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 chart paper	Design a process to remove Iron : Cereals Magnets- Students develop reverse engineering method in order to remove iron from fortified breakfast cereal.
13	<b>Photosynthesis in higher plants</b>	Student will be able to – <ul style="list-style-type: none"> <li>• Understand importance of photosynthesis</li> <li>• Know about the raw material and photosynthetic pigments</li> <li>• Explain electron transport chain.</li> <li>• Explanation of chemiosmotic hypothesis of ATP formation.</li> <li>• C4 Pathway – explanation</li> <li>• Concept of law of limiting factors .</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 chart paper	To illustrate the causal relationship between light and photosynthesis (i.e., more light , more photosynthetic activity).
14	<b>Respiration in plants</b>	Student will be able to – <ul style="list-style-type: none"> <li>• understand the concept of respiration in plants</li> <li>• Utilisation of respiratory energy by living system.</li> <li>• Types of respiration.</li> <li>• Process of glycolysis.</li> <li>• Process of Krabs cycle</li> <li>• Electron transport chain.</li> <li>• Process of oxidative phosphorylation.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia	To study the rate of respiration in flower buds/ leaf tissue and germinating seeds.
15	<b>Plant Growth &amp; Development</b>	Student will be able to – <ul style="list-style-type: none"> <li>• Understand the seed germination.</li> <li>• Define growth and development.</li> <li>• Explain the concept of growth curve.</li> <li>• Explain the necessary condition for growth.</li> <li>• Explain plant growth regulators their discovery and functions</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved	1 Text book 2 Multimedia	To demonstrate the effect of changes in the environment on the growth and fertility of landscape grasses and crop grasses.

		<ul style="list-style-type: none"> <li>• Describe the concept of photo periodism and its importance.</li> <li>• Verbalisation and its importance.</li> <li>• Seed dormancy –its reasons.</li> </ul>			
16	<b>Digestion and Absorption</b>	<p>Student will be able to –</p> <ul style="list-style-type: none"> <li>• Understand the concept of digestion of food and steps of nutrition.</li> <li>• Know the structure and function of alimentary canal.</li> <li>• Know the types of digestive glands in humans and their function</li> <li>• Explain the process of digestion and absorption of food.</li> <li>• Explain the digestive disorders and their causes and symptoms.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	<p>1 Text book</p> <p>2 Multimedia</p> <p>3 Chart paper</p>	To test the presence of albumin in urine.
17	<b>Breathing and exchange of gases</b>	<p>Student will be able to –</p> <ul style="list-style-type: none"> <li>• Understand the concept of mechanism of breathing.</li> <li>• Explain the respiratory system of human.</li> <li>• Explain the functioning of exchange of gases and its transportation</li> <li>• respiratory system</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	<p>1 Text book</p> <p>2 Multimedia</p> <p>3 Chart paper</p>	Explain mechanism of breathing through multimedia.
18.	<b>Blood fluids and circulation</b>	<p>-Student will be able to-</p> <ul style="list-style-type: none"> <li>• blood its component</li> <li>• types of blood cells and its functions</li> <li>• blood group – concepts ABO blood grouping and Rh grouping. mechanism of coagulation of blood and function of blood</li> <li>• concept of cardiac cycle and ECG</li> <li>• disorders of circulatory system</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	<p>1 Text book</p> <p>2 Multimedia</p> <p>3 Chart paper</p>	Study of heart through chart paper.

19	<b>Excretory products and their elimination</b>	Student will be able to – <ul style="list-style-type: none"> <li>• Understands the concept and role of excretion.</li> <li>• Types of metabolic wastes.</li> <li>• Structure of kidney and its function</li> <li>• Structure and function of nephron.</li> <li>• Regulation of kidney.</li> <li>• Concept of counter current mechanism .</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia	1 To test the presence of albumin in urine 2 To test the presence of bile salts in urine.
20.	<b>Locomotion and movement</b>	Student will be able to – <ul style="list-style-type: none"> <li>• understand the definition of locomotion and movement</li> <li>• Types of movement in human body.</li> <li>• Explain the structure and mechanisms of skeletal muscle.</li> <li>• Concept of red fibres and white fibres.</li> <li>• Disorders of muscular and skeletal system.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book  2 Multimedia 3 Chart paper	Study of human skeleton and different types of joints through model.
21	<b>Neural control and coordination</b>	Student will be able to – <ul style="list-style-type: none"> <li>• Understand the types of human nervous system CNS , PNS and ANS</li> <li>• Explain the structure of neuron, function and its types.</li> <li>• Explain the mechanism of impulse travel from one neuron to another neuron.</li> <li>• Know the structure and function of human brain</li> <li>• Structure and function of human eye .</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 Chart paper	Study of human brain through model.
22	<b>Chemical coordination and integration</b>	Student will be able to- <ul style="list-style-type: none"> <li>• Understand the concept of hormones and endocrine glands.</li> <li>• Types of endocrine glands – location, function, hormones secreted.</li> <li>• Deficiency related to lack over secretion of hormones</li> <li>• Feedback mechanisms of hormones in human endocrine system.</li> </ul>	Lecture cum demonstration method with explanation of all the learning objectives involved.	1 Text book 2 Multimedia 3 Chart paper	Study of endocrine glands through chart paper.

# MATHEMATICS

S. No	Name of the Chapter	Objectives/ learning outcomes	Methodology	Teaching Aid	Activity/Practical
1.	Sets	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Sets and their representation.</li> <li>• Definitions of different sets like, empty, finite, infinite, equal sets etc.</li> <li>• Subsets of a set of real numbers especially intervals (with notations).</li> <li>• Power set, universal set and venn diagrams.</li> <li>• Union and intersection of sets.</li> <li>• Difference of sets and complements of sets.</li> <li>• Properties of union, intersection and complementary sets.</li> </ul>	<p>Lecture method, Demonstration , question answer method , deduction method And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>• To find the number of subsets of a given set and verify that if a set has <math>n</math> number of elements, then the total number of subsets is <math>2^n</math>.</li> <li>• To represent set theoretic operations using Venn diagrams.</li> <li>• To verify distributive law for three given non-empty sets A, B and C, that is, <math>A \cup (B \cap C) = (A \cup B) \cap (A \cup C)</math></li> </ul>
2.	Relations And Functions	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Ordered pair, Cartesian product of sets. Number of elements in the Cartesian product of two sets.</li> <li>• Cartesian product of the sets of reals with itself (upto <math>R \times R \times R</math> )</li> <li>• Definition of relation, pictorial diagrams, domain, co-domain and range of a relation.</li> <li>• Function as a special type of relation, pictorial representation of a function, domain, co-domain and range of a function.</li> <li>• Real valued functions, their domain and range.</li> <li>• Constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions with their graphs.</li> <li>• Sum, difference, product and quotient of functions.</li> <li>• Positive and negative angles</li> <li>• Measuring angles in radian and in degrees and conversion from one measure to another.</li> </ul>	<p>Lecture method , Demonstration , induction method And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>• To verify that for two sets A and B, <math>n(A \times B) = pq</math> and the total number of relations from A to B is <math>2^{pq}</math>, where <math>n(A) = p</math> and <math>n(B) = q</math>.</li> <li>• To identify a relation and a function.</li> <li>• To distinguish between a Relation and a Function.</li> </ul>

3.	<b>Trigonometric Functions</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Definition of trigonometric functions with the help of unit circle.</li> <li>• Truth of the identity <math>\sin 2x + \cos 2x = 1</math>, for all <math>x</math>.</li> <li>• Signs of trigonometric functions.</li> <li>• Domain and range of trigonometric functions and their graphs.</li> <li>• Compound formulas, multiple formulas sub-multiple formulas, AB and CD formulas and other trigonometric identities.</li> <li>• Principle values and general solutions of trigonometric functions.</li> </ul>	<p>Lecture method , inductive- deductive method And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>• To verify the relation between the degree measure and the radian measure of an angle.</li> <li>• To find the values of sine and cosine functions in second, third and fourth quadrants using their given values in first quadrant.</li> </ul>
4.	<b>Principle Of Mathematical Induction</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Appraise the principle of mathematical induction.</li> <li>• Process of the proof by induction.</li> <li>• Motivating the application of the method by looking at natural numbers as the least inductive subset of the real numbers.</li> <li>• Principal of mathematical induction and its simple applications</li> </ul>	<p>Lecture method , Demonstration , deduction method And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	
5.	<b>Complex Numbers And Quadratic Equations</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Need of complex number, to be motivated by inability to solve some of the quadratic equations.</li> <li>• Algebraic properties of complex numbers.</li> <li>• Argand plan and polar representation of complex numbers.</li> <li>• Statement of fundamental theorem of algebra.</li> <li>• Solution of quadratic equations (with real coefficients).</li> <li>• Square root of complex number .</li> </ul>	<p>Lecture method , induction method , deduction method , Demonstration And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>• To interpret geometrically the meaning of <math>i = \sqrt{-1}</math> and its integral values.</li> </ul>

6.	<b>Linear Inequalities</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Introduction of linear inequalities, different types of inequalities.</li> <li>• Algebraic solutions of linear inequalities in one variable and their representation on the number line.</li> <li>• Graphical solution of linear inequalities in two variables.</li> </ul> <p>Graphical method of finding a solution of system of linear inequalities in two variables.</p>	<p>Laboratory method , Demonstration And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>• To verify that the graph of a given inequality , say <math>6x + 5y &lt; 60</math> , of the form <math>ax + by &lt; c</math> represents only one of the two half planes.</li> </ul>
7.	<b>Permutations And Combinations</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Explain the fundamental principle of counting.</li> <li>• Find the permutations when all objects are distinct.</li> <li>• Derive the formula for <math>{}^n P_r</math>.</li> <li>• Find the permutations when all objects are not distinct.</li> <li>• Explain combinations.</li> <li>• Deduce the relation between <math>{}^n P_r</math> and <math>{}^n C_r</math>.</li> <li>• Find the combinations of the object</li> </ul>	<p>Induction- deduction method And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>• To find the number of ways in which three cards can be selected from given five cards.</li> </ul>
8.	<b>Binomial Theorem</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• State and prove the binomial theorem for positive integral value.</li> <li>• Explain Pascal's Triangle.</li> <li>• Compute the value of a given number using binomial theorem.</li> <li>• Find the general and middle terms.</li> </ul>	<p>Deduction method, explanation method And Problem solving method</p>	<p>Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.</p>	<p>To construct a Pascal's Triangle and to write binomial expansion for a given positive integral exponent.</p>

9.	<b>Sequences and Series</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>Arithmetic Progressions, their nth term their sum to n terms and arithmetic mean.</li> <li>Geometric Progressions, their nth term, their sum to n terms and sum to infinite GP.</li> <li>Geometric mean and relationship between A.M. and G.M.</li> <li>Formulas for the following special sums.</li> </ul> $\sum_{k=1}^n k, \sum_{k=1}^n k^2 \text{ and } \sum_{k=1}^n k^3$	<p>Inductive-deductive method ,          Demonstration          And          Problem solving method</p>	<p>Green Board ,          Chalk, Duster,          Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>To establish the formula for the sum of the cubes of the first <math>n</math> natural numbers.</li> <li>To demonstrate that the arithmetic mean of two different positive numbers is always greater than or equal to the geometric mean.</li> </ul>
10	<b>Straight Lines</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>Find the slope of line</li> <li>Test the parallelism and perpendicularity in terms of their slopes.</li> <li>Estimate the angle between two lines.</li> <li>Examine the collinearity of three points.</li> <li>Express the equation of lines in the following forms:              Point-slope form              Two-point form              Slope-intercept form              Intercept form              Normal form</li> <li>Find the distance of a point from a line.</li> <li>Compute distance between two parallel lines.</li> </ul>	<p>Demonstration method ,          deduction method And          Problem solving method</p>	<p>Green Board ,          Chalk, Duster,          Charts , Smart Board, Projector etc.</p>	<ul style="list-style-type: none"> <li>To verify that the equation of a line passing through the point of intersection of two lines  <math>a_1x + b_1y + c_1 = 0</math> and  <math>a_2x + b_2y + c_2 = 0</math> is of the form  <math>(a_1x + b_1y + c_1) + \alpha(a_2x + b_2y + c_2) = 0</math></li> </ul>



11.	<b>Conic Sections</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Explain how circle, ellipse , parabola and hyperbola form the sections of a cone.</li> <li>• Give the conditions for the formation of degenerated conic sections.</li> <li>• Find the equation of circle.</li> <li>• Derive the standard equations of parabolas, ellipses and hyperbolas.</li> <li>• Find the length of the latus rectum of a parabola, ellipse and hyperbola.</li> <li>• Find the eccentricity of an ellipse and hyperbola.</li> <li>• Solve the practical problems on parabola, ellipse and hyperbola</li> </ul>	Question answer method , Demonstration And Deduction method	Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.	<ul style="list-style-type: none"> <li>• To construct different types of conic sections.</li> <li>• An alternative method of constructing a parabola.</li> <li>• To construct an ellipse when two fixed points are given.</li> <li>• To construct an ellipse using a rectangle.</li> </ul>
12.	<b>Three Dimensional Geometry</b>	<p>Student will be able to understand about –</p> <ul style="list-style-type: none"> <li>• Explain coordinate axes and coordinate planes in three dimensional space.</li> <li>• Find the coordinates of a point in space.</li> <li>• Compute the distance between two points.</li> <li>• Apply the section formula in solving the problem.</li> <li>• Find the midpoint of the line segment joining two points.</li> </ul>	Deduction method , Demonstration And Problem solving method	Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.	<ul style="list-style-type: none"> <li>• To explain the concept of octants by three mutually perpendicular planes in space.</li> </ul>

13.	<b>Limits and derivatives</b>	Student will be able to understand about – <ul style="list-style-type: none"> <li>• Explain the idea of derivatives.</li> <li>• Evaluate the limit.</li> <li>• Apply the algebra of limits.</li> <li>• Deduce the limits of polynomials and rational functions.</li> <li>• Find the limits of trigonometric functions.</li> <li>• Prove the sandwich theorem</li> <li>• Compute the derivative using first principle.</li> <li>• Apply the algebra od derivative of functions.</li> <li>• Obtain the derivative of polynomials and trigonometric functions.</li> <li>• Cite examples for logical statements.</li> <li>• Form new statements from old.</li> <li>• Write the negation of a statement.</li> <li>• Identify compound statements</li> </ul>	Inductive- Deductive method , explanation method, And Problem solving method	Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.	<ul style="list-style-type: none"> <li>• To find analytically  <math display="block">\lim_{x \rightarrow c} f(x) = \frac{x^2 - c^2}{x - c}.</math> </li> <li>• Verification of the geometrical significance of derivative.</li> </ul>
14.	<b>Mathematical Reasoning</b>	Student will be able to understand about – <ul style="list-style-type: none"> <li>• Give the truth value for compound statements.</li> <li>• Write the contra positive and converse of a statement.</li> <li>• Rewrite the statement with “If-then”.</li> <li>• Validate a statement using the rules.</li> <li>• Verify a statement by the method of contradiction.</li> <li>• Show that a given statement is false by giving counter examples</li> </ul>	Lecture method And Problem solving method	Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.	<ul style="list-style-type: none"> <li>• To obtain truth values of compound statements of the type <math>p \wedge q</math> by using switch connection in series.</li> <li>• To obtain truth values of the compound statements of the type <math>p \vee q</math> by using switch connections in parallel.</li> </ul>

15.	<b>Statistics</b>	Student will be able to understand about – <ul style="list-style-type: none"> <li>• Find the range of given data.</li> <li>• Compute the mean deviation for ungrouped data.</li> <li>• Calculate the mean deviation about mean and median for discrete and continuous frequency distributions.</li> <li>• Discuss the limitations of mean deviation.</li> <li>• Find the variance and standard deviation for discrete and continuous frequency distributions.</li> <li>• Analyse a frequency distribution.</li> <li>• Compare two frequency distributions with same mean.</li> </ul>	Laboratory method , deduction method And Problem solving method	Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.	
16.	<b>Probability</b>	Student will be able to understand about – <ul style="list-style-type: none"> <li>• Explain random experiments.</li> <li>• Find the sample space.</li> <li>• Define an event.</li> <li>• Cite examples for various types of events.</li> <li>• Describe the following events : Complementary event The event ' A or B ' The event ' A and B ' The event ' A but not B '</li> <li>• Identify mutually exclusive events.</li> <li>• Give the exhaustive events of a random experiment.</li> <li>• Explain the axiomatic approach of probability.</li> <li>• Find the probability of an event.</li> </ul>	Lecture method , demonstration method And Problem solving method	Green Board , Chalk, Duster, Charts , Smart Board, Projector etc.	<ul style="list-style-type: none"> <li>• To verify the addition theorem on probabilities, i.e., <math>P(A \cup B) = P(A) + P(B) - P(A \cap B)</math>.</li> </ul>

# PHYSICAL EDUCATION

S.no.	Name of the chapter	Learning outcome/objectives	Methodology	Teaching aids	Activity
1	<b>Changing trends &amp; career in physical education</b>	The students should know about <ul style="list-style-type: none"> <li>• Meaning &amp; definition of physical education</li> <li>• Aims and objectives of physical education</li> <li>• Career options in physical education</li> <li>• Competition in various sports and khelo-india program</li> </ul>	Lecture cum demonstration Reading and explanation	Audio-visual presentation	Group activity: Groups would be formed according to the range of learner.
2	<b>OLYMPIC VALUE EDUCATION</b>	The students should know about <ul style="list-style-type: none"> <li>• Olympics, Paralympics and Special Olympics.</li> <li>• Olympics symbols, ideals, objectives</li> <li>• International Olympic committee Indian Olympic Association</li> </ul>	Discussion interact with students	Smart class	Individual Activities for Athletics game
3	<b>PHYSICAL FITNESS , WELLNESS &amp; LIFESTYLE</b>	The students should know about <ul style="list-style-type: none"> <li>• Meaning and importance of physical fitness</li> <li>• Components of physical fitness and wellness</li> <li>• Components of health related of fitness</li> </ul>	The students would be able to grasp the theme and meaning of the wellness	Lecture come Demonstration method	Recreational activities: Different types of playing game
4	<b>PHYSICAL EDUCATION &amp; SPORTS FOR CWSN (CHILDREN WITH SPECIAL NEEDS- DIVYANG)</b>	The students should know about <ul style="list-style-type: none"> <li>• Aims &amp; objectives of adaptive physical education</li> <li>• Concept of inclusion, its need and implementation</li> </ul> Role of various professionals for children with special needs	They would be able to draw a comparative study between human life and nature	Audio-visual presentation	individual activity: (for all range of learners)
5	<b>YOGA</b>	The students should know about <ul style="list-style-type: none"> <li>• Meaning of importance of yoga</li> <li>• Elements of yoga</li> <li>• Introduction-Asanas, pranayam, meditation &amp; yogic kriyas</li> <li>• Relaxation techniques for improving concentration</li> </ul>	The students would develop an interest towards yoga	Demonstration method	Group activity Yoga Asana

<b>6</b>	<b>PHYSICAL ACTIVITY &amp; LEADERSHIP TRAINING</b>	<p>The students should know about</p> <ul style="list-style-type: none"> <li>• Leadership qualities &amp; Role of leader</li> <li>• Creating leader through physical education</li> <li>• Meaning and objectives &amp; ADVENTURE SPORTS</li> <li>• Safety measures to prevent sports injuries</li> </ul>	The background knowledge of the leadership quality and his would be given	Smart class	Demonstration method
<b>7</b>	<b>TEST, MEASUREMENT &amp; EVALUATION</b>	<p>The students should know about</p> <ul style="list-style-type: none"> <li>• Define test measurement and</li> <li>• evaluation importance of test</li> <li>• measurement of health related fitness</li> </ul>	Discussion interact with student through group	Marking of field	Pair activity: For all range of learners comprising.
<b>8</b>	<b>FUNDAMENTALS OF ANATOMY &amp; PHYSIOLOGY &amp; KINESIOLOGY IN SPORTS</b>	<p>The students should know about</p> <ul style="list-style-type: none"> <li>• Definition importance of anatomy 2. Function of skeleton system 3. 3. classification of bones and types of joints</li> </ul>	They would develop their optimistic attitude towards life	Audio-visual presentation	Group activity: Different game for all range of learners
<b>9.</b>	<b>PSYCHOLOGY AND SPORTS</b>	<p>The students should know about</p> <ul style="list-style-type: none"> <li>• Definition &amp; importance of psychology in physical education &amp; sports</li> <li>• Adolescent problems &amp; their Management</li> </ul>	The learner would be able to differentiate between psychology and discipline	Power point presentation	Group activity: Group would be formed according to the range of learner
<b>10.</b>	<b>TRAINING AND DOPING IN SPORTS</b>	<p>The students should know about</p> <ul style="list-style-type: none"> <li>• Meaning &amp; concept of sports Training</li> <li>• Principles of Sports Training</li> <li>• Warming up &amp; Limbering down</li> <li>• Skill, Technique &amp; Style</li> </ul>	Their training would be developed	Demonstration method	Group activity: Different types of playing game

## URDU

S.NO	اسباق کے نام	تدریسی نتائج / آموزشی ماحصل	تدریسی طریقہ کار	دیگر سرگرمیاں / اشرکی تعلیم	تفویض
	حصہ نثر				
1	خواجہ معین الدین چشتی	طلباء کو مضمون کی تعریف سے روشناس کرانا اور اس سبق کے ذریعے طلباء کو خواجہ معین الدین چشتی کی شخصیت اور ان کے کارناموں سے واقف کرانا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تفہیمی سوالات، اعادہ سبق، گھر کا کام	طلباء کو مشہور درگاہوں کی دستاویزی فلم دکھانا	درسی سوالات کرانا۔
2	مسجد کا قیدی	انشائیے کی تعریف اور اس کی صنفی خصوصیات سے طلباء کو واقف کرانا اور بتانا کہ اس میں مصنف نے اپنی بچپن کی شرائط اور مضمون مانوسوج کو کچھ اس طرح بیان کیا ہے کہ پڑھنے والوں کو بے اختیار ہنسی آ جاتی ہے۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تفہیمی سوالات، اعادہ سبق، گھر کا کام	رشید احمد صدیقی کی انشائیہ نگاری پر طلباء سے بحث کرانا	طلباء سے رشید احمد صدیقی کے خاکوں کے مجموعے لکھوانا
3	ہزاروں سال لمبی رات	طلباء کو افسانے کی تعریف سمجھانا اور اس سبق کے ذریعے یہ بتانا کہ دنیا میں اگر کسی کو کوئی دکھ درد نہ ہو اور اسے دو وقت پیٹ بھر کھانا مل جائے تو اسے چین کی نیند آ جاتی ہے لیکن بھوکے آدمی کو نیند کیسے آ سکتی ہے۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تفہیمی سوالات، اعادہ سبق، گھر کا کام	طلباء سے ہمدردی پر ایک مضمون لکھوانا	طلباء سے اس طرح کا کی تصاویر کا نقشہ بنوانا جس میں لوگ ضرورت مندوں کی مدد کرتے نظر آئیں
4	میاں نصیر الدین	اس مضمون کے ذریعے طلباء کو یہ پیغام دینا کہ ہر طرح کے کھانے ہمارے ملک میں بڑے شوق سے کھائے جاتے ہیں اس سے یہ سبق ملتا ہے کہ ہمارے تہذیبی اختلاف میں بھی وحدت پائی جاتی ہے۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تفہیمی سوالات، اعادہ سبق، گھر کا کام	طلباء سے سبق کے جملے دے کر مفہوم واضح کرانا۔	طلباء سے ہمارے ملک کے مشہور علاقوں کے مشہور کھانوں کی ایک فہرست تیار کرانا
5	کولکتہ	اس سبق کے ذریعے طلباء کو کولکتہ شہر کی خصوصیات اور وہاں کی تاریخی عمارتوں سے روشناس کرانا اور بتانا کہ انگریزوں کا بنایا ہوا قلعہ فورٹ ولیم آج فوجی چھاؤنی ہے۔ بہت پہلے اس عمارت میں ایک ایسے کالج کی بنیاد رکھی گئی تھی جس نے مشرقی علوم کے فروغ میں اہم کردار ادا کیا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تفہیمی سوالات، اعادہ سبق، گھر کا کام	طلباء سے کچھ مشہور تاریخی عمارتوں کی تصاویر بنوانا	سبق سے کچھ جملے دے کر ان میں صفت کی نشان دہی کرانا
6	خالہ نے خط لکھوایا	اس مضمون کے ذریعے طلباء کو عورتوں کے درمیان نوک جھونک کو دل چسپ انداز اور با محاورہ زبان میں پیش کیے گئے مکالموں سے لطف اندوز کرانا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تفہیمی سوالات، اعادہ سبق، گھر کا کام	طلباء سے ایک خط لکھوانا جس میں وہ اپنے دوست کو اپنی تعلیمی سرگرمیوں سے آگاہ کرے	طلباء سے سبق میں موجود محاوروں اور کہاوتوں کی نشان دہی کرانا

7	کھد رکافن	اس سبق کے ذریعے طلباء کو بتانا کہ حکو کا کردار ہمیں آمادہ کرتا ہے کہ اپنے ملک و قوم کے لیے اپنا سب کچھ قربان کر دینا ہمارا اولین فرض ہونا چاہیے۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تقابلی سوالات، اعادہء سبق، گھر کا کام	مجاہدین آزادی کی تصاویر دکھا کر طلباء میں حب الوطنی کا جذبہ پیدا کرنا۔	حکو کی شخصیت پر مختصر نوٹ لکھوانا۔
8	تچی زندگی، روحانی خوشی	اس مضمون کے ذریعے گاندھی جی نے لوگوں کو اپنی زندگی سے واقف کرایا ہے وہ بتاتے ہیں کہ میں نے بہت سی چیزوں میں کفایت شعاری کر کے اپنی زندگی کو بہت سادہ بنا لیا تھا جس سے ان کی زندگی زیادہ تچی بن گئی اور انکی روحانی خوشی کی کوئی انتہا نہ رہی۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تقابلی سوالات، اعادہء سبق، گھر کا کام	گاندھی جی کی شخصیت اور انکے کارناموں پر طلباء سے اظہار خیال کرانا۔	گاندھی جی کی سادہ زندگی پر ایک مضمون لکھوانا۔
	حصہ نظم				
1	غزل (انشاء)	طلباء کو فانی کی غزل گوئی سے واقف کرانا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تشریحی سوالات، اعادہء سبق، گھر کا کام	طلباء سے غزل کے اشعار زبانی سننا۔	طلباء سے غزل کے قافیہ اور ردیف کی نشان دہی کرانا۔
2	نظم (خواہش)	اس نظم کے ذریعے طلباء میں دوسروں کی مدد کا جذبہ پیدا کرنا۔ اس میں شاعر نے اس طرح کی خواہشات کا اظہار کیا ہے جو پریشان حال انسانوں کی خدمت اور بھلائی سے تعلق رکھتے ہیں۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تشریحی سوالات، اعادہء سبق، گھر کا کام	انسانوں کی بھلائی، عنوان پر طلباء سے اظہار خیال کرانا۔	نظم کا مرکزی خیال لکھوانا۔
3	گیت (لو پھر بسنت آئی)	اس نظم کے ذریعے طلباء کو موسم بہار سے اور اسکی خصوصیات سے واقف کرانا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تشریحی سوالات، اعادہء سبق، گھر کا کام	طلباء سے موسم بہار پر خوبصورت تصاویر بنوانا۔	طلباء سے گیت کا خلاصہ کرانا۔
4	غزل (فانی)	طلباء کو فانی کے کلام انکے موضوعات اور خیالات سے واقف کرانا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلم کی معیاری بلند خوانی، مشکل اشعار کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تلفظ، تشریحی سوالات، اعادہء سبق، گھر کا کام	غزل میں موجود قوافی کی نشان دہی کرانا۔	غزل میں موجود متضاد الفاظ کی نشان دہی کر کے لکھوانا۔
	قواعد				
1	اسم اور اسکی اقسام	طلباء کو اسم کی تعریف اور اسکی اقسام کو مثال دے کر سمجھانا۔	استدلالی طریقہ	طلباء سے جملوں میں سے اسم اور اسکی اقسام کی نشان دہی کرانا۔	اسم اور اسکی اقسام کو مثال کے ساتھ لکھوانا۔
2	ضمیر اور اسکی اقسام	ضمیر کی تعریف اور اسکی اقسام کو جملوں کی مدد سے سمجھانا۔	استدلالی طریقہ	طلباء سے ایسی فہرست بنوانا جس میں ضمیر اور اسکی اقسام پائی جائیں۔	ضمیر اور اسکی اقسام کو مثال کے ساتھ لکھوانا۔
3	صفت اور اسکی اقسام	صفت اور اسکی اقسام کو مثال کی مدد سے سمجھانا۔	استدلالی طریقہ	سبق میں موجود صفت اور اسکی اقسام کی نشان دہی کرانا۔	صفت اور اسکی اقسام کو مثال کے ساتھ لکھوانا۔

4	خبر/اشتہار	طلباء کو خبر کی تعریف اور اس کی اہمیت سے واقف کرانا۔ طلباء کو اشتہار کی تعریف اور اس کی خصوصیت سے روشناس کرانا۔	استدلالی طریقہ	مختلف قسم کی خبروں اور اشتہار کے نمونے اخبار سے لا کر کاپی میں لکوانا۔	طلباء سے اپنے اسکول پر ایک اشتہار لکھوانا۔ یوم آزادی پر خبر لکھوانا۔
5	خط/درخواست	طلباء کو خط اور درخواست کی تعریف اور اس کی قسموں کے بارے میں سمجھانا	استدلالی طریقہ		
6	محاورے اور ضرب الامثال	محاورے اور ضرب الامثال کی تعریف اور ان کا جملوں میں استعمال کرنا سکھانا۔	استدلالی طریقہ	طلباء سے سبق میں موجود محاوروں اور ضرب الامثال کی نشاندہی کرانا	طلباء کو چند محاورے اور ضرب الامثال دے کر جملے بنوانا۔
7	مضمون نگاری	طلباء کو مضمون کی تعریف اور اسے لکھنے کا طریقہ سمجھانا۔	استدلالی طریقہ	مضمون کی اہمیت پر طلباء سے اظہار خیال کرانا۔	چند موضوعات دے کر مضمون لکھوانا۔



.NO	اسباق کے نام	تدریسی نتائج / آموزشی ماحصل	تدریسی طریقہ کار	دیگر سرگرمیاں / شریکی تعلیم	تفویض
	حصہ نثر				
1	مغزور جوتا (انشائیہ)	طلباء کو انشائیہ کی تعریف سمجھانا اور اس سبق کے ذریعے یہ بتانا کہ آج کل برتری اسی کو حاصل ہے جو اپنے فرائض انجام دینے میں کوتاہی نہیں کرتا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تفہیمی سوالات، اعادہ سبق، گھر کا کام	غزور کا انجام عنوان پر طلباء سے اظہار خیال کرانا۔	سبق میں مصنف اور جوتے کے کچھ مکالموں کو اپنی زبان میں لکھیے۔
2	روبوٹ (مضمون)	طلباء کو بتانا کہ ربوٹ کی ایجاد انسان کے لیے سائنس کا دیا ہوا ایک بہت مفید اور کارآمد تحفہ ہے۔ ربوٹ بہت سے ایسے کام انجام دے سکتا ہے جو انسان نہیں دے سکتا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تفہیمی سوالات، اعادہ سبق، گھر کا کام	طلباء سے ربوٹ کی تصویر بنوانا۔	طلباء سے دو دو الفاظ سابقے اور لاحقے لکھوانا۔
3	صيد ہوس (ڈرامہ)	طلباء کو ڈرامے کی تعریف سمجھانا اور بتانا کہ مصیبت ہی میں پڑ کر شرافت اور شجاعت آشکار ہوتی ہے۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تفہیمی سوالات، اعادہ سبق، گھر کا کام	اسکول کے کسی جلسہ میں اس ڈرامہ کو اسٹیج کرانا۔	تفہیمی سوالات کرانا۔
4	اجتہا اور ایلورا (مضمون)	طلباء کو مضمون کی تعریف سمجھانا اور بتانا کہ اجتہا اور ایلورا کے فارقدرتی نہیں ہیں بلکہ چٹانوں کو کاٹ کر بنائے گئے ہیں۔ جنہیں ہم انسانی ہنرمندی کا اعلیٰ نمونہ کہہ سکتے ہیں۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تفہیمی سوالات، اعادہ سبق، گھر کا کام	طلباء کو مشہور تاریخی عمارتوں کی دستاویزی فلم دکھانا۔	اجتہا اور ایلورا کے غاروں کی خصوصیات کے بارے میں چند جملے لکھوانا۔
5	جاسن کا بیڑ (افسانہ)	کرشن چندرنے اپنے افسانے جاسن کا بیڑ میں فیصلہ سازی کی طرف خصوصی طور پر توجہ دلائی ہے کیونکہ مختلف محکمہ میں مختلف فیصلے لیے جاتے ہیں اس لیے درخت کو ہٹانے کے لیے فائل ایک محکمہ سے دوسرے محکمہ میں گھومتی رہی اس وجہ سے بیڑ کے نیچے دبے ہوئے شخص کو نہیں نکالا جا سکا اور اس نے دم توڑ دیا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تفہیمی سوالات، اعادہ سبق، گھر کا کام	کرشن چندر کے دوسرے افسانوں کا مطالعہ کرنا اور طلباء میں بحث کرانا۔	اس سبق سے اسم فعل اور ضمیر تلاش کر کے لکھوانا۔
6	خان خانان کی فیاضی (مضمون)	اس مضمون کے ذریعے طلباء کو خان خانان کی فیاضی اور سخاوت سے واقف کرانا۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تفہیمی سوالات، اعادہ سبق، گھر کا کام	سبق میں شامل اضافت والے الفاظ کی نشاندہی کرانا۔	سبق میں موجود جمع الفاظ کی نشاندہی کرانا اور انکے واحد لکھوانا۔
	حصہ نظم				
1	کلجگ (نظم)	طلباء کو بتانا کہ یہ نظم مسدس کی شکل میں ہیں جسکے ہر بند میں چھ مصرعے ہیں۔ اس میں شاعر نے یہ بتایا ہے کہ یہ ایسا زمانہ ہے کہ جہاں اچھائی کا بدلہ اچھائی سے اور برائی کا بدلہ برائی سے ملتا ہے۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تشریحی سوالات، اعادہ سبق، گھر کا کام	نیکی اور بدی کے عنوان پر طلباء سے تقریر کرانا۔	نظم سے ایسے الفاظ تلاش کیجئے جن میں تضاد ہو اور جو قافیے استعمال ہوئے ہیں ان کی نشاندہی کرانا۔
2	ترانہ اردو (نظم)	اس نظم میں اردو زبان کی تعریف کی گئی ہے کیونکہ اردو ایک ایسی زبان ہے جس نے جنگ آزادی میں اہم رول ادا کیا ہے۔ اس کے نعروں اور نعروں نے آخر کار آزادی کی راہیں ہموار کیں۔ آزادی سے متعلق اردو میں بے شمار نظمیں اور نغمے لکھے گئے ہیں۔	سابقہ معلومات، تمہیدی گفتگو، اعلان سبق، معلمہ کی معیاری بلند خوانی، مشکل الفاظ کی تشریح، طلباء کی تقلیدی بلند خوانی، اصلاح تعلق، تشریحی سوالات، اعادہ سبق، گھر کا کام	جنگ آزادی سے متعلق اردو اشعار جمع کرانا۔	نظم کا مرکزی خیال لکھوانا اور زار لگا کر کچھ مرکب الفاظ لکھوانا۔