BAL BHARATI PUBLIC SCHOOL, NTPC SIPAT

Syllabus Plan for the Session 2024-25

CLASS - XI

SUBJECT- English

RECOMMENDED BOOKS – Main Text Book- Hornbill
Supplementary Reader- Snapshots

MONTH	Days	COURSE CONTENT	LEARNING OUTCOMES	INTERDISCIPLINARY	TEACHING LEARNING STRATEGIES	ASSESSMENT TOOLS	RESOURCES USED
April	21	**Portrait of a lady** Introduction to the short story "Portrait of a Lady" by Khushwant Singh. Analysis of characters, plot, and themes such as loneliness, nostalgia, and human relationships. Exploration of narrative techniques and storytelling.	Understand the themes and motifs in the story, particularly focusing on human emotions and interpersonal dynamics. Analyze character development and relationships depicted in the narrative. Develop critical thinking skills through literary analysis and interpretation.	Psychology: Examination of loneliness and its psychological impact on individuals. Sociology: Analysis of societal norms and expectations in relationships. .	Close Reading: Conduct a guided reading of the story, emphasizing language, imagery, and narrative style. Character Analysis: discussions on the themes and messages conveyed in the story. Creative Writing:-Encourage students to apply their understanding of the story's themes and characters in their writing.	Character Analysis Assignments: Class Discussions Creative Writing Assignments: Quizzes or Tests: Multiple-choice and short answer questions	Textbook Audio-visual aids (videos) Google Classroom materials and Extramarks Writing materials for assignments and reflections.

		A Photograph Introduction to the poem "A Photograph" by Shirley Toulson. Exploration of themes such as memory, nostalgia, and the passage of time. Analysis of poetic devices including imagery, metaphor, and symbolism.	Understand the poet's reflection on the impact of time and memory. Identify and analyze poetic techniques used by Shirley Toulson. Develop empathy and critical thinking skills through interpretation of the poem.	History: Discussion of historical context and societal changes reflected in the poem. Psychology: Exploration of memory and its emotional significance.	Close Reading focusing on language and imagery. Group Discussions: themes and emotions evoked by the poem. Poetry Analysis: Analyze specific poetic Reflective Writing: Reflective writing tasks where students respond to the poem's themes and imagery.	Poetry Analysis: identify and analyze poetic techniques and thematic elements. Class Discussions Reflective Writing- students' comprehension and personal response to the poem's themes.	Textbook: Supplementary Readings: Excerpts on poetic analysis and the role of memory in literature. Multimedia Resources: Audio recordings of the poem, video clips on poetic techniques.
		Summer of the beautiful white horse Introduction to the short story "Summer of the Beautiful White Horse" by William Saroyan. Analysis of themes such as honesty, integrity, and childhood innocence. Exploration of character and narrative techniques.	Understand the moral dilemmas and conflicts faced by the characters in the story. Identify and analyze literary elements and techniques used by William Saroyan. Develop critical thinking skills through interpretation and reflection on the narrative.	History: Examination of the historical and cultural context of the narrative. Psychology: Analysis of childhood perceptions and emotional development.	Pre-Reading Activities: Introduce the theme moral dilemma. Brainstorming session on societal expectations During Reading Activities: Close reading of the story with a focus on character development and plot progression. Post-Reading Activities: Creative writing exercises exploring alternative endings or character perspectives.	Class participation in discussions and activities. Article or presentation analyzing the plot, themes, imagery, and emotional impact. Creative project demonstrating understanding	Textbook Articles in Extramarks and Google classrooms Visual aids (artwork, photographs) depicting emotional states and character relationships.

		Classified Advertisement Introduction to the concept and structure of classified advertisements. Understanding the purpose and components of a classified advertisement. Analyzing different types of classified ads **Reordering of sentences** Introduction to the concept of reordering sentences . Understanding sentence structure, syntax, and logical sequencing.Practic e with various types of sentence reordering exercises.	Learn how to compose effective and concise classified advertisements. Understand the importance of language and presentation in advertising Develop skills in identifying and correcting sentence order errors. Enhance understanding of sentence structure and coherence. Improve proficiency in written expression through organized and well-structured sentences.	Business Studies: Exploring the role of advertisements in promoting products and services. Information Technology: Using digital platforms for creating and distributing classified ads. Language Arts: Reinforcement of grammar and syntax concepts. Critical Thinking: Application of logical reasoning and sequencing.	Introduce the concept of classified advertisements and their significance. Discuss the key components of a classified ad (headline, content, contact information). Analysis of Examples: Provide examples of different types of classified ads from newspapers or online sources. Analyze the language, layout, and effectiveness of each advertisement. Introduction and Discussion Sentence Reordering Exercises Group Activities	Language and Presentation Skills Assessment: Evaluate students' language proficiency and communication skills demonstrated in writing Sentence Reordering Assignments Group Collaboration Assessment Written Exercises:	Sample classified advertisements from newspapers, magazines, or online platforms. Visual aids: PowerPoint slides or posters illustrating key concepts and examples Sentence reordering worksheets or exercises. Multimedia presentations: Visual aids to illustrate sentence structure concepts.

		Unseen comprehension analysis and understanding of passages or texts that students have not previously encountered. These passages can be from various genres such as fiction, non-fiction, or excerpts from articles.	Develop reading comprehension skills by understanding and analyzing unfamiliar texts. Enhance vocabulary acquisition and contextual understanding. Improve critical thinking and inference-making abilities. Enhance language proficiency and comprehension strategies for different types of texts.	Education: Explore pedagogical approaches to teaching reading comprehension across different disciplines.	Close Reading: Teach students to read the passage carefully, paying attention to details, main ideas, and supporting evidence. Annotation: Encourage students to annotate the passage Discussion: Facilitate class discussions to analyze the passage Practice: Provide regular practice sessions Feedback: on students' comprehension strategies, vocabulary usage, and critical analysis skills.	Comprehension Questions: Written or oral questions to assess understanding of the unseen passage. Vocabulary Exercises: Assess students' ability to infer word meanings from context	Unseen comprehension passages from textbooks, workbooks, or supplementary materials. Writing materials for annotation, note-taking, and responding to questions
June	**11**	**We Are Not Afraid to Die** Chapter Overview: "We Are Not Afraid to Die" is a true account of a harrowing sea voyage that tests human resilience and courage. It highlights themes of survival, teamwork, and the indomitable spirit of humans in face	Understand the challenges faced during the sea voyage described in the chapter. Analyze the characters' responses to crisis and their leadership qualities. Develop empathy and appreciation for the power of teamwork and determination. Enhance language skills through comprehension and analysis of non-fiction	Geography: Explore the geographical features and challenges of the sea voyage. Psychology: Discuss the psychological aspects of survival and resilience.	Pre-Reading Activities: Introduce the themes of survival strategies; discuss real-life examples and personal experiences. During Reading Activities: Guided reading of the story focusing on character analysis and plot development. Group discussions on symbolism, allegory, and thematic elements. Post-Reading Activities: Writing assignments exploring personal interpretations and	Class participation in discussions , Quiz and MCQs related to character analysis and themes. Written reflections or journal entries on the concept of human nature and courage.	Textbook containing the short story " We Are Not Afraid to Die " Audio/visual aids (Extramarks and Google classroom) depicting themes human nature and courage. Writing prompts and creative exercises to

		of adversity.	narrative.		connections to the themes. Role-play or creative writing exercises imagining alternate endings or character perspectives.		stimulate critical thinking.
		<u>The Laburnum top</u> "Laburnum Top" by Ted Hughes is a poem that explores themes of nature, life, and human-animal interaction. It delves into the power dynamics between humans and the natural world.	Interpret the imagery and symbolism used in the poem. Understand the relationship between humans and nature depicted in the poem. Analyze the poet's use of language and poetic devices. Enhance language appreciation and creative expression through poetry analysis.	Environmental Science: Discuss the ecological themes and human impact on nature.	Pre-Reading Activities: Introduce the themes of relationship between humans and nature; discuss real-world examples and historical contexts. Analyze the title and predict the poem's content based on prior knowledge and imagery. During Reading Activities: Guided reading of the story focusing on poetic devices and thematic elements. Post-Reading Activities: Writing assignments exploring personal interpretations and connections to the themes.	Class participation in discussions and activities related to theme analysis and themes. Written reflections or journal entries on the concept of nature and man	Textbook: Class 11 English Core book. Copies of "Laburnum Top" by Ted Hughes. Visuals of laburnum trees and related nature scenes. Writing materials for creative assignments and poetry analysis.
		<u>The Address</u> "The Address" by Marga Minco is a short story that explores themes of memory, loss, and	Understand the impact of war on individuals and communities.	History: Discuss the historical context of World War II and its	Introduction: Provide background information on World War II and the themes of the story.	Comprehension Questions Character Analysis:	Textbook: Class 11 English Core book. Visual aids (maps, images, Google

		resilience in the aftermath of World War II. It follows the protagonist as she revisits her former home, which holds painful memories of wartime experiences. **Poster Making** Writing Skill Focus: Poster Making - Understanding the elements of effective visual communication through posters.	Analyze the theme of memory and its significance in shaping identity. Enhance empathy and understanding of historical events through literature. Develop critical thinking skills through textual analysis and interpretation. Understand the purpose and components of an effective poster. Develop skills in visual communication and design. Enhance creativity and ability to convey information concisely. Gain proficiency in integrating text and visuals for impactful messaging.	aftermath. Psychology: Explore trauma Sociology: Examine the social implications of displacement and loss. Business Studies: Exploring the role of advertisements in promoting products and services. Information Technology: Using digital platforms for creating and distributing classified ads.	Reading and Comprehension: Read the story aloud or individually, focusing on key passages. Discussion: Facilitate discussions on character motivations, themes, and symbolism. Assigning reflective or analytical writing tasks based on the story. Introduce the concept of poster and their significance. Discuss the key components of a poster (headline, content, contact information). Analysis of Examples: Provide examples of different types of poster from newspapers or online sources. Analyze the language, layout, and effectiveness of each advertisement.	Creative Projects: Evaluate creative responses such as artwork, poetry, or short stories inspired by the narrative. Peer Evaluation: Poster Evaluation Rubric: Criteria include visual appeal, clarity of message, use of space, and creativity. Teacher Observation: Assess students' engagement, creativity, and understanding during the activity.	classroom and Extramarks) depicting World War II and post-war Europe. Writing materials for assignments and assessments. Posters for analysis (can be printed or shown digitally). Presentation equipment (projector, screen) for displaying examples and student work.

July	**25**	**<u>Discovering Tut</u>** "Discovering Tut" is a non-fiction narrative by A.R. Williams that recounts the discovery of the tomb of Tutankhamun by Howard Carter in 1922. The chapter explores the historical significance of the discovery and its impact on the world of archaeology.	Understand the historical context of ancient Egypt and the significance of Tutankhamun's tomb discovery. Analyze the challenges faced by archaeologists during excavation and preservation. Appreciate the role of cultural heritage in shaping our understanding of history.	History: Explore ancient Egyptian civilization and burial practices. Geography: Study the geographical location of Egypt and its importance in ancient history.	**Introduction -**Provide an overview of ancient Egyptian history and the significance of Tutankhamun. **Reading and Discussion** Discuss key events, characters, and discoveries. **Reflection and Discussion** Reflective discussion on the impact of archaeological discoveries .	Class participation in discussions and activities related to historical context and themes. Written reflections or journal entries on the impact of archaeological discoveries	Textbook Video Tutankhamun's tomb discovery Visual aids depicting historical settings and events.
		<u>The Voice of the rain</u> "Voice of the Rain" is a poem by Walt Whitman that celebrates the beauty and power of nature. The poem vividly describes the sights, sounds, and sensations of a rainstorm, inviting readers to connect	Analyze poetic devices such as imagery, metaphor, and personification. Understand the theme of nature and its portrayal in literature. Appreciate the emotional and sensory impact of poetry.	Environmental Science: Explore the importance of rain and its ecological significance. Psychology: Discuss the emotional response to nature and natural	Introduction : Introduce Walt Whitman as a poet and provide context for "Voice of the Rain." Close Reading : Read the poem aloud, pausing to discuss imagery, figurative language, and themes. Group Analysis : Creative Response : Assign a creative writing task or art project inspired by the poem's themes and imagery.	Class participation in discussions and activities related to theme analysis and themes. Written reflections or journal entries on the concept of nature and	Textbook: Class 11 English Core book. Copies of "Laburnum Top" by Ted Hughes. Visuals of laburnum trees and related nature scenes. Writing materials for creative

		with the natural world. **Mother's Day** Mother's Day" is a one-act play by J.B. Priestley that explores the dynamics of family relationships and societal expectations. The play centers around the character of Mrs. Pearson and her interactions with her family on Mother's Day. **Debate Writing** Understanding the structure and conventions of formal debate writing, including argumentation, rebuttals, and refutations.	Analyze character motivations and relationships in a dramatic text. Understand themes of family, duty, and societal norms. Appreciate the techniques and conventions of dramatic literature. Develop skills in persuasive writing and argumentation. Understand the structure and organization of formal debates. Enhance critical thinking and research skills. Improve oral and written communication skills.	phenomena. Psychology: Explore family dynamics and interpersonal relationships. Sociology: Discuss societal norms and expectations related to family roles Communication Studies: Develop effective communication skills in presenting and defending arguments	Discussion and Reflection : on the emotional and sensory impact of the poem, encouraging personal reflections. Introduction (: Introduce J.B. Priestley as a playwright and provide context for "Mother's Day.- Reading and Analysis Group discussion to analyze specific scenes or character interactions in the play. - Role-plays or Scene Reflection and Discussion on the themes and messages of the play, encouraging personal reflections. Debate Scripts: Assessment of written debate scripts based on argumentation, organization, and evidence. Research and Argumentation: Evaluation of students' research skills and ability to construct persuasive	man Character Analysis: Scene Performance: Evaluation of students' performance in role-plays Written Response: Reflective writing tasks or essays analyzing themes and messages of the play Debate Scripts: Assessment of written debate scripts based on argumentation, organization, and evidence. Research and	assignments and poetry analysis. Textbook: Class 11 English Core book containing the play "Mother's Day Audio recordings or videos of performances of the play for reference. Writing materials for assignments and assessments. Debate topics for students to choose from. Research materials such as books, articles, and online resources. Sample debate

					arguments	Argumentation: Evaluation of students' research skills and ability to construct persuasive arguments	scripts and videos for reference.
		<u>Transformation of sentences</u> Grammar Transformation: Understanding and practicing various grammatical transformations such as active-passive voice, direct-indirect speech, and affirmative-negative sentences.	Understand the rules and principles of grammar transformation. Develop proficiency in transforming sentences between different grammatical forms. Improve grammatical accuracy and fluency in written and spoken communication	Communication Studies: Apply grammatical transformations to enhance clarity and precision in communication	Explanation and Examples Guided Practice Peer Collaboration Application and Review	Grammar Exercises: Written Assignments: Peer Evaluation: Class Participation	Grammar textbooks or guides Worksheets or handouts with transformation exercises for practice Interactive online resources or apps for additional practice and reinforcement

August	**23**	**Adventure** "Adventure" by Jayant Narlikar is a prose chapter from the Class 11 English Core textbook. It typically involves a narrative that revolves around the theme of adventure, exploration, or discovery. **Childhood** Childhood" is a poem chapter from the Class 11 English Core textbook. It typically explores themes related to childhood experiences, memories, and reflections.	Analyze narrative elements such as plot, characters, and setting in "Adventure" by Narlikar. Understand the theme of adventure and its significance in literature. Develop critical thinking and analytical skills through literary analysis. Understand the theme of childhood and its significance in literature. Develop empathy and understanding of diverse childhood experiences. Improve language comprehension and vocabulary acquisition.	Geography: Explore geographical locations History: Discuss historical contexts. Science: Analyze scientific concepts or phenomena Psychology: Explore concepts of child development and the impact of childhood experiences Sociology: Discuss cultural and societal influences on childhood	**Introduction -**Provide an overview of the theme of adventure **Reading and Discussion** Discuss key events, characters, and discoveries. **Reflection and Discussion** Reflective discussion on the scientific concepts or phenomena Guided Discussion • Problem solving based learning • Peer teaching • Inductive learning • Self-assessment	Character Analysis Assignments Assess engagement in discussions and group activities. Reflective Writings Quizzes or Tests Poetry Analysis Assignments Assess engagement in discussions and group activities. Reflective Writings Quizzes or Tests	Text Book Adventure and pre independence -themed visuals: Photographs, paintings, or multimedia presentations. Multimedia Resources: Text Book Multimedia Resources: Audio recordings of the poem, video lectures on childhood experiences

September	**21**	**Speech Writing** Understanding the structure and conventions of formal Speech writing, including argumentation, rebuttals, and refutations.	Develop skills in persuasive writing and argumentation. Understand the structure and organization of formal Speech. Enhance critical thinking and research skills. Improve oral and written communication skills.	Communication Studies: Develop effective communication skills in presenting and defending arguments	Speech Scripts: Assessment of written debate scripts based on argumentation, organization, and evidence. Research and Argumentation: Evaluation of students' research skills and ability to construct persuasive arguments	Speech Scripts: Assessment of written debate scripts based on argumentation, organization, and evidence. Research and Argumentation: Evaluation of students' research skills and ability to construct persuasive argument	Speech topics for students to choose from. Research materials such as books, articles, and online resources. Sample Speech scripts and videos for reference.
October	**17**	**Silk Road** "Silk Road" is a prose chapter from the Class 11 English Core textbook. It typically explores the historical significance and cultural impact of the Silk Road, an ancient network of trade routes connecting the East and West.	Analyze the historical context and significance of the Silk Road. Understand the cultural exchange and economic impact facilitated by the Silk Road. Develop empathy and understanding of diverse cultural perspectives. Improve language comprehension and vocabulary acquisition	History: Explore the historical context Geography: Study the geographical locations and landscapes along the Silk Road Economics: Economic implications of trade and commerce along the Silk Road	Comprehension Questions: Written or oral questions Historical Analysis: presentations analyzing the historical context and significance of the Silk Road. Personal Reflections: Written reflections on the importance of cultural exchange and diversity. Class Participation: Group Discussion	Character Analysis Assignments Assess engagement in discussions and group activities. Reflective Writings Quizzes or Tests	Text Book Visual aids: Images or videos related to silk road Multimedia Resources: Audio recordings of the play, video clips of dramatic interpretation.

November	**23**	**<u>Father to Son</u>** "Father to Son" is a poem which typically explores themes related to fatherhood, family dynamics, and intergenerational relationships.	Analyze the themes, tone, and poetic devices used in "Father to Son." Understand the complexities of father-son relationships depicted in the poem. Develop empathy and understanding of diverse family dynamics. Improve language comprehension and poetry appreciation skills.	Psychology: Explore concepts of family dynamics and parent-child relationships. Sociology: Discuss cultural and societal norms related to fatherhood and masculinity.	Guided Discussion on the theme • Problem solving based learning • Peer teaching • Poetry Analysis: Teach students to identify and analyze poetic devices such as imagery, metaphor, and symbolism. • Self-assessment	Comprehension Questions: Written or oral questions to assess understanding Poetry Analysis: analyzing the themes, tone, and poetic devices Personal Reflections: Written reflections on personal connections to the themes	Text Book Multimedia Resources: Audio recordings of the poem, video lectures on family dynamics and parent-child relationships.
		<u>Birth</u> understand the responsibilities of a doctor -value commitment ,care and concern -be positive and confident in adverse situations -- stress more on practical knowledge -be faithful to one's profession	Comprehend the chapter. - communicate their ideas with a lot of conviction - appreciate the theme and the message conveyed -use appropriate vocabulary and medical expressions - understand the selfless service to mankind - understand the practical approach	Biology: Discuss the biological processes and significance of birth in human life. Psychology: Explore concepts of being faithful and dutiful	Activity (to introduce the lesson) Bookish knowledge is theoretical. It is practice and observation which makes a man with theoretical knowledge, a man perfect in his field. Discuss Activity (to support learning) Describe the role of our doctors, scientists, administrators to combat covid-19 Activity (to check learning) Name the five central characters in the story who played a key role	Assignments Comprehension questions: - Comment on behaviour and role of the midwife who was attending Susan. Textual questions/ Extracts/Value based	Text Book Visual aids: Images or videos related to achievements by doctors Multimedia Resources: Audio recordings of the play, video clips of dramatic interpretation.

December	**18**	**<u>Tale of Melon city</u>** The Tale of Melon City" is a prose which typically presents a satirical story that explores themes of power, corruption, and governance.	Analyze the themes, characters, and narrative techniques Understand the satirical elements and social commentary present in the story. Develop critical thinking and analytical skills through literary analysis. Improve language comprehension and appreciation for satire in literature.	Political Science: Discuss concepts of governance, corruption, and satire in political contexts	Pre-Reading Activities: Introduce the theme of satire Close Reading: Read the chapter "The Tale of Melon City" aloud or assign individual reading, pausing to analyze key themes, characters, and satirical elements. - Group Discussions: on the themes, characters, and social commentary present in the story. Literary Analysis: identify and analyze literary devices such as irony, parody, and hyperbole used in satire. Role-Playing: Engage students in role-playing exercises to explore different character perspectives and motivations. Assessment and Feedback: Use comprehension questions.	Comprehension Questions: Written or oral questions to assess understanding of the chapter. Literary Analysis: Essays or presentations analyzing the themes, characters, and satirical elements used Critical Thinking Tasks: Assignments or quizzes to evaluate students' ability to analyze satire and identify its elements.	Textbook Visual aids such as images or videos related to satire and political satire. Writing materials for assignments and assessments.
January	**24**	**Revision**					
February	**22**	**Revision**					

- ASL and Reading Comprehension to be done on a regular basis.

BAL BHARATI PUBLIC SCHOOL, NTPC SIPAT

Syllabus Plan for the Session 2024-25

CLASS –11

SUBJECT : PHYSICS

RECOMMENDED BOOKS –NCERT, S.L Arora .Together With

MONTH	NUMBER OF WORKING DAYS	COURSE CONTENT	LEARNING OUTCOMES	INTERDISCIP LIN ARY	TEACHING LEARNING STRATEGI ES	ASSESSME NT TOOLS	RESOURCES USED
April	**23**	**Units and Measurements:** ● SI units, fundamental and derived units ● Significant figures ● Dimensions of physical quantities, ● Dimensional analysis and its applications	**1.Understanding Units.** **2.Measurement Estimation.** **3.Application of Measurement:** **4.Problem-Solving Skills:**	**1.Mathematics and Science:** Explore the role of measurement in scientific experiments, such as physics experiments involving distance, time, and velocity. **2.History and Measurement Systems**: Trace the historical development of measurement systems, including the evolution of standard units and the contributions of different cultures. **3.Art and Design**: Discuss the role of measurement in art and design, including proportion, scale, and perspective.	**1.Hands-on Activities and Experiments:** Engage students with hands-on measurement activities using measuring tools such as rulers, tape measures, and scales. **2.Collaborative Learning**: Facilitate collaborative learning experiences where students work together in small groups to solve measurement challenges, share strategies, and discuss their findings.	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:** **3.Peer Assessment:**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:** **3.Real-World Applications:**
		Kinematics Mathematical tools **Motion in a Straight Line** • Frame of reference Motion in a straight line	**1.Understanding Motion:** **2.Graphical Analysis** **3.Projectile Motion**:	**1.Mathematics:** Explore the mathematical principles underlying kinematics, such as algebraic equations of motion and trigonometric	**1.Hands-on Demonstrations:** Conduct hands-on demonstrations of kinematic concepts using everyday objects or simple apparatus to illustrate principles such as	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:** **3.Peer Assessment**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:**

		• Uniform and non-uniform motion • Instantaneous velocity • Uniformly accelerated motion • Velocity - time and position-time graphs. • Relations for uniformly accelerated motion (graphical treatment). **Motion in a plane** ● Cases of uniform velocity and uniform acceleration, ● Projectile motion ● Uniform circular motion ● Intuitive concept of force, Inertia,	**4.Critical Thinking and Problem-Solving**: **5.Kinematic Equations and Problem-Solving:**	functions for analyzing projectile motion. **2.Biology**: Discuss the application of kinematics in the study of biological systems, such as the motion of organisms, the biomechanics of movement, and \ the analysis of physiological processes. **3.Sports Science**: Investigate the role of kinematics in sports performance analysis, including techniques for measuring and improving athletes' movements.	displacement, velocity, and acceleration **2.Problem-Based Learning**: Present students with kinematics problems that require them to apply mathematical equations and concepts to analyze and solve real-world motion scenarios.		**3.Real-World Applications**
June	**11**	**LAWS OF MOTION:** **● Newton's first law of** motion; ● Momentum and Newton's second law of motion; ● Impulse ● Newton's third law of motion ● Law of conservation of linear momentum and its applications. ● Equilibrium of concurrent forces ● Static and kinetic friction, ● Laws of friction ● Rolling friction, lubrication. ● Dynamics of uniform circular motion: ● Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road).	**1.Understanding Newton's Laws:** **2.Application of Newton's First Law:** **3.Analysis of Forces and Motion:** **3.Critical Thinking and Inquiry:** **4.Conceptual Understanding:**	**Biology:** **1.**Investigate the role of Newton's laws of motion in biomechanics and human movement**.** **2.History**: Explore the historical development of Newton's laws of motion and their impact on scientific thought and technological advancements. **3.Art and Design**: Explore the application of Newton's laws of motion in art and design, particularly in the fields of animation, visual effects, and product design.	**1.Real-world Applications:** Encourage students to identify and analyze examples of forces and motion in their own experiences and observations. **2.Problem-solving Practice:** Guide students through the problem-solving process, emphasizing the importance of identifying relevant forces, applying appropriate equations, and interpreting results.	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:** **3.Peer Assessment**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:** **3.Real-World Applications**
Jul	**25**	**Work, Energy and Power:**	**1.Understanding Work:**	**1.Economics:**	**1.Real-world Applications:**		

		● Work done by a constant force and a variable force; ● Kinetic energy, work-energy theorem ● Power ● Notion of potential energy, ● Potential energy of a spring, ● Conservative forces & non-conservative forces ● Motion in a vertical circle; ● Elastic and inelastic collisions in one and two dimensions**.**	**2.Kinetic and Potential-Energy:** **3.Work-Energy Theorem:** **4.Real-World Applications.** **5.Problem-Solving Skills**	Examine the economic implications of energy production, consumption, and distribution. **2.Health and Wellness**: Investigate the relationship between work, energy, and power and human health and wellness.	Provide examples of how the concepts of work, energy, and power are applied in everyday life and various fields of engineering and physic **2.Formative Assessment:** Use formative assessment techniques such as quizzes, concept maps, or think-pair-share activities to gauge students' understanding throughout the learning process.		
		Motion of System of Particles and Rigid Body : ● Centre of mass of a two-particle system ● Momentum conservation and Centre of mass motion. ● Centre of mass of a rigid body ● Centre of mass of a uniform rod. ● Moment of a force or torque ● Angular momentum ● Law of conservation of angular momentum and its applications ● Equilibrium of rigid bodies, ● Rigid body rotation and ● Equations of rotational motion ● Comparison of linear and rotational motions ● Moment of inertia, radius of gyration, values of moments of inertia **for simple geometrical objects (no derivation).**	**1.Angular Momentum:** **2.Torque and Rotational Dynamics:** **3.Energy in Rotational Motion:** **4.Application of Concepts:**	**1.Mathematics:** Mathematical tools like calculus, linear algebra, and differential equations are essential for analyzing the motion of systems of particles and rigid bodies**.** **2.Engineering:** The principles of motion are vital in various engineering disciplines, such as mechanical engineering, aerospace engineering, and robotics	**1.Hands-on Activities:** Conduct hands-on experiments or demonstrations that involve the motion of objects. For example, use simple pendulums or rotating platforms to demonstrate concepts like angular momentum, conservation of energy, and rotational motion. **2.Interactive Simulations:** Use computer-based simulations and modeling tools to allow students to explore the motion of particles and rigid bodies in virtual environments.	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:** **3.Peer Assessment**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:** **3.Real-World Applications**
August	**22**	**Chapter–8: Gravitation:** ● Acceleration due to gravity and its variation with altitude and depth. ● Gravitational potential energy and gravitational potential ● Escape speed, orbital velocity of a satellite ● Kepler's laws of planetary	**1.Understanding Newton's Law of Universal Gravitation:** **2.Gravitational Field and Field Strength:** **3.Kepler's Laws of Planetary Motion:** **4.Gravitational Potential -Energy:**	**1.Engineering:** Biomedical engineers apply principles of mechanics and physiology to study the motion of biological systems and develop medical devices**.**	**1.Problem-Solving Exercises:** Provide students with problems that require them to apply the equations of gravitational force, such as calculating the force between two masses or the acceleration due to gravity on different planets**.**	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:**

		motion		**2.Biology and Medicine:** The study of motion in biological systems, known as biomechanics, combines principles from physics and biology.	**2.Interactive Activities**: Engage students with hands-on activities like building models of the solar system or calculating gravitational forces between objects of different masses and distances.	**3.Peer Assessment**	**3.Real-World Applications**
September	**21**	**Properties of Bulk Matter**	**1.Elasticity 2.Stress-strain relationship, Hooke's law 3.Young's modulus 4. Bulk modulus 5. Shear modulus of rigidity (qualitative idea only) 6. Poisson's ratio Elastic energy**	**Computational Modeling:** Encourage students to develop their own computational models to explore the relationships between bulk matter properties and other factors, such as temperature, pressure, or composition.	**1.Hands-on Demonstrations and Experiments:** Use simple setups to demonstrate elasticity, such as stretching springs or rubber bands, and observe how they return to their original shape. **2.Problem-solving Practice:** Guide students through the problem-solving process, emphasizing the importance of identifying relevant properties, applying appropriate equations or principles, and interpreting results**.**	**1.Traditional Tests and Quizzes: 2.Formative Assessment Strategies: 3.Peer Assessment**	**1.Textbooks and Educational Materials: 2.Online Learning Platforms: 3.Real-World Applications**
October	**20**	**Mechanical Properties of Fluids**	**1.Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes) 2. Effect of gravity on fluid pressure. Viscosity 3. Stokes' law 4.Terminal velocity 5. Streamline and turbulent flow, critical velocity 6. Bernoulli's theorem and its simple applications**	**Computational Modeling and Simulation:** Encourage students to develop their own computational models to study fluid flow phenomena and analyze their impact on mechanical systems or environmental processes**.**	**1.Hands-on Demonstrations and Experiments**: Use simple setups to demonstrate pressure, such as using a syringe to compress air or showing how water pressure **increases with depth. 2. Formative Assessment:** Provide constructive feedback to guide students' learning and reinforce key concepts.	**1.Traditional Tests and Quizzes: 2.Formative Assessment Strategies: 3.Peer Assessment**	**1.Textbooks and Educational Materials: 2.Online Learning Platforms: 3.Real-World Applications**

			7. Surface energy and surface tension **8.Angle of contact** **9. Excess of pressure across a curved surface** **10.Application of surface tension ideas to drops, bubbles and capillary rise.**				
November	**21**	**Thermal Properties of Matter**	**1.Heat & Temperature** **2.Thermal expansion of solids, liquids and gases** **3. Anomalous expansion of water** **4.Specific heat capacity, Cp, Cv calorimetry** **5.Change of state - latent heat capacity.** **6. Heat transfer-conduction, convection and radiation,** **7.Thermal conductivity** **8.Qualitative ideas of Blackbody radiation** **9.Wein's displacement Law, Stefan's law**	**Field Trips and Lab Visits**: Provide opportunities for students to interact with professionals working in fields related to thermal properties, allowing them to gain insights into the practical applications of their studies. **Project-based Le** Encourage collaboration among students with diverse backgrounds and expertise to foster interdisciplinary teamwork and problem-solving skills.	**1.Hands-on Demonstrations and Experiments:** Use simple setups to demonstrate phase transitions, such as melting ice cubes or boiling water, and discuss the energy exchange involved in these processes. **2.Problem-solving Practice:** Guide students through the problem-solving process, emphasizing the importance of identifying relevant properties, applying appropriate equations or principles	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:** **3.Peer Assessment**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:** **3.Real-World Applications**
		Thermodynamics	**1.Thermal equilibrium Definition of temperature** **2. Zeroth law of thermodynamics** **3.Heat, work and internal energy**	**Computational Modeling and Simulation**: Encourage students to develop their own computational models to study thermodynamic phenomena, predict system	**1.Interactive Learning Activities:** Incorporate group discussions, debates, or problem-solving sessions to encourage collaboration and peer learning. **2.Formative Assessment:** Provide timely and	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:** **3.Peer Assessment**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:**

			4. First law of thermodynamics 5.Second law of thermodynamics 6. Change of condition of gaseous state - isothermal, adiabatic, reversible, irreversible, and cyclic processes	behavior, or optimize energy systems.	constructive feedback to guide students' learning and reinforce key concepts.		**3.Real-World Applications**
December	**18**	**Behavior of Perfect Gases and Kinetic Theory of Gases**	**1.Equation of state of a perfect gas 2. Work done in compressing a gas. Kinetic theory of gases– assumptions 3. Concept of pressure 4. Kinetic interpretation of temperature 5. Rms speed of gas molecules Degrees of freedom 6.Law of equi-partition of energy (statement only) and application to specific heat capacities of gases 7. Concept of mean free path, Avogadro's number.**	**Field Trips and Lab Visits**: Provide opportunities for students to interact with professionals working in fields related to gas behavior, allowing them to gain insights into the practical applications of their studies.	**1.Interactive Learning Activities:** Engage students in interactive activities that promote active learning and critical thinking. For instance, use concept mapping exercises to help students organize and visualize the concepts of gas behavior and kinetic theory. **2.Formative Assessment:** Provide timely and constructive feedback to guide students' learning and reinforce key concepts	**1.Traditional Tests and Quizzes: 2.Formative Assessment Strategies: 3.Peer Assessment**	**1.Textbooks and Educational Materials: 2.Online Learning Platforms: 3.Real-World Applications**
January	**24**	**OSCILLATIONS**	**1.Periodic motion – time period, frequency, displacement as a function of time 2. Periodic functions and their applications**	**Computational Modeling and Simulation:** Encourage students to develop their own computational models to study oscillations and wave behavior, predict system	**1.Conceptual Framework:** Use analogies and everyday examples to illustrate abstract concepts, such as the oscillation of a pendulum or the propagation of sound waves.	**1.Traditional Tests and Quizzes: 2.Formative Assessment Strategies: 3.Peer Assessment**	**1.Textbooks and Educational Materials: 2.Online Learning Platforms:**

			Simple harmonic motion (S.H.M) and its equations of motion; Phase **3. Oscillations of a loaded spring- restoring force and force constant** **4. Energy in S.H.M. Kinetic and potential energies;** **5.Simple pendulum derivation of expression for its time period.**	responses, or design new technologies.	**2.Visual Aids and Multimedia:** Utilize visual aids such as diagrams, animations, and videos to help students visualize oscillatory and wave phenomena. Use visual representations to illustrate wave properties, wave behavior, and wave interactions		**3.Real-World Applications**
		Wave	**1.Wave motion: Transverse and longitudinal waves** **2. Speed of travelling wave, displacement relation for a progressive wave,** **3.Principle of superposition of waves** **4.Reflection of waves** **5. Standing waves in strings and organ pipes, Fundamental mode and harmonics** **6. Beats**	**Computational Modeling and Simulation:** Encourage students to develop their own computational models to study oscillations and wave behavior, predict system responses, or design new technologies.	**1.Conceptual Framework:** Use analogies and everyday examples to illustrate abstract concepts, such as the oscillation of a pendulum or the propagation of sound waves. **2.Visual Aids and Multimedia:** Utilize visual aids such as diagrams, animations, and videos to help students visualize oscillatory and wave phenomena. Use visual representations to illustrate wave properties, wave behavior, and wave interactions	**1.Traditional Tests and Quizzes:** **2.Formative Assessment Strategies:** **3.Peer Assessment**	**1.Textbooks and Educational Materials:** **2.Online Learning Platforms:** **3.Real-World Applications**
February	**22**	**Revision for Annual exam**					
March	**21**						

BAL BHARATI PUBLIC SCHOOL, NTPC SIPAT
Syllabus Plan for the Session 2024-25
CLASS-XI Sub-Chemistry

TEXTBOOKS:
1. Chemistry - Textbook for class-XI, NCERT Publications
2. Chemistry Exemplar Problems class-XI, NCERT Publications

MONTH	WORKING DAYS	COURSE CONTENT	Weightage	LEARNING OUTCOMES	TEACHING LEARNING STRATEGIES	ASSSESSMENT TOOLS	RESOURCES USED
APRIL	23	Chapter 1:Some basic concepts of Chemistry- Importance and scope of Chemistry,Nature of matter, laws of chemical combination,Dalton's atomic theory, Atomic and molecular masses,mole concept and molar mass,percentage composition,empirical and molecular formula,stoichiometry and calculations based on stoichiometry	17 Marks	1.To enhance scientific attitude and approach	Demonstration cum Lecture method Guided Discussion Activity based Teaching Problem solving based Teaching	Oral Questioning Assignment	NCERT Chemistry NCERT Exemplar Chemistry
JUNE	11	Chapter2:Structure of Atom- 1. Sub atomic particles,Atomic models,Development leading to Bohr's model of Atom,Bohr's Model for Hydrogen atom, Quantum Mechanical Model of an Atom	21marks	To enhance scientific attitude and approach	Peer Teaching	MCQ's & Google Sheets	NCERT Chemistry NCERT Exemplar Chemistry
JULY	25	Chapter 3:Classification of elements And Periodicity in properties- Significance of classification, Brief history of the development of periodic table, Modern periodic law and the present form of periodic table, Nomenclature of elements with	15 marks	To enhance scientific attitude and approach	Guided Discussion Demonstration cum Lecture method	Debate & Quiz	NCERT Chemistry NCERT Exemplar Chemistry

		atomic number greater than 100.					
AUGUST	**23**	Chapter 4:Chemical bonding and molecular structure Kossel lewis approach to chemical bonding, Covalent and ionic bond,Bond parameter,VSEPR theory,Valence bond theory ,Hybridisation, Molecular orbital theory of homonuclear diatomic molecules(qualitative idea only),Hydrogen bond **Half Yearly Exam Syllabus-Chapter 1, 23 and 4**	17 Marks	To enhance scientific attitude and approach	Guided Discussion Demonstration cum Lecture method	Debate & Quiz	NCERT Chemistry NCERT Exemplar Chemistry

BAL BHARATI PUBLIC SCHOOL, NTPC SIPAT
Syllabus Plan for the Session 2024-25
CLASS – XI

SUBJECT- Mathematics (041)

LEARNING OBJECTIVES

1. To enable the students to reinforce mathematical skills and reasoning through clear arguments.
2. To strengthen the concepts developed at the secondary stage to provide firm.

RECOMMENDED BOOKS : : MATHEMATICS- NCERT Together with mathematics, R.D. SHARMA

MONTH	No. OF WORKING DAYS	COURSE CONTENT	LEARNING OUTCOMES	INTERDISCIPLINARY	TEACHING LEARNING STRATEGIES	ASSESSMENT TOOLS	RESOURCES USED
April	23	1. Set and function set 2. Relation and function **Trigonometric-Function:** 1. Angles	**Students will** be able to: * Identify the differences between a relation and a function. **Determine whether or not a function is linear. *** Calculate missing values for a stated function or function pattern. recognize multiple representations of linear functions.	Physics Component: Exploring the concept of motion and velocity as functions of time. Social Sciences Component: Investigating demographic data and population trends. Using set relation functions to analyze relationships between age groups, income levels, and education levels in a population.	* . Evaluate, analyze, extrapolate, think critically Exemplar NCERT/ Extra Marks Module of Matrices and Determinants	Class Test, Quiz, Mcqs, Work-sheets, Projec works etc.	Reference Books, Smart class Module, Weblinks, worksheets and teaching aids available in the Maths lab.

June	11	Trigonometric Functions	Students will be able to : 1. Convert between decimal degrees, degree-minute-seconds, and radian measure of an angle. 2. Evaluate the 6 trigonometric functions using a calculator, as well as determining exact values for some special angles without a calculator. 3. Solve triangle (right, acute, obtuse), given various angles and sides. 4. Demonstrate knowledge of several trigonometric identities and use them to verify other identities. 5. Graph trigonometric functions. 6 Solve trigonometric equations.	Physics Component: Exploring harmonic motion and wave phenomena. Relating trigonometric functions to oscillatory motion, such as pendulum swings and spring oscillations. Geography/Navigation Component: Understanding the use of trigonometry in navigation and cartography. Exploring how trigonometric functions are used in determining distances, angles, and positions on maps and globes.	. Demonstration and Lecture Method **Inductive Deductive Reasoning, Inquiry based learning, Think , pair and share, Independent practice.	Class Test, Quiz, Mcqs, Work-sheets, Projec works etc.	Reference Books, Smart class Module, Weblinks, worksheets and teaching aids available in the Maths lab.
July	25	The remaining part of Trigonometric Function. **Calculus:** Limits and Derivatives	Students will be able to learn/understand about 1. Algebra of limits 2. Limits of polynomials and rational functions 3. Limits of Trigonometric Functions 4. Limits of Logarithmic and Exponential Functions 5. Algebra of the derivative of functions 6. Derivative of the functions from first principle 7. Derivatives of functions	Economics Component: Understanding the concepts of marginal cost, marginal revenue, and marginal profit. Biology/Chemistry Component: Investigating rates of chemical reactions and biological processes. Relating derivatives to reaction rates and the rate of change of	Demonstration and Lecture Method **Inductive Deductive Reasoning, Inquiry based learning, Think , pair and share, Independent practice.	Class Test, Quiz, Mcqs, Work-sheets, Projec works etc.	Reference Books, Smart class Module, Weblinks, worksheets and teaching aids available in the Maths lab.
August	23	Statistics (10 Days)	Students will be able to learn/understand about	Exploring the use of statistics in psychology,	Demonstration and Lecture Method	Class Test, Quiz, Mcqs, Work-	Reference Books, Smart class Module,

		Revision for Half-Yearly Exam.	1. Measures of Dispersion 2. Range 3. Mean Deviation 4. Variance and Standard Deviation 5. Coefficient of variation 6. Analysis of Frequency Distributions	sociology, and political science. Analyzing survey data to understand public opinion and social trends.	**Inductive Deductive Reasoning, Inquiry based learning, Think , pair and share, Independent practice.	sheets, Projec works etc.	Weblinks, worksheets and teaching aids available in the Maths lab.
Sept.	21	Half-Yearly Exam *Complex Number ** Linear Inequation	Students will be able to learn/understand about 1. meaning and importance of Complex Number 2. Algebra of Complex Numbers, Modulus, Conjugate and multiplicative inverse of a Complex Number. 3. Representation of complex number on Argand Plane and argument (or amplitude) of a Complex Number **Students will be able to learn/understand about 1. Linear inequalities 2. Algebraic solutions of linear inequalities in one variable 3. Solution of a system of linear inequalities in two variables	Economics Component: Understanding the application of linear inequalities in economics, particularly in optimization problems. Exploring production possibility frontiers and resource allocation using linear inequalities. Discussing the concept of Pareto efficiency and its relation to linear inequalities. Analyzing economic models and inequalities representing budget constraints and utility maximization.		Class Test, Quiz, Mcqs, Work-sheets, Projec works etc.	Reference Books, Smart class Module, Weblinks, worksheets and teaching aids available in the Maths lab.
October	17	Sequence & Series	Students will be able to learn/understand about 1. Sequences and Series, 2. Arithmetic Progression (A.P.) 3. nth term and sum of n terms of A.P. 1. 4. Geometric Progression (G.P.) 5. A.M., G.M. 6. Relationship between A.M. and G.M..	Economics Component: Understanding the concept of compound interest and financial growth. Relating sequences and series to the future value of investments and annuities. Investigating the concept of present value and	**Conceptualise Evaluate Problem-solving Calculate Formulate Recognize structure Critical thinking Identify,	Class Tests, Quiz, MCQs, Work-sheets, projects work etc.	Reference Books, Smart class Module, Weblinks, worksheets and teaching aids available in the Maths lab.

			7. nth term and sum of n terms of G.P. 4. 8. Sum of infinite terms of G.P. 9. Sum to n terms of Special Series	discounting future cash flows. Analyzing the mathematical models used in finance, such as the Black-Scholes model for option pricing.	visualize, draw Correlate. **Conceptualise Investigate Logical Thinking Extracting information Problem solving Interpretation		
Nov.	23	*Straight Lines **Conis-Section	*Students will be able to learn/understand about 1. Slope of a Line 2. Conditions for parallelism and perpendicularity of lines in terms of their slopes 3. Various forms of the equation of a line 4. Angle between two lines 5. General equation of a line 6. Distance of a point from a line 7. Distance between two parallel lines **Conic Sec. 1. Sections of a Cone 2. Definition, Focus, Latus rectum and directrixof parabola 3. Equation of Parabola 4. Definition, Major axis, minor axis, Focus, Latus rectum and directrixof Ellipse 5. Equation of Ellipse 6. Definition, Transverse axis, Conjugate axis, Focus, Latus rectum and directrixof Hyperbola 7. Equation of Hyperbola	Physics Component: Understanding the motion of objects in space. Relating conic sections to the trajectories of objects in projectile motion. Analyzing the paths of celestial bodies, such as planets and comets, using conic sections. Investigating the reflection and refraction of light rays using straight lines and conic sections in optics.	**Conceptualise Evaluate Problem-solving Calculate Formulate Recognize structure Critical thinking Identify, visualize, draw Correlate. **Conceptualise Investigate Logical Thinking Extracting information Problem solving Interpretation	Class Tests, Quiz, MCQs, Work-sheets, projects work etc.	Reference Books, Smart class Module, Weblinks, worksheets and teaching aids available in the Maths lab
Dec.	18	*Binomial Teorem	*Students will be able to learn/understand about 1. Pascal's triangle	Computer Science Component:	Demonstration and Lecture Method	Class Tests, Quiz, MCQs, Work-sheets,	Reference Books, Smart class Module,

		** Permutation and Combination	2. Binomial Theorem for Positive Integral Indices 3. General Term and Middle Term(s) in the expansion of (a + b) **Students will be able to learn / understand about 1. Fundamental Principle of Counting 2. Meaning of Factorial 3. Concept and application of Permutations 4. Concept and application of Combinations	Investigating algorithms and data structures. Relating permutations and combinations to problems in combinatorial algorithms. Exploring applications of permutations and combinations in cryptography and password generation. Analyzing the use of permutations and combinations in sorting algorithms and data compression techniques.	**Inductive Deductive Reasoning, Inquiry based learning, Think , pair and share, Independent practice	projects work etc.	Weblinks, worksheets and teaching aids available in the Maths lab
Jan.	24	Probability	Students will be able to learn/understand about 1. Random experiments 2. Outcomes and sample space 3. Types of events 4. Algebra of events 5. Probability of an event	Economics Component: Understanding decision-making under uncertainty. Relating probability to risk analysis and financial modeling. Investigating applications of probability theory in insurance, investment, and portfolio management. Analyzing economic models involving random variables and stochastic processes.	Demonstration and Lecture Method **Inductive Deductive Reasoning, Inquiry based learning, Think , pair and share, Independent practice	Class Tests, Quiz, MCQs, Work-sheets, projects work etc.	Reference Books, Smart class Module, Weblinks, worksheets and teaching aids available in the Maths lab
Feb.	22	Revision Preparation for Annual Examination					

BAL BHARATI PUBLIC SCHOOL SYLLABUS (2024 – 2025)
CLASS: XI
SUBJECT: (PHYSICAL EDUCATION-048)

HALF YEARLY EXAMINATION (23rd AUGUST 2024 to 9th SEPTEMBER 2024)
RECOMMENDED BOOKS;- VISHVAS PUBLICATION

MONTH	WORKING DAY	COURSE CONTENT	LEARNING OUTCOME	INTERDISCIPLINARY	TEACHING METHOD	ASSESSMENT TOOLS	RESOURCES USED
April	23	**Unit 1- Changing Trends and Careers in Physical Education**	• Concept, Aims & Objectives of Physical Education • Development of Physical Education in India – Post Independence • Changing Trends in Sports- playing surface, wearable gear and sports equipment, technological advancements • Career options in Physical Education Khelo-India Program and Fit – India Program	Nutrition and Health Sciences: Psychology and Motivation Education and Pedagogy Sociology and Cultural Studies Business and Management	Guided Discussion Problem solving based learning Peer Teaching Self-assessment	Class Test Physical Drill Mind -map Project	Books Online resources
June	11	**Unit 2 -Olympism Value Education**	• Olympism – Concept and Olympics Values (Excellence, Friendship & Respect) • Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind	Systems Thinking Innovation and Design Thinking Critical Pedagogy and Social Justice Environmental Sustainability and	Guided Discussion Problem solving based learning Peer Teaching Self-assessment	Class Test Physical Drill Mind -map Project	Books Online resources

			• Ancient and Modern Olympics • Olympics - Symbols, Motto, Flag, Oath, and Anthem • Olympic Movement Structure - IOC, NOC, IFS, Other members	Ecological Literacy			
July	25	**UNIT 3-Yoga**	• Meaning and importance of Yoga • Introduction to Astanga Yoga • Yogic Kriyas (Shat Karma) • Pranayama and its types Active Lifestyle and stress management through Yoga	Mind-Body Medicine Physiology and Anatomy Psychology and Psychotherapy Art and Creativity Outdoor activity	Guided Discussion Problem solving based learning Peer Teaching Self-assessment	Class Test Physical Drill Mind -map Project	Books Online resources
August	22	**Unit 4 -Physical Education and Sports for Children with Special Needs**	• Concept of Disability and Disorder • Types of Disability, its causes & nature (Intellectual disability, Physical disability). • Disability Etiquette • Aim and objectives of Adaptive Physical Education Role of various professionals for children with special needs (Counselor, Occupational Therapist, Physiotherapist, Physical Education	Psychology and Behavioral Sciences Inclusive Education and Universal Design Technology and Assistive Devices Pediatric Healthcare and Wellness Promotion Legal and Policy Frameworks	Guided Discussion Problem solving based learning Peer Teaching Self-assessment	Class Test Physical Drill Mind -map Project	Books Online resources

			Teacher, Speech Therapist, and Special Educator)				
		Unit 5 - Physical Fitness, Wellness, and Life style	• Meaning & importance of Wellness, Health, and Physical Fitness. • Components/Dimensio ns of Wellness, Health, and Physical Fitness • Traditional Sports & Regional Games for promoting wellness • Leadership through Physical Activity and Sports Introduction to First Aid – PRICE	Exercise Science and Physiology Nutrition and Dietetics Behavioral Psychology and Motivation Stress Management and Mental Health Cultural Studies and Diversity	Guided Discussion Problem solving based learning Peer Teaching Self-assessment	Class Test Physical Drill Mind -map Project	Books Online resources

BAL BHARATI PUBLIC SCHOOL, NTPC SIPAT

Annual Syllabus for the Session 2024-25

CLASS - XI

SUBJECT- Computer Science

LEARNING OBJECTIVES-

Students should be able to:

a) Develop basic computational thinking
b) Explain and use data types
c) Appreciate the notion of algorithms
d) Develop a basic understanding of computer systems- architecture, operating system, and cloud computing
e) Explain cyber ethics, cyber safety, and cybercrime
f) Understand the value of technology in societies along with consideration of gender and disability issues.

RECOMMENDED BOOKS -

Computer Science with Python TextBook for Class XI
Author:- Sumita Arora

MONTH	NO. OF WORKING DAYS	COURSE CONTENT	LEARNING OUTCOME	INTERDISCIPLINARY	TEACHING STRATEGIES	ASSESSMENT TOOLS	RESOURCES USED
April	23	● Introduction to Problem-solving: Steps for Problem-solving (Analyzing the problem,	To learn the basic concepts of python fundamentals	problem-solving using algorithmic approaches and connect it with	• Interactive lectures • Demonstration	class discussions, completion of exercises, and Coding	Study material from Python.mykvs.in, Self Presentations and videos

		developing an algorithm, coding, testing, and debugging), representation of algorithms using flowchart and pseudocode, decomposition ● Familiarization with the basics of Python programming: Introduction to Python, Features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set		programming concepts, emphasizing their interdisciplinary applications in various fields to foster critical thinking and creativity	• PowerPoint Presentations • Real life examples	assignments with varying levels of complexity, peer code reviews.	prepared on the topic
June	11	● Python tokens(keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments	To understand the need of python tokens and data types	Problem-solving ,connect it with programming concepts, emphasizing their interdisciplinary applications in various fields.	• Interactive lectures • Demonstration • PowerPoint Presentations • Real life examples	Class discussions, completion of exercises, and Coding assignments with varying levels of complexity, peer code reviews.	Study material from Python.mykvs.in, Self Presentations and videos prepared on the topic

		• Knowledge of data types: Number(integer, floating point,complex), boolean, sequence(string, list, tuple), None, Mapping(dictionary), mutable and immutable data types.					
July	25	• Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in) • Expressions, statement, type conversion, and input/output: precedence of operators, expression, evaluation of an expression, type-	To understand how to use arithmetic, relational, and logical operators to form expressions, and applying conditional and selection statements to control the flow of a program based on logical conditions.	Involves integrating principles from mathematics, logic, and computer science to solve problems, automate decisions, and create algorithms that can be applied across various fields such as engineering, finance, and data analysis.	using hands-on coding exercises, real-world problem-solving scenarios, visual aids like flowcharts, and interactive tools to demonstrate concepts and reinforce learning through practice and application.	• Quizzes with multiple-choice and coding questions, practical programming assignments, peer reviews	Study material from Python.mykvs.in, Self Presentations and videos prepared on the topic

		conversion (explicit and implicit conversion), accepting data as input from the console and displaying output. ●Flow of Control: introduction, use of indentation, sequential flow, conditional and iterative flow ● Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number.					
August	22	● Iterative Statement: for loop, range(), while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc. ● Basic computer organisation:	●To understand how to use iterative statements to control the flow of a program based on logical conditions. ●To understand basics of computer	Involves integrating principles from mathematics, logic, and computer science to solve problems.	Using hands-on coding exercises, real-world problem-solving scenarios to demonstrate concepts and reinforce learning through practice and application.	• Multiple-choice and coding questions, practical programming assignments, peer reviews	Study material from Python.mykvs.in, Self Presentations and videos prepared on the topic

		Introduction to Computer System, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (bit, byte, KB, MB, GB, TB, PB) ● Types of software: System software (Operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler, and interpreter), application software ● Operating System(OS): functions of the operating system, OS user interface					
September	21	Strings: introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops,	To understand how to use strings and lists as literals in programming.	Involves integrating principles from literals to solve problems, automate decisions, and	Real-world problem-solving scenarios, visual aids like flowcharts, and interactive tools to demonstrate	Coding questions, practical programming assignments, peer reviews	Study material from Python.mykvs.in, Self Presentations and videos prepared on the topic

		built-in functions/methods– len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(),lstrip(), rstrip(), strip(), replace(), join(), partition(), split() ● Lists: introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/methods– len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists,		create algorithms that can be applied across various fields such as engineering, finance, and data analysis.	concepts and reinforce learning through practice and application.		

		suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list.					
October	17	Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods – len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple; suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple.	To understand how to use tuple as immutable literal collections in programming.	Involves integrating principles from literals to solve problems, automate decisions, and create algorithms that can be applied across various fields such as engineering, finance, and data analysis.	Real-world problem-solving scenarios, visual aids like flowcharts, and interactive tools to demonstrate concepts and reinforce learning through practice and application.	Coding questions, practical programming assignments, peer reviews	Study material from Python.mykvs.in, Self Presentations and videos prepared on the topic

November	21	● Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted(); Suggested programs: count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them. ● Introduction to Python modules:	To understand how to use a dictionary as mutable and unordered literal collection in programming.	Involves integrating principles from literals to solve problems, automate decisions, and create algorithms that can be applied across various fields such as engineering, finance, and data analysis.	Real-world problem-solving scenarios, visual aids like flowcharts, and interactive tools to demonstrate concepts and reinforce learning through practice and application.	Coding questions, practical programming assignments, peer reviews	Study material from Python.mykvs.in, Self Presentations and videos prepared on the topic

		Importing module using 'import <module>' and using from statement, importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan()); random module (random(), randint(), randrange()), statistics module (mean(), median(), mode()).					
December	18	●Digital Footprints ● Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes ● Data Protection: Intellectual property rights (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark	Understanding the long-term implications of online activities, recognizing the importance of personal data privacy, and implementing strategies to safeguard personal information against unauthorized access and misuse.	Insights from technology, ethics, law, and social sciences to understand the impact of online behavior and develop comprehensive strategies for safeguarding personal and organizational data.	Using real-world case studies, interactive simulations, hands-on exercises, and discussions on ethical considerations to help students understand the importance of online privacy and data security.	Quizzes, scenario-based evaluations, practical exercises on data security practices, and reflective essays on the ethical implications of digital behavior.	• Guided Discussion • PowerPoint Presentations • Self-assessment

		infringement), open source software and licensing (Creative Commons, GPL and Apache)					
January	24	● Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying ● Cyber safety: safely browsing the web, identity protection, confidentiality ● Malware: viruses, trojans, adware ● E-waste management: proper disposal of used electronic gadgets. ● Information Technology Act (IT Act) ● Technology and society: Gender and	Understanding the long-term implications of online activities, recognizing the importance of cyber safety to safeguard personal information against unauthorized access and misuse.	Insights from technology, ethics, law, and social sciences to understand the impact of online behavior and develop comprehensive strategies for safeguarding personal and organizational data.	Using real-world case studies, interactive simulations, hands-on exercises, and discussions on ethical considerations to help students understand the importance of cyber safety.	Quizzes, scenario-based evaluations, practical exercises on data security practices, and reflective essays on cyber crime and cyber safety.	• Guided Discussion • PowerPoint Presentations • Self-assessment

		disability issues while teaching and using computers ● Boolean logic: NOT, AND, OR, NAND, NOR, XOR, NOT, truth tables and De Morgan's laws, Logic circuits ● Number System: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems ● Encoding Schemes: ASCII, ISCII, and Unicode (UTF8, UTF32)					
February	22	Revision of entire syllabus	Revision			Revision	Revision