

BHAVDIYA PUBLIC SCHOOL, AYODHYA

ACADEMIC PLAN

FOR SENIOR-SECONDARY STAGE

(CLASS XI & XII)



SESSION 2023-24

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities & Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application based)			
JUNE	<p>Hornbill: Prose: (1) Portrait of a Lady In this story, the author draws a pen portrait of his grandmother. He beautifully unfolds his relationship with her while describing her appearance and daily activities. The grandmother herself was not formally educated but was serious about the author's education</p> <p>(2) The Photograph (Revision – Figures of Speech)</p>	<p>1. The Portrait of a Lady: - To enable the students</p> <ul style="list-style-type: none"> i) to know the expressions used in the lesson and their usage ii) to understand the use of past perfect tense iii) to notice the usage of the word 'tell' in the text iv) to enhance and enrich the vocabulary v) to understand the relationships in the family vi) to admire and appreciate the autobiographical 	<p>1. The Portrait of a Lady: – To enable the students to</p> <ul style="list-style-type: none"> i) develop cooperation, care and concern, Tolerance, Respect, Acceptance, Responsibility ii) be independent in thought and action ii) understand the feelings of parents and grandparents iii) face adverse situation calmly iv) know that distancing due to circumstances never affects relations v) understand that graph of life never follows a straight line 	<p>1. The Portrait of a Lady:</p> <ul style="list-style-type: none"> 1. Warm up activity- <ul style="list-style-type: none"> i) What do the grandparents expect from the family? What are the reasons for their loneliness? ii) Present a pen picture of your grandparents describing their qualities you admire and appreciate the most? 2. Brief up about the author and his work <p>2) A Photograph:</p> <ul style="list-style-type: none"> i) Pre-activities: <ul style="list-style-type: none"> * Read out a poem on a similar theme/ discuss an incident/ describe an old mounted photograph. *Recapitulation of Figures of Speech with examples. *Power Point Presentation based on the poem. ii) Summary of each stanza will be 	<p>1. The Portrait of a Lady: Students will be able</p> <ul style="list-style-type: none"> i) to develop an independent attitude in thought and action ii) to improve working relations and respect for identities in relation to other people iii) to show care and concern for animals iv) to accept and manage the situations with patience and tolerance v) to respect the relations in the family vi) to know the expressions used in the lesson and their usage vii) to understand the use of past perfect tense viii) to develop responsibility and 	<p>1. The Portrait of a Lady: Comprehension questions</p> <ul style="list-style-type: none"> i) Imagine yourself as Khushwant Singh. Record the changes that came in your relationship with your grandmother as you grew up to a college student. ii) Write a short description of an elderly person with whom you have been intimately connected with and who is not there with you now. iii) The author's grandmother could never have been pretty; but she was always beautiful. Discuss.

	<p>The poem is to capture moments from life which remains as pictures in our minds. It is about the moments in life which leave an indelible imprint on our minds and past memories keep flashing back into our mind when we look at the photograph years later. It highlights that when death strikes we humans are expected to accept the loneliness, the vacuum it creates.</p> <p>(3) Ailing Planet The chapter is about the issues regarding the degrading environment of the planet and the immediate need to promote sustainable development. It is also includes that despite efforts of environmentalists and the rapid awareness towards the 'Green Movement'. The</p>	<p>piece vii) to strengthen the family bonds by accepting the situation viii) to gain insight into the various phases of author's life with his grandmother ix) to admire the divine beauty of the grandmother</p> <p>2. A Photograph: To enable the students to-</p> <p>i) read with proper voice intonation and pauses. ii) comprehend the poem. iii) identify the figures of speech. iv) enhance their vocabulary. v) appreciate the theme and the style of writing of the poet. vi) develop the skill to express and write effectively.</p>	<p>vi) have sense of sacrifice and sensibility ii) show care and concern for animals iii) show responsibility and respect towards family iv) be calm in adverse situations v) develop Analytical Skills, Observation skills, Thinking, Imaginative</p> <p>2) A Photograph: To enable the students to-</p> <p>i) to inculcate values like learn from experience, care and share, love, affection and togetherness. ii) understand that time and tide wait for none. iii) change is the harsh and bitter reality of life. iv) analyse that death is the inevitable end of all. v) understand that we</p>	<p>written in the notes copy. iii) Exercises from the book will be discussed and written in the notes copy.</p> <p>(3) Ailing Planet Activities:</p> <p>i) Pre-activities: * Books and pictures shown based on the main theme followed by discussions. *A debate on 'Law and Order in India' *A video clipping based on the theme. ii) Use of pictures from magazines and papers related to Earth. iii) Theme and message conveyed. iv) Loud reading of each paragraph followed by explanation and word meanings. v) Exercises given in the book will be discussed and written in the note book.</p> <p>Writing Skill: (4) Notice Writing Activities: i) Pre-activities: *Revision of the format of notice.</p>	<p>sensitivity towards the sufferings of others ix) to know the sacrifices and support given by the grandparents in the family.</p> <p>2) A Photograph: The students will be able to-</p> <p>i) express effectively, sharing ideas and develop appropriate style of writing. ii) understand the importance of human relationship. iii) understand child psychology. iv) understand the attachment with family members. v) understand the nostalgic experiences of the past. vi) understand that both the moments of life have been permanently etched in the poet's mind with a feeling of eternal loss. vii) understand that death has overpowered the innocence of those moments and the pleasure they treasured.</p>	<p>iv) Textual questions/ Extracts/Value based/Character sketches</p> <p>2)A Photograph: *Extra exercises – reference to context, short answers, long answers and value based answers. *Complete the following based on the poem.</p> <p>(3) Ailing Planet i) Extra exercises – short answers, long answers and value based answers will be discussed and written in the notes copy. ii)The class will be divided into groups and each group will be asked to pick up a chit and explain the important aspects of the chapter to check their understanding. iii) Poster making based on 'Environment'-to write and deliver a speech based on the poster. iv) Assignment</p>
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	<p>chapter highlights the principal biological systems of the Earth, the depletion of the planet and the immediate need felt to promote the concept of 'Sustainable Development'. It emphasizes on population control – the only solution. And it is about the transcending concern towards saving the planet.</p> <p>Writing Skill: (4) Notice Writing The students will be able to focus on the major skills of English. They will be able to express their ideas in the form of short and long writing skills.</p>	<p>vii) understand that objects like the sun, the river and the oceans are perennial and everlasting, but human life is too short in comparison. viii) understand that the poet reminisces that the sea holiday was the past of her mother and for her the laughter of her mother is past now. ix) understand that both the moments of life have been permanently etched in the poet's mind with a feeling of eternal loss.</p> <p>(3) Ailing Planet To enable the students to-</p> <p>i) read effectively with proper voice modulation. ii) comprehend the chapter. iii) enhance their vocabulary. iv) analyse the situations and characters.</p>	<p>try to capture moments from life which remain as pictures in our mind. vi) understand that death comes as the greatest leveler. vii) develop comprehension skill, analytical skill, thinking skill, language skills, enhance vocabulary, express effectively, fluency, accuracy, relevance and coherence, develop a style of writing and life skill (love and affection).</p> <p>(3) Ailing Planet To enable the students to</p> <p>i) focus on varied life situations and people in general ii) respecting differences iii) freedom and development iv) value the natural resources v) make the best use</p>	<p>*Purpose and significance of short writing skills. *Discussion on using the electronic media rather than writing letters. *Old and new methods of communication. ii) Sample will be read out in the class and shown on the screen. iii) Use of projectors to show different model exercises based on the skills</p>	<p>(3) Ailing Planet The students will be able to understand the-</p> <p>i) issues of the decline state of Mother Earth and sustainable development. ii) best use of resources. iii) awareness to save and protect the environment. iv) not to dominate but to share and care. v) importance of individuality and process of growing. vi) hypocrisy and self assessment vii) importance of enhancing writing skill viii) importance of reasoning ix) learning to assess and analyse situations. x) exchange of ideas</p> <p>Writing Skill: (4) Notice Writing i) Guide the students to write effectively. ii) Spread awareness iii) To write in formal tone, to be precise and to the point.</p>	<p>Writing Skill: (4) Notice Writing *Practice exercises based on the short and long writing skills. *Assignment</p>
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		<p>v) express themselves effectively in the written form.</p> <p>vi) communicate their ideas with a lot of conviction.</p> <p>vii) appreciate the theme and the message conveyed. viii) develop their skills.</p> <p>ix) able to analyse the situations and characters of the chapter.</p> <p>x) use appropriate vocabulary and expressions.</p> <p>xi) understand the ecological situation of the Earth.</p> <p>xii) understand the issues regarding the declining health of the Earth continue to have relevance even today.</p> <p>xiii) understand and gain knowledge - *the Green Movement –Earth a Living Organism</p> <p>*the concept of</p>	<p>of the resources and able to retain them for the future generation.</p> <p>vi) analyse the grave situation of the planet Earth.</p> <p>vii) understand the importance of Green Movement</p> <p>viii) know the importance of the Earth’s Biological Systems.</p> <p>ix) analyse the use and over exploitation of resources.</p> <p>x) take responsibility to preserve and conserve the resources for the future generation.</p> <p>xi) develop comprehension skill, analytical skill, expression, fluency and accuracy, relevance and coherence, language skill and thinking skill.</p> <p>Writing Skill: (4) Notice Writing</p>		<p>v) Focus on the qualifications and experiences.</p> <p>vi) To write with appropriate vocabulary and expressions.</p> <p>vii) The students will be able to express their ideas by writing short writing skills.</p>	
		<p>Sustainable Development</p> <p>*Earth’s Principal Biological Systems</p> <p>*Forest precede mankind – deserts follow</p> <p>*The menace of over population</p> <p>*era of responsibility</p> <p>Writing Skill: (4) Notice Writing</p> <p>i) Guide and motivate students to express and write effectively.</p> <p>ii) Develop knowledge and purpose of writing an article and speech.</p> <p>iii) Awareness of the form, content and process of writing.</p> <p>iv) Able to retain a data and</p>	<p>To enable the students to</p> <p>The students will be able to-</p> <p>i) inculcate values like share ideas, freedom to express and acceptance of ideas.</p> <p>ii) make use of appropriate formats, expressions and vocabulary.</p> <p>iii) write short writing skills with relevance and accuracy.</p> <p>iv) appreciate the skill of expressing and writing effectively.</p> <p>v) relate with business, issues relating to the environment and the society.</p> <p>vi) writing, reading skill and thinking skill</p>			

		<p>information.</p> <p>v) Organize ideas on a particular subject.</p> <p>vi) Practice to enhance the skills.</p> <p>vii) Create social awareness.</p> <p>viii) understand and recollect the formats of the notice, advertisements, formal and informal invitations, formal letters, articles, speech, debate and report.</p> <p>ix) express and write effectively.</p> <p>x) write formal letters will appropriate expressions and vocabulary.</p> <p>xi) link ideas and write articles, speech, debate and report.</p> <p>xii) use proverbs, phrasal words and idiomatic expressions while writing the skills. xiii) encourage the students to develop</p>				
		<p>their reading habit (newspapers, articles, journals etc)</p> <p>xiv) Retain information of events, incidents or accidents and describe the same. -adhere to word limit</p>				

<p>JULY</p>	<p>Snapshots: (1) Summer of the white beautiful horse: The story is about the two boys and their desire to ride a horse. They were extremely poor and could not afford to buy one so they stole a horse but as they belonged to the family who were known for their honesty, their conscience got pricked and they returned the horse back to its owner.</p> <p>Hornbill: (2) We are not afraid to die.</p>	<p>Snapshots: 1) Summer of the beautiful white horse: To enable the students to i) read and understand in between the lines ii) to appreciate humour in the story iii) express views clearly iv) understand one should stick to society norms and values of our family v) love animals vi) learn new phrases and punch lines vii) say no to wrong practices viii) deal with the</p>	<p>Snapshots: 1) Summer of the beautiful white horse: To enable the students to I) inculcate the values of respecting one's belief, honesty, confession, truth, faith, and sharing responsibility II) show honesty and undo wrong doings III) understand stealing is a crime IV) find solutions to the unforeseen circumstances</p> <p>Hornbill: 2) We're not afraid to die:</p>	<p>Snapshots: 1) Summer of the beautiful white horse: Pre-activity: (a) Rearrange the sentences to complete the story based on a similar theme. (b) Describe qualities of a horse. Post-activity: (a) Character Sketch of the different characters in the chapter. (b) Analyse the important incidents. (c) Textual questions will be discussed</p> <p>Hornbill: 2) We're not afraid to die: Activities 1. Warm up activity- i) Why do you think people undertake adventurous expeditions in spite of the risks involved? ii) Share any adventure/</p>	<p>Snapshots: 1) Summer of the beautiful white horse: The students will be able to i) enhance vocabulary ii) enjoy humour iii) inculcate values like honesty, trust, responsibility etc iv) understand why it is important to restore cultural values v) make decisions vi) develop a family bond</p> <p>Hornbill: 2) We're not afraid to die: The students will be able to i) learn the parts of ship and different terms/words related to voyage ii) understand the</p>	<p>Snapshots: 1) Summer of the beautiful white horse: i) Assignments ii) Discussion iii) comprehension questions: .What traits of Garoghlanian family are highlighted in the story? .Give an account of Mourad's joy ride? .How can you say that Mourad has a way with everything? .Comment on the role of Aram the narrator.</p> <p>Hornbill: 2) We're not afraid to die: 1. Assignments 2. Comprehension</p>
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	<p>- A first person account of an adventurous ordeal that a family experiences. This is a story of extreme courage and skill exhibited by a family of four comprising of the narrator, his wife Mary and two children Suzanne and Jonathan. Along with the adults, the two children too are worth mentioning as they showed exemplary courage and understanding even in the face of death.</p> <p>Writing Skill : (a) Factual Description (b) Formal Letters - Business Letters - Letter to the authorities © Posters The students will be able to focus on the major skills of English. They will be able to express their ideas in the form of</p>	<p>temperament of different family members to create a bond. ix) accept of situations and face them with a lot of courage and find solutions to problems in life. x) Make decision in most adverse conditions. Hornbill: 2) We're not afraid to die: To enable the students i) to know the expressions and phrasal verbs used in the lesson and their usage ii) to enhance and enrich the vocabulary iii) to know homonyms for 'storm' and 'vessel' iv) to comprehend the text and enjoy the adventurous expedition v) to understand that optimism helps to</p>	<p>To enable the students to i) imbibe perseverance and patience, trust, self reliance and self confidence, positivity, team work ii) realise that courage and determination can overcome all the challenges ii) understand that presence of mind along with the practical knowledge is important to take instant decisions iii) know that adventures impart a great lesson of life and explore the beauty hidden in nature. iv) understand that misfortunes are bound to be converted into happiness if one has firm belief in God and himself. v) have sharing and caring attitude vi) display</p>	<p>experience (you had) which reflected your presence of mind or practical knowledge 2. Optimism helps to endure the direst stress. Discuss. 3. Brief up about Captain Cook and his work.</p> <p>3) Writing Skills: (a) Factual Description (b) Formal Letters - Business Letters - Letter to the authorities © Posters Activities: i) Pre-activities: *Revision of the formats of formal and informal letters, articles, speech, debate, report writing, notice, advertisements, formal and informal invitations and replies. *Purpose and significance of writing letters, articles, speech, debate, report and other short writing skills. *Discussion on using the electronic media rather than writing letters. *Old and new methods of communication. ii) Sample formal letters, articles, speech, debate and report will be read out in the class and shown on the screen. iii) Use of projectors to show</p>	<p>expressions and phrasal verbs used in the lesson and their usage iii) realise that hazardous experience teaches one to face the adverse circumstances with courage iv) understand that presence of mind along with the practical knowledge is important to take instant decisions v) know that determination and self confidence can conquer adverse circumstances vi) inculcate values of sharing, caring and responsible attitude towards others vii) know homonyms for 'storm' and 'vessel' and about Captain Cook. viii) enhance their skills related to the lesson.</p> <p>3) Writing Skills: i) Guide the students to write effectively. ii) Develop and strengthen business relations, enquiries, registering complaints, placing orders,</p>	<p>questions i) What difference did you notice between the reaction of the adults and the children when faced with danger? ii) What lesson do we learn from such hazardous experiences? iii) Comprehension questions will be asked for understanding. iv) Textual questions/ Extracts/ Value based/ Character sketches</p> <p>3) Writing Skills: (a) Factual Description (b) Formal Letters - Business Letters - Letter to the authorities © Posters *Practice exercises based on the short and long writing skills. *Assignment</p>
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	<p>short and long writing skills.</p>	<p>endure the direst stress vi) realise that hazardous experience teach us to face the adverse circumstances with courage vii) understand the parts of ship and different terms/words related to voyage viii) understand the reaction of adults and children when faced with danger.</p> <p>3) Writing Skills: (a) Factual Description (b) Formal Letters - Business Letters - Letter to the authorities © Posters i) Guide and motivate students to express and write effectively. ii) Develop knowledge and purpose of writing an article and speech.</p>	<p>responsibility towards others iv) develop Leadership skills, Exploring skills, Adventurous skills, Analytical skills, Decision making skills, Thinking skills.</p> <p>3) Writing Skills: (a) Factual Description (b) Formal Letters - Business Letters - Letter to the authorities © Posters The students will be able to- i) inculcate values like share ideas, freedom to express and acceptance of ideas. ii) make use of appropriate formats, expressions and vocabulary. iii) write formal letters, articles, speech, debate, reports and other short writing skills.</p>	<p>different model exercises based on the skills.</p>	<p>sending replies, apply for a job. iii) Letter to school authorities regarding admission, school issues, requirements and suitability. iv) To write in formal tone, to be precise and to the point. v) Focus on the qualifications and experiences. vi) To write with appropriate vocabulary and expressions. vii) The students will be able to express their ideas by writing short and long writing skills.</p>	
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		<ul style="list-style-type: none"> iii) Awareness of the form, content and process of writing. iv) Able to retain a data and information. v) Organize ideas on a particular subject. vi) Practice to enhance the skills. vii) Create social awareness. viii) understand and recollect the formats of the notice, advertisements, formal and informal invitations, formal letters, articles, speech, debate and report. ix) express and write effectively. x) write formal letters will appropriate expressions and vocabulary. xi) link ideas and write articles, speech, debate and report. xii) use proverbs, 	<ul style="list-style-type: none"> iv) appreciate the skill of expressing and writing effectively. v) relate with business, issues relating to the environment and the society. vi) writing, reading skill and thinking skill. 			
		<p>phrasal words and idiomatic expressions while writing the skills. xiii) encourage the students to develop their reading habit (newspapers, articles, journals etc)</p> <p>xiv) Retain information of events, incidents or accidents and describe the same. -adhere to word limit.</p>				

<p>AUGUST</p>	<p>1) Writing skill : (a) Article (b) Speech (c)Note making (Sec A) The students will be able to focus on the major skills of English. They will be able to express their ideas in the form of short and long writing skills.</p> <p>Snapshots : 2) The Address The chapter is a</p>	<p>1) Writing Skills: i) Guide and motivate students to express and write effectively. ii) Develop knowledge and purpose of writing an article and speech. iii) Awareness of the form, content and process of writing. iv) Able to retain a data and information.</p>	<p>1) Writing Skills: The students will be able to- i) inculcate values like share ideas, freedom to express and acceptance of ideas.- ii) make use of appropriate formats, expressions and vocabulary. iii) write formal letters, articles, speech, debate , reports and other short writing skills.</p>	<p>1) Writing Skills: Activities: i) Pre-activities: *Revision of the formats of formal and informal letters, articles, speech, debate, report writing, notice, advertisements, formal and informal invitations and replies. *Purpose and significance of writing letters, articles, speech, debate, report and other short writing skills. *Discussion on using the electronic media rather than writing letters. *Old and new methods of communication. ii) Sample formal letters, articles,</p>	<p>1) Writing Skills: i) Guide the students to write effectively. ii) Develop and strengthen business relations, enquiries, registering complaints, placing orders, sending replies, apply for a job. iii) Letter to school authorities regarding admission, school issues, requirements and suitability. iv) To write in formal tone, to be precise and to the point.</p>	<p>1) Writing Skills: *Practice exercises based on the short and long writing skills. *Assignment.</p> <p>Snapshots: 2)The Address: i) Extra exercises – small answers, long answers and value based answers will be discussed and written in the notes copy. ii) Group wise analysis of different situations in the chapter. iii) Assignment</p>
	<p>poignant account of a daughter who goes in search of her family's belongings after the Second World War. It is about when she finds them, the objects evoke memories of her earlier life. The chapter highlights on how she decides to leave all the belongings behind and resolves to move on.</p> <p>Hornbill : 3)Discovering Tut :The Saga Continues The story tells us about the intricate details of the boyish Pharaoh-Tutankhamen, his mysterious death, his power, his forensic reconstruction and his CT Scanning for investigation purpose.</p>	<p>v) Organize ideas on a particular subject. vi) Practice to enhance the skills. vii) Create social awareness. viii) understand and recollect the formats of the notice, advertisements, formal and informal invitations, formal letters, articles, speech, debate and report. ix) express and write effectively. x) write formal letters will appropriate expressions and vocabulary. xi) link ideas and write articles, speech, debate and report. xii) use proverbs, phrasal words and idiomatic expressions while writing the skills. xiii) encourage the students to develop their reading habit</p>	<p>iv) appreciate the skill of expressing and writing effectively. v) relate with business, issues relating to the environment and the society. vi) writing, reading skill and thinking skill.</p> <p>Snapshots: 2)The Address: To enable the students to- i) read effectively with proper voice modulation. ii) comprehend the chapter. iii) enhance their vocabulary. iv) analyse the situations and characters. v) express themselves effectively in the written form. vi) communicate their ideas with a lot of conviction. vii) appreciate the</p>	<p>speech, debate and report will be read out in the class and shown on the screen. iii) Use of projectors to show different model exercises based on the skills.</p> <p>Snapshots: 2) The Address: To enable the students - i) to inculcate values like courage, empathy, sensitivity, critical thinking and maintaining relations. ii) to learn from past experiences. iii) to understand to forget the past and move ahead in life. iv) to appreciate family members and family bonding. v) to value the with all that they are blessed with. vi) realize the value</p>	<p>v) Focus on the qualifications and experiences. vi) To write with appropriate vocabulary and expressions. vii) The students will be able to express their ideas by writing short and long writing skills.</p> <p>Snapshots: 2) The Address: Activities: i) Pre-activity: *Sharing experience about the significance of articles/memories/people. ii) Introduction of characters iii) Theme and message iv)Exercises given in the book will be discussed and written in the note book.</p> <p>Hornbill : 3)Discovering Tut :The Saga Continues <u>The Students will be able</u></p>	<p>Hornbill : 3)Discovering Tut :The Saga Continues i) Assignments ii) Discussion iii) Writing task</p>

				<p>of time and not to be upset with old memories. vii) develop the comprehension skill, analytical skill, language skill and thinking skill.</p> <p>Hornbill : 3)Discovering Tut :The Saga Continues Activities 1)Power point presentation on King Tut and Egypt will be shown and the chapter will be explained through slides, giving explanation</p>	<p>to i)Think, analyse and observe ii)Know the meanings of new phrases</p>	
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		<p>(newspapers, articles, journals etc)</p> <p>xiv) Retain information of events, incidents or accidents and describe the same. -adhere to word limit.</p> <p>Hornbill: 3)Discovering Tut :The Saga Continues</p> <p>To enable the students to</p> <p>i) understand, enjoy and appreciate a factual text ii)understand the meaning and usage of phrases like resurrection, circumvented, computed Tomography, scudded across etc iii)understand advancement in technology Iv)know about Egyptian belief of mummification V)have the</p>	<p>theme and the message conveyed.</p> <p>viii) develop their skills.</p> <p>ix) able to analyse the situations and characters of the chapter.</p> <p>x) use appropriate vocabulary and expressions.</p> <p>xi) understand that the story underlines the human dilemma that follows war and death of a loved one.</p> <p>xii) analyse that finally the daughter decides to leave the belongings because of the memories that are linked to those objects.</p> <p>xiii) understand that the girl's decision to move on in life gives the story an optimistic twist.</p> <p>xiv) understand that the objects linked in memory lose their importance, when cut off from them, they are seen in strange surroundings.</p>	<p>and asking questions.</p> <p>Post- activity : A quiz will be conducted in the class based on the explanation.(questions will have variety like one liners, MCQ, explain, etc)</p> <p>.Draw a flow chart to draw King Tut's Family line and their description</p> <p>.Textual questions will be discussed</p>	<p>iii)Satisfy their curiosity about King Tut's mummy iv)Know about the archaeology and advancement in technologies v)Understand the wastefulness of war</p>	
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		<p>historical knowledge about King Tut's family line Vi)know about pyramids and their history Vii)know how archaeology has changed in the intervening decades</p>	<p>xv) understand that the narrator felt that she had no place for them either in her room or in her heart. xvi) analyse that the narrator decided to forget the past and move in life.</p> <p>Hornbill: 3) Discovering Tut: The Saga Continues: To enable the students to I)inculcate the values of concern, responsibility, curiosity and respect ii)Respect other's beliefs, customs, rituals iii)Feel pride in using technology to unfold the mysteries iv)Develop inquisitiveness towards historical events and people v)Enhance reading, comprehending thinking skills, analytical skills, Literary skills and</p>			
			Observation skills			

<p>SEPTEMBER</p>	<p>Hornbill: (1)Voice of the Rain The poem is an imaginary dialogue between the poet and the rain. Surprisingly, the rain answers the questions asked by the poet and tells about its birth and end. The poet has drawn a parallelism between the rain and a song.</p> <p>Snapshots: (a)Ranga’a marriage The chapter is a humorous narration and the plot is set in the village of Hosahalli. It is about Ranga, the accountant’s son who returns to the village after he completes his studies in the city. It is about how impressed by his values, the narrator tries to play match maker and gets him married to Ratna. The</p>	<p>Hornbill: 1)Voice of the Rain: To enable the students to i)to understand the critical appreciation of the poem based on rhyme, content and theme ii) to identify the figures of speech used in the poem iii) to appreciate aesthetic writing iv) to understand the cyclic movement of rain v) to understand the parallelism drawn between the rain and a song vi) to know the role of plants in getting rain vii) to identify the two voices in the poem</p> <p>Snapshots:</p>	<p>Hornbill: 1) Voice of the Rain: To enable the students to i) understand rain as the life giving force on the earth ii) nurture the plants by taking care of the environment iii) understand the importance of saving resources iv) understand the need of sustainable development v) discuss methods for safeguarding environment vi) inculcate thinking skills, analytical skills, imaginative skills</p> <p>Snapshots: (a)Ranga’a marriage To enable the</p>	<p>Hornbill: 1)Voice of the Rain: Activities 1. Warm up Questions i) What is water cycle ? How is the cycle getting disturbed? ii) What is the similarity between rain and music? 2. Reading followed by explanation and discussion 3. PPT will be shown</p> <p>Snapshots: (a)Ranga’a marriage</p> <p>Activities: i) Pre-activities: *Discussion about the importance of English language or English as a global language. *Discussion on Importance of traditions followed in India. ii) Introduction of characters and message conveyed. iii) Theme and iv) Characters and incidents. v) Loud reading of each paragraph followed by explanation and word meanings. vi) Exercises given in the book will be discussed and written in the note book.</p>	<p>Hornbill: 1) Voice of the Rain The students will be able to i) inculcate values like care and concern to save environment ii) develop imaginative and analytical skills iii) realise the importance of saving natural resources iv) understand the critical appreciation of the poem based on rhyme, content and theme v) identify the figures of speech used in the poem vi) understand the process of sustainable development</p> <p>Snapshots: (a)Ranga’a marriage The students will be able to- i) analyse that the ideas of Ranga about marriage seem apparently quite different but with the passage of time one realizes that he is inherently just like another</p>	<p>Hornbill: 1) Voice of the Rain: 1. Assignments 2. Comprehension Questions i) Behind apparent simplicity, the poem hides a deeper meaning. What exactly does the poem convey to the reader? ii) Why are the last two lines put within brackets? iii) Textual questions/RTC</p> <p>Snapshots: (a)Ranga’a marriage i) Extra exercises – small answers, long answers and value based answers will be discussed and written in the notes copy. ii) Extra questions based on the last five years papers will be discussed and written in the notes copy. iii) Assignment</p>
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	<p>chapter highlights about city education, gradually changing mind set and adoption of English customs. It is about the people who were simple in the village, child marriage, superstitious, blind faith in astrology and horoscopes.</p> <p>Novel: The Canterville Ghost (Cpt – 1,2 and 3) The novel is both a parody of the traditional ghost story and a satire on the American way of living. It is hilarious but the ending is quiet sentimental.- includes atmosphere and description to create a gothic atmosphere.</p> <p>Revision: -Grammar -Writing skills -Half Yearly Syllabus</p>	<p>(a)Ranga’a marriage To enable the students to-</p> <ol style="list-style-type: none"> i) read effectively with proper voice modulation. ii) comprehend the chapter. iii) enhance their vocabulary. iv) analyse the situations and characters. v) express themselves effectively in the written form. vi) communicate their ideas with a lot of conviction. vii) appreciate the theme and the message conveyed. viii) develop their skills. ix) able to analyse the situations and characters of the chapter. x) use appropriate vocabulary and expressions. xi) understand that the chapter depicts 	<p>students –</p> <ol style="list-style-type: none"> i) to inculcate values like courage, togetherness, empathy, appreciation, sensitivity and critical thinking. ii) to create a balance between tradition and Western culture. iii) to understand that tradition is deep rooted in our culture. iv) to develop comprehension skill, analytical skill, language skills and thinking skill. <p>Novel: The Canterville Ghost: To enable the students to –</p> <ol style="list-style-type: none"> i) inculcate values like concentration, courtesy, co-operation, confidence, faith, respect and integrity, love and compassion, ability to fight against all odds, 	<p>Novel: The Canterville Ghost: Activities: i) Pre-activities: * Clipping of the movie ‘Ghost’ and discussion about the same. *Movie based on the novel will be shown to the students. *Classroom discussion – Do you believe in supernatural powers? ii) A brief introduction of the writer and his contribution in the field of Literature. iii) Introduction of characters. iv) Loud reading of each chapter, word meanings and extra questions will be discussed and written in the notes copy. v) Extra exercises based on character sketches and plots in the novel will be discussed and written in the notes copy.</p> <p>Revision: Worksheet based on unseen passage and notemaking and general grammar exercises for revision.</p>	<p>person in the village. ii) realise the influence of the English language and Western culture in villages. iii) understand that the story brings out the conflict between tradition and modernity and shows how tradition is deep-rooted in our culture.</p> <p>Novel: The Canterville Ghost: The students will be able to-</p> <ol style="list-style-type: none"> i) analyse and interpret the element of humour, suspense, horror and tragedy. ii) interpret the incidents and analyse the characters. iii) express and write effectively the different incidents and about the different characters of the novel. iv) understand and interpret the message that love and forgiveness is above life and death. <p>Revision: The students will be able to recollect their knowledge</p>	<p>Novel: The Canterville Ghost i) Exercises based on character sketches, plots and incidents. ii) Discussion of previous years questions to check their knowledge.</p> <p>Revision: Classroom discussions, revision and exercises. Worksheet based on section A and C.</p>
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		<p>the rural life of a typical Kannad village where it undergoes a rapid change due to increasing influence of English, Western Culture and Urbanization.</p> <p>xii) understand that the story brings out the conflict between tradition and modernity and shows how tradition is deep-rooted in our culture.</p> <p>xiii) analyse that - Ranga, for all his city education and modern views on marriage falls for Ratna.</p> <p>Novel: The Canterville Ghost To enable the students to</p> <p>i) enhance their reading skill and vocabulary.</p> <p>ii) gain knowledge about the various characters and</p>	<p>kindness, empathy, sharing, caring and tolerance.</p> <p>ii) relate to situations based on supernatural powers.</p> <p>iii) relate characters and incidents based on the novel.</p> <p>iv) handle situations based on personal experiences.</p> <p>v) kindness and compassion to develop better relations.</p> <p>vi) develop comprehension skill, analytical skill, language skills, thinking skill and imagination skill.</p> <p>Revision: The writing skills, grammar, novel and literature will be revised.</p>		<p>clear doubts and complete the worksheet.</p>	
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		<p>incidents.</p> <p>iii) understand and analyse the plot, incidents and characters.</p> <p>iv) recollect and recall the chapters.</p> <p>v) express by speaking effectively and develop listening skills.</p> <p>vi) express effectively in the written form.</p> <p>vii) understand that the novel is about life and death as well as forgiveness. viii) the story is not from the perceptive of the occupants of the castle, as in traditional tales but from the perspective of the ghost, Sir.Simon.</p> <p>Revision: Recap and revision of the Half Yearly course including Grammar, Writing Skills, Novel and Literature.</p>				
OCTOBER	Revision – Half Yearly Examination	Half Yearly Exam	Half Yearly Examination	Half Yearly Examination	Half Yearly Examination	Half Yearly Examination

<p>NOVEMBER</p>	<p>Writing Skill: (1)Report Writing (2)Invitations and Replies The students will be able to focus on the major skills of English. They will be able to express their ideas in the form of short and long writing skills.</p> <p>Snapshots: (3)Mother's Day The following play is a humorous portrayal of the status of the mother in a family. The humour springs from the unusual situation where the personalities of two ladies(Ms. Fitzgerald and Ms. Pearson) get exchanged. Their subsequent behaviour is in total contrast to the previous one is the powerful source of laughter.</p>	<p>Writing Skill: (1)Report Writing (2)Invitations and Replies: i) Guide and motivate students to express and write effectively. ii) Develop knowledge and purpose of writing an article and speech. iii) Awareness of the form, content and process of writing. iv) Able to retain a data and information. v) Organize ideas on a particular subject. vi) Practice to enhance the skills. vii) Create social awareness. viii) understand and recollect the formats of the notice, advertisements, formal and informal invitations, formal</p>	<p>Writing Skill: (1)Report Writing (2)Invitations and Replies: The students will be able to- i) inculcate values like share ideas, freedom to express and acceptance of ideas. ii) make use of appropriate formats, expressions and vocabulary. iii) write formal letters, articles, speech, debate , reports and other short writing skills. iv) appreciate the skill of expressing and writing effectively. v) relate with business, issues relating to the environment and the society. vi) writing, reading skill and thinking skill.</p>	<p>Writing Skill: (1)Report Writing (2)Invitations and Replies: Activities: i) Pre-activities: *Revision of the formats of formal and informal letters, articles, speech, debate, report writing, notice, advertisements, formal and informal invitations and replies. *Purpose and significance of writing letters, articles, speech, debate, report and other short writing skills. *Discussion on using the electronic media rather than writing letters. *Old and new methods of communication. ii) Sample formal letters, articles, speech, debate and report will be read out in the class and shown on the screen. iii) Use of projectors to show different model exercises based on the skills.</p> <p>Snapshots: (3)Mother's Day: Activities</p>	<p>Writing Skill: (1)Report Writing (2)Invitations and Replies: i) Guide the students to write effectively. ii) Develop and strengthen business relations, enquiries, registering complaints, placing orders, sending replies, apply for a job. iii) Letter to school authorities regarding admission, school issues, requirements and suitability. iv) To write in formal tone, to be precise and to the point. v) Focus on the qualifications and experiences. vi) To write with appropriate vocabulary and expressions. vii) The students will be able to express their ideas by writing short and long writing skills.</p>	<p>Writing Skill: (1)Report Writing (2)Invitations and Replies: *Practice exercises based on the short and long writing skills. *Assignment</p> <p>Snapshots: (3)Mother's Day 1. Assignments 2. Comprehension questions i) Textual exercises/ Character sketches ii) How does the play resolve the issue? Do you agree with the resolution? iii) Justify the title of the play iv) Contrast the characters of Ms. Fitzgerald and Ms. Pearson after reading the play v) Husbands, sons, daughters should be taking notice of wives and mothers, not giving them orders and treating them like</p>
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		<p>letters, articles, speech, debate and report.</p> <p>ix) express and write effectively.</p> <p>x) write formal letters will appropriate expressions and vocabulary.</p> <p>xi) link ideas and write articles, speech, debate and report.</p> <p>xii) use proverbs, phrasal words and idiomatic expressions while writing the skills. xiii) encourage the students to develop their reading habit (newspapers, articles, journals etc)</p> <p>xiv) Retain information of events, incidents or accidents and describe the same. -adhere to word limit.</p> <p>Snapshots:</p>	<p>Snapshots: (3)Mother's Day To enable the students to</p> <p>i) imbibe values like care and concern, empathy, compassion, respect for elders, belongingness and tolerance</p> <p>ii) understand the struggles and sacrifices of parents and to draw inspiration from them</p> <p>ii) strengthen the family bonding with sharing and solving problems</p> <p>iii) accept the members of the family without complaining</p> <p>iv) develop analytical skills, thinking skills, decision making, management skills, logical skills</p> <p>v) realise the worth of sacrifice and struggles of parents</p>	<p>Warm up Questions</p> <p>i) Is drama a good medium for conveying a social message? Discuss</p> <p>ii) Mother works from morning till night catering to the needs of everyone. Do we ever realise that she too is a human being and needs rest? Share your views about the role of mother in your life.</p> <p>iii) Loud reading by the students taking on different roles from the chapter followed by explanation and discussion by the teacher.</p>	<p>Snapshots:</p> <p>(3)Mother's Day</p> <p>Students will be able</p> <p>i) to know that mothers have equal rights to enjoy their lives and deserve acknowledgement and appreciation</p> <p>ii) to strengthen the family bonding with sharing and solving problems</p> <p>iii) to develop analytical skills, thinking skills, decision making, management skills, logical skills</p> <p>iv) to identify and understand the central/main point and supporting details along with the phrases used in the lesson</p> <p>v) to imbibe values like care and concern, empathy, compassion, respect for elders, belongingness and tolerance</p>	<p>dirt. What do you think about it?</p>
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		<p>(3)Mother's Day To enable the students</p> <ul style="list-style-type: none"> i) to perceive the overall meaning and organisation of the text ii) to identify and understand the central/main point and supporting details along with the phrases used in the lesson iii) to promote advanced language skills with an aim to develop the skills of reasoning and drawing inferences iv) to recognize one of the most important educators in a child's life v) to understand that our mothers have equal rights to enjoy their lives and deserve acknowledgement and appreciation 	for the children			
DECEMBER	Hornbill:	Hornbill:	Hornbill:	H o r n b i l l :	Hornbill:	Hornbill:

	<p>(1) Browning Version The story is an excerpt from the play 'The Browning Version' which tells us about the mannerism and attitude the students should have for teachers and the same is applicable in teacher-teacher relationship. Taplow, the protagonist was asked to do extra work on the last day of his school for his absenteeism and he was kept waiting by the most strict disciplinarian Mr. Crocker Harris. Meanwhile the other teacher came and began to ask him the questions about Mr. Harris, tried to make fun of him, create his negative image and seemed jealous of his popularity in spite of his strictness.</p> <p>(2) Childhood: The story highlights</p>	<p>(1) Browning Version To enable the students to i) take role play and learn to deliver their part with appropriate voice modulation, stress and intonation ii) understand, enjoy and appreciate plays iii) enhance vocabulary iv) know about poet and his contributions v) know how to display attitude towards students and colleagues</p> <p>(2) Childhood: To enable the students to i) understand, enjoy and appreciate different genre of English writings ii) Enhance vocabulary iii) Have better understanding of</p>	<p>(1) Browning Version To enable the students to i) inculcate the values of respecting teachers, mankind, sense of duty, punctuality and appreciation ii) acquire proper mannerism and attitude iii) owe respect towards their teachers iv) not indulge in destructive criticism</p> <p>(2) Childhood To enable the students to inculcate the values of accepting differences, understanding people, becoming sensible, valuing childhood and freedom ii) develop individuality iii) search for and</p>	<p>(1) Browning Version Activities i) Warm up activity .What do you usually talk about teachers among friends? .What manner do you adopt when you talk to your teacher? ii) Role Play: will be done iii) Textual questions will be discussed</p> <p>(2) Childhood Activities i) share your childhood experience(How you were innocent) ii) how can you define 'maturity'? Can we exactly say at what age you became mature? iii) discuss: Is attainment of maturity a sigh of loss of innocence? iv) Silent reading followed by loud reading, reading between the lines, questioning, interaction will be done v) textual questions will be discussed</p> <p>Snapshots: (3) Albert Einstein Activities 1. Warm up activity- i) Express your views on</p>	<p>(1) Browning Version The Students will be able to i) enhance vocabulary ii) know how to take role play iii) learn how to display mannerism and attitude towards others iv) to be punctual v) develop a sense of duty vi) not to indulge in criticism</p> <p>(2) Childhood The students will be able to i) Think, analyse and observe ii) Know how to identify rhyme scheme iii) Gain individuality iv) Differentiate between innocence and maturity v) Respect different people vi) Appreciate poem vii) Learn where and when has his childhood gone</p> <p>Snapshots: (3) Albert Einstein The students will be able to</p>	<p>(1) Browning Version i) Assignments ii) Discussion Group discussion on: 1. 'Changing attitude of students towards their teachers' 2. Old Education System v/s New Education System Comprehension questions: i) How according to Taplow Mr. Crocker Harris is unlike other masters? ii) Why do you think Frank envies Mr. Crocker Harris? iii) How does Taplow refute the charge that he is exaggerating? iv) What impression do you form of Mr. Crocker Harris on the basis of the explanation of the play?</p> <p>(2) Childhood i) Assignments ii) Discussion iii) Writing task iv) Comprehension questions: What did the speaker</p>
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	<p>about the process of growing up, individuality, rationalism and realisation of falsehood and hypocrisy of adult world. The poet further teaches us the values of self belief, determination, self learning and insight formation</p> <p>Snapshots: (3) Albert Einstein This biography describes Einstein's clashes with his teachers, his stay as a paying guest, his noisy landlady, his securing a fake medical certificate to study in an Italian college and his expulsion from the school. It also describes the bitter experience of the great scientist at his own school in Germany and exposes the hollowness of school education in</p>	<p>rhyme scheme and other poetic devices iv) Know about the poet and his contributions v) Childhood is a bliss vi) Think when and where has the childhood gone vii) understand how childhood is innocence while maturity leads to individuality, rationalism and gaining understanding of hypocrisy viii) to think rational</p> <p>Snapshots: (3) Albert Einstein To enable the students i) to comprehend the text ii) to learn/enrich vocabulary and its usage iii) to hone speaking and writing skills</p>	<p>gain innocence like a child iv) respect elders v) Enhance reading, comprehending, thinking skills, analytical skills, Literary skills and Observation skills</p> <p>Snapshots: (3) Albert Einstein To enable the students to i) have respect for teachers ii) be truthful iii) accept and respect differences iv) have patience v) understand the difference between information gathering and insight formation vi) understand the struggles and conflicts faced by Einstein vii) know that ideas matter rather than the facts viii) realise that an</p>	<p>prevailing system of education ii) Do you think that the teacher's role should be primarily to make students think? iii) Incidents from the life of the great scientist 2. Loud reading followed by explanation and discussion.</p> <p>(4) Birth Activities: i) Pre-activities: *Class room discussion based on- - Advancements in Medical Science. - Sharing of experiences and knowledge based on situations, news, articles, movies etc. - Noble profession of doctors and service to mankind. ii) Introduction of characters iii) Theme and message conveyed. iv) Characters and incidents v) Loud reading of each paragraph followed by explanation and word meanings. vi) Exercises given in the book will be discussed and written in the note book.</p> <p>Writing Skill: (5) Advertisement</p>	<p>1. gain insight into the attitude of various teachers towards Einstein 2. know about Einstein's nature based on his conversation with various teachers 3. understand the difference between information gathering and insight formation 4. understand the struggles and conflicts faced by Einstein 5. know Einstein's theory of education 6. know that ideas matter rather than the facts 7. have an honest approach towards solving the problem 8. know various incidents from the life of the scientist</p> <p>(4) Birth The students will be able to- i) understand the sense of duty. ii) appreciate and accept the selfless service to mankind. iii) realise and create a balance between the knowledge gained and</p>	<p>learn about existence of Hell and Heaven? Write a brief note on 'Childhood is an essential state in the process of growing up, but it can't go on forever.' Reference to Context : 'Where did my childhood go? It went to some forgotten place, That's hidden in an infant's face, That's all I know' Q1. What does the first line of stanza indicate? Q2. How does the speaker feel about the loss of his childhood? Q3. What is the mental state of the poet here?</p> <p>Snapshots: (3) Albert Einstein 1. Assignments 2. Character sketches/ Textual questions 3. The school system often curbs individual talents. Discuss. 4. Albert felt the medical certificate almost burning a hole in his pocket. What</p>
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	<p>Germany.</p> <p>(4) Birth The chapter is about an impressive story of a doctor's successful efforts to resuscitate the precious life of a new born baby hopelessly given up as a still born child by an experienced mid-wife. It is about a young doctor's relentless efforts – determination, will power, satisfaction, sense of achievement and fulfillment</p> <p>Writing Skill: (5) Advertisement The students will be able to focus on the major skills of English. They will be able to express their ideas in the form of short writing skills.</p>	<p>iv) to know Einstein's theory of education v) to understand the circumstances which lead to his expulsion from school vi) to gain insight into the attitude of teachers towards Einstein vii) to know about Einstein's nature based on his conversation with various teachers</p> <p>(4) Birth To enable the students to-</p> <p>i) read effectively with proper voice modulation. ii) comprehend the chapter. iii) enhance their vocabulary. iv) analyse the situations and characters. v) express themselves effectively in the</p>	<p>individual has an immense thinking capacity ix) have an honest approach towards solving the problem x) get inspiration from the scientist's life xi) develop thinking skills, analytical skills, reasoning / logical skills</p> <p>(4) Birth To enable the students to-</p> <p>i) inculcate values like respect, being responsible, work for excellence, time management, commitment and determination, care and concern, humility, optimism, helping and tolerance. ii) never to lose hope iii) use of practical knowledge iv) duty of a doctor v) responsible and optimistic vi) develop</p>	<p>Activities: i) Pre-activities: *Revision of the formats of advertisements *Purpose and significance of short writing skills. *Discussion on using the electronic media rather than writing letters. *Old and new methods of communication. ii) Sample will be read out in the class and shown on the screen. iii) Use of projectors to show different model exercises based on the skills.</p>	<p>practical approach. iv) interpret that the story hinges on the theme- never say die attitude and the precious gift of life which only God can grant and a doctor can retrieve and restore.</p> <p>Writing Skill: (5) Advertisement i) Guide the students to write effectively. ii) Develop and strengthen business relations iii) To write in formal tone, to be precise and to the point. iv) Focus on the qualifications and experiences. vi) To write with appropriate vocabulary and expressions. vii) The students will be able to express their ideas by writing short writing skills.</p>	<p>does the author mean?</p> <p>(4) Birth i) Extra exercises – small answers, long answers and value based answers will be discussed and written in the notes copy. ii) Quiz based on the chapter. iii) Extra exercises and question from last five years papers. iv) Assignment</p> <p>Writing Skill: (5) Advertisement *Practice exercises based on the short and long writing skills. *Assignment</p>
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		<p>written form.</p> <p>vi) communicate their ideas with a lot of conviction.</p> <p>vii) appreciate the theme and the message conveyed. viii) develop their skills.</p> <p>ix) able to analyse the situations and characters of the chapter.</p> <p>x) use appropriate vocabulary and expressions.</p> <p>xi) the duty of a Doctor-Noble profession.</p> <p>xii) the efforts to restore hope, life and determination.</p> <p>xiv) the selfless service to mankind.</p> <p>xv) the value of time and incidents of life.</p> <p>xvi) realise the process of growth and development. xvii) gain knowledge and practical approach. xviii) the importance of</p>	<p>comprehension skill, analytical skill, sensitivity, awareness, presence of mind, time management, language skills and thinking skill.</p> <p>Writing Skill: (5) Advertisement To enable the students to The students will be able to-</p> <p>i) inculcate values like share ideas, freedom to express and acceptance of ideas.</p> <p>ii) make use of appropriate formats, expressions and vocabulary.</p> <p>iii) write short writing skills.</p> <p>iv) appreciate the skill of expressing and writing effectively.</p> <p>v) relate with business, issues relating to the environment and the society.</p>			
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		<p>creativity to express ideas and thoughts effectively.</p> <p>xix) the use of knowledge.</p> <p>xx) cherish and value important moments of life.</p> <p>xxi) recollect and apply knowledge.</p> <p>Writing Skill:</p> <p>(5) Advertisement</p> <p>i) Guide and motivate students to express and write effectively.</p> <p>ii) Develop knowledge and purpose of writing advertisements.</p> <p>iii) Awareness of the form, content and process of writing.</p> <p>iv) Able to retain a data and information.</p> <p>v) Organize ideas on a particular subject.</p> <p>vi) Practice to enhance the skills.</p> <p>vii) Create social</p>	<p>vi) writing, reading skill and thinking skill.</p>			
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		<p>awareness.</p> <p>viii) understand and recollect the formats of advertisements.</p> <p>ix) express and write effectively.</p> <p>x) write with appropriate expressions and vocabulary.</p> <p>xi) link ideas and expressions.</p> <p>xii) encourage the students to develop their reading habit (newspapers, articles, journals etc)</p> <p>xiv) Retain information -adhere to word limit.</p>				
JANUARY	<p>Hornbill: (1)Father to Son The poem highlights a universal problem-generation gap and the lack of communication between father and son. The father laments for not understanding his son and later the</p>	<p>Hornbill: (1)Father to Son To enable the students to</p> <p>i) cultivate interest and appreciate poetry and develop the ability of reading with proper stress and intonation</p> <p>ii) prepare the students for poetic</p>	<p>Hornbill: (1)Father to Son To enable the students to</p> <p>i) to inculcate the values of accepting differences, understanding people, respecting elders ,peace and happiness, resolving conflicts, sincerity</p>	<p>Hornbill: (1)Father to Son Activities</p> <p>i) A video will be shown on generation gap and students will be asked to enter into a debate about generation gap. The teacher will keep on throwing statements related to reasons, consequences and ways to find solutions to the problem.</p> <p>ii) Silent reading followed by loud reading and explanation will be</p>	<p>Hornbill: (1)Father to Son The students will be able to</p> <p>i) Comprehend and appreciate poetry</p> <p>ii) Learn new words</p> <p>iii) Enhance understanding of literary devices</p> <p>iv) Read with proper intonation and stress</p> <p>v) Express effectively(both verbal and written form)</p>	<p>Hornbill: (1)Father to Son</p> <p>i) Assignment</p> <p>ii) Discussion</p> <p>iii) Writing task: As a child, write a diary entry expressing your confession of being responsible of cold indifference between you and your parents and finding solutions to the</p>

	<p>realisation dawns upon him that they must live together. The grief of separation causes anger but they make no efforts to make up the loss.</p> <p>Snapshots: (2)Tale of Melon City The poem is a humorous one about a just and peaceful but foolish king and his foolish subjects. It is about the atrocities of those in power and their blind followers. The poem is about the foolishness that creates problems for the king and his people as well.</p> <p>Novel: Canterville Ghost (Remaining chapters) The novel is both a</p>	<p>forms and adept them with the figures of speech, rhyme and rhythm</p> <p>iii) develop the ability of appreciation of ideas</p> <p>iv) develop thought, critical analysis on the basis of the text read</p> <p>v) express their views logically with clarity</p> <p>vi) feel pain of chasm(gap) between generation(thinking)</p> <p>vii) understand the consequences of lack of communication and cold indifferences in a family</p> <p>viii) take steps for reconciliation</p> <p>Snapshots: (2)Tale of Melon City To enabled the students to</p> <p>i) read with proper</p>	<p>and perseverance, valuing relations and self realization</p> <p>ii) develop social skills]</p> <p>iii) manage relations</p> <p>iv) handle criticism</p> <p>v) take initiative for making up the loss</p> <p>vi) enhance reading, comprehending, thinking skills, analytical skills and Literary skills</p> <p>Snapshots: (2)Tale of Melon City To enable the students to</p> <p>i) inculcate values like social connect, trust, co-operation, confidence, faith, respect and integrity, ability to fight against all odds.</p> <p>ii) analyse situations and take appropriate decisions.</p> <p>iii) not to make foolish decisions.</p> <p>iv) proper use of power and skills.</p>	<p>carried out.</p> <p>iii) Meaning and usage of new vocabulary will be carried out</p> <p>iv) Textual questions and exercises will be discussed</p> <p>Snapshots: (2)Tale of Melon City Activities: i) Pre-activities: *Classroom discussions based on - Examples of a kings and rulers.</p> <p>ii) Loud reading of the poem with voice intonation and modulation.</p> <p>iii) Theme and message will be explained and written in the notes copy.</p> <p>iv) Loud reading of each stanza and each line will be explained with word meanings, figures of speech and rhyming scheme.</p> <p>v) Summary of each stanza will be written in the notes copy.</p> <p>vi) Exercises from the book will be discussed and written in the notes copy.</p> <p>Novel: Canterville Ghost (Remaining chapters) Activities:</p>	<p>vi) Value relationship</p> <p>vii) Confess and resolve conflicts</p> <p>viii) Learn social norms</p> <p>ix) Respect elders and their views</p> <p>Snapshots: (2)Tale of Melon City The students will be-</p> <p>i) aware of different situations and dealing them well.</p> <p>ii) realise that peace and liberty are the two strong factors for a state to flourish.</p> <p>iii) able to understand that the rulers of the state should be judicious and sensitive to the needs of the people.</p> <p>iv) to understand that the ruler of the state must understand the problems and needs of the people.</p> <p>v) able to understand that the simplest way to maintain peace and liberty in a state is by following the principles of laissez- faire.</p>	<p>problem.</p> <p>iv) Comprehension questions Why does the father say ‘Why can’t I share what he loves?’ What sort of silence surrounds them? Why, do you think, does the father appear so helpless? How far has the poet succeeded in transforming a purely personal matter to a universal experience prevalent in present society?</p> <p>Snapshots: (2)Tale of Melon City i) Extra exercises – reference to context, short answers, long answers and value based answers will be discussed and written in the notes copy. ii) Word power and expressions checked in the form of a Quiz. iii) Extra exercises based on reference to context, short answers, long answers, value based answers and questions</p>
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	<p>parody of the traditional ghost story and a satire on the American way of living. It is hilarious but the ending is quiet sentimental.-includes atmosphere and description to create a gothic atmosphere.</p> <p>Revision : -Grammar - Writing Skills -Annual Exam Course</p>	<p>voice intonation and pauses. ii) comprehend the poem. iii) identify the figures of speech and the rhyming scheme. iv) enhance their vocabulary. v) appreciate the theme and the style of writing of the poet. vi) develop the skill to express and write effectively. vii) understand that no one is ready to own up his fault. viii) understand the attitude of the common people in choosing their rulers although the kind of the ruler they have directly affects the quality of their lives. ix) understand that law is not only blind it can also spell disaster if it is thoughtlessly implemented.</p>	<p>v) develop comprehension skill, analytical skill, language skills, thinking skill, imagination and creativity, analyse, interpret and social responsibility.</p> <p>Novel: Canterville Ghost (Remaining chapters) To enable the students to – i) inculcate values like concentration, courtesy, co-operation, confidence, faith, respect and integrity, love and compassion, ability to fight against all odds, kindness, empathy, sharing, caring and tolerance. ii) relate to situations based on supernatural powers. iii) relate characters and incidents based</p>	<p>i) Pre-activities: * Clipping of the movie ‘Ghost’ and discussion about the same. *Movie based on the novel will be shown to the students. *Classroom discussion – Do you believe in supernatural powers? ii) A brief introduction of the writer and his contribution in the field of Literature. iii) Introduction of characters. iv) Loud reading of each chapter, word meanings and extra questions will be discussed and written in the notes copy. v) Extra exercises based on character sketches and plots in the novel will be discussed and written in the notes copy.</p> <p>Revision : -Grammar -Writing Skills -Annual Exam Course Worksheet based on unseen passage and note making and general grammar exercises for revision.</p>	<p>Novel: Canterville Ghost (Remaining chapters) The students will be able to- i) analyse and interpret the element of humour, suspense, horror and tragedy. ii) interpret the incidents and analyse the characters. iii) express and write effectively the different incidents and about the different characters of the novel. iv) understand and interpret the message that love and forgiveness is above life and death.</p> <p>Revision : -Grammar -Writing Skills -Annual Exam Course The students will be able to recollect their knowledge clear doubts and complete the worksheet.</p>	<p>from last five years papers. iv)Assignment</p> <p>Novel: Canterville Ghost (Remaining chapters) i) Exercises based on character sketches, plots and incidents. ii) Discussion of previous years questions to check their knowledge.</p> <p>Revision : -Grammar -Writing Skills -Annual Exam Course Classroom discussions, revision and exercises. Worksheet based on section A and C.</p>
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		<p>x) understand irony and humour, process of fair and important judgement.</p> <p>Novel: Canterville Ghost (Remaining chapters) To enable the students to</p> <ul style="list-style-type: none"> i) enhance their reading skill and vocabulary. ii) gain knowledge about the various characters and incidents. iii) understand and analyse the plot, incidents and characters. iv) recollect and recall the chapters. v) express by speaking effectively and develop listening skills. vi) express effectively in the written form. vii) understand that the novel is about 	<p>on the novel.</p> <ul style="list-style-type: none"> iv) handle situations based on personal experiences. v) kindness and compassion to develop better relations. vi) develop comprehension skill, analytical skill, language skills, thinking skill and imagination skill. <p>Revision : -Grammar -Writing Skills -Annual Exam Course The writing skills, grammar, novel and literature will be revised.</p>			
		<p>life and death as well as forgiveness. viii) the story is not from the perceptive of the occupants of the castle, as in traditional tales but from the perspective of the ghost, Sir.Simon.</p> <p>Revision : -Grammar -Writing Skills -Annual Exam Course Recap and revision of the Annual course including Grammar, Writing Skills, Novel and Literature.</p>				
FEBRUARY	Annual Examination	Annual Examination	Annual Examination	Annual Examination	Annual Examination	Annual Examination

NO. OF PERIOD	TOPICS	SUB TOPICS	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	INNOVATIVE PEDAGOGY	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS	OUTCOME
20	Sets and Functions	Sets and their representations. Empty set. Finite and Infinite sets. Equal sets. Subsets. Subsets of a set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets.	The student will be able to understand *Define set, inclusive, element, object, and roster notation. * Identify the elements of a given set. *Describe conventions used to list sets. * List the elements of a set using roster notation. *List the elements of a set by describing the set and the rules that its elements follows. * Recognize when to describe a set and its elements instead of listing it in roster notation. * Apply basic set concepts to complete five interactive exercises.	METHODOLOGY: • Graphical method • Lecture method • Indo-deductive method PEDAGOGY: • Students will be engaged in a group discussion on the topics • Adopting observation skill, Thinking skill (logical, rationale), Analytical and application, Analysis , Understanding and Drawing skills in all topics dealt • Quiz to develop time management, Alertness and reasoning skills..	<ul style="list-style-type: none"> • Unit Test • Half Yearly Exam • Annual Exam 	The students will be able to: <ul style="list-style-type: none"> • Identify and understand different types of symbols related to sets To Solve problems based on the sets.
20	Relations & Functions:	Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself ($R \times R$ only). Definition of relation, pictorial diagrams, domain, codomain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs.	Students will be able to- *Identify ordered pairs and their equality · *To find the Cartesian product of two or more sets *Relation as a subset of the Cartesian product · *Define relation and find its domain, co-domain and range *To find inverse of a relation *Identify types of a relation as Void relation, Universal relation, Identity relation etc.	METHODOLOGY: • To Draw the Graph of various functions: • Smart board PEDAGOGY: • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule Inductive Teaching	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> • Identify and understand different types of functions • To Solve problems based on the functions.
20	Trigonometric Functions	positive and negative angles. Measuring angles in radians and in degrees and conversion from one	Students will be able to: 1 Convert between decimal degrees, degree-minute-seconds, and radian measure of an angle. 2 Evaluate the 6 trigonometric	METHODOLOGY: • Learning by doing method PEDAGOGY: Trigonometric formulae can be remembered with the help of	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> • To identify and to understand the difference between degree and radian and students can use different types of formulas

		measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin 2x + \cos 2x = 1$, for all x . Signs of Trigonometric functions. Domain and range of Trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\sin y$, $\cos x$ & $\cos y$ and their simple applications. Deducing various identities	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 of trigonometric functions.	Magic Hexagon which is self explanatory.		<ul style="list-style-type: none"> Logical Thinking, Problem Solving, analytical skills developed
10	Complex Numbers and Quadratic Equations	Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane. Statement of Fundamental Theorem of Algebra, solution of quadratic equations (with real coefficients) in the complex number system.	Students will be able to identify the imaginary number and real number, Solve the quadratic equations and square root of a complex number.	METHODOLOGY: <ul style="list-style-type: none"> Indo deductive method PEDAGOGY: <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications Spaced Repetition Schedule Inductive Teaching 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> Identify and understand different types of complex numbers To Solve problems based on the complex numbers
10	Linear inequalities	Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.	Introduction of linear inequalities, different types of inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.	METHODOLOGY: <ul style="list-style-type: none"> Graphical method Lecture method Indo-deductive method PEDAGOGY: <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications Spaced Repetition Schedule Inductive Teaching 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> Identify and understand different types of linear inequalities To Solve problems based on the various types of inequalities
10	Permutations and Combinations	Fundamental principle of counting. Factorial n . ($n!$) Permutations and combinations, formula for nPr and nCr , simple applications.	<ol style="list-style-type: none"> Acquire the knowledge of Mathematical terms related to permutations and combinations. Understand the certain terms like, factorial, basic principle, Permutation, Combination, arrangement, selection etc Understand the identities in the Mathematics related to the present concept Recall the concepts learnt in 	METHODOLOGY: <ul style="list-style-type: none"> Lecture method Indo-deductive method Smart board PEDAGOGY: <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> To identify and to understand FPC and to understand the permutation and combination Logical Thinking, Problem Solving, analytical skills developed based on permutation and combination problems

			previous classes. 5. Apply the knowledge acquired in daily life.	<ul style="list-style-type: none"> Spaced Repetition Schedule Inductive Teaching 		
10	Binomial theorem	Statement and proof of the theorem for positive integral indices, Pascal's triangle, simple applications	<ol style="list-style-type: none"> To enable the students to State and Prove binomial theorem for positive index To enable the students to acquire knowledge of General term of Binomial theorem To enable the students to understand middle term(s) formulae of binomial theorem. To enable the students to apply binomial theorem in Problems solving. 	METHODOLOGY: <ul style="list-style-type: none"> Lecture method Indo-deductive method PEDAGOGY: <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications Spaced Repetition Schedule Inductive Teaching 	<ol style="list-style-type: none"> Recapitulation of class room teaching Slip Test/Unit test 	The students will be able to: <ul style="list-style-type: none"> Apply binomial theorem in basic problems. State and prove binomial theorem for positive indices.
10	Sequence and Series	Sequence and Series. Arithmetic Progression (A. P.). Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.	Extends the ideas related to Arithmetic progressions learnt earlier to new types of sequences and their series.	METHODOLOGY: <ul style="list-style-type: none"> Lecture method Indo-deductive method PEDAGOGY: <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications Spaced Repetition Schedule Inductive Teaching 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> To identify and to understand the general form of A.P. and G.P. . also find the sum of A.P. and G.P. upto nth term Logical Thinking, Problem Solving, analytical skills developed
15	Straight Lines	Brief recall of two dimensional geometry from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line: Parallel to axis, point slope form, slope intercept form, two-point form, intercepts form and normal form. General equation of a line. Distance of a point from a line.	Students would be able to know <ol style="list-style-type: none"> Slope of a line when inclination is given and when co-ordinates of two points are given Various forms of equations of straight lines General form of equation of straight line and reducing it to various forms The distance of a point from a line And distance between two parallel lines. 	METHODOLOGY: <ul style="list-style-type: none"> Graphical method Lecture method Indo-deductive method PEDAGOGY: <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications Spaced Repetition Schedule Inductive Teaching 	Through Unit Test and periodic graded assignment Students will be assessed critically.	The students will be able to: <ul style="list-style-type: none"> Identify and understand different types of equations of straight lines To Solve problems based on different types of equations
25	Conic Sections	Sections of a cone: circles, ellipse, parabola, Hyperbola. Standard equations and simple properties of parabola, ellipse and Hyperbola. Standard Equation of a circle.	Students will know and understand <ol style="list-style-type: none"> Different curves which can be cut from a cone. Drawing of circles, parabola, ellipse and Hyperbola. Connection of these curves in daily life situations 4. 2-D shapes connected these curves. 	METHODOLOGY: <ul style="list-style-type: none"> Graphical method Lecture method Indo-deductive method PEDAGOGY: <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications Spaced Repetition Schedule Inductive Teaching 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> To identify and to understand equation of circle and various forms of parabolas, ellipse and hyperbolas Logical Thinking Problem Solving, analytical skills developed
10	Introduction to Three-dimensiona	Coordinate axes and coordinate planes in three dimensions. Coordinates	Develops strategies of locating a point in three dimensions based on the concepts of two dimensional coordinate geometry.	METHODOLOGY: <ul style="list-style-type: none"> learning by doing method Graphical method PEDAGOGY:	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> To identify and to understand the concept of three dimensional Coordinate geometry

	I Geometry	of a point. Distance between two points and Section formula.		<ul style="list-style-type: none"> • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule Inductive Teaching 		<ul style="list-style-type: none"> • to use the concept to solve various problems based on sections formulas
40	Limits and Derivatives	Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions Derivative introduced as rate of change both as that of distance function and Geometrically. Definition of derivative relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.	Students would be able to find limit of a function at different points and its existence. Further they would be able to find derivative of a function.	METHODOLOGY: <ul style="list-style-type: none"> • Learning by doing Method PEDAGOGY: <ul style="list-style-type: none"> • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule Inductive Teaching 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> • Identify and understand the derivatives of different types of functions • To Solve problems by using different methods like product rule and quotient rule The students will be able to: <ul style="list-style-type: none"> • Identify and understand the derivatives of different types of functions • To Solve problems by using different methods like product rule and quotient rule
20	Statistics	Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped data	Applies Measures of dispersion to get a better interpretation of data of different daily life situations	METHODOLOGY: <ul style="list-style-type: none"> • Lecture method • Indo-deductive method PEDAGOGY: <ul style="list-style-type: none"> • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule Inductive Teaching 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> • Identify and understand different types of data • To Solve problems based on the different types of data like individual series. • discrete series and continuous series to solve various problem based on mean , mean deviations and variance.
20	Probability	Random experiments; outcomes, sample spaces (set representation). Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Probability of an event, probability of 'not', 'and' and 'or' events.	Builds up the axiomatic approach to Probability through the terms, random experiment, Sample space, events etc.	METHODOLOGY: <ul style="list-style-type: none"> • Lecture method • Indo-deductive method • Learning by doing Method PEDAGOGY: <ul style="list-style-type: none"> • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule • Inductive Teaching 	Teacher gives exercise questions as assignment and homework to the students.	The students will be able to: <ul style="list-style-type: none"> • To identify and to understand the concept of probability and apply the knowledge in solving real life problems. • Logical Thinking, Problem Solving, analytical skills developed

NO OF PERIOD	TOPICS	SUBTOPICS	INNOVATIVE PEDAGOGY	ASSESSMENT EXERCISES/ ACTIVITIES/PRACTICALS	LEARNING OUTCOME
5	Unit I: Physical World and Measurement Chapter–1: Units and Measurements	Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures. Dimensions of physical quantities, dimensional analysis and its applications.	1. ACTIVITY BASED LEARNING 2. BIOGRAPHY OF SCIENTISTS 3. HANDS ON LEARNING 4. Projects	Experiments 1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume. 2. To measure diameter of a given wire and thickness of a given sheet using screw gauge. 3. To determine volume of an irregular lamina using screw gauge. Activities 1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm. 2. To determine mass of a given body using a metre scale by principle of moments.	The learner – explains that the disciplinary approach of Physics is a transition from general sciences. - explains the fundamental forces in nature – – explains the nature of fundamental laws such as conservation laws, etc. -explains the need of accuracy, precision, errors and uncertainties in measurement; and classify errors.
				Experiments 1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume. 2. To measure diameter of a given wire and thickness of a given sheet using screw gauge. 3. To determine volume of an irregular lamina using screw gauge. 4. To determine radius of curvature of a given spherical surface by a spherometer.	– differentiates between distance and displacement; speed and velocity; rectilinear and curvilinear motions; kinematics and dynamics; inertial and non
10	Unit II: Kinematics 24 Periods Chapter–2: Motion in a Straight Line	Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and nonuniform motion, and instantaneous velocity,	1. Hands on Learning: 2. Story Telling 3. Role Play 4. Virtual science labs		Learning Outcomes cut across different themes The learner can understand -inertial frames of references; average, relative, and instantaneous velocity and

		uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical treatment).			speed etc. – derives (graphically) kinematic equations for --uniformly accelerated motion – communicates the findings and conclusions effectively. – applies concepts of physics in daily life while making decisions and solving problems
10	Chapter–3: Motion in a Plane	Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform acceleration projectile motion, uniform circular motion.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs		– communicates the findings and conclusions effectively. – applies concepts of physics in daily life while making decisions and solving problems. -Can understand operations (addition subtraction and multiplication of vectors -Can find range max. height and time of flight of projectile. -Dissection and application of circular motions
12	Unit III: Chapter–4: Laws of Motion (14 Periods)	Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force,	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs	Experiments: 5. To determine the mass of two different objects using a beam balance. 6. To find the weight of a given body using parallelogram law of vectors. 7. Using a simple pendulum, plot its L-T ² graph and use it to find the effective length of second's pendulum. 8. To study variation of time period of a simple pendulum of a given length by taking bobs of same size but different	The learner can - explains applications of Newton's three laws of motion, -explains problems with circular motion -Roll of friction in motions

		examples of circular motion (vehicle on a level circular road, vehicle on a banked road).		masses and interpret the result. Activities 1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm. 2. To determine mass of a given body using a metre scale by principle of moments.	
5	Unit IV: chapter -5 Work, Energy and Power (12 Periods	Work done by a constant force and a variable force; kinetic energy, workenergy 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.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs		Concept of work and mathematical notations in simple mechanics - derive work done by constant and variable force, -Understand the concept of Energy, conservation of energy with mathematical applications
6	Chapter -5 Work, Energy and Power -Continue	Work done by a constant force and a variable force; kinetic energy, workenergy 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.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs	Experiments: 9. To study the relationship between force of limiting friction and normal reaction and to find the co- efficient of friction between a block and a horizontal surface. 10. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination θ by plotting graph between force and $\sin\theta$	- understand concept of elastic and inelastic collision.`
14	Unit V: Chapter– 6: System of Particles and Rotational Motion	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, torque, angular momentum, law of conservation of angular momentum and its applications.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs		Understand the concept of centre of mass, application centre mass of any system our daily life. Learner can explains -angular momentum , torque, moment of couple and moment of inertia - can understand applications of law of conservation of angular momentum

		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)			-Understand Moment of Inertia of regular bodies and their need our daily life
7	Unit VI: Chapter–7: Gravitation	Kepler's laws of planetary motion, universal law of 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.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs	Experiment: (Section B) 1. To determine Young's modulus of elasticity of the material of a given wire. 2. To find the force constant of a helical spring by plotting a graph between load and extension. Activity 3. To plot a graph for a given set of data, with proper choice of scales and error bars. 4. To measure the force of limiting friction for rolling of a roller on a horizontal plane. 5. To study the variation in range of a projectile with angle of projection	Learner can - state Kepler's law -can derive the expression for variation in acceleration due to gravity due to height and depth. - can derive expression for gravitational potential energy, escape velocity and orbital velocity
8	Unit VII: Properties of Bulk Matter Chapter–8: Mechanical Properties of Solids	Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs	Experiment 3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and 1/V. 4. To determine the surface tension of water by capillary rise method.	Learner can - Handles tools and laboratory apparatus like searl apparatus -Can Understand the concept of elasticity and apply in general life.

10	Chapter–9: Mechanical Properties of Fluids	Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications. Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs	Experiment: 5. To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.	Learner can -applies concepts of viscosity and surface tension in daily life while making decisions and solving problems. - Handles tools and laboratory apparatus Capillary tube properly; - can measures physical quantities like surface tension using appropriate apparatus, instruments, and devices.
8	Chapter–10: ThermalProperties of Matter	Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law .	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs	6. To study the relationship between the temperature of a hot body and time byplotting a cooling curve. 7. To determine specific heat capacity of a given solid by method of mixtures. Activities 1. To observe change of state and plot a cooling curve for molten wax. 2. To observe and explain the effect of heating on a bi-metallic strip.	Learner can relate different coefficient of thermalexpansion -Can explain the concept of Cp and Cv and can relate it. - can understand importance of anomalous behaviour of water for existence of aquatic life.-
8	Unit VIII: Chapter–11: Thermodynamics	Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state -isothermal, adiabatic, reversible,	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs		Learner can know about law of thermodynamics and Heat engine

		irreversible, and cyclic processes.			
6	Unit IX: Behaviour of Perfect Gases and Kinetic Theory of Gases Chapter–12: Kinetic Theory	Equation of state of a perfect gas, work done in compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs	8. To study the relation between frequency and length of a given wire under constant tension using sonometer. 9. To study the relation between the length of a given wire and tension for constant frequency using sonometer. 10. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions. resonance positions.	Learner can derive the expression for Gas pressure and can relate it with Kinetic energy. Can understand the concept of degree of freedom and can relate it with specific heat of mono-atomic , diatomic and triatomic gases.
5	Unit X: Chapter– 13 Oscillations	Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications. Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs		Can differentiate between periodic motion and simple harmonic motion. Concept of total mechanical energy of oscillated particle in SHM

4	Unit X: Chapter– 13 Oscillations	Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications. Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs		-can derive the expression for time period and frequency of different S.H.M. in nature
10	Chapter14- Waves - continue	Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.	1.Hands on Learning: 2.Story Telling 3.Role Play 4.Virtual science labs		Handles tools and laboratory apparatus like sonometer and resonance tube properly. Can analyse different mode of vibrations in stretched string, open organ pipe and closed organ pipe.fundamental mode and harmonics, Beats, Doppler effect.

Class: XI

Subject: Geography

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/PRACTICALS	OUTCOME
5	Geography As a Discipline	Geography As a Discipline	To define and understand the scope and nature of Geography as a discipline.	Observe your surroundings and note down the variation in natural as well as cultural phenomena. Discuss with your partner: Geography is the study of "areal	Project Work Topic: - Forest - as a natural resource. ☑ Prepare a map of India showing the distribution of different types of forests.	At the completion of this unit students will be able to: ☑ Explain the meaning geography

				differentiation”	<ul style="list-style-type: none"> ☑ Write about the economic importance of forests for the country. ☑ Prepare a historical account of conservation of forests in India with focus on Chipko movements in Rajasthan and Uttaranchal 	<p>as an integrating discipline.</p> <ul style="list-style-type: none"> ☑ State the fields of geography and its relation with other disciplines. ☑ Explain the approaches to study geography
17	The Earth	<p>The Origin and Evolution of the Earth</p> <p>Interior of the Earth</p> <p>☑ Distribution of oceans and continents</p>	<p>To acquire knowledge about earth’s origin through various theories.</p> <ul style="list-style-type: none"> ☑ To understand stages in the evolution of the earth. <p>To understand that the configuration of the surface of the earth is largely a product of the exogenic and endogenic processes operating in the interior of the earth</p> <p>To describe the theory of continental drift proposed by Alfred Wegner.</p> <ul style="list-style-type: none"> ☑ To understand the present configuration of continents and oceans through plate tectonics theory 	<p>Watch videos of theories (Big Bang etc.) in the class room through projector.</p> <ul style="list-style-type: none"> ☑ Presentation and interaction about the origin of the earth by students. ☑ Students to explore more information related to the topic. 	<p>Draw a well labelled diagram to show the interior of the earth.</p> <ul style="list-style-type: none"> ☑ Draw a diagram of a volcano and mark the following parts: <ul style="list-style-type: none"> a. Magma Chamber b. Vent c. Central Pipe d. Lava flow ☑ Draw a diagram to show the intrusive volcanic forms. ☑ Case study of earthquakes that occurred in India in recent times and in Turkey. 	<p>At the completion of this unit students will be able to:</p> <ul style="list-style-type: none"> ☑ Describe the Big Bang, Planetesimal theory, Nebular Hypothesis related to the origin of the universe <p>Describe direct and indirect sources of information about the interior of the earth.</p> <ul style="list-style-type: none"> ☑ Discuss Earthquakes—its causes and effects, define: Epicentre, Hypocentre, Earthquake waves and its propagation, Shadow zones, Measuring the intensity of Earthquakes. ☑ Explain the interior structure of the earth. ☑ Explain Volcanoes, its types and volcanic landforms.
18	Landforms	<p>Geomorphic Processes</p> <p>Landforms and their evolution</p>	<p>To understand various exogenic and endogenic processes responsible to bring changes in the configuration of the surface of the earth</p> <p>To understand the nature of different erosional and depositional agents and landforms made by them.</p>	<p>Prepare a concept map to show different Exogenic and Endogenic Processes.</p> <ul style="list-style-type: none"> ☑ Students will prepare concept map on denotational processes. ☑ Study types of weathering: Physical, Chemical, Biological and understanding their importance for human being. 	<p>Visit nearby landforms and draw sketches.</p> <ul style="list-style-type: none"> ☑ Draw neat and well labelled diagrams of landforms created by running water, wind and waves etc. ☑ Watch videos of different landforms created by running water, underground water, glacier, wind, sea waves etc. ☑ Find out the advantages and disadvantages of different landforms from the internet. ☑ Prepare charts to show different landforms. 	<p>At the completion of this unit students will be able to:</p> <ul style="list-style-type: none"> ☑ Describe and draw various erosional and depositional landforms created by different agents. ☑ Students will be able to compare and analyse various landforms ☑ Locate different landforms (mountains, plateaus, plains) on the outline map of the world.

26	Climate	<p>Composition and Structure of Atmosphere</p> <p>Solar Radiation, Heat balance and Temperature</p> <p>Atmospheric Circulations and Weather Systems</p> <p>Water in the Atmosphere</p> <p>World Climate and Climate Change</p> <p>Water(Oceans)</p> <p>Movement of Ocean Water</p> <p>Biodiversity and Conservation</p>	<p>To understand the composition and structure atmosphere.</p> <p>To understand the heating and cooling of the atmosphere and the resultant temperature distribution over the surface of the earth.</p> <p>To understand the general atmospheric circulation and the forces that control the circulation.</p> <p>To understand the meaning of various terms related to the topic.</p> <p>To know the causes and consequences of air circulation.</p>	<p>Watch a video on the importance of different layers of the atmosphere.</p> <p>Write songs based on different seasons.</p> <p>The students can be encouraged to prepare presentations on the weather conditions necessary for the growth of different crops.</p> <p>Examine the weather conditions necessary for the growth of different crops.</p>	<p>Make a list of different forms of condensation and precipitation and define them.</p> <p>Draw diagrams of different types of rainfall.</p> <p>On a world map mark and label areas of heavy, moderate, low and inadequate rainfall.</p>	<p>At the completion of this unit students will be able to:</p> <ul style="list-style-type: none"> ☐ Differentiate between solar radiation and terrestrial radiation. ☐ Give reasons for variability of insolation at the surface of the earth. ☐ Explain the heat budget of the planet earth. ☐ Describe factors controlling temperature distribution. ☐ Explain inversion of temperature. Analyse the economic significance of tides. ☐ Describe ocean currents and the forces that influence them. ☐ Distinguish between cold and warm ocean currents.
5	India-Location	India -Location	To understand the geographical location of India and its significance.	On an outline map of India mark all the neighbouring countries and compare the size of India with its neighbours.	<p>Make a list of all the states that share common boundary with our neighbouring countries.</p> <p>Mark and label the land boundary and coastline on an outline map of India.</p> <p>On a political map of India mark and label the states and UTs.</p>	<p>At the completion of this unit students will be able to:</p> <ul style="list-style-type: none"> ☐ Describe the location of India mentioning the surrounding water bodies. ☐ Analyse the implications of living in a country with vast longitudinal and latitudinal extent and its impact on the standard time of India. ☐ Explain the vastness of India and the diversity that comes along with it
32	Physiography	<p>Structure and Physiography</p> <p>Drainage System</p>	<p>To understand the evolution of different geological structures in India.</p> <p>To acquire knowledge about physiographic divisions and their subdivisions.</p> <p>To understand the drainage system and drainage patterns of Indian rivers.</p> <p>To understand the extent of use</p>	<p>Identify the physiographic and geological region you live in.</p> <p>Discuss the impact of physiography on the development of your region. Have a group discussion in your class about floods-their positive and negative impact.</p>	<p>On an outline map of India mark and label the physiographic divisions of India.</p> <p>Make a list of east flowing and west flowing rivers of Peninsular region.</p>	<p>At the completion of this unit students will be able to:</p> <ul style="list-style-type: none"> ☐ Explain the evolution of various geological structures in different parts of the country. ☐ Describe major physiographic divisions and the processes of their formation Understand the major drainage systems of India. ☐ Analyse the causes of river water pollution.

			ability of river water and the problems associated with it.			☑ Differentiate between Himalayan and Peninsular rivers.
30	Climate Vegetation and Soil	Climate Natural Vegetation	<p>To understand Indian monsoon: and its mechanism.</p> <p>☑ To list the weather conditions that prevail during different seasons.</p> <p>☑ To analyse the variation in distribution of rainfall in India.</p> <p>To understand the relationship between vegetation belts and the climate.</p>	<p>Students should be made to understand Air Quality Index.</p> <p>☑ The Air Quality Index is a way for the government to alert people to the quality of the air and how bad the air pollution is in an area or city. They use colours to help you determine if you should go outside.</p> <p>Students would be able to enhance their communication skills by debating on positive and negative impact of human activities on forest cover and wildlife.</p>	<p>Students to mark and label the hottest, coldest, driest and wettest place in India. (on a political map)</p> <p>To mark all major types of forests on a map of India.</p>	<p>At the completion of this unit students will be able to:</p> <p>☑ Discuss the factors affecting climate of the country and its effect on country's economic life.</p> <p>☑ Understand the annual cycle of four main seasons in India.</p> <p>☑ Able to realise the causes and problems of climate changes.</p> <p>☑ Able to understand the concept of Global Warming.</p>

Class: XII

Subject: Computer Science with Python (083)

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS
	Unit 1: Computer Systems and Organization (CSO)	<p>Basic computer organization: computer system, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB, GB, TB, PB)</p> <p>• Types of software: system software (operating systems, system utilities, device drivers), programming tools and language</p>	<p>KNOWLEDGE- Students will know and understand</p> <ol style="list-style-type: none"> 1. Evolution of Computers 2. Different parts and its functions 3. Input /Output and processing devices <p>SKILLS- Students would be able to</p> <ol style="list-style-type: none"> 1. Understand and differentiate hardware and software 2. Different types of software 	<p>Some instructors lecture, ▲ others demonstrate or discuss; ▲ some focus on principles and others on applications; ▲ some emphasize memory and others understanding.</p> <p>Mismatches exist between common learning styles of engineering students and traditional teaching styles of engineering professors. In consequence, students become bored</p>	<p>Gave one word questions from Gave • explanation based questions Gave Truth table based question Gave • questions for circuit diagram design Gave • number conversion based fill in the blank questions</p>

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS
		<p>translators (assembler, compiler & interpreter), application software</p> <ul style="list-style-type: none"> • Operating system (OS): functions of operating system Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth table, De Morgan's laws and logic circuits • Basic computer organization: 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) • Number system: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems. • Encoding schemes: ASCII, ISCII and UNICODE (UTF8, UTF32) 	<p>KNOWLEDGE- Students will know and understand Learn the Concept of Boolean</p> <ul style="list-style-type: none"> • Recall the various logical operators Recall various logic gates and their truth tables. Learn the basic postulates'/theorem/rules of Boolean algebra Learn to draw the logical circuit based on Boolean Expression. Students will be able to • understand the concept of number system in base 2, 8, 16. * Understand digital number systems(Decimal, Binary, Octal and Hexadecimal) * Understand Number conversions * Understand Binary addition in number system * Different Encoding Schemes. 	<p>and inattentive in class, do poorly on tests,</p> <p>Active learning Evidence-based instructional practices Collaborative learning</p>	
Unit 2 : Programming and Computational Thinking		<p>Introduction to problem solving: Steps for problem solving (analysing the problem, developing an algorithm, coding, testing and debugging). representation of algorithms using flow chart and pseudo code, decomposition</p> <p>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, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments</p> <p>Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types</p> <p>Operators: arithmetic operators, relational operators, logical operators, assignment operator,</p>	<p>Student will be able to understand the Concept of Problem Solving and concept of Algorithm Student able to understand Python and able to download Python installer from Internet. Student will be able to learn data types available in python and their importance. He / She will be able to use the different data types in their programming Student will come to know about mutable and immutable Student will also be able to apply these data types very effectively as per need. Student will be able to understand the following Concept</p> <p>Selection Statements Simple IF→ IF..ELSE→ Student will be able to understand the following Concept of iteration: For loop While loop Nested loop</p>	<p>Students should be able to analyse a given problem statement and design the solution.</p> <p>To introduce the concepts of sequence, iteration and conditions.</p> <p>Students should be given to write simple solutions for real-world examples like –</p> <p>Algorithm to solve the problem of a nonfunctioning light bulb - Algorithm to make a well-balanced plate of Upma/Poha/Khichdi. – Choosing the best route for school - Grouping students whose height is more than 5 ft into group A and others in group B Such problems will help them develop computational thinking with relatable concepts. Once students are comfortable, students should be given computational problems to solve, the</p>	<p>Suggested Practical Question</p> <ol style="list-style-type: none"> 1. Write a program to accepts two integers and print their sum. 2. Write a program that accepts radius of a circle and prints its area. 3. Write a program that accepts base and height and calculate the area of triangle. 4. Write a program that inputs a student's marks in three subjects (out of 100) and prints the percentage marks. 5. Write a program to calculate simple interest. 6. Write a program to read two numbers and prints their quotient and remainder. 7. Write a program that accepts length and breadth of rectangle and calculate its area.

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS
		augmented assignment operators, identity operators (is, is not), membership operators (in, not in) Expressions, statement, type conversion & input/output: precedence of operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output		problems should be given at increasing levels of difficulty.	8. Write a program to find whether a given number is even or odd. 9. Write a program to find largest among three integers. 10. Write a program to find lowest among three integers. 11. Write a program that reads the number n and print the value of n ² , n ³ and n ⁴ . 12. Write a program to find sum of series : $s=1+x+x^2+x^3+x^4 \dots+x^n$ 13. Write a python script to calculate the sum of the following series: $S=(1)+(1+2)+(1+2+3)+\dots+(1+2+3+\dots+n)$
		<ul style="list-style-type: none"> Strings: introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops, built-in functions: 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 & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: 	Understands the basic concepts of python programming involving Strings & manipulation of Strings in Python. Acquainted with various String functions & their use. Student will be able to review the Concept and Operations on Lists: Creation Traversal Concatenation Repetition Searching Sorting Maximum Minimum Reverse Slicing	Students should be introduced to the different programming concepts separately to gain procedural fluency in the programming as well as develop sequential, logical and recursive thinking. As a practice to develop the skill of writing algorithms as well as gaining procedural fluency, it should be made a standard practice to write the pseudo code/flowchart, before coding. Teachers should give enough hands-on experience in writing algorithms for different kinds of problem statements.	Suggested Practical Question 1.WAP to count the number of vowels in the string 'I love Computer Science' 2.WAP to count the number of digits in the string 'amazing44 67' WAP to count the number of spaces in the string 'I love Computer Science' 3. WAP to toggle the string 'I love Computer Science'. i.e Uppercase letter should be made to Lower case and vice versa

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS
		<p>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.</p>			
		<ul style="list-style-type: none"> • Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership & slicing), built-in functions: 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 • Dictionary: Introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(), del(), clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy() <p>Introduction to Python modules: Importing module using 'import ' 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)</p>	<p>Student will be able to understand the Concept of Tuples Understand: Concatination→ Replication→ Membership operations→ Various Built_In functions→ Sorting→ Index values etc.→ Slicing(subset)→ Few Programs→</p> <p>Student will be able to understand the Concept of Dictionary □ Traversal, functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(),sorted() copy();</p>	<ul style="list-style-type: none"> • Develop own model of learning and teaching in computer science :Always • Ready to learn new technologies, so that children’s curiosity can be fulfilled. • More interactive teaching : • Teacher as a guide work as co-explorer and sometimes mistake maker knowingly. <p>Inquiry based learning (Critical thinking and Problem solving): Create a small project based on real life applications like as</p> <ul style="list-style-type: none"> • Students record management, population survey , Games etc. 	<p>Suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with name of employees, their salary and access them.</p> <p>Write a Python program to generator(Random Number) that generates random numbers between 1 and 6 (simulates a dice) using user defined function. etiquette when e-mailing and chatting.</p>

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS
	Unit 3 :Society, Law and Ethics	<p>Digital Footprints</p> <ul style="list-style-type: none"> Digital society and Netizen: net etiquettes, communication etiquettes, social media etiquettes Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache) Cyber-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime <p>Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.</p> <ul style="list-style-type: none"> Safely accessing web sites: malware, viruses, trojans, adware E-waste management: proper disposal of used electronic gadgets Indian Information Technology Act (IT Act) Technology & Society: Gender and disability issues while teaching and using computers 	<p>Student will be able to understand the new world digital society.:</p> <ul style="list-style-type: none"> Netizen Data Protection Data Protection Cyber- Crime Cyber Safety Safely accessing web Sites <p>Student will be able to understand the Concept of Network Security:</p> <p>Threats and prevention from Viruses, Worms, Trojan horse, Spams Use of Cookies, Protection using Firewall, https; India IT Act, Cyber Law, Cyber Crimes, IPR issues, hacking</p>	<ul style="list-style-type: none"> Use live coding Have students make predictions Use pair programming Use worked examples with labeled sub goals 	<p>Together you can draft e-mails and send them to the other class. You may also wish to pair up individuals between the classes so they can exchange e-mails and chat with someone they know is safe. Review online safety rules and remind students of proper</p> <p>Gave study based question Gave one world questions Gave explanation based questions</p>

Class: XI

Subject: BIOLOGY

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/PRACTICALS	OUTCOME
7	The living world	<ol style="list-style-type: none"> Living organism on the basis of hierarchy Taxonomical Aids like Herbarium, botanical garden, Zoological museum 	<p>To make students understand and differentiate between Living and Non living organisms To classify different Living organism on the basis of hierarchy To familiarize with different Taxonomical Aids like Herbarium, botanical garden, Zoological museum and facilitate, identify and classify</p>	<ol style="list-style-type: none"> To observe a video on various taxonomical aids Group discussion on how these aids are helpful for biology students. Classifying organisms on the basis of hierarchy 	Group discussion, Classification	<p>Analyze the importance of Zoological parks and museum in creating interest about wild life, providing education , furnishing recreation and conservation of endangered species They were able to evaluate the importance of botanical garden in educating public</p>

			different			about country's plant wealth and stimulate people to grow more trees.
10	Biological classification	<ol style="list-style-type: none"> two, three, four, five kingdom classification systematic identification, classification, Nomenclature, Taxonomy 	Understand and describe about two, three, four, five kingdom classification. Understand and explain systematics under four heads- identification, classification, Nomenclature, Taxonomy. Explain and comprehend the characteristic features of different kingdom (monera, protista, fungi) with examples, their physiology and their connectivity to different kingdom.	Classifying organisms on the basis of hierarchy	The learner have learnt and understood about the structure, habitat, physiology, life cycle and economic importance of different organisms of Kingdom- Monera, Protista, Fungi, Plant kingdom. Learners have comprehended that basis of diversity is the adaptation evolved by organisms to survive in diverse environment in the face of competition for limited resources. Analyse and evaluate role of various microbes in the different products of our daily life. They were able to explore their critical thinking on systematics and were able to justify classifying different organisms on the basis of evolutionary and other relationships.	<ol style="list-style-type: none"> To study different parts of microscope and its working To observe different slides of the kingdom monera and protista and comment on it To observe different specimens and slides of kingdom Fungi and comment on it
7	Plant kingdom	thalophyta, bryophyta, pteridophyta, gymnosperm and angiosperm.	Classify and describe plant kingdom under different divisions. The students will be able to comprehend and relate how cryptogams and phanerogams plants differ in their life cycle.	Classifying organisms on the basis of hierarchy	Spotting Unit Test Assignment	To observe the different specimens of plant kingdom and comment on it 5. Spotting- To identify the given organism, classify, draw and write its significant characteristics
8	Animal kingdom	Students will be able to learn, understand the concept and classify Animal kingdom under different phylum porifera, cnidaria, ctenophore, platyhelminthes, aschelminthes, annelid, mollusca, arthropoda, echinodermata, chordata. They will explore their critical thinking by Connecting the lower forms of organisms to the higher forms which led to evolution.	<ol style="list-style-type: none"> To observe the different specimens of animal kingdom and comment on it Spotting- To identify the given organism, classify, draw and write its significant characteristics 	Classifying organisms on the basis of hierarchy	the learner have learnt and understood about the structure, habitat, physiology, life cycle and economic importance of different organisms of Kingdom Animalia. Learners have comprehended that basis of diversity is the adaptation evolved by organisms to survive in diverse environment in the face of competition for limited resources.	Spotting Unit Test Assignment
10	Morphology in flowering plants.	Students would be able to understand morphology and modifications: Internal Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed	KNOWLEDGE- <i>Students will know and understand</i> Morphology and modifications: Internal Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed SKILLS- <i>Students would be able to</i> Understand different modifications of root, stem and leaf according to functions Understand how to describe different types of	Smart class, spotting, observation of venation, aestivation, etc	Visit to a garden to study all the different parts of plants. Dissection of a flower and leaf	<ol style="list-style-type: none"> explain the modification stem? Define placentation. Differentiate between monocots and dicots. Make the floral diagram of family solanaceae.

			flowers. Understand how to write floral formula Understand how to draw floral diagram Competencies developed in students: collaborative learning, critical thinking and problem solving, character building, communication, citizenship			
13	Anatomy in flowering plants.	The Tissue System Anatomy of Dicotyledonous and Monocotyledonous Plants	Competencies developed in students: collaborative learning, critical thinking and problem solving, character building, communication, citizenship.	Observation, spotting, smart class	. Study of distribution of stomata in the upper and lower surface of leaves.	QUESTION ANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS. 2. DIAGRAMS PRACTICE
10	Structural organization in organisms	Animal tissues Frog morphology and anatomy.	Makes efforts to conserve environment realizing the interdependency and interrelationship in the biotic and abiotic factors of environment 4. Draws labeled diagrams, flow charts, concept maps, graphs and floral diagram	Observation, specimen observation, smart class	Study of tissues and diversity in shapes and sizes of plants and animals through permanent slides. Study of external morphology of cockroach through virtual images/models.	QUESTION ANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS. 2. DIAGRAMS PRACTICE
16	CELL: the basic unit of life.	Cell organelles Gram positive and gram negative Diagrams	Competencies developed in students: collaborative learning, critical thinking and problem solving, character building, communication, citizenship. 1. Describes contribution of scientists/researchers all over the world in systematic evolution of concepts, scientific discoveries and inventions in the field of biology based on historical scientific events/ timelines etc	Observation, spotting, smart class	Test for the presence of sugar, starch, proteins, fats in given plant and animal material.	QUESTION ANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS. 2. DIAGRAMS PRACTICE
17	Biomolecules	How to Analyse Chemical Composition? Primary and Secondary Metabolites Biomacromolecules Proteins Polysaccharides Nucleic Acids Structure of Proteins Enzymes	Draws labeled diagrams, flow charts, concept maps, graphs and floral diagrams 1. To develop scientific aptitude in the students. 2. To develop interest for biology in the students. 3. To develop observation capacity and respect to nature.	Diagrammatic skills Lab activity Smart class presentation	Prepare your notes with the help of textbook and class notes. Test for presence of urea in urine. sugar in urine. albumin in urine.. bile salts in urine	1. QUESTION ANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS 2. DRAW AND PRACTICE THE STRUCTURES OF VARIOUS BIOMOLECULES
8	Cell division and cell cycle	Cell Cycle M Phase Significance of Mitosis Meiosis Significance of Meiosis	Makes efforts to conserve environment realizing the interdependency and interrelationship in the biotic and abiotic factors of environment Relates processes and phenomena with causes and effects. Differentiates phenomena and processes based on certain characteristics.	Diagrammatic skills Lab activity Smart class presentation	Study of mitosis in onion root tip cells and animals cells (grasshopper) through permanent slides	QUESTION ANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS DIAGRAMS PRACTICE
16	Photosynthesis in higher plants.	Early Experiments Where does Photosynthesis take place?	1. To develop scientific aptitude in the students. 2. To develop interest for biology in the	Diagrammatic skills Lab activity Smart class presentation	Comparative study of the rates of transpiration in upper and lower surface of leaves	QUESTION ANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS

		How many Pigments are involved in Photosynthesis? What is Light Reaction? The Electron Transport Where are the ATP and NADPH Used? The C4 Pathway photorespiration Factors affecting Photosynthesis	students. 3. To develop observation capacity and respect to nature			DIAGRAMS PRACTICE
12	Respiration in plants.	Do Plants Breathe? Glycolysis Fermentation Aerobic Respiration The Respiratory Balance Sheet Amphibolic Pathway Respiratory Quotient	1. To develop scientific aptitude in the students. 2. To develop interest for biology in the students. 3. To develop observation capacity and respect to nature	Diagrammatic skills Lab activity Smart class presentation	Separation of plant pigments through paper chromatography	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS DIAGRAMS PRACTICE
7	Plant growth and development.	Growth Differentiation, Dedifferentiation and Redifferentiation Development Plant Growth Regulators PhotoperiodismVernalisation	1. To develop scientific aptitude in the students. 2. To develop interest for biology in the students. 3. To develop observation capacity and respect to nature	Diagrammatic skills Lab activity Smart class presentation	COLLECTION OF GRAPHS AND THEIR STUDY AND INTERPRETATION RELATED QUESTIONS	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS DIAGRAMS PRACTICE
10	Breathing and respiration	Respiratory Organs Mechanism of Breathing Exchange of Gases Transport of Gases Regulation of Respiration Disorders of Respiratory System	Uses scientific conventions, symbols, and equations to represent various quantities,units.	Diagrammatic skills Lab activity Smart class presentation	Techniques to be used: Quiz Daily Practice Problem MCQ Student -teacher interaction	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS DIAGRAMS PRACTICE
16	Body fluids and circulation	Blood Lymph (Tissue Fluid) Circulatory Pathways Double Circulation Regulation of Cardiac Activity Disorders of Circulatory System	Communicates the findings and conclusions effectively, such as, those derived from experiments, activities, and projects both in oral and written form using appropriate figures, tables, graphs, and digital forms, takes part in the discussions, argumentations etc	Diagrammatic skills Lab activity Smart class presentation	Techniques to be used: Quiz Daily Practice Problem MCQ Student -teacher interaction COUNTING THE PULSE IN ONE MINUTE	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS DIAGRAMS PRACTICE
17	Excretion and elimination	Human Excretory System Urine Formation Function of the Tubules Mechanism of Concentration of the Filtrate Regulation of Kidney Function Micturition Role of other Organs in Excretion Disorders of the Excretory System	Applies scientific concepts of Biology in daily life and solving problems	Diagrammatic skills Lab activity Smart class presentation	1. Make a well labeled diagram of human excretory system. 2. Explain glomerular filtration. 3. Briefly explain the working of nephron.	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS 2.DIAGRAMS PRACTICE
10	Locomotion and movement	Types of Movement Muscle Skeletal System Joints Disorders of Muscular and Skeletal System	Applies scientific concepts of Biology in daily life and solving problems	Diagrammatic skills Lab activity Smart class presentation	1. Explain the muscle contraction. 2. Differentiate between the sarcoplasm and sarcolemma. 3. How does the skeleton system work?	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS 2.DIAGRAMS PRACTICE
10	Neural control and coordination	Neural System Human Neural System Neuron as Structural and	Exhibits ethics and values of honesty, objectivity, rational thinking and freedom from myth and superstitious	Diagrammatic skills Lab activity Smart class presentation	1. Define CNS. 2. Differentiate between ANS and PNS. 3. What are reflex actions?	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS

		Functional Unit of Neural System Central Neural System Reflex Action and Reflex Arc Sensory Reception and Processing	beliefs while taking decisions. 6. Draws labeled diagrams, flow charts, tables, etc.		4. Differentiate between reflex arc and reflex action.	2.DIAGRAMS PRACTICE
15	Control and coordination.	Endocrine Glands and Hormones Human Endocrine System Hormones of Heart, Kidney and Gastrointestinal Tract Mechanism of Hormone Action	Exhibits ethics and values of honesty, objectivity, rational thinking and freedom from myth and superstitious beliefs while taking decisions. 6. Draws labeled diagrams, flow charts, tables, etc.	Diagrammatic skills Lab activity Smart class presentation	Techniques to be used: Quiz Daily Practice Problem MCQ Student -teacher interaction COUNTING THE PULSE IN ONE MINUTE	QUESTIONANSWERS FROM BACK EXERCISE OF NCERT BOOK AND NCERT EXEMPLAR QUESTIONS 2.DIAGRAMS PRACTICE

Class:

Subject:

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/PRACTICALS	OUTCOME
20	SECTION 1: EARLY SOCIETIES	1 Introduction: From the Beginning of Time Focus: Africa, Europe till 15000 BCE) (a) Views on the origins of human beings (b) Early societies (c) Historians' views on present-day gathering-hunting societies	<ul style="list-style-type: none"> Familiarize the learner with ways of reconstructing human evolution. Discuss whether the experience of present-day hunting-gathering people can be used to understand early societies. 	<p>Explanation of the chapter to Conway the students about the early societies from the beginning of the time.</p> <p>Analyzing the historical situations for the development of early societies.</p>	<p>Exercise from the chapter.</p> <p>Choose any two developments each from timeline 1 and 2 and indicate why you think these are significant.</p>	<ul style="list-style-type: none"> Analysis on the Darwin theory and evidences of progression in order to understand the stages of human evolution. Examine the realms of Feedback Mechanism in order to understand the anatomical and neurological development of human species.
15	2.Writing and City Life Focus: Iraq, 3rd millennium BCE	(a) Growth of towns (b) Nature of early urban societies (c) Historians' Debate on uses of writing	<p>Familiarize the learner with the nature of early urban Centre's.</p> <ul style="list-style-type: none"> Discuss whether writing is significant as a marker of civilization. 	<p>Explaining and analyzing the text and making students think about how early cities had been established ,how was their lifestyle and different aspects of early cities.</p>	<p>Exercise from the chapter.</p> <p>Compare and contrast different ancient civilizations.</p>	<ul style="list-style-type: none"> Compare and analyze the transformation from Neolithic to Bronze Age Civilization in order to understand the myriad spheres of human development. Elucidate the interwoven social and cultural aspects of civilization in order to understand the connection between city life and culture of contemporary civilizations. Analyze the outcomes of a sustained tradition of writing.
15	SECTION II : EMPIRES Introduction 3.An Empire across Three Continents Focus: Roman Empire, 27 BCE to 600 CE	(a) Political evolution (b) Economic Expansion (c) Religion-culture foundation (d) Late Antiquity (e) Historians' view on the Institution of slavery.	<ul style="list-style-type: none"> Familiarize the learner with the history of a major world empire Discuss whether slavery was a significant element in the economy. 	<p>Explanation of the chapter with a sense to convey the students about the major empire of the world.</p> <p>Using the map to show the extent of Roman Empire.</p> <p>Analyzing the impact of roman empire on the whole world.</p>	<p>Exercise from the chapter.</p> <p>Compare and contrast the roman empire with other great empires of the world.</p>	<ul style="list-style-type: none"> Explain and relate the dynamics of the Roman Empire in order to understand their polity, economy, society and culture. Analyze the implications of Roman's contacts with the subcontinent Empires Examine the domains of cultural transformation in that period.

15	4. Central Islamic Lands Focus: 7th to 12th centuries	(a) Polity (b) Economy (c) Culture (d) Historians' viewpoints on the nature of the crusades	<ul style="list-style-type: none"> Familiarize the learner with the rise of Islamic empires in the Afro-Asian territories and its implications for economy and society. Understand what the crusades meant in these regions and how they were experienced. 	<p>Explaining the rise and expansion of Islam all over the world.</p> <p>Explaining and analyzing the different aspects of central Islamic lands.</p>	<p>Exercise from the chapter.</p> <p>Critically examine the characteristics of central Islamic lands.</p>	<ul style="list-style-type: none"> Explain the relationship between livelihood patterns and the geographical condition of the area inhabited by the tribes and the nomadic pastoralists Describe the arenas of Islam in reference to its emergence, rise of Caliphate and Empire building. Analyze the causes, events and effects of Crusades.
20	SECTION -III: CHANGING TRADITIONS Introduction 6. Three Orders. Focus: Western Europe 13th - 16th century	(a) Feudal society and economy (b) Formation of state (c) Church and society (d) Historians' views on decline of feudalism	<ul style="list-style-type: none"> Familiarize the learner with the nature of the economy and society of this period and the changes within them. Show how the debate on the decline of feudalism helps in understanding processes of transition. 	<p>Explaining the traditional changes during the medieval period.</p> <p>Explaining and analyzing the three orders of the society.</p>	<p>Exercise from the chapter.</p> <p>Compare and contrast the three orders of the society on different aspects of life.</p>	<p>Explain the myriad aspects of feudalism with special reference to first, second, third and fourth order of the society.</p> <ul style="list-style-type: none"> Relate between ancient slavery and serfdom Assess the 14th century crisis and rise of the nation states.
15	5. Changing Cultural Traditions Focus: Europe 14th -17th century	(a) New ideas and new trends in literature and arts (b) Relationship with earlier ideas (c) The contribution of West Asia (d) Historians' viewpoint on the validity of the notion 'European Renaissance'	<ul style="list-style-type: none"> Explore the intellectual trends in the period. Familiarize students with the paintings and buildings of the period. 	<p>Explaining the cultural changes in the end of medieval period and post medieval period.</p> <p>Tracking the special features of Renaissance.</p>	<p>Exercise from the book.</p> <p>What is true concept of humanism.</p> <p>What is renaissance and how is it different from medieval period.</p>	<ul style="list-style-type: none"> Analyze the causes, events, and effects of the Renaissance, Reformation, Scientific Revolution, and Age of Exploration. Relate the different facets of Italian cities to understand the characteristics of Renaissance Humanism and Realism. Compare and contrast the condition of women in the Renaissance period. Recognize major influences on the architectural, artistic, and literary developments in order to understand the facades of Renaissance.
15	6. Displacing Indigenous People Focus: North America and Australia, 18th to 20 th century	a) European colonists in North America and Australia (b) Formation of White Settler societies (c) Displacement and repression of local people (d) Historians' viewpoint on the impact of European settlement on indigenous population	Sensitize students to the processes of displacements that accompanied the development of America and Australia. • Understand the implications of such processes for the displaced populations.	<p>Explaining the reasons of the displacement of different indigenous people from North America and Australia.</p> <p>Comparative analysis of different indigenous people.</p>	<p>Exercise from the chapter.</p> <p>How was the world of indigenous people different from modern world.</p>	<ul style="list-style-type: none"> To analyze the realms of settlement of Europeans in Australia and America. Compare and contrast the lives and roles of indigenous people in these continents.
20	7. Paths to Modernization Focus: East Asia, late 19th to 20th century.	(a) Militarization and economic growth in Japan (b) China and the communist alternative (c) Historians' Debate on the meaning of modernization	<ul style="list-style-type: none"> Make students aware that transformation in the modern world takes many different forms. Show how notions like 'modernization' need to be critically assessed 	<p>Explaining the idea of modernization and comparing it with medieval and ancient world.</p> <p>Analytical and critical study of the world.</p>	<p>Exercise from the book.</p> <p>Explain the path of modernization in detail.</p>	<p>Deduce the histories of China and Japan from the phase of imperialism to modernization</p> <ul style="list-style-type: none"> Explore the Japanese political, cultural and economic system prior to and after the Meiji Restoration. Analyze the domains of Japanese nationalism prior and after the Second World War.

CLASS : XII

CLASS: XII
SUBJECT: ENGLISH

Month & Working Days	Theme/ Sub-theme	Learning Objectives		Activities & Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application Based)			
March-21	Flamingo-P-1-My Mother at 66 -The poem reveals the fact of ageing as a natural process close to the hearts of all humans the fear of losing a parent. It captures the complex subtleties of human relationships in a texture of symbols, images and poetic devices.	To enable the students to i) realise that ageing is a natural process and is going to envelope one and all. ii) understand that the compulsion of life where one has to forego one relation for another due to the demands and social and personal obligations. iii)comprehend the poem. iv) identify the figures of speechand enhance their vocabulary. v)appreciate the theme and the style of writing of the poet. vi) understand the complexities of human life.	To enable the students to i) imbibe values like care and concern, sharing loneliness, love and affection ii) understand the importance of near and dear ones iii) develop their views on inescapable ageing, decay and ultimate death iv) realise and fulfill their duties towards the elders inspite of being busy in the fulfillment of their own desires and aspirations of life.	1.Warm up questions- -Ageing is a natural process. What do our parents want from us? -What should be our priorities in life? -Can we help our elders in keeping them away from loneliness? -Audio of the poem	Students will be able to i)read the poem with proper expressions, pauses and voice modulation. ii) comprehend the poem. iii)understand and find out the figures of speech in the poem. iv)understand and share the loneliness of aged. v) understand the importance of our duties towards the elderly people.	1. Assignments 2. Comprehension questions will be asked to test the understanding. -Why did the poet use the device of repetition in _and all I did was to smile, smile and smile‘? 3. Textual exercises/ RTC/ Literary devices - Worksheet

	<p>Flamingo- L-1- The Last Lesson— The story depicts the pathos of the whole situation about how people feel in not learning their language and losing an asset in M. Hamel, the French teacher. It also highlights linguistic chauvinism.</p>	<p>To enable the students to- i) comprehend the story. ii) understand, enjoy and appreciate a wide range of text (different genre) iii) understand the meaning and usage of phrases and statements iv) understand the need for preserving one's language v) understand linguistic chauvinism and its effects vi) change their lackadaisical attitude towards their mother tongue</p>	<p>To enable the students to -inculcate the values of concern, devotion, realisation of truth, respect and patriotism -understand that language is a key to prison -be sincere and serious in doing work as you never know when it would be a last opportunity to avail -respect and safeguard one's mother tongue</p>	<p>Warm up questions i) How would you react when you come to know that your mother tongue is snatched from you? ii) Would you repent for not being sincere towards learning your mother tongue? iii) War of any kind kills humanity but ironically on the other hand unites people to lend their helping hands and strengthen the patriotic feelings. Justify -Audio of the lesson</p>	<p>Students will be able to- i) understand that language is a key to prison ii) know the meanings of new phrases iii) know the importance of mother tongue iv) understand the wastefulness of war v) enhance thinking, analytical, literary skills vi) understand linguistic chauvinism.</p>	<p>i) Assignments ii) Comprehension questions Write a note on the character of M. Hamel as a teacher? Write a note on 'Mother tongue is the language of one's thoughts and ideas' and 'Rejecting one's mother tongue is denying one's own culture and identity.' -Recall one moment/ task/incident when you procrastinated learning and later felt sorry for your lackadaisical approach. Design methods plan / steps /to do away with this casual approach. - Worksheet iii) Textual questions/ Extra questions/ Assignments/ Character sketches</p>
	<p>Flamingo-L-2-Lost Spring The chapter is about the exploitation of children in hazardous conditions. It highlights abject poverty,</p>	<p>To enable the students to- i) communicate their ideas with a lot of conviction. ii) appreciate the theme and the message conveyed.</p>	<p>To enable the students- i) to inculcate values like empathy, responsibility, care and concern. ii) observation of the</p>	<p>Warm up questions- Activity (to introduce the lesson) i) Discussion on- Classroom discussion on-</p>	<p>Students will be able to- i) analyse that there are millions of children experience no spring in their lives, for their childhood is consumed in making a living</p>	<p>1. Assignments 2. Comprehension questions will be asked to test the</p>

<p>thoughtless traditions, loss of innocence, importance of education, back breaking hardwork and dismal working conditions. The chapter is about the acceptance of poverty, exploitation as destiny and a dire need to provide the poverty-stricken people, especially the children, a life of dignity and opportunities to dare, dream and do.</p> <p>UN Sustainable Goals to be discussed: 4. Quality Education – Students will gain insight into the problems of slums and refugees where the children also work to support parents</p>	<p>iii) sensitizes the reader to the miserable plight of the poorest of the poor iv) understand the urgent need to end the vicious circle of exploitation through education, awareness, co- operative organization and empowerment v) focus on the use of figures of speech in writing. vi) use appropriate vocabulary and expressions vii) realise that education, play and pleasure are not for poor children .</p>	<p>paradoxes in the society we live in. iii) create social awareness iv) understand the plight of street children forced into labour early in life. v) know the importance of education and knowledge.</p>	<p>Dreams of the poor and the reality Problems of child labour, Education is the only weapon to better the lot. – the plight of street children forced into labour early in life and denied the opportunities of schooling -Video on rag pickers and hazards of working in bangle industry -Audio of the lesson</p>	<p>ii) understand the miserable plight of street children forced into labour early in life iii) understand that they are denied the opportunity to go to school. iv) understand the vicious circle of social stigma, poverty and exploitation v) analyse that there is lack of compassion, empathy and commitment for the upliftment of these children of the weaker society</p>	<p>understanding. -Would you agree that promises made to poor children are rarely kept? Why do you think this happens in the incidents narrated in the text? - Do you think Saheb is happy working at the tea stall? -Work sheet based on the lesson 3. Textual exercises/ RTC/ Literary devices</p>
<p>Flamingo- L-3- Deep Water- A real life personal account of experiencing fear and the steps to overcome it. The experience of fear and its conquest made him live intensely. He enjoyed every moment of his living. Writing Skills- Invitations Revision</p>	<p>To enable the students to- i) understand first person narrative style ii) understand phrases/catchy lines from the text iii) analyse the difficult situation and act accordingly and to understand another person's experience (Decision Making) iv) know various kinds of water sports and their importance v) gain knowledge about various types of phobias</p>	<p>To enable the students to i) imbibe values like courage, optimism, self- confidence, patience ii) develop positive attitude towards life iii) cope up the challenges and stand against all odds iv) share views on personal experience to overcome fear v) know the importance of decision making and determination in adverse circumstances</p>	<p>1. Warm up questions- Activity (to introduce the lesson) a)What all adventurous activities you performed? b) Narrate your personal experience to overcome fear. c) Brief up about the author d) Name diff types of phobias Activity(tosupport learning) 1. A clipping on water sports will be shown for understanding the lesson. 2.PowerPoint presentationwith narration 3.William Douglas did manage to overcome his fear of water but part of the credit also goes to his teacher who played an important part in making this happen. How can learning be made more effective?</p>	<p>Students will be able to- i) appreciate/comprehend the text ii) understand that most challenging situations could be overcome with immense courage and determination iii) know various types of water sports and phobias v) understand that there is terror only in the fear of death and at death there is peace v) understand the first person narrative style</p>	<p>1. Assignments 2. Comprehension questions - Express your views on--There is terror only in the fear of death. -All we have to fear is fear itself. -Discuss- Determination, courage as well as honest efforts win over all terror.' 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>

<p>APRIL 21</p>	<p>Vistas- L-5- Evans Tries an O-Level- The story depicts a class of wit between a criminal and the law enforcing authorities in which the prisoner Evans befools the jail authorities and manages to escape from the prison. The governor fails to revoke the escape plan of Evans and proves himself to be good for a giggle gullible governor.</p>	<p>To enable the students to- i) understand, enjoy and appreciate a wide range of text ii) understand the use of humour to lighten the seriousness of the tone iii) know the phrases and vocabulary used in the text iv) understand that there exists a constant battle of wits between crime and punishment v) understand that one should not jump on to the conclusions without verifying the facts vi) understand that the criminal often gains an advantage over his keepers because of his keen observation of their weaknesses</p>	<p>To enable the students to i) assess the social milieu ii) know multidimensional approach to the problem iii) understand the gravity of the situation and act accordingly iv) imbibe values of patience, trust, faith and confidence v) use wisdom and wit for solving the problem vi) know that presence of mind helps in decision making in adverse situations</p>	<p>1.Warm up questions- Activity (to introduce the lesson) i) Should criminals in prison be given the opportunity of learning and education? Can education bring any reform? ii) The prison staff often develops a soft corner for those in custody? Do you agree? iii) Audio part -1 of the lesson will be shared</p>	<p>Students will be able to- i) develop the skills required in managing situations ii) understand the multidimensional approach to the problem iii) have confidence and presence of mind in adverse circumstances iv) understand that one should not jump on to the conclusions without verifying the facts vii) understand the strengths and weaknesses of the opponent.</p>	<p>1. Assignments 2. Comprehension questions -Does that final act of foolishness really prove that he was just another good-for-a-giggle, gullible governor? 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>
	<p>Vistas-L- 2- The Enemy An American prisoner of war is washed ashore in a dying state and is found at the doorstep of a Japanese doctor. Dr.Sadao encounters the dilemma-to live as a private individual whose moral ethical responsibility is to save the soldier or to let the prisoner die..</p>	<p>To enable the students to- i)comprehend the chapter. and to enhance their vocabulary. ii) communicate their ideas with a lot of conviction. conveyed. iii) analyse the situations and characters of the chapter. iv) understand that there are moments in life when we have to make a hard choice between our role as private individuals and as citizens with a sense of national loyalty. v) understand the conflict between man's inherent humaneness and the hatred and prejudices created by pseudo-nationalism and war. vi) understand the dilemma of a doctor to take a decision.</p>	<p>To enable the students to- i) inculcate values like care and concern, fulfilling duties, compassion, humaneness in war, responsibility, patriotism and equality. ii) focus on the importance of fulfilling duties. iii) understand the importance of being humane. iv) inculcate the feeling of patriotism. v) create a balance between personal choices and responsibilities. vi) recognise character traits vii) analyze the various situations to take appropriate decisions</p>	<p>1.Warm up questions- i) Discussion on-Should we hate our enemy if he is in the death trap or should we save? ii) Is it justifiable to hate an enemy during wartime?</p>	<p>Students will be able to- i) conclude that people of the world are inherently the same despite the differences in colour, culture and nationalities. ii) realize that war and narrow – nationalism can shuffle human feeling of love and compassion and turn friends and fellow human beings into enemies.</p>	<p>1. Assignments 2. Comprehension questions. i) What explains the attitude of the General in the matter of the enemy soldier? Was it human consideration, lack of national loyalty, dereliction of duty or simply self-absorption? 3. Textual exercises/ Character sketches/ RTC/ Value based questions</p>

	<p>Vistas- L-2- The Tiger King- The story is a satire on the conceit of those in power. The writer has used the literary devices of dramatic irony and humour to create this effect. The story spans from the birth of</p>	<p>To enable the students to- i) understand, enjoy and appreciate a wide range of text (different genre) ii) understand the use of literary devices to make the story humorous and interesting.</p>	<p>To enable the students to - inculcate the values of empathy, courage, kindness and sacrifice -understand that whimsical decisions may prove disastrous.</p>	<p>1. Warm up questions- Activity (to introduce the lesson) a) How many of you believe in astrology? Would you prove or disprove astrology predictions? Why/Why not? b) How many of you follow the dictum ‘Live and let others live’? c) If you become a king would you prefer ruling your state and discussing on important issues or indulge in petty issues and feel conceited? -Discussion about wild life and extinction of tigers -Video on Royal Bengal Tiger</p>	<p>Students will be able to- i) understand that there is a need of a new system for the age of ecology ie. a system which is embedded in the care of all people and also in the care of the Earth and all life upon it. ii) know use of dramatic irony to create humour</p>	<p>1. Assignments 2. Comprehension questions - Would you run after fulfilling your whimsical vow at the cost of other living creatures?</p>
	<p>tiger king to death covering all the landmarks connected with his passion-tiger-hunt.</p>	<p>iii) understand the political scenario during the British rule. iv) understand the Science of astrology. v) sensitize people towards wildlife vi) gain insight into today’s political order vii) understand general attitude of human beings towards wild animal</p>	<p>- judge the consequences of sycophancy - understand that one should not be conceited especially those who are in power. - understand that subjecting innocent animals to the wilfulness of human beings is an injustice.</p>		<p>iii) have insight into political order. iv) understand that it is inappropriate to prove or disprove astrological predictions</p>	<p>- Explanation of the story by focusing on dramatic irony and elements of humour. 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>

<p>May 25</p>	<p>Flamingo-P-2- An Elementary School Classroom in a Slum- The poem highlights the harsh realities of life as experienced by the slum children. It is based on the theme of social injustice and class inequalities prevailing in the society, effect of social disorder, confusion, chaos and poverty. UN Sustainable Goals:(To be discussed) 5.Quality Education – education to enhance the children with skills and knowledge for a better living</p>	<p>To enable the students to- i) read with proper voice intonation and pauses. ii) comprehend the poem. iii) identify the figures of speech. iv) enhance their vocabulary. v) appreciate the simple and lucid style of the poet along with the use of figures of speech. vi) appreciate the use of imagery and symbols by the poet. vii) describe the pathetic and miserable condition of the slum children. viii) understand the theme of social injustice and class</p>	<p>To enable the students to- i) inculcate values like - appreciate what they are blessed with, care and concern for the deprived people of the society, sympathise with the situation the slum children are in, help people in need, selfless deeds ii) understand the value of education iii) understand the pathetic condition of the slum children iv) know the importance of the bounties of nature</p>	<p>1.Warm up questions- Activity: (to introduce the lesson) i)Discussion on ‘Importance of Education’. ii) Brief up about the author - Discussion based on the condition of the people living in the slums./ Activity: (to support learning) Power Point Presentation based on the poem. i)The walls of the classroom are decorated with the pictures of ‘Shakespeare’, ‘buildings</p>	<p>Students will be able to- i) read effectively with proper voice intonation and modulation. ii) understand the figures of speech used in the poem. iii) identify the rhyming scheme. iv) convey the message to the educated and affluent sections of the society to better the lot of slum children whose only hope is education. v) understand that these children must be provided opportunities to experience the beauty and joy of life and learning. vi) understand the theme of social injustice and class inequalities prevailing in the society. vii) understand that better</p>	<p>1. Assignments 2. Comprehension questions i)What does the poet want for the children of the slums? How can their lives be changed? -Summary to be given 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>
	<p>10.Reduce inequalities – eradicate social injustice and class inequalities</p>	<p>inequalities prevailing in the society. ix)analyse that the right exposure, education and social transformation is important for the liberation of the slum children from the shackles of poverty. x) understand that better opportunities should be provided to the slum children to lead dignified lives as human beings.</p>	<p>v) importance of good mental and physical health vi) make the best use of opportunities given to them.</p>	<p>with domes’, ‘world maps’ and ‘beautiful valleys’. How do these contrast with the world of these children? ii) Bring out the scene of dejection and despair</p>	<p>opportunities should be provided to the slum children to lead dignified lives as human beings</p>	

<p>Flamingo- P-3- Keeping Quiet-- The poet wants to convey that stillness is necessary for reflection and quiet introspection. We can hear the voice of our conscience and thus withdraw ourselves from undesirable actions and contribute to create a society of peace and mutual understanding.</p> <p>UN Sustainable Goals- (to be discussed) Peace, Justice and strong</p>	<p>To enable the students to-</p> <p>i) evoke subjective responses to the language of poetry.</p> <p>ii) appreciate the images and symbols.</p> <p>iii) understand the critical appreciation of the poem based on rhyme, content, theme, genre and literary elements</p> <p>iv) appreciate the beauty of language and understand the rhyme scheme</p> <p>v) know about the poet and his work/genre</p>	<p>To enable the students to</p> <p>-inculcate values like concern, care for each other, patience and responsibility</p> <p>-bring all evil thoughts to an end and bring in a new life of peace and tranquility.</p> <p>-think critically, understand not to harm others</p> <p>-remain quiet and still be productive and active</p>	<p>1.Warm up questions- Activity (to introduce the lesson)</p> <p>-Importance of meditation</p> <p>Students will be asked to remain completely silent in meditation</p> <p>Then they will be asked how exotic this stillness was and were they able to do. Activity(tosupport learning)</p> <p>Share the level of stress you (the students) go</p>	<p>Students will be able to</p> <p>i) know about the poet and his work understand the critical appreciation of the poem</p> <p>ii) understand that introspection makes us find our flaws and give us the opportunity to rectify them</p> <p>iii) think critically, understand not to harm others, remain quiet and still be productive and active</p> <p>iv) appreciate the images and symbols.</p> <p>v) understand the critical appreciation of the poem based on rhyme, content, theme, genre and</p>	<p>1. Assignments</p> <p>2. Comprehension questions</p> <p>-How does the poet distinguish ‘_stillness’ from ‘_total inactivity’? Explain.</p> <p>I —I want no truck with death.¶ Explain -Where ‘_pun’ has been used in the poem?</p>
<p>institutions- Students will develop positive attitude towards life as everyone will try to be still for a moment and would introspect.</p>	<p>vi) experience the moment of realization and peace.</p> <p>vii) learn from the earth when everything seems dead, the earth still remains alive</p> <p>viii) understand life is an ongoing process and should not be associated with death. It is to be lived with positive attitude.</p>	<p>-put away their evil thoughts, solve problem by introspecting</p>	<p>through due to the pressure from parents, teachers, school and coaching classes. -Students will be shown videos how during covid-19 threat when human activities stood still, the Earth began to heal, regenerate .This would make them understand what damage the technological advancement was leading to. https://www.youtube.com/watch?v=6falIraXCg0</p> <p>https://www.youtube.com/watch?v=TEluXoaq4uQ</p>	<p>literary elements</p>	<p>3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>

	<p>Flamingo-L4.The Rattrap- The story has a universal theme that the essential goodness in a human being can be awakened through understanding and love.</p>	<p>To enable the students to- e i) understand, enjoy and appreciate not only entertaining but also philosophical text ii) understand the use of literary devices to make the story humorous and interesting iii) understand everyone should get a second chance to improve oneself iv) understand that kindness and hospitality awaken</p>	<p>To enable the students to- - values like generosity, love, understanding, trust, care concern, redemption and confession -understand <u>an Eye for an Eye</u> will make the whole world blind. 'gain insight into life --show kindness as kindness is contagious put humour in life as boredom sets in with monotony</p>	<p>1.Warm up questions- Activity(To introduce the lesson) -How many of you watch Tom and Jerry show? Have you ever seen Tom caught in a rattrap? -Is loneliness good if you have target in life? - Are you tempted by any thing in life or have you fallen to any of the temptation which made</p>	<p>Students will be able to- i) understand that humour is the spice of life ii) become compassionate and helpingdevelop a flair for reading different genre iii) understand everybody must get a chance to undo the wrong he did iv) understand not to be revengeful rather have a different approach to deal with the persons and awaken him have a better understanding of literary devices</p>	<p>1. Assignments 2. Comprehension questions -How close do you find yourself to the protagonist of the story? -Do you find people like Edla in the society? How could one play a pivotal role in awakening the essential goodness in a person?</p>
		<p>conscience vi) know the meaning of phrases used in the lesson</p>	<p>-understand that sharing lightens the burden and helps in overcoming loneliness</p>	<p>you do even wrong? - Monologue on understanding your faults and its redemption</p>		<p>-How can you explain metaphor using the title of the story 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>
<p>JUNE 17</p>	<p>Flamingo- L- 5-Indigo The lesson is based on the leadership shown by Mahatma Gandhi to secure justice for oppressed people through convincing argumentation and negotiation. It also mentions the contributions made by anonymous Indians to the freedom movement.</p>	<p>To enable the students to i) know the vocabulary used in legal procedures ii) understand the qualities of a leader and about role of Gandhiji in freedom movement iii) know about different freedom fighters in the text. iv) know fundamental rights v) know the sacrifices and sufferings of people for gaining freedom</p>	<p>To enable the students to i)imbibe empathy, confidence, self-respect, honesty, integrity, self- reliance, truthfulness, patience ii) importance ofdecision making in adverse circumstances iii)understand that freedom is priceless and one should respect it v) know the importance of health and hygiene</p>	<p>Warm up questions Activity(To introduce the lesson) -List some characteristics of a leader. -What efforts our leaders took to meet the challenges due to deadly corona virus? c) How were people motivated towards positivity during the outbreak of virus in our country? 2. Brief up about other freedom fighters who had contributed for the freedom struggle. Activity(to support learning) i)Some people in America and Australia opposed lock down</p>	<p>Students will be able to ii) get acquainted with the legal vocabulary ii) understand the role of a leader iii) understand the importance of rights iv) know the sufferings and contributions of freedom fighters v) understand that freedom from fear is a prerequisite for justice vi) take initiative with a sense of responsibility and confidence</p>	<p>1. Assignments 2. Comprehension questions -Textual questions/ Extra questions/ RTC</p>

				during the outbreak of virus as they felt it is against their rights. Some thought of economy crisis. Do you think they were right? 2. A video on the lesson will be shown to the students.		
	<p>Flamingo-L-6-Poet and Pancakes -the author talks about the Gemini studios which was set up in Chennai .It was one of the most influential film producing organizations of India in the early days of Indian film making .Its founder was SS Vasan ..He talks about the pancakes which was the brand name of the make up material that Gemini Studios bought in truck loads. He also talks of the poets who frequently visit Gemini Studios.</p>	<p>To enable the students to- -comprehend the chapter</p> <ul style="list-style-type: none"> - enhance their vocabulary and expressions - communicate their ideas regarding the Indian Film Industry. -enhance their knowledge of the events and personalities in a film company in the early days of Indian cinema. -know about the poets and writers in a film company environment. -gain knowledge of the famous Gemini Studio and its emblem. -get a better insight of the various characters working in the studio. - understand the problems of human relationship in the studio. -analyse that in the studio the people from different regions 	<p>To enable the students to</p> <ul style="list-style-type: none"> -arouses the curiosity because there seems to be no connection between the two word - poets and pancakes. -appreciate the style of writing the chapter. - inculcate values like sincerity, dedication and being focussed. - make the best use of creativity and talent. - express effectively -understand that ambition leads to success 	<p>Warm up questions- Activity (to introduce the lesson) A class room discussion based on – Today’s film technology compared with that of the early days of Indian cinema. --Narrate a humorous piece about the idiosyncrasies of some interesting characters in your neighbourhood or elsewhere. Activity(To support learning) _Humour creates interest and attraction brings out the hidden talent of the character through the writer’s creation‘ – Discuss. - The author has used gentle humour to point out human foibles. Pick</p>	<p>Students will be able to-</p> <ul style="list-style-type: none"> -analyse the working conditions and people involved in the studios. - understand that there was a great deal of national integration. -understand the use of talent and creativity at its best. -analyse that good poetry and music are the deciding factor in the popularity of the film. -gain knowledge of Gemini Studios and the people from different regions and religions working together. 	<p>Assignments Comprehension questions i) Why was KothamangalamSubb u considered No.2 in Gemini Studios? iii) Textual questions/ Extra questions/ Value based questions/ Character sketches</p>
		and religions working together presented a glimpse of national integration. - understand the humour and satire.		out instances of this to show how this serves to make the piece interesting. (Relational)- How does the author describe the incongruity of an English poet addressing the audience at Gemini Studios?		
REVISION of INVITATIONS and REPLIES						

<p>JULY 26</p>	<p>Flamingo-L-7-The Interview The interview as a communication genre. 'The Interview' written by Christopher Sylvester briefs the new invention-Part I- Interview in the field of journalism. Part II -is an extract from an interview of Umberto Eco, author of the popular novel, 'Name of the Rose' by MukundPadmanabhan from 'The Hindu.' This interview helps us know many aspects of his writing style and ideas.</p>	<p>To enable the students to i) understand interview as communication genre ii) enjoy an excerpt from an interview with an author iii) express personal opinion on the interview genre iv) know the opinions of eminent people about interview v) understand that the interview holds a position of unprecedented power and influence.</p>	<p>To enable the students to i) compare different media of communication ii) understand the conversation and the interview pattern iii) understand the art of questioning and answering skills iv) understand that confidence is one of the important ingredient of interview v) understand the challenges faced by reporters and journalists</p>	<p>Activity (to introduce the lesson) 1. Warm up activity How should one prepare for the interview? Activity (to support learning) -Discussion about the interviews of famous personalities watched by you. -What role did reporters/journalists play during the outbreak of deadly corona? What all challenges did they face during the lock down? . What impact does the interview of the renowned person create on others? -Excerpts from the interviews of famous personalities</p>	<p>Students will be able to i) express personal opinion on the interview genre ii) know the opinions of eminent people about interview iii) understand that the interview holds a position of unprecedented power and influence. iv) learn the Analytical skills, Thinking skills, Observatory skills, Interviewing skills v) enjoy an excerpt from an interview with an author</p>	<p>i) Assignments ii) Comprehension questions iii) Textual questions</p>
	<p>Flamingo- P-4-A Thing of Beauty- A taste of classical poetry with universal appeal and eternal value. The natural bounties are all beautiful things which fill us with joy and remove the gloom in life</p>	<p>To enable the students to i) understand the critical appreciation of the poem based on rhyme, content, theme, genre, literary elements ii) identify the figures of speech used in the poem iii) appreciate the beauty of language iv) know about the poet and his work/genre v) understand that the thing which give us happiness is beauty vi) sensitize the learners towards environment</p>	<p>To enable the students to i) inculcate values like peace, contentment, respect, care and concern ii) understand that beautiful things/moments are worth treasuring as they leave an everlasting impression on the minds of people iii) know that inner beauty is important rather than the outer one iv) understand that nature provides respite from sorrows v) understand the benefits of nature walk</p>	<p>1. Warm up questions- Activity (to introduce the lesson) a) What is beauty according to you? b) Brief up about the poet. Activity(to support learning) 1. Do we experience things of beauty only for short moments or do they make a lasting impression on us? 2. What do you think - 'Beauty dwells outside or within?' Skills- Creative/aesthetic skills, analytical skills, thinking skills, imaginative skills, reasoning / logical skills</p>	<p>Students will be able 1. to understand the critical appreciation of the poem 2. to understand that beauty dwells inside us and gives us happiness 3. to appreciate and admire the beauty of nature 4. to understand varied definitions of beauty 5. to learn from the stories of great people</p>	<p>1. Assignments 2. Comprehension questions - 'What do you think - 'Beauty dwells outside or within?' 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>

	<p>Flamingo- P- 5- Aunt Jennifer's Tigers The poem consists of three quatrains which expose the desolating effects of patriarchy. The poem showcases a fair interplay between rebellion and repression, individual and the social and between personal and political aspects of male chauvinism and suffocation in a married life. UN Sustainable Goals- 5- Gender Equality</p>	<p>To enable the students to i) understand the critical appreciation of the poem based on rhyme, content, theme, genre and literary elements ii) appreciate the beauty of language and understand the rhyme scheme iii) know about the poet and his work/genre iv) visualise the constraint of married life experienced by a woman. v) evoke feelings/ sympathy for victimised homemakers. vi) evaluate the situation and find solutions to domestic violence. vii) understand that equal status should be given to man and woman</p>	<p>To enable the students to -inculcate values like sympathy, confidence, patience and empathy -understand that women-folk is a respectable entity and deserves due respect. face such unforeseen oppressions boldly raise voice against patriarchy and have individuality.</p>	<p>1. Warm up questions- Activity (to introduce the lesson) a) Do you think '_happily married' is an oxymoron? Why/ Why not? - In Miss Universe Pageant 1994 Sushmita Sen was asked —What for you is the essence of being a woman? She replied, Being a woman is the gift of God. The origin of a child is its mother who is a woman. The women share the love with men and teach them what love, caring and sharing are all about . What according to you is the place of women in present day society? -Comment on '_Marriage is a blissful state'. -PPT will be shown for retaining literary devices. deo on small scale male chauvinism in present scenario(UN Sustainable Goal 5) ps://www.youtube.com/wat ch?v=PMueJh9sCP8</p>	<p>Students will be able to- i) understand the critical appreciation of the poem ii) understand that man and woman are equal iii) empathise with the victims of male chauvinism iv) be prepared to face such oppressions boldly v) raise voice against domestic violence vi) understand that females even have inherent desires and they deserve freedom: mental and emotional both</p>	<p>1. Assignments 2. Comprehension questions -How would you feel if female members of your family are oppressed? 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>
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<p>AUGUST 20</p>	<p>Flamingo-Poem- 5 -A Roadside Stand- Brief Description-Robert Frost presents the lives of poor deprived people with pitiless clarity and with the deepest sympathy and humanity. The poor people had constructed a roadside stand to sell their products and earn a living but the rich do not even bother to take a look at it. UN Sustainable Goals-Reduce inequalities – eradicate social injustice and class inequalities (to be discussed)</p>	<p>To enable the students to</p> <ul style="list-style-type: none"> i) read with proper voice intonation and pauses. ii) comprehend the poem and enhance the vocabulary iii) identify the figures of speech. iv) understand the problems of rural folks v) know about the sufferings of people managing the roadside stand 	<p>To enable the students to</p> <ul style="list-style-type: none"> i) analyse that the poet has aroused his feelings of sympathy, disgust and anger ii) contribute for the development of villages in terms of education, health and sanitation iii) show the care and concern for the people who put up the roadside stand iv) understand the contrast between the lives of rich and poor 	<p>1. Warm up questions Activity (to introduce the lesson) -Introduction about the poet - Have you ever stopped at the roadside stand while travelling? List your observations. The economic wellbeing of a country depends on a balanced development of the villages and the cities. Discuss. Activity (to support learning) -How do the government and other social service agencies help the poor rural people? Through this poem, Frost underlines his sympathy for the rural people in opposition to the uncaring capitalistic elite. Justify.</p>	<p>Students will be able to</p> <ul style="list-style-type: none"> i) understand the contrast between the lives of rich and poor ii)acquaint themselves with the world around them iii) learn not only from books but from the examples around them iv)comprehend the poem and enhance the vocabulary v) identify the figures of speech vi) understand that the economic well-being of a country depends on a balanced development of the villages and the cities 	<p>Assignments i)Comprehension questions ii)Textual /RTC -Summary will be given</p>
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	<p>Flamingo-L-8- Going Places- The story of an incurable dreamer and an escapist who belongs to a lower middle class family and indulges in fantasizing and hero worship. It also focuses on the complexities of human relationships among different members of a family.</p>	<p>To enable the students i) to understand that hard work is required to dream ii) to differentiate between unrealistic and realistic dreams iii) to understand that fantasizing can lead to failure iv) to understand the complexities of human relationships among different members of a family</p>	<p>To enable the students to i) have respect for elders and family, patience and perseverance, truthfulness, faith ii) differentiate between realistic and unrealistic dreams iii) understand the strength of family bond. iv) understand the relationships and financial problems in the family v) know the advantages and disadvantages of fantasizing and hero worship</p>	<p>1. Warm up questions- (To introduce the lesson) i) Discuss about your favourite game. ii) List the countries known for football fever. Activity (to support learning) i) Express your views _Dreams are extremely important, you cannot achieve it unless you imagine it.' ii) Video on football and football player (mentioned in the lesson) will be shown to create interest in the lesson.</p>	<p>Students will be able i) to analyse the difference between realistic and unrealistic dreams ii) to compare their world of fantasy and reality iii) to understand that there is no substitute to hard work iv) to accept the reality in life and responsibility in the family v) to understand relationships/bonding in family</p>	<p>1. Assignments 2. Comprehension questions After reading the story, _Going Places', you were forced to compare your world of fantasy and reality. Recount your views to express yourself on _Fantasy World v/s Real World.' -Did Sophie really meet Danny Casey? -Which was the only occasion when she got to see Danny Casey in person? 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>
	<p>VISTAS- L.1- The Third Level-The story revolves around Charley, the protagonist, who claimed to find himself on the third level at the grand Central Station which the rail authorities swore doesn't</p>	<p>To enable the students to -understand how fantasy and reality can be interwoven -understand _waking dream wish fulfilment' concept -understand split personality</p>	<p>To enable the students to -accept the realities of life -avoid living in a fantasy world and find respite in the real world -be practical and acquire</p>	<p>Warm up questions- Activity (to introduce the lesson) -an interaction on fantasy and reality by giving examples of the movie Ra One and the reference of futuristic video games.</p>	<p>Students will be able to -identify and make connections between similar situations in own life experiences -understand the contrast between the fantasy world and real world -acquire realistic approach towards real life challenges</p>	<p>Assessment: Based on Bloom's Taxonomy i) Assignments ii) Comprehension questions: -Imagination is a _temporary refuge from reality' Explain.</p>
	<p>exist. The Third level refers to the world of fantasy where Charley used to visit as a temporary relief or a medium of escape from the world of harsh realities. Man achieves this by constantly moving between the past, the present and the future</p>	<p>and how one wanders from one world to another if he is insecure, fearful, tensed and worried -understand that one should not be an escapist rather accept the challenges of real life</p>	<p>realistic approach towards real life challenges -and acquire realistic approach towards real life challenges</p>	<p>-the title of the lesson would be open for class interpretation. -Brief up about the author Activity (to support learning) -Share- how could we escape insecurity, worry, stress and fear? Comment on the ending of the story. -Bring out the contrast between the world Charley lived in and the one that he strayed into.</p>		<p>- What differences did Charley observe at the third level of the Grand Central? iii) Textual questions/RTC</p>

<p>September 24</p>	<p>Vistas-L.3-Journey to the End of the Earth TishaniDoshi describes the journey to the coldest, driest and windiest continent in the world: Antarctica. The world's geological history is trapped in Antarctica. Geoff Green's 'Students on Ice' programme aims at taking high school students to the ends of the world. Doshi thinks that Antarctica is the place to go and understand the earth's present, past and future. UN Sustainable Goal - 13. Climate Action — The students will understand the</p>	<p>To enable the students to- -comprehend the chapter. enhance their vocabulary and expressions. - communicate their ideas regarding Antarctica. -understand that India and Antarctica at one point of time had been part of the same landmass. -understand that the breakup of Gondwana started the episode of a continental drift. - understand the significance of Cordilleran folds and pre- Cambrian granite shields. - gain knowledge of the 'Students on Ice' programme for high school students.</p>	<p>To enable the students to- -check and analyse the effect of increase of human population and climate change. -foster a new understanding and respect for our planet Earth. -understand that they are the future generation of policy makers. -show care and concern for the increase in the average global temperature and other species on the planet.</p>	<p>Warm up questions- Activity (to introduce the lesson): -Brief up about the author -Why do people go for expedition? -The students will be shown a video on 'Antarctica'. Activity (to support learning): Q1: How does the writer, TishaniDoshi, create a sense of distance between the rest of the world and Antarctica? -What are Geoff Green's reasons for including high school students in</p>	<p>Students will be able to- - understand that millions of years ago humans hadn't arrived and the climate was much warmer with a variety of flora and fauna. -know that the landmass disintegrated into countries shaping the globe. -understand that to study the Earth's past, present and future, Antarctica is the place – the World's geological history is in Antarctica. -analyse and evaluate the effect of human population and climate change. -understand that students are the future generation of policy makers. -evaluate that little changes in the environment can have more adverse</p>	<p>Assignment Comprehension questions – Textual questions/ Extra questions/ Value based questions/ Character sketches</p>
	<p>current situation of planet and study the factors responsible for it. They will also know the measures to be adopted to safeguard our planet. Their own solutions and ideas towards these issues will be encouraged.(to be discussed)</p>	<p>-understand the threat of global warming. -understand that Antarctica is the place to study about the repercussions due to the change in the environment.</p>		<p>the Students on Ice expedition? -Take care of the small things and the big things will fall into place.' What is the relevance of this statement in the context of the Antarctica environment? - How is Antarctica untouched as compared to the rest of the world?</p>	<p>effects. -analyse that further depletion in the ozone layer affects the life on earth. - understand that if the small things are taken care then the big things will fall into place. -analyse that the young generation still have the idealism to save the world. -understand that the entire creation is knitted despite geographical distances.</p>	

	<p>Vistas- L-6-Memories of Childhood -The story presents autobiographical episodes from the lives of two women and is an insight into humiliations suffered by the marginalised communities and their relationship with the mainstream culture.</p> <p>UN Sustainable Goals: 10. Reduced Inequality 4. Quality Education- Students will learn that education overcomes all evils to make a world better place to live</p>	<p>To enable the students to- i) have profound and detailed understanding of the text. ii) express the ideas of the passage orally and in writing. iii) understand the meaning of new words and grammar structure pay attention to the writer's intentions, arguments, ideas, style etc iv) gain insight into the social evils prevailing in the society(in context with Bama's story) v) understand that injustice in any form cannot escape being noticed by children</p>	<p>To enable the students to i) imbibe values like respect, honesty, patience and self reliance ii) rise above prejudices ii) respect each other iii) learn and reflect their own/ right perspective of treating underprivileged and marginalised community. v)imbibe value of respecting each individual irrespective of their caste and creed.</p>	<p>Warm up questions- Activity (to introduce the lesson) -Narrate an incident from the history which tells us about untouchability. discrimination/social injustice -Discussion- Seeds of rebellion are sown in childhood. Do you agree? Elucidate. - Minorities are ill- treated. How? Activity(to support learning) -Comment on the title'</p>	<p>Students will be able to- i) comprehend the text in detail ii) know the meaning and usage of new vocabulary iii) learn how to respect people from different culture iv) voice for injustice and discrimination v)imbibe values, enhance skills vi) learn and reflect their own/ right perspective of treating underprivileged and marginalised community</p>	<p>1. Assignments 2. Comprehension questions -What is the commonality of theme found in the two stories? -What does Bama say about untouchability when she was in the third class? 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>
	<p>in where the discrimination based on caste, creed and religion will not be there. (to be discussed)</p>	<p>vi)know about the two writers and the way they fought against injustice with their powerful writings</p>		<p>We too are Human Beings'? - How would you contribute in eradicating social evils? -You have been taught that one must get equal opportunities in life to learn and prosper. There seems a difference of opinion and a few oppose certain policies of equality. Why? What are the solutions to the problem and how would you ensure that the deserved ones get the opportunities?</p>		
	<p>REVISION FOR HALF YEARLY</p>	<p>WRITING SKILLS AND TEXT BOOKS</p>			<p>S</p>	

TERM -II

Month & Working Days	Theme/Subtheme	Learning Objectives		Activities & Resources	Expected Learning Outcomes	Assessment
		Subject Specific (Content Based)	Behavioural (Application based)			

Oct obe r 22	HALF YEARLY EXAMS					
	<p>Vistas-L.5-Should Wizard hit Mommy? The chapter deals with a very serious theme of ‘good parenting’. It is about the father who tries to teach moral values through his stories to his daughter and about the worth of originality. To make the reader understand that one should not change one’s personality just to be accepted in the society. It is a sharp contrast about the child’s viewpoint and an adult’s perception of life. It also indicates that parents know what is best for the child. The chapter contains a narrative within a narrative. It also involves issues such as the validity of parental authority, being true to one’s inherent nature and finding acceptability by the peer group.</p>	<p>To enable the students to- i) communicate their ideas with a lot of conviction. ii) appreciate the theme and the message conveyed. iii) know that one should not change one’s personality just to get accepted in the society. iv) understand that the world is based on individual differences. v) understand the relation of family members and the bond they share. vi) understand that children cannot justify an unhappy ending.</p>	<p>To enable the students to- i) inculcate values like respect, patience, concentration and curiosity. ii) understand that the world is based on individual differences. iii) realise that one has to be true to one’s identity. iv) understand that an adult’s perspective is different from that of a child. v) analyse that children understand only the reality that they have been exposed to and cannot think of ideas and feelings in abstraction. vi) understand that the perception of an adult is based on what he has learnt over the years, the expectations of the society and similar other experiences</p> <p>Skills: comprehension skill, analytical skill, critical thinking skill, language skills, creativity and imagination</p>	<p>Warm up questions- Activity: (to introduce the lesson) A Video / Picture on skunks will be shown to the students to relate with the lesson Share your views – ‘What is natural is never disgraceful’ How are the ways of storytelling different in present days ? Activity: (to support learning) Why we are deluded by our peer group in adolescence and childhood? Why do you think, the title has a question mark? How far do you find it a convincing and appropriate title? Do you think difference of opinion creates conflicts (adult v/s child perspective)? What are the ways to make both the fronts to respect each other’s opinion? What is the moral issue that the story raises?</p>	<p>Students will be able to The students will be able to- i) voice their opinions. iii) understand the viewpoints of others skills. iv) recognise the character traits. v) appreciate the fact that elders will realise that the children have their own identity, views and attitudes. vi) that the parents must respect and accept the ideas and opinions of their children. vii) honour, value and accept all creatures. vi) analyse and appreciate the feelings and expectations of family members. vii) analyse the philosophical level (nothing in this world is unwanted and worth rejecting) viii) analyse the psychological level (highlights the pitiable fate of the</p>	<p>1. Assignments 2. Comprehension questions i) What makes Jack feel caught in an ugly middle position? ii) What is your opinion regarding the two endings to the Roger Skunk story? 3. Textual exercises/ Extracts/ Value based/ Character sketches/RTC</p>
					modern struggling youth	

NO. OF PERIOD	TOPICS	SUB TOPICS	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	INNOVATIVE PEDAGOGY	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS	OUTCOME
15	Relations & Functions	Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.	To enable the students understand- Equivalence relations, bijective functions. Different types of relations and functions, finding domain and range and inverse of functions and binary operation. Through problems based on Relations and functions.	Methodology :- Analytic Pedagogy- 1)Logical thinking 2)Critical thinking 3)Imagination	<ul style="list-style-type: none"> Teacher gives exercise questions as assignment and homework to the students. Unit Test Half Yearly Exam Annual Exam 	Students learnt about: Equivalence relations, bijective functions. Different types of relations and functions, finding domain and range and inverse of functions.
15	Inverse Trigonometric Functions	Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.	To enable the students to find solutions of problems of inverse trigonometric functions. Inverse trigonometric functions ,its domain and range, properties of inverse trigonometric functions	Methodology :- Analytic Pedagogy- <ul style="list-style-type: none"> Collaborative Learning Strategy Brainstorming Strategy Exploration Techniques Visualization Techniques Educational Technology applications Spaced Repetition Schedule Inductive Teaching Strategy 	<ul style="list-style-type: none"> Teacher gives exercise questions as assignment and homework to the students. Unit Test Half Yearly Exam Annual Exam 	Students learned about : Solutions of problems of inverse trigonometric functions. Inverse trigonometric functions ,its domain and range ,properties of inverse trigonometric functions
25	Matrices	Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operations on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).	To enable the students to understand operation on matrices, application of matrices, solution of equation by matrix Method. Its properties. Through problems based on Matrix.	Pedagogy- 1)Imagination 2)Systematic approach 3)To handle real life situation	<ul style="list-style-type: none"> Teacher gives exercise questions as assignment and homework to the students. Unit Test Half Yearly Exam Annual Exam 	Students learnt about: operation on matrices, application of matrices, Solution of equation by matrix method. Its properties
25	Determinants	Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique	Meaning of determinant, evaluation of determinant for a square matrix, Solution of determinants using properties Through problems based on Determinants	Pedagogy- 1)Imagination 2)Systematic approach 3)To handle real life situation	<ul style="list-style-type: none"> Teacher gives exercise questions as assignment and homework to the students. Unit Test Half Yearly Exam Annual Exam 	Meaning of determinant, evaluation of determinant for a square matrix, Solution of determinants using properties

		solution) using inverse of a matrix.				
20	Continuity & Differentiability	Continuity and differentiability, chain rule, derivative of inverse trigonometric functions, <i>like</i> $\sin^{-1}x, \cos^{-1}x$ and $\tan^{-1}x$, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.	To enable the students to understand 1) Continuity and differentiability. 2) Change in one variable when the other variable changes (i.e. meaning of differentiation) 3) Differentiation of trigonometric function, logarithmic function, exponential function, inverse of trigonometric function, implicit functions, parametric form and higher order derivatives.	Pedagogy- • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule • Inductive Teaching Strategy	• Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam	Students learned about : 1) Continuity and differentiability of a function. 2) To differentiate trigonometric function, logarithmic function, exponential & parametric function, inverse of trigonometric function, 3) Higher order derivatives. Through explanation of graph creative thinking will be imbibed.
10	Applications of Derivatives	Applications of derivatives: rate of change of quantities, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).	1) Rate as a measure 2) Increasing and decreasing function 3) Tangent and normal 4) Errors and approximations 5) maxima and minima	Pedagogy- 1) Imagination 2) Systematic approach 3) To handle real life situation	• Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam	1) Rate as a measure 2) Increasing and decreasing function 3) Tangent and normal 4) Errors and approximations 5) maxima and minima 6) Imagination 7) Systematic approach 8) To handle real life situation
20	Integrals	Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.	Students will understand 1) integration 2) Different methods of integration To enable the students to understand • the meaning of Definite integral and properties of definite integrals. • To enable the students to understand Limit as a sum.	Pedagogy- • Manipulation (assumption) • Logical thinking • Systematic approach • Critical thinking • Imagination • indirect approach	• Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam	Students learned about : 1) integration 2) Different methods of integration By different approaches they learn 3) Manipulation 4) Logical thinking 5) Systematic approach
15	Applications of Integrals	Applications in finding the area under simple curves, especially lines, circles/ parabolas/ ellipses (in standard form only)	To enable the students to find the Area of bounded curve To enable the students to develop- • Critical thinking to visualize shapes • Accuracy for calculating area	Pedagogy- • Critical thinking to visualize shapes • Accuracy for calculating area	• Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam	Students learned about : 1) to find the Area of bounded curve 2) Critically think and visualize the shapes 3) Accurately calculate area
15	Differential Equations	Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation	To enable the students to find 1) the function when differential equations is given. 2) Degree and order of differential equations 3) solution of various forms of differential equations 4) general and particular solution. To enable the students to understand 1) Different types solution 2) Different approaches for solution to problems	Pedagogy- • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Spaced Repetition Schedule • Inductive Teaching Strategy		Students learned about : 1) the function when differential equations is given. 2) Degree and order of differential equations 3) solution of various forms of differential equations 4) general and particular solution. 5) Different types solution 6) Different approaches for solution to problems

15	Vector Algebra	Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.	To enable the students to understand the concept of 1) vectors and its usage 2) Types of vectors their properties 3) Representation of vectors 4) dot and cross product of vectors 5) area of triangle and quadrilateral. 6) Scalar triple product Through the concept of vectors and its usage students will attain 1) Development of visualization 2) understanding need for different types of quantities	Pedagogy- <ul style="list-style-type: none"> • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule • Inductive Teaching Strategy 	<ul style="list-style-type: none"> • Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam 	Students learned about : 1) vectors and its usage 2) Types of vectors their properties 3) Representation of vectors 4) dot and cross product of vectors 5) area of triangle and quadrilateral. 6) Scalar triple product 7) to visualize vectors 8) understanding different types of quantities and its importance
15	Three Dimensional Geometry	Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.	To enable the students to understand the concept of 1) Straight line in space 2) Equation of line in Cartesian and vector form 3) Angle between two lines 4) shortest distance between two lines, plane and shortest distance in 3 Dimensional geometry 5) Foot of perpendicular from a point to the Line	Pedagogy- <ul style="list-style-type: none"> • Imagination • Systematic approach • Efficiency • Creativity 	<ul style="list-style-type: none"> • Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam 	Students learned about : 1) Equation of line in Cartesian and vector form 2) Angle between two lines and shortest distance between them plane and shortest distance in 3 Dimensional geometry 5) Foot of perpendicular from a point to the line
20	Linear Programming Problems	Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).	To enable the students to understand: 1) Objective function & Constraints 2) Non-negative constraints 3) Basic variables & Basic solution 4) Feasible solution -Optimal solution 5) Iso-profit line 6) Convex set 7) Corner point method 8) Bounded region, Un Bounded region 9) Iso-profit or Iso-cost method Through this chapter students will attain 1) To handle optimization problems (Efficiency) 2) develop Systematic approach 3) Differentiate constraint from problem.	Pedagogy- <ul style="list-style-type: none"> • Collaborative Learning Strategy • Brainstorming Strategy • Exploration Techniques • Visualization Techniques • Educational Technology applications • Spaced Repetition Schedule • Inductive Teaching Strategy 	<ul style="list-style-type: none"> • Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam 	Students learned about 1) Objective function & Constraints 2) Feasible solution -Optimal solution 3) Iso-profit line 4) Corner point method for Bounded region and Un Bounded region 5) Differentiate constraint from problem. 6) optimization problems 7) Systematic behavior & Efficiency
30	Probability	Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and	To enable the students to understand: 1) Addition theorems on probability 2) Conditional probability 3) Multiplication theorems on probability	Pedagogy- 1) Logical thinking to Handling Risk 2) Imagination for Manipulating situation for	<ul style="list-style-type: none"> • Teacher gives exercise questions as assignment and homework to the students. • Unit Test • Half Yearly Exam • Annual Exam 	Students learned/ developed : 1) Addition and Multiplication theorems on probability 2) Conditional probability 4) Independent events, Total

		its probability distribution, mean of random variable.	4)Independent events 5)Total probability and Bayes' Theorem 6)Binomial distribution 7)Probability distribution 8)Mean and variance	better result		probability and Bayes' Theorem 5)Binomial & Probability distribution 6)Mean and variance . 7)Logical thinking to Handle Risk 8)Imagination for Manipulating situation
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Class: XII

Subject: BIOLOGY

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS	OUTCOME
11	Sexual Reproduction in Flowering Plants	<p>Sexual reproduction: Sexual Reproduction: When two parents (of opposite sexes) participate in reproduction, and gamete formation takes place; it is called sexual reproduction.</p> <p>2. Microsporogenesis: The formation of microspores inside the microsporangia (or pollen sacs) of seed plants.</p> <p>3. Megasporogenesis: Megasporogenesis refers to the development of megaspores from the megasporocyte, the cell that undergoes meiosis.</p> <p>4. Fertilization or syngamy: Syngamy is the process of fusion of two gametes to form zygote</p> <p>5. Double fertilization: This process involves the joining of a female gametophyte with two male gametes</p> <p>6. Pollination: Pollination is the act of transferring pollen grains from the male anther of a flower to the female stigma.</p> <p>7. Autogamy: In autogamy, pollen is transferred to the stigma of the same flower</p> <p>8. Geitonogamy: pollen is transferred from the anther of one flower to the stigma of another flower on the same flowering plant, or from microsporangium to ovule within a single (monoecious) gymnosperm.</p>	<ol style="list-style-type: none"> To develop scientific aptitude in the students. To develop interest for biology in the students. To develop observation capacity and respect to nature. 	<p>Diagrammatic skills</p> <p>Lab activity</p> <p>Smart class presentation</p>	<ol style="list-style-type: none"> Prepare your notes with the help of textbook and class notes. Draw labelled diagram of microsporangium and mega sporangium. Differentiate between microsporogenesis and megasporogenesis. Give the importance of parthenocarpy and apomixis. to observe the pollen grains under the microscope using the permanent slide 	<p>To enable the students to:</p> <ol style="list-style-type: none"> Explain the role of different floral parts in sexual reproduction. Explain the process of micro and megasporogenesis. State the structural difference between monocot and dicot seeds. Give different steps of artificial hybridisation Define parthenocarpy and apomixis. Draw labelled diagrams related to the topic.

		<p>9. Xenogamy fertilization of a flower by pollen from a flower on a genetically different plant.</p> <p>10. Embryogenesis: Embryonic development, also embryogenesis, is the process by which the embryo forms and develops.</p> <p>11. Parthenocarpy: the development of a fruit without prior fertilization</p> <p>12. Apomixis: it is the development of seed without fertilization.</p>				
10	REPRODUCTION IN HUMAN	<ol style="list-style-type: none"> The male reproductive system the female reproductive system. Gametogenesis Menstrual cycle Fertilization and implantation Pregnancy and embryonic development Parturition and lactation. 	<ol style="list-style-type: none"> To develop scientific aptitude in the students. To develop interest for biology in the students. To develop observation capacity and respect to nature 	<p>Diagrammatic skills</p> <p>Lab activity</p> <p>Smart class presentation</p>	<ol style="list-style-type: none"> Describe events of human reproduction. Describe male and female reproductive system. Illustrate the structure of male and female reproductive system. Illustrate the process of ovulation. Explain fertilization. Explain spermatogenesis and oogenesis. Label the structure of sperm and ova. Explain and understand about menstrual cycle. List the function of testis and ovary. Explain the role of progesterone and testosterone. Explain embryonic development and in human. Describe parturition and lactation. 	<p>To enable students to-</p> <ol style="list-style-type: none"> Understand the basic concept of reproduction. To talk about the social issues and discussion in the class. To explain the different definitions like spermatogenesis, oogenesis, menstrual cycle etc To study the different diagrams and learn with the help of flow charts.
8	REPRODUCTIVE HEALTH	<p>This lesson requires</p> <ol style="list-style-type: none"> Significance of health . Basic knowledge of reproduction. Basic knowledge of population. 	<p>Given the content (chapter) the learners will be able to describe</p> <ul style="list-style-type: none"> the importance of reproductive health sexually transmitted disease and its prevention Population control and contraceptive measures Need of Medical termination of pregnancy Different Assisted Reproductive Technology to treat infertility 	<p>Students would be able to</p> <ol style="list-style-type: none"> Critically analyse the consequences of population explosion. Appreciate the important role played by ART for childless couple. Design Creative methods to advocate contraceptive measures. Collaborate with Government and Non government organisation to spread awareness for reproductive health. <p>Attitudes and beliefs- Students will be able to</p> <ol style="list-style-type: none"> Develop citizenship by understanding the given concepts (MTP, Amniocentesis, STDs, contraceptive measures , ART)and how to sensitize others regarding these. 	<p>Define reproductive health.</p> <ol style="list-style-type: none"> Need of reproductive health in present scenario. <p>Techniques to be used:</p> <p>Quiz</p> <p>Daily Practice Problem</p> <p>MCQ</p> <p>Student -teacher interaction</p>	<p>Students will know and understand</p> <ol style="list-style-type: none"> Define reproductive health. Reasons for population explosion. Explain amniocentesis. Understand the process of contraception Explain the importance of contraception and ART.

14	Principles of Inheritance & Variation	Laws of Inheritance, non - Mendelian ratios, chromosomal theory of inheritance, linkage & crossing over, mutation. Sex- determination in animals. Genetic disorders.	Students will be able to: Comprehend why they resemble & at the same time do not resemble their parents Predict genetic disorders by studying & analyzing pedigree charts Generate awareness about PWD Act Empathize with children suffering from genetic disorders	Smart class,ppt presentations, flow chart and experiments.	<ul style="list-style-type: none"> - Work out monohybrid & dihybrid crosses - State the laws of inheritance - Differentiate between Mendelian and non-Mendelian inheritance - State 'Chromosomal Theory of Inheritance' - Explain linkage & crossing over - Decipher the genetic trait/ disorder from a given pedigree chart. -Perform the experiment -Make crosses. All the crosses will be made on the Board -Study human traits that follow Mendelian Inheritance -Do the experiment in the Lab & find the monohybrid/ dihybrid ratio -Bring different fruits & keep on the window sill of biology lab; observe fruit flies - Make a linkage map and conclude when parental types are more/ recombinants are formed -Compare the sex determination in humans, birds, Drosophila -Study the pedigree chart of the royal family of England & other pedigree charts & conclude the kind of disorder. -Refer book diagrams, compare& conclude that during Anaphase I, the gene pair got separated.(On the contrary non-disjunction of chromosomes causes aneuploidy) 	Students will be able to : - Work out monohybrid & dihybrid crosses - State the laws of inheritance - Differentiate between Mendelian and non-Mendelian inheritance - State 'Chromosomal Theory of Inheritance' - Explain linkage & crossing over - Decipher the genetic trait/ disorder from a given pedigree chart.
13	Molecular Basis of Inheritance	The DNA The search of genetic material RNA world Replication Transcription Genetic code Translation Regulation of gene expression Human genome project DNA fingerprinting	To provide students with knowledge of the DNA, RNA, replication, transcription, genetic code, translation, regulation of gene expression, human genome project and DNA fingerprinting KNOWLEDGE- Students will know and understand DNA, RNA, replication, transcription, genetic code, translation, regulation of gene expression SKILLS- Students would be able to Understand and differentiate between	Smart class,ppt presentations, flow chart and experiments.	<ol style="list-style-type: none"> 1.draw diagrams to show structure of double stranded DNA. 2. draw diagrams to show packaging of DNA in eukaryotes. 3. describe the process of the experiment which demonstrates transformation and how was transforming principle characterized chemically. 	Students will be made to draw diagrams to show structure of double stranded DNA. b. Students will be made to draw diagrams to show packaging of DNA in eukaryotes. c. Students will be asked to describe the process of the experiment which demonstrates transformation and how was transforming principle characterized chemically.

			transcription and translation. Understand mechanism of gene expression			
14	Evolution	Origin of life Evolution of life forms- a theory Evidences of evolution Adaptive radiation Biological evolution Mechanism of evolution Hardy –weinberg principle Brief account of evolution Origin of evolution of a man.	To enable the students : 1. Understand process of evolution 2. Describe the process of convergent evolution 3. Differentiate between homologous and analogous structure. 4. Identify the animals belonging to different epochs.	Powerpoint presentation ,Greenboard/Whiteboards , Models, Charts, Live specimen	1. who is Charles Darwin? 2. Differentiate between homologous and analogous organs. 3. What is industrial melanism? 4. Define adaptive radiation. 5. Explain evolution of man.	Students know about DNA & RNA 2. Students know about Darwinism 3. Students know about differences in the morphological and anatomical features of different organisms
10	Human health and disease	Common disease in human Immunity AIDS Cancer Drugs and alcohol abuse.	1. To develop conceptual competence in the students. 2. Promotes problem solving abilities and creative thinking to develop interest in learners. 3. The students should be exposed to experience as well as mode of reasoning. 4. Develop the process of observational, manipulative decision and investigatory skills in learners.	Lab equipments, Chart paper , Computer etc	i) Define disease and symptoms. ii) Differentiate between the infectious and non infectious diseases. ii) Explain the mode of transmission of different diseases. iv) Describe the process of multiplication of HIV virus. v) List out the name of microbes cause ringworm, filariasis, ascariasis and malaria. vi) Explain the function of immunity system in our body. vii) Know the importance of passive immunity during snake bites. viii) Explain the role of T-cell during organ transplantation . ix) Define cancer and its types. x) Describe the harmful effects of drugs and alcohol abuse.	1. With help of previous knowledge introduce the term diseases. 2. Explain the mode of transfer of the different common diseases. 3. Describe the harmful effect of drugs and alcohol abuse. 4. By giving examples describe the cancer ,its causes, harmful effect and its prevention. Plan for independent practice:- 1. Experiment to show the breeding place of vectors. 2. Discuss the intext question. 3. Draw the life cycle of Plasmodium in the black board by the students. Closure:-After completing the concepts the different set of Board question paper, sample paper, previous year question paper are to be solved. Assessment based on objectives:- Assignment is to be conducted on the above mentioned concepts. Adaptation:- Individual attention to be given, while conducting the experiments. Extensions:-The students are suggested to know and use their knowledge in day today activities or in future life. Possible relation to other subjects:- i) Geography ii) Agriculture iii)Chemistry iv) Medical science v) Industries.

7	MICROBES IN HUMAN WELFARE	<ol style="list-style-type: none"> 1. Role of microbes in house hold products. 2. Role of microbes in Industrial products. 3. Microbes in sewage treatment. 4. Microbes in production of biogas. 5. Microbes as biocontrol agents. 6. Microbes as biofertilisers. 	<ol style="list-style-type: none"> 1. To develop conceptual competence in the students. 2. Promotes problem solving abilities and creative thinking to develop interest in learners. 3. The students should be exposed to experience as well as mode of reasoning. 4. Develop the process of observational, manipulative decision and investigatory skills in learners. 	Lab equipments, Chart paper , Computer etc	<ol style="list-style-type: none"> i) Define the LAB. ii) Differentiate between the distillation and without distillation beverages. iii) Describe the process of sewage treatment. iv) Define fermentation and antibiotic. v) Identify the important microbes in our daily life. vi) Describe the process of biogas production. vii) List out the name of microbes help in nitrogen fixation. viii) Explain the function of cyclosporine A, Statins and Streptokinase . ix) Know the importance BGA in agriculture. x) Explain the role of baculoviruses as biological control agent. xi) Apply their knowledge in day today life. 	<ol style="list-style-type: none"> 1. With help of previous knowledge introduce the term microbes. 2. Explain the role of microbes in sewage treatment.. 3. Describe the process of biogas production. 4. By giving example explain the role of microbes in different field.
15	Biotechnology Principles and process	Principle of biotechnology Tools of recombinant technology Processes of recombinant DNA technology	Learning Outcomes of this lesson include the following: I) Awareness about the definition of biotechnology according to various foundations like US National science foundation and EFBT (European Federation of Biotechnology) II) Awareness about the history, present and future of biotechnology. III) Tools and techniques required for biotechnology with special emphasis on genetic engineering and chemical engineering. IV) Applications in agriculture, human health care, forensic sciences, formation of GMO's or Transgenic organisms V) world scenario of biotechnology and issues related to it like exploitation of animal rights, release of GMO's, biosafety, etc.	I) Text book for both the topics. II) Online links for practise and concept reinforcement. III) Board and laptops IV) References from various book	Meaning and history of biotechnology, tools, process, principles, applications and its world scenario. Important issues related to genetic engineering like IPR, bio-piracy, biowars and ELSI(Ethical, legal and social issues)	i) Class assignments based on questions from the text book. ii) In-text books questions extracted from each topic
12	Biotechnology and its Applications	Basic knowledge of the biotechnological applications in agriculture Basic knowledge of the biotechnological applications in medicine Basic knowledge of transgenic animals	(i)Acquiring knowledge on applications in agriculture , human health care, forensic sciences formation of GMOs(Genetically Modified Organisms) or transgenic organisms. (ii)World scenario of biotechnology and issues related to it like exploitation of animal rights, release of GMOs, biosafety etc.	(i)Textbook for this topic (ii)References from various books (iii)Mobile and laptops (iv) Projector	<ol style="list-style-type: none"> 1. explain the use of recombinant technology to enhance yield in agriculture. 2. What is RNA interference? 3. How will you obtain insulin through e.coli. 	(i)Acquiring knowledge on applications in agriculture , human health care, forensic sciences formation of GMOs(Genetically Modified Organisms) or transgenic organisms. (ii)World scenario of biotechnology and issues related to it like exploitation of animal rights, release of GMOs, biosafety etc.

10	Organisms and population	Organisms and its environment populations	<ol style="list-style-type: none"> 1. To develop conceptual competence in the students. 2. Promotes problem solving abilities and creative thinking to develop interest in learners. 3. The students should be exposed to experience as well as mode of reasoning. 4. Develop the process of observational, manipulative decision and investigatory skills in learners. 	<ol style="list-style-type: none"> (i)Textbook for this topic (ii)References from various books (iii)Mobile and laptops (iv) Projector 	<ol style="list-style-type: none"> 1. Define food chain. 2. Explain population interaction. 3. What is population growth. 	<ol style="list-style-type: none"> i) Class assignments based on questions from the text book. ii) In-text books questions extracted from each topic
10	Ecosystem	Ecosystem, Productivity, energy flow, cycling on nutrients, decomposition, ecological succession, ecological pyramids, standing state, standing crop, detritus, fragmentation, leaching, catabolism, humification, mineralization, Food chain, food web etc.	<ol style="list-style-type: none"> (a) Knowledge domain: The students acquire knowledge about the above mentioned terms, facts and concepts. (b) Process domain : Develop process skills such as observing predicting, communicating, drawing inferences etc. (c) Creative domain : Develop components of creativity such as visualizing or producing mental images, combining objects and ideas in new ways. (d) Attitudinal domain: Develop characteristics promoting desirable attitudinal changes. (e) Application level: Applies the above knowledge in new situations, seeing instances of scientific concept in everyday life experience. 	Power point presentation of the chapter/ Topic, Videos related to Different ecosystem, chart showing flow of matter.	<ol style="list-style-type: none"> (1) Describe an activity to enumerate the species composition in an ecosystem. (2) Carry out an experiment to find the relationship between the rate of decomposition and the nature of detritus. 	<ol style="list-style-type: none"> (1) What is primary productivity? (2) How is secondary succession different from primary succession. (3) What are the seral communities of xerarch succession? (4) Explain cases where ecological pyramids become inverted. (5) Differentiate between standing crop and standing state.
7	Biodiversity and conservation.	Explain Bio diversity- genetic diversity ,species diversity ,ecological diversity, patterns of Biodiversity .Habitat loss and fragmentation ,over exploitation, alien species invasions, co extinctions	<ol style="list-style-type: none"> 1) To understand various types of conservation of biodiversity 2) To understand the importance of biodiversity 	Charts , Computer , Laboratory equipments ,Models , video clippings, field visits, etc .	Students are motivated well by asking questions related to biodiversity in of plants and animals. Students can be taken to various places like Zoo , Botanical garden ,Forest ,Paddy fields near-by ,Pond, ect .Students are telling about the basic methods to conserve biodiversity in plants and animals. students start asking questions about the importance of various types of plants and animals. Students are also finding the ecological functions of various plants and animals.	<ol style="list-style-type: none"> 1. What do you mean by the term biodiversity ? 2. What do you mean by the term in situ and ex situ conservation of biodiversity? 3. What are the importance of biodiversity. 4, What do you mean by the term cryo preservation? 5, Write the importance of captive breeding technique. 6. Write a short note on global biodiversity. 7. Write a short mote on the effort taken to conserve bio diversity globally 8. Explain with some examples the effect of human activities on biodiversity depletion.

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Additional information/ values, sources and teaching aids used	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/ PRACTICALS
19	Python Revision Tour	<ul style="list-style-type: none"> • Tokens in Python, variables, literals, Input/output statements, mutable and immutable • data types, • statement flow control, • loop statement, • jump statement, • use of string, • tuple, • list and • dictionary , • sorting techniques. 	<p>At the end of the lesson, students should be able to:</p> <ol style="list-style-type: none"> 1. Well known about basics of Python. 2. Understand Python program structure. 3. Able to use for and while loop efficiently in program. 4. Know how to use conditional and iterative statements. 5. Understand built in data types and its use. 6. Apply different built in functions on string, list, tuple and dictionary. 	<p>Computer – Python programming s/w (Spider) Books:-</p> <ul style="list-style-type: none"> • Computer science with python by Sumita Arora • The Complete Reference-Python • Together with for practice questions <p>Internet:</p>	<ul style="list-style-type: none"> • Develop own model of learning and teaching in computer science :Always • Ready to learn new technologies, so that children’s curiosity can be fulfilled. • More interactive teaching : • Teacher as a guide work as co-explorer and sometimes mistake maker knowingly. 	<p>-Try to execute statements and programs given in practical book, note down output. -Write own statements using built in functions, check its behavior with mutable and immutable data types, find out the output difference. -Try to develop simple Python programs.</p>
16	Working with function	<ul style="list-style-type: none"> • Syntax for Function • Anatomy of Python function • Python Function types • Arguments and Parameters • Passing parameters • Returning values from functions • Returning multiple values • Scope of variables • Passing an immutable/mutable data types to a function 	<p>To understand the significance of Functions.</p> <ul style="list-style-type: none"> • To have an understanding about flow of execution of a program where Functions have been used. • To have an understanding about environments created by Python interpreter. • Students will be able to write and understanding function definition and call statement. • To understand the idea of Python library, module and mathematical Functions, string functions. 	<p>Teaching Aids used:</p> <ul style="list-style-type: none"> • Laptop • Screen recorder software • Mic • PPTs 	<ul style="list-style-type: none"> • Use live coding • Have students make predictions • Use pair programming • Use worked examples with labeled sub goals 	<ol style="list-style-type: none"> 1. Realize significance of functions in Python. 2. Develop and use doc strings in Python function. 3. Understand flow of execution of a program where functions have been used. Etc. <ul style="list-style-type: none"> • Syntax for using libraries, modules in Python. • Use and variants of random() function in random module <p>Assessment of Learning:</p> <ul style="list-style-type: none"> • Quiz/Test • Presentation • Asking questions related to topic • Project work
	<u>Recursion</u>	Introduction, Recursive functions, recursion working , Recursion in Python – some recursive codes, recursion vs Iteration	Understands the basic concepts of python programming Knows uses of various programming syntax Identifies			Individual Task Group Task Quiz Questionnaire Demonstration Method

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			type of programming paradigm Applies the concept practically			Weekly test Monthly test
34	Introduction to files: - Text files - Binary files - CSV files	Text File: Basic operations on a text file: Open (filename – absolute or relative path, mode) / Close a text file, Reading and Manipulation of data from a text file, Appending data into a text file, standard input / output and error streams, relative and absolute paths. Binary File: Basic operations on a binary file: Open (filename – absolute or relative path, mode) / Close a binary file, Pickle Module – methods load and dump; Read, Write/Create, Search, Append and Update operations in a binary file. CSV File: Import csv module, functions – Open / Close a csv file, Read from a csv file and Write into a csv file using csv.reader () and csv.writerow()	Students will be able to: • Understand the purpose of file handling • Different types of files • Different operations on files • Know the difference among Text ,Binary and CSV files • Understand about absolute and relative paths • Develop Program to maintain data in files • Apply the concept of file handling. • Explain the features of text file, Binary file and CSV file. • Develop a software use of file handling concepts. • Understand the different types of paths • Describe the internal file management. • Create code as per requirement on files.	• book, • power point presentation, • Videos, • White Board, • Python Interpreter, • Projector	Inquiry based learning (Critical thinking and Problem solving): Create a small project based on real life applications like as • Students record management, population survey , Games etc. Recapitulation (Collaborative learning): • Frame a MIND-MAP indicating the basic operations on Files. • Create a menu driven program based on all operations for each type of files. Problem solving method Activity: • Give small codes to find outputs • Give program to find errors Demonstration based active-learning instructional strategies	Homework (Question Bank): • Differentiate between a text file and a binary file.– • What are the advantages of CSV file formats? • Differentiate between file modes rb and rb+ in open(). • Write a program to count number of vowels in a text file “BPS.txt”. • Write a statement to open a binary file C:\files\Text.txt in read and write mode by specifying for file path in two different formats. • Read a text file and display the number of vowels/ consonants / lowercase characters in the file. • Performing simple projects under the guidance of the teacher. • Written test • Questionnaire • Group discussion
18	Data Structure	Data Structure Stack Push operation Pop operation Program to implement stack Expression Applications of Stack Queue Applications of Queue	•To impart the basic concepts of data structure, its uses and types •To understand basic concepts about stack and its associated operations i.e., push and pop •To understanding about writing python code for push and pop operations using list • To understand basic concepts about queue and its	• Lab computers, projector, • Python IDLE • Reading material, • Ppt • Lecture videos	• Teaching through Flipping Classrooms In this technique, the students are made active participants of the learning process by passing the onus of learning on them, it requires the teachers to delegate to the role of resource providers and the students take the	Quiz/Test, presentation, project, writing assignments, oral questioning .

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			associated operations i.e., insert and delete • To understanding about writing python code for insert and delete operations using list		responsibility of gathering concepts information • Artificial intelligence in education • Teaching through collaboration Another innovative method of teaching involves encouraging student collaboration for various projects.	
15	Computer Network	<ul style="list-style-type: none"> • Communication Devices. • Cabling Layout Problems • Evolution of Networking • Data Communication terminologies– • Transmission media • Network devices • Network Topologies and types • Network Protocol • Mobile Telecommunication Technologies • Mobile processors • Electronic mail protocols • Protocols for Chat and Video Conference in Wireless technologies such as Wi-Fi and WiMax • Network Security Concepts: • Threats and prevention from Viruses, Worms, Trojan horse, Spams • Use of Cookies • Protection using Firewall • India IT Act • Cyber Law • Cyber Crimes • IPR issues • Hacking. • Protocol (HTTP) • Domain Names URL • Website • Web browser • Servers • Web Hosting 	<ol style="list-style-type: none"> 1. To understand how the ARPANET evolved into Internet. Meaning of the Internet and how it functions. 2. Examination of Switching concepts, which indicates the process of selection of routes over the Internet. 3. To explore the transmission of data by guided (wired) media and by unguided (wireless) media. And different options in both of them such as optical fibre, radio waves or satellite communications. 4. Devices used to connect the different networks such as Router, Bridge etc. 5. To understand the Topology and its types such as Bus, Star, Tree topology. Topology defines the way computers are connected. 6. To examine how the protocol functions. Protocol defines the parameters based on which communication happens. 7. To get the details about need of computer security and how it is implemented. The idea of cyber crimes, cyber laws, hackers etc. are covered. 	Teaching Aids: •Power Point Presentation • Digital Board •Book •Children concepts should be analyzed on the basis of the answers they give. Accordingly we will take up the topic.	Think-Pair-Share Activity(TPS) ♣Think individually about the initial part of the Networking ♣Pair with neighbor and refine the solution ♣ Share on the blackboard the various ways of arriving at initial solution Peer instructions Activity • Think –pair- share Activity Topic: Network Topology Procedure Followed: Think phase Pair phase Share phase RECAPITULATION 1. Network is interconnection of independent computers. 2. Topology is the way by which we interconnect computers in a network. 3. Protocols are set of rules used to transfer data in a network Flipped class room Flipped classroom is one way to ensure that class time is spent in assimilation , rather than in information	SLOW –LEARNER STUDENT 1. Compare Twisted pair and coaxial transmission media. 2. Expand the following terminology : • XML • GSM • CDMA • TCP/IP 3. Differentiate between packet switching and message switching 4. What are cookies? 5. Write two disadvantages for STAR topology. 6. Write the difference between coaxial and optical fiber cable. AVERAGE STUDENT 1. Explain the following terms in short: (i) GSM ii) CDMA Define packet switching. 2. What is router? 3. What is Cyber law? Explain. 4. What is repeater? 5. What is a hub? How is active hub different from passive? 6. What are the benefits of having a network in an organization?

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			<p>8. The Internet functions on Client-Server model. What requirements are needed and different technologies such as HTTP, HTML, URL, Scripting Languages etc. are covered.</p> <p>9. The concept of e-commerce, mobile banking, online payments etc. are discussed.</p>		transmission.	<p>BRIGHT STUDENT</p> <ol style="list-style-type: none"> 1. What are the uses of microwave signals? 2. What is the difference between LAN & WAN? 3. What is the purpose of using FTP? 4. Define the terms Bridges? How do they differ from repeaters?
35	Structured Query Language	<p>Database concepts: database concepts and its need.</p> <p>Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key) .</p> <ul style="list-style-type: none"> • Structured Query Language: introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key), command, aggregate functions (max, min, avg, sum, count), group by, having clause, joins: cartesian product on two tables, equi-join and natural join . <p>Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount, creating database connectivity applications .</p>	<p>Students will learn how to get MySQL, install it and creating and managing database and querying database using MySQL as specified in Instructional Objectives Student will be able to understand the Concept of Database and Structured Query Language. Data Definition Language, –Data Query Language – Data Manipulation Language</p> <p>Student will be able to understand the concept of MySQL as RDBMS and understand: Creation of database in MYSQL Data Types in MySQL</p> <ul style="list-style-type: none"> – Create Table – Alter Table – Drop Table – Brief idea about SQL – Functions Scalar functions – Math Functions – Date and Time Functions <p>Student will be able to understand the concept of MySQL as RDBMS and understand: Creation of database in– MYSQL Data Types in MySQL–</p>	<p>Teaching Aids : Black Board, Computer, Projector etc</p> <ul style="list-style-type: none"> ▪ Interactive Method ▪ Chalk & Talk Method ▪ Participation Method ▪ Practical demonstration using Computer / Projector / Required Technical device ▪ Teaching by providing Case Studies ▪ Teaching through Lab Activities 	<p>SQL Processing and Query Executuion</p> <p>Writing SQL Queries</p> <p>Diagrams, Images Practical in MySQL</p> <p>Took separate class for device handling and demonstrate online platform (Google classroom & Google meet) feature to students. Also gave personal attention to students•</p>	<p>Suggested Practical Question: 1.Queries using DISTINCT, BETWEEN, IN, LIKE, IS NULL, ORDER BY, GROUP BY, HAVING. 2. Queries for Aggregate functionsSUM(), AVG(), MIN(), MAX(), COUNT().</p> <p>Suggested Practical Question: 1. Write a Program to connect with database and store record of employee and display records. 2. Write a Program to connect with database and search employee number in table employee and display record, if empno not found display appropriate message. 3. Write a Program to connect with database and update the employee record of entered empno.</p>

No. of period	Topics	Sub Topics	LEARNING OBJECTIVES / SKILLS TO BE DEVELOPED	Innovative Pedagogy	ASSESSMENT EXERCISES/ ACTIVITIES/PRACTICALS	OUTCOME
7	Human Geography	Nature of Human Geography Corridors of Time Fields and Sub Fields	To define Human Geography and describe the nature and scope of Human Geography as a discipline.	Case Study on determinism and possibilism given in NCERT to be used to explain the concept	Prepare a concept map of the chapter explaining the following: Definition of Human Geography, nature, scope, schools of thought, branches of Human Geography.	At the completion of this unit students will be able to: ☐ Define the term human geography ☐ Elucidate the Interdependence between Nature and Human beings. ☐ State the fields and subfields of Human Geography and its relation with other branches of Social Sciences. ☐ Differentiate between Environmental Determinism and Possibilism. ☐ Explain Neo-determinism with examples from real life.
9	The World Population Density Distribution and Growth	Density Factors Population Growth Components of Population Change Migration Trends Spatial Pattern Impact Demographic Transition	To familiarize learners with some basic concepts of Population Geography. To understand the patterns of population distribution in the world and correlate the factors influencing population distribution.	Class discussion on how science and technology helped in population growth. Students can be asked to find out the density of population of their respective state/ district/ city.	On the world map identify the countries of Europe and Asia with negative growth rate of population and African countries with growth rate of population more than three percent.	Calculate density of population, birth rate and death rate. ☐ Name and define the components responsible for population change. ☐ Understand the stages of population growth in the world using Demographic Transition Theory. ☐ Suggest measures to control population growth. ☐ Define the following terms: Growth of population, Natural growth of population, Positive growth of population, Negative growth of population
7	Human Development	Growth and Development The four pillars of Human Development Measuring Human Development International Comparisons	To understand the concept human development introduced by Dr. Mehabub Ul Haq and Prof. Amartya Sen	The lesson can be introduced by asking students to discuss with their peer group ☐ What is a meaningful life? ☐ Discuss with your peer how Beti Bachao and Beti padhao programme introduced by the Government of India can address the issue of declining sex ratio and make life more meaningful for girls.	Enact a play to show how choices get limited due to lack of capability in areas of income, health care and education. ☐ Interview a lady vegetable vendor, cobbler and a sweeper in the community and note how their opportunities were limited because of gender, caste and income.	Describe Human Development Index published by UNDP. ☐ Compare HDI with Human Poverty Index. ☐ Explain the key pillars of human development with examples. ☐ Compare Income approach, Welfare approach, Basic Needs approach and capability approach to understand the concept Human Development. ☐ To categories countries on the basis of their HDI and explain their characteristics.
12	Primary Activities	Hunting and Gathering Pastoralism Agriculture Plantation Agriculture Mixed Farming, Dairy Farming, Mediterranean Agriculture Cooperative Farming Mining	To understand various categories of economic activities. ☐ To describe Primary activities and relate the physical and social factors that affect the type of primary activities practised in different regions of the world	Class discussion: Why are people in coastal areas and plains engaged in fishing and agriculture? ☐ Describe the life of a nomadic herder.	Mark and label the following on an outline world map: a. Major areas of subsistence gathering b. Major areas of nomadic herding of the world c. Major areas of commercial livestock rearing d. Major areas of extensive commercial grain faming e. Major areas of mixed farming of the World	Differentiate between primitive subsistence and intensive subsistence farming. ☐ Describe the characteristic features of plantation agriculture as a type of commercial farming. ☐ Analyse why is there low yield per acre but high yield per person in areas of extensive grain cultivation. ☐ Compare and contrast the farming practices in the developed urban areas of the world. ☐ Analyse how the model of Kolkhoz introduced in the erstwhile USSR boost agricultural production. ☐ Examine the reasons for success of cooperative farming in the European countries. ☐ Differentiate between open cast mining and shaft mining. ☐ Discuss how mining can have impact on humans and environment.

10	Secondary Activities	<p>Manufacturing</p> <p>Household Industries or Cottage Manufacturing</p> <p>Industries based on Ownership</p>	<p>☑ To develop understanding of secondary activities with emphasis on manufacturing industries. ☑ To give an overview of manufacturing processes, types, its significance and recent changes.</p>	<p>The students can be taken out for a visit to local industry and asked to prepare a report on their observations regarding raw material used, finished product, production process, labour inputs, environmental impact and social responsibility. ☑ The students can be asked to prepare a sketch, poster, poem or write-up about the environmental conditions surrounding an industry. At the completion of this unit students will be able to: ☑ Explain key concepts such as, large-scale manufacturing, high technology industry, organizational set up, foot-loose industries, Agri business etc. ☑ Identify and explain the factors affecting the location an industry. ☑ Differentiate between different types of industries on the basis of size, raw material, ownership and output. ☑ Differentiate between cottage industry and small scale industry. ☑ Explain the importance of hightech industries and reason for them being attracted to the peripheral areas of major metropolitan cities. ☑ Compare large scale industry a</p>	<p>The students can be asked to prepare a list of factory made goods they use in their daily life and categorize them as biodegradable and nonbiodegradable. ☑ List out ten global brands, their logos and products.</p>	<p>At the completion of this unit students will be able to: ☑ Explain key concepts such as, large-scale manufacturing, high technology industry, organizational set up, foot-loose industries, Agri business etc. ☑ Identify and explain the factors affecting the location an industry. ☑ Differentiate between different types of industries on the basis of size, raw material, ownership and output. ☑ Differentiate between cottage industry and small scale industry. ☑ Explain the importance of hightech industries and reason for them being attracted to the peripheral areas of major metropolitan cities. ☑ Compare large scale industry and modern high tech industry with examples ☑ Understands and analyses the interrelationship between industrial development and standard of living.</p>
10	Tertiary and Quaternary Activities	<p>Trade and Commerce</p> <p>Retail Trading</p> <p>Wholesale Trading</p> <p>Transport</p> <p>Telecommunications</p> <p>Services</p> <p>Quinary Activities</p> <p>Digital Divide</p>	<p>To understand different types of tertiary activity and its importance in the economy.</p>	<p>Class discussion on: How convenient and beneficial the fast-growing service sector in the world.</p>	<p>Make a list of economic activities under different categories. ☑ Make a list of departmental stores and chain stores that you visit regularly.</p>	<p>At the completion of this unit students will be able to: ☑ Compare and contrast traditional and modern economic activities. ☑ Students correlate tertiary activities and their role in the economic development of a country. ☑ Describe different types of tertiary activities. ☑ Discuss different types of trading centres found in rural and urban areas and role played by them in local economy. ☑ Describe quinary activities and its role in advanced economies. ☑ Discuss how tertiary, quaternary and quinary activities have replaced jobs in primary and secondary sectors. ☑ Define the following terms: BPO, Outsourcing, KPO, Departmental Store, Chain Store.</p>
11	Transport and	Modes of Transportation	To acquire knowledge about various	Students can be asked to do a survey of	Mark and label the terminal stations of	At the completion of this unit students will be able

	Communication	Land Transport Roads Railways Trans-Continental Railways Water Transport Sea Routes Inland waterways Air transport Communications	modes of transport in different continents. ☑ To compare and synthesize the information about major transport routes around the globe. ☑ To understand the development of communication networks and their impact on the modern world.	their class about the means of transport being used by students to reach school. Prepare a Bar diagram with the help of the data collected. ☑ Analyze the connection between physical landscape and development of various modes of transport	Trans-Siberian Railway, Trans Canadian Railway and Trans Australia Railway on an outline world map. ☑ Draw a sketch map of Suez Canal, Panama Canal, St Lawrence Sea ways and Rhine waterways, and mark them on an outline map of the world.	to: ☑ Compare and contrast various modes of transport. ☑ Explain the relationship of transport and communication networks to economic development of a region. ☑ Describe the major highways and major rail networks of different continents. ☑ Discuss the location and economic significance of TransSiberian Railway, Trans Canadian Railway, The Union and Pacific Railway and Trans Australian Railway. ☑ Describe the location and the economic importance of the major sea routes of the world. ☑ Discuss how Suez Canal and Panama Canal serve as major gateways of commerce for both the eastern and the western world.
10	International Trade	History Why International Trade? Basis of Trade Important aspects Direction,Types Free Trade Regional Trade Blocs Concerns Ports	Familiarize the students with the basic concepts and principles of International trade. ☑ To understand the basis of International trade, Balance of trade and types of International trade. ☑ Gain knowledge about the concept of Dumping. ☑ To outline the historical perspective of globalization and Role of WTO, its functions and its implications on the world trade.	Read the case Study on dumping and discuss how dumping is becoming a serious concern among trading nations.	Mark and label the following major sea ports of the world: a. Europe: North Cape, London, Hamburg North America: Vancouver, San Francisco, New Orleans b. South America: Rio De Janeiro, Colon, Valparaiso Africa: Suez and Cape Town c. Asia: Yokohama, Shanghai, Hong Kong, Aden, Karachi, Kolkata d. Australia: Perth, Sydney, Melbourne	At the completion of this unit students will be able to: ☑ Define international trade and describe how it impacts various countries. ☑ Describe the basis of International Trade. ☑ Discuss types of and aspects International trade. ☑ Explain the term Dumping, Trade liberalisation and Globalisation. ☑ Discuss the impact of WTO on current global trade. ☑ Evaluate how international trade can be detrimental to some nations.
10	Population Density Growth Distribution and Composition	Distribution of Population Density Growth of Population Regional Variations Population Composition	To correlate population distribution and density with the physiography of India. ☑ To familiarize students with the demographic attributes of India	Learner may be asked to refer to an Atlas to correlate relief map of India and map of population distribution and density and write their observation and share with their classmates. ☑ Prepare a choropleth map showing the state wise density of population of India.	Represent the data on decadal growth rate (given on page 5 NCERT) in India using suitable statistical diagram. ☑ Refer to Census of India website to collect data on population of India. ☑ Prepare a dot map showing the distribution of India's Population. ☑ Compare the growth rate of population of different states between 1991-2001 and 20012011.	At the completion of this unit students will be able to: ☑ Differentiate between distribution of population and density of population. ☑ Define: Physiological Density, Agricultural Density, Population doubling time, Working Population, Participation Rate, Main Worker, Marginal Worker, Rural Population, Urban Population, Adolescent Population. ☑ Discuss the factors responsible for uneven distribution of population in India. ☑ Explain trends of population growth in India since 1901. ☑ Describe rural-urban population composition, religious composition linguistic composition and sectoral composition of work force in India. ☑ Discuss the occupational structure of India's population.
8	Human Settlements	Types of Rural Settlement Urban Settlements Urbanisation in India	To understand how the form and size of settlement of any particular region reflects human relationship with the environment.	The students will prepare a line graph to show the growth of urban population in India since 1901.	The students will mark and label the million plus cities of all the states on a political map of India. ☑ Case Study: Amravati	At the completion of this unit students will be able to: ☑ Differentiate between rural and urban settlement. ☑ Describe the factors that govern the types of rural settlement in India. ☑ Compare and contrast clustered, semi clustered, Hamleted and

		Classification of towns				dispersed settlement with examples. ☐ Describe the evolution of towns in India since prehistoric times. ☐ Classify towns on the basis of their functions.
9	Land Resources and Agriculture	Land Use Categories Land Use Changes in India Common Property Resources Agricultural Land use in India Foodgrains Agricultural Development in India Problems of Indian Agriculture	To familiarise students with the land-use categories as maintained in the land revenue records. ☐ To analyse the changes in landuse pattern registered in India due to change in shares of primary, secondary and tertiary sectors in GDP.	The students will study and document the land use around their school and speak to their elders to find out changes registered in land use. ☐ The students will read and interpret the bar graph (fig 5.1) comparing the changes in land use in India between 1950-51 and 1914-15. ☐ Using the data given in the appendix (vi) the students will Work out the actual increase and rate of increases for all the land use categories between 1950–51 and 2014–15.	The students will calculate cropping intensity using data from table 5.1 ☐ The students will represent the geographical conditions required for the growth of different crops in a tabular form and compare them. ☐ On political map of India the students will mark and label three largest producing states of Rice, Wheat, Jowar, Pulses, Oilseeds, Cotton, Jute, Sugarcane, Tea and Coffee.	At the completion of this unit students will be able to: ☐ Name and define the land use categories. ☐ Compare the Changes in shares of Land-use Categories in India between 1950 and 2014. ☐ Discuss the importance of common property resources for the community. ☐ Compare dryland and Wetland farming and evaluate its importance. ☐ Compare the geographical conditions required for the growth of the following crops and their distribution/growing areas. Rice, Wheat, Jowar, Pulses, Oilseeds, Cotton, Jute, Sugarcane, Tea, Coffee ☐ Evaluate technological developments that have taken place in Indian agriculture since Independence. ☐ Discuss the challenges faced by the Indian farmers and suggest measures to overcome them.
9	Water Resources	Water Resources of India Deterioration of Water Quality Water Conservation and Management Prevention of Water Pollution Recycle and Reuse of water Watershed Management Rainwater Harvesting	To familiarise students about the water resources available in India and the factors that determine spatial distribution of the available water resources in the country and its utilization.	Discuss the interrelationship between physical and human environment and their impact from local to global. ☐ Ralegan Siddhi case study to be discussed to understand the holistic impact of Watershed development in any plac	Students can also be encouraged to see the stories of Haryali, Neeru-Meeru (Water and You) programme (in Andhra Pradesh) and Arvary Pani Sansad (in Alwar, Rajasthan)	At the completion of this unit students will be able to: ☐ Describes the available water resources in India. ☐ Evaluates the water demand and supply in India. ☐ Discuss the reasons for water scarcity in the country. ☐ Discuss water resources in India, its geographical distribution, sectoral utilization, and methods of its conservation and management. ☐ Recognize various emerging water problems and analyse the causes for deterioration of quality of water. ☐ Evaluate the scope to use rainwater harvesting techniques to conserve precious water resources.
9	Mineral and Energy Resources	Types Distribution in India Ferrous Minerals Non Ferrous Minerals Energy Resources Non-Conventional Energy Resources Conservation of Mineral Resources	To know about distribution of various minerals in the world. ☐ To understand and realize the importance of minerals in human life. ☐ To create an awareness about nature of different minerals and how to sustain them for the future.	The students should be encouraged to read newspaper regularly and discuss environmental impact of mining. ☐ The students should create awareness in school through posters and role play about the use of renewable resources and conservation of energy resources	Prepare a table to present the spatial pattern of the following minerals under the given headings: (Properties, Total Reserves, Distribution, Mines) Iron Ore, Manganese, Bauxite, Copper, Mica, Coal, Petroleum and natural Gas.	At the completion of this unit students will be able to: ☐ Classify minerals on the basis of chemical and physical properties. ☐ Describe the major mineral belts of India and mark them on an outline map of India. ☐ Describe different types of nonconventional mineral resources. ☐ Analyse why the renewable energy resources will be the future source of resources. ☐ Suggest measures to conserve our non-renewable resources. On an outline political Map of India mark and label the following: a. Iron-ore mines: Mayurbhanj, Bailadila, Ratnagiri, Bellary b. Manganese mines: Balaghat, Shimoga c. Copper mines: Hazaribagh, Singhbhum, Khetari d. Bauxite mines: Katni, Bilaspur and Koraput e. Coal mines: Jharia,

						Bokaro, Raniganj, Neyveli f. Oil Refineries: Mathura, Jamnager, Barauni
7	Planning and Sustainable Development in Indian Context	<p>Target area planning</p> <p>Hill Area Development Programme</p> <p>Drought Prone Area Programme</p> <p>Sustainable Development</p> <p>Case Study (Indira Gandhi Canal)</p> <p>Measures for Sustainable Development</p>	To understand the need for centralised planning (sectoral planning and regional planning) to accelerate uniform economic development over space as well the role of NITI Aayog	Case Study – Integrated Tribal Development Project in Bharmaur Region. ☐ Case Study- Indira Gandhi Canal (Nahar) Command Area.	Critically evaluates the need for, aims of, and impacts of irrigation on Indira Gandhi Canal (Nahar) Command Area.	At the completion of this unit students will be able to: ☐ Develop an understanding about various types of planning. ☐ Justify the need for target areas and target groups planning by the Planning Commission with examples. ☐ Explains the aims and approaches of the Hill Area Development Programme, Drought prone area Programme
8	Geographical Perspective on Selected issues and Problems	<p>Environmental Pollution</p> <p>Water Pollution</p> <p>Air Pollution</p> <p>Noise Pollution</p> <p>Urban Waste Disposal</p> <p>Rural Urban Migration</p> <p>Problems of Slums</p> <p>Land Degradation</p>	To explain the causes and consequences of different types of pollution in India and suggest the measures to control it.	<p>Look into the dustbin in your school and make a list of solid waste generated by students</p> <p>Speak to a rag picker and try to find out what he/she does with the waste.</p>	Prepare a poster to create awareness about Namami Gange Programme.	At the completion of this topic the students will be able to: ☐ Classify types of pollution based on the medium through which pollutants are transported and diffused. ☐ Explain various sources of pollution and summarise the state of water, air, land and noise pollution in India. ☐ Analyse the rural-urban migration and its role in pollution.