TAGORE INTERNATIONAL SCHOOL
EAST OF KAILASH, NEW DELHI
PARENT SYLLABUS
XI-SCIENCE
July 2022-February 2023

ENGLISH CORE

MONTH	TOPICS/NO. OF PERIODS	LEARNING OUTCOMES	ACTIVITY	ASSESSMENT
July	**HORNBILL** **The Portrait of a Lady**	**Each student will be able to** develop a good bond with the elders in the family compare and contrast the rural and city life recall and share memories of early childhood and grandparents justify the title write character sketches enrich their vocabulary and enhance reading and writing skills	**Students will do the following:** **Individual Activity:** Drafting character sketch of the grandmother Write a speech on: Caregiving is a way of showing love to the elderly **Art Integrated Activity:** Designing/creating a game that can be played with the elders of the family (group activity)	**Weekly Test (29.07.22)** **Syllabus** **Reading Comprehension:** 1. Unseen Passage **Writing Skills:** 1. Poster Making 2. Speech Writing **Grammar:** 1. Integrated Grammar- Gap filling (Tenses, Clauses) 2. Sentence reordering/ transformation **Literature:** 1. The Portrait of Lady 2. A Photograph 3. The Summer of a Beautiful White Horse **For the lesson, The Portrait**

				of a Lady, students will be assessed through: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
July	**Writing Skills:** **Speech writing**	**Each student will be able to** state situations when they would draft a speech give inputs on the format, style and tone of a speech draft a speech on a social issue express their views through a speech using grammatically correct sentences. improve upon their reading and writing skills	**Students will do the following:** **Individual Activity:** draft a speech on the theme- 'He who fears loss has already been beaten.' Draft a speech on the theme: 'The effects of lifestyle on health'.	**Students will be assessed through**: Class participation Submission of work Assignment Questions
July	**HORNBILL** **A Photograph**	**Each student will be able to** read the poem with proper tone and rhyme and develop an interest in poetry enrich their vocabulary differentiate between past memories and nostalgia	**Students will do the following:** **Group Activity:** share an experience /memorable moments spent with their mother	**Students will be assessed through**: Short Revision test through Google forms Class participation

		list down the contrasting features of human life and nature comment on the theme and meaning of the poem analyze the poem and identify the poetic devices enhance their reading and writing skills	have a group discussion on the importance of their favourite material objects identify the poetic devices incorporated in the poem I**ndividual Activity:** **Art Integration** create a poem on the object that they feel most connected with and share the same with the class	Submission of work Practice Worksheets Assignment Long Answer Questions
July	**SNAPSHOTS** **The Summer of the Beautiful White Horse**	**Each sudent will be able to:** analyse characters and their actions paraphrase the text and explain the ideas design a poster with the message answer value based and HOTS questions	**Students will do the following:** I**ndividual Activity:** share an experience where they realized the importance of staying honest and upright **Group Activity:** have a group discussion on the challenges that teenagers face in terms of worldview or outlook **Art Integrated Activity:** **Poster Making:** design a poster with the message, 'SAVE ANIMALS'	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
July	**Writing Skills** **Poster Making**	**Each student will be able to** design a poster to create awareness, extend public invitations and wire notices.	**Students will do the following:** **Group Activity:** contribute to the class discussion and mind map, to design interesting posters	**Students will be assessed through**: Class participation

		express themselves using visuals, pictures arrange content in a pleasing, readable manner to make it appealing	**Individual Activity:** design posters on the topic- Literary Festival	Submission of work Assignment Questions
MONTH	**TOPICS/NO. OF PERIODS**	**LEARNING OUTCOMES**	**ACTIVITY**	**ASSESSMENT**
August	**HORNBILL** **The Laburnum Top**	**Each student will be able to** grasp the theme and meaning of the poem recite the poem with proper tone and rhyme identify at least 3 poetic devices incorporated in the poem draw a comparative study between human life and nature. comment on the importance of interdependence and living in harmony	**Students will do the following**: **Group Activity:** have a group discussion on the theme of the poem. interpret the meaning of the verses work in pairs to list down the poetic devices incorporated in the poem. **Individual Activity:** **Art Integration** **Role-Play** play the role of the Goldfinch and the Laburnum tree and have a brief discourse/ write dialogues expressing their gratitude for each other	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
August	**<u>Reading</u>** **Note Making and Summarisation**	**Each student will be able to:** Learn the format of note making define note making comprehend the gist of the passage for note	**Students will do the following:** **Individual Activity:** read the text and skim important details logically present them in sequence	**Students will be assessed through**: Class participation Submission of work

		making make notes on the passage read format and indenting notes under headings and sub headings use of abbreviations summarisation	organise them under headings and sub headings use abbreviation and symbols write a summary of the notes made do exercises on note making	Assignment Questions
August	**We're Not Afraid to Die…if We Can All Be Together**	**Each student will be able to** enhance their problem solving skills. inculcate the values of determination and will power. learn to be optimistic and overcome struggles and problems solve HOTS and value based questions from the lesson	**Students will do the following:** **Group Activity:** have a brainstorming session on how determination and courage can bring people out of trouble discuss the statement in the light of the story and their own experience, " Survival pushes a man to his limits." **Individual Activity:** Prepare notes for the lesson, following an appropriate format and style	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
August	**Discovering Tut: the Saga Continues**	**Each student will be able to:** give reasons as to why King Tut's body has been subjected to repeated scrutiny explain as to why Howard Carter's investigation was resented justify the title write character sketches	**Students will do the following:** **Group Activity:** discuss in pairs the following: 'Scientific intervention is necessary to unearth buried mysteries' I**ndividual Activity:** **Art Integrated Activity** research about the history of Tutankhamun and present it in the form	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets

		enrich their vocabulary and enhance reading and writing skills	of a podcast/video **Debate writing:** Scientific advancement will hurt humanity	Assignment Long Answer Questions
August	**Long Writing Skills** **Debate Writing**	**Each student will be able to:** -discuss about the dos and don'ts of debate writing -comment on the style and diction that should be adopted while writing debate -frame at least 2-3 phrases to be used in the debate -write a debate following the appropriate format	**Students will do the following-** **Group Activity:** draw a mind-map including important details related to debate writing like- the format, common phrases, techniques, dos and don'ts etc. discuss in group about the value points that should be added in the given debate writing assignment I**ndividual Activity:** draft a debate following the format	**Students will be assessed through** Class participation Practice and assignment worksheets Submission of work class tests
MONTH	**TOPICS/NO. OF PERIODS**	**LEARNING OUTCOMES**	**ACTIVITY**	**ASSESSMENT**
September	**SNAPSHOTS** **The Address**	**Each student will be able to:** comment on the outcome of wars and the hardships that follows it comprehend the human dilemma that follows war and the death of a loved one comprehend the emotional account of a daughter who goes in search of her mother's belongings after the war and discuss about the ways one can overcome such mental and emotional turmoil bring out the optimism in the story	**Students will do the following:** **Group Activity:** discuss the effect of war on the lives of people with reference to the instances and values in the chapter, 'The Address' compare the narrator's experiences with those of Anne Frank I**ndividual Activity:**	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions

		identify 3-4 character traits of the narrator and Mrs. Dorling	**Art Integrated Activity** record anecdotes related to their favourite possession in form of a illustration/ diary entry/ song	
September	**Writing Skills:** **Advertisement** Classified Display	**Each student will be able to** Draft classified and display advertisements express themselves using visuals, pictures arrange content in a pleasing, readable manner to make it appealing	**Students will do the following:** **Group Activity:** contribute to the class discussion and mind map, to design interesting and relevant advertisement **Individual Activity:** draft advertisements on a variety of topics given in the class	**Students will be assessed through**: Class participation Submission of work Assignment Questions
September	**Reading Comprehension** **Unseen Passage**	**Each student will be able to** Analyse the passage Give answers to the questions Find meaning to the words given	**Students will do the following:** read and comprehend the passage analyse the questions work on the vocabulary	**Students will be assessed through** Class participation Practice and assignment worksheets Submission of work class tests
September	**Grammar <u>Different grammatical structures such as</u>** • Gap Filling • Sentence Reordering • Sentence Transformation	**Each student will be able to:** revise rules on the different grammar topics fill in the gaps using tenses and clauses comprehend and use grammatical organization for quantifying and sentence completion.	**Students will do the following:** complete worksheets on different grammatical topics	**Students will be assessed through** Class participation Practice and assignment worksheets

		edit and complete exercises to make grammatically correct sentences		Submission of work class tests
September	**Revision of the format of all the writing skills and lessons covered in the class**	**Each student will be able to-** recall the formats of the writing skills and discuss the same draft sample answers for the given questions	**Each student will do the following:** attempt all the questions given for practice discuss their answers in the class	
September	**Assessment of Speaking and Listening Skills**	**Each student will be able to** - listen carefully to the podcast -speak in the English language confidently - use the language and vocabulary appropriately	**Students will do the following-** **Pair Activity:** ALS Activity	**Mid-Term Examination**
MONTH	**TOPICS/NO. OF PERIODS**	**LEARNING OUTCOMES**	**ACTIVITY**	**ASSESSMENT**
October	**SNAPSHOTS** **Ranga's Marriage**	**Each student will be able to:** comment on the influence of the English language on the Indian life learn how Indian society has moved a long way from the way the marriage is arranged in the story comprehend how the perceptions of the astrologers are based more on hearsay and conjecture than what they learn from the study of stars	**Students will do the following:** **Group Activity:** exchange dialogues on how Indian society has moved a long way from the way the marriage is arranged in the story discussion on 'the on the role of English in a man's life' I**ndividual Activity:** **Art Integration** **Role Play**	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions

			design an invitation card for Ranga's marriage Or Illustrate Hosahalli as per their understanding and imagination	
October	**HORNBILL** **The Voice of the Rain**	**Each student will be able to** identify poetic devices grasp the theme and meaning of the poem read the poem with proper tone and rhyme and develop an interest in poetry. strengthen their vocabulary understand the significance of the water cycle draw a comparative study of human life and nature	**Students will do the following:** **Individual Activity** -share their previous knowledge about the science behind the natural phenomena- water cycle and its significance **Group Activity:** -discuss the use of personification, imagery, metaphor and hyperbole -discuss and write answers for the following questions: I**ndividual Activity:** **Art Integration** sketch/ paint an illustration to bring out the theme of the poem or Compose a poem where they interview the rain or any other aspect of nature	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
October	**Writing Skills:** **Classified Advertisement**	**Each student will be able to** Draft classified advertisement express themselves using formal language arrange content in a pleasing, readable manner to	**Students will do the following:** **Group Activity:** contribute to the class discussion and mind map, to design interesting and relevant advertisement I**ndividual Activity:** draft	**Students will be assessed through**: Class participation Submission of work

		make it appealing	advertisements on a variety of topics given in the class	Assignment Questions
MONTH	**TOPICS/NO. OF PERIODS**	**LEARNING OUTCOMES**	**ACTIVITY**	**ASSESSMENT**
November	**HORNBILL** **Prose: The Adventure**	**Each student will be able to:** -justify the title -identify the aspects that make the lesson a science fiction -present their ideas of time travel and alternative reality	**Students will do the following:** **Group Activity:** -discuss about the plot twist and give their theory related to the experiences of the protagonist **Individual Activity:** Designing a Display Advertisement- Theme- time travel/experiencing alternative reality	**WEEKLY TEST II (11.11.22) Syllabus** **Reading Comprehension:** 1. Unseen Passage 2. Note-Making and Summarizing **Writing Skills:** 1. Advertisement 2. Poster Making 3. Debate Writing 4. Speech Writing **Grammar:** 1. Integrated Grammar- Gap filling (Tenses, Clauses) 2. Sentence reordering/ transformation **Literature:** 1. The Adventure 2. The Voice of the Rain 3. Ranga's Marriage **For the lesson, The Adventure, Students will be assessed through**:

				Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
November	**SNAPSHOTS** **Prose: Mother's Day**	**Each student will be able to** -highlight the role and status of a mother in a household (after watching the Ted talk shared with them) -identify at least 4-5 characteristics that mothers possess -analyse the theme and write their interpretation of the title. -compose a song dedicated to mothers	**Students will do the following:** **Group Activity** -brainstorm on the theme of the lesson -discuss about the role of a mother in the family **Individual Task** -identify the characteristics of the main characters	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
November	**HORNBILL** **Poem: Childhood**	**Each student will be able to** -read the poem with proper tone and rhyme and develop an interest in poetry -enrich their vocabulary -differentiate between a child and adult	**Students will do the following:** **Group Activity:** share an experience have a group discussion on the importance of reasoning and individuality	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work

		-comment on the theme and meaning of the poem -analyze the poem and identify the poetic devices -enhance their reading and writing skills	identify the poetic devices incorporated in the poem I**ndividual Activity:** **Debate writing** write a debate on the theme- 'The world of adults is filled with hypocrisy and negativity.' **Art Integration** Add a stanza to the poem incorporating at least two poetic devices	Practice Worksheets Assignment Long Answer Questions
MONTH	**TOPICS/NO. OF PERIODS**	**LEARNING OUTCOMES**	**ACTIVITY**	**ASSESSMENT**
December	**HORNBILL** **Prose: Silk Road**	**Each student will be able to:** -enumerate the benefits of writing a travelogue -interpret the title -comment on the importance of the silk road/ route and its history -compare and contrast the weather conditions and topographical features of northern India with the other parts of the country	**Students will do the following:** **Group Activity:** -discuss about the importance of writing travelogues -brainstorm on the theme of the lesson **Individual Activity:** **Note Making and summarizing** -skim the text for identifying the value points, discuss the key findings with the peers and then prepare notes for the lesson -critically appreciate the diction and style of the author and comment on the	**WEEKLY TEST II (16.12.22)** **Reading Comprehension:** 1.Unseen Passage 2. Note-Making and Summarizing **Writing Skills:** 1. Advertisement 2. Poster Making 3. Debate Writing 4. Speech Writing **Grammar:** 1. Integrated Grammar- Gap filling (Tenses, Clauses) 2. Sentence reordering/ transformation **Literature:** 1. Mother's Day

			characters and situations presented in the lesson	2. Childhood 3. Silk Road
December	**SNAPSHOTS** **Prose: Birth**	**Each student will be able to:** -enlist the qualities of doctors/ medical professionals and also the challenges they face -justify the title by giving suitable reasons -write character sketches -enrich their vocabulary and enhance reading and writing skills	**Students will do the following:** **Group Activity:** -discuss about the challenges that medical professional face in balancing personal and professional life -brainstorm on the theme of the lesson -discuss about the role of doctors in the society -identify the characteristics of the main characters I**ndividual Activity:** find out meaning of new words and expressions write answers to the questions given by the teacher	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Assignment Questions
December	**HORNBILL** **Poem: Father to Son**	**Each student will be able to** -read the poem with proper tone and rhyme and develop an interest in poetry -enrich their vocabulary -identify the lessons that the father imparts -comment on the theme and meaning of the poem	**Students will do the following:** **Group Activity:** share the life lessons that their father has shared with them identify the poetic devices incorporated in the poem	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work

		-analyze the poem and identify the poetic devices -enhance their reading and writing skills	**Individual Activity:** **Speech Writing:** write a speech on the theme- 'The child is father to the man.'	Practice Worksheets Assignment Long Answer Questions
MONTH	**TOPICS/NO. OF PERIODS**	**LEARNING OUTCOMES**	**ACTIVITY**	**ASSESSMENT**
January	**SNAPSHOTS** **The Tale of Melon City**	**Each student will be able to:** -comment on the title and plot -identify the aspects that make the lesson a satire -identify the literary devices incorporated -discuss the relevance of the theme in the modern world	**Students will do the following:** **Group Activity:** identify the literary devices incorporated in the lesson discuss the satiric elements present in the lesson **Individual Activity:** **Speech Writing:** Poster making- design a poster to promote tourism in the Melon City	**Students will be assessed through**: Short Revision test through Google forms Class participation Submission of work Practice Worksheets Assignment Long Answer Questions
January	**Assessment of Speaking and Listening Skills**	**Each student will be able to** - listen carefully to the podcast -speak in the English language confidently - use the language and vocabulary appropriately	**Students will do the following-** **Individual Activity:** ALS Activity	**Students will be assessed through**: Viva Project work
MONTH	**TOPICS/NO. OF PERIODS**	**LEARNING OUTCOMES**	**ACTIVITY**	**ASSESSMENT**
February	**Revision of the format of all the writing skills and lessons covered in the class**	**Each student will be able to-** recall the formats of the writing skills and discuss	**Each student will do the following:** attempt all the questions given for	**End Term Examination**

		the same draft sample answers for the given questions	practice discuss their answers in the class	

Psychology

Month	Topics covered	Learning outcome	Activities	Assessments
July	Chapter 1: What is Psychology? • Psychology as a Discipline • Psychology as a Natural Science • Psychology as a Social Science • Understanding Mind and Behaviour • Popular Notions about the Discipline of Psychology • Evolution of Psychology • Development of Psychology in India • Branches of Psychology • Themes of Research and Applications • Psychology and Other Disciplines • Psychologists at Work • Psychology in Everyday Life	Each student will be able to: • Explain the nature and role of psychology in understanding mind and behaviour • State the growth of Psychology • Describe the different schools of Psychology • Explain the various branches of Psychology • Explain the relationship of Psychology with other disciplines • Describe the different fields of psychology • State the various professions of psychologists Each student will be able to: • Explain the goals and nature of psychological enquiry • Describe some important methods of psychological enquiry • Identify independent and dependent variables • Create a hypothesis	• Discussion on what each students thinks about Psychology as a discipline. • Exploring how music acts as a therapy and how certain songs have proven to benefit patients medically. • Identification of overt and covert behaviours in everyday life. • Creating hypothesis from research questions • Identifying different types of variables in a given hypothesis	• Assignments • Practice sheets • MCQ • Quiz • Assignments • Practice sheets

	Chapter 2: Methods of Enquiry in Psychology • Goals of Psychological Enquiry • Steps in Conducting Scientific Research • Alternative Paradigms of Research • Nature of Psychological Data • Some Important Methods in Psychology - Observational Method Experimental Method			• Google MCQ • Quiz
August	• Some Important Methods in Psychology - Correlational Research - Survey Research - Psychological Testing - Case Study Chapter 3: The Bases of Human Behaviour • Evolutionary perspective on human behavior. • Biological and cultural roots; Nervous system and endocrine system.	Each student will be able to: • Explain correlational method • Explain reliability, validity and norms • Explain case study method • Explain the evolutionary perspective on human behavior. • State the functions of endocrine glands Explain the role of genetic factors in determining behaviour • Explain the role of neurotransmitters • Differentiate between sympathetic and parasympathetic nervous system • Describe the processes of enculturation, socialization and acculturation	• Determining the most appropriate method of enquiry for different research problems. • Brain hat would be made to show the four lobes of cerebrum • Discussion on whether psychologist should study physiology or not	• Assignments • Practice sheets • Google MCQ • Quiz • Assignments • MCQ • Practice Sheet

	• Role of neurotransmitters in behavior. • Genetic bases of behavior. • Cultural and human behavior - Socialization, - Enculturation, - Acculuration			• Quiz
September	Chapter 4: Human Development • Meaning of development • Life-span perspective on development • Bronfenbrenner's contextual view of development. • Overview of developmental stages -Prenatal development - Childhood - Adolescence Revision of Term 1 exam syllabus	Each child will be able to: • Describe the meaning and process of development • Explain the influence of heredity and environment on human development • Identify the stages of development • Describe the major characteristics of infancy, childhood and adolescence	Memory book will be made by citing own childhood experiences and pasting photographs and then categorizing them on the basis of Piaget's theory.	• Assignments • MCQ • Practice Sheet • Quiz
October	Chapter 5: Sensory, attentional	Each child will be able to:	• Students will do the	• Assignments

	and perceptual processes • Sense modalities • Attentional processes • Perceptual processes • The perceiver • Principles of perceptual organization • Perception of space, depth and distance • Perceptual constancies • Illusions • Socio-cultural influences on perception	• Explain principles of perceptual organization • Describe perceptual constancies • Explain cues of depth perception • Explain different types of illusions • State the role of socio-cultural factors in perception	activity on convergence with the help of a pencil • Muller Lyer illusion activity will be done in class	• Practice Sheet • MCQ • Quiz
November	Chapter 6: Learning • Introduction • Nature of learning • Paradigms of learning • Classical Conditioning (Determinants of Classical Conditioning) • Operant/Instrumental Conditioning (Determinants of Operant Conditioning) • Key learning processes	Each child will be able to: • Explain the nature of learning • State the paradigms of learning • Explain classical conditioning • Explain operant conditioning • Differentiate between reinforcement and punishment • Describe observational	• Discussion of old childhood memories that demonstrate observational learning. • Identifying the different behaviours learnt through classical and operant conditioning in our life.	• Assignments • Practice Sheet • MCQ • Quiz

	• Observational learning • Cognitive learning • Learning Disabilities Chapter 7: Human Memory • Nature of memory • The stage model • Memory systems • Types of long term memory	learning • State the different types of recall in verbal learning • Describe learning Disabilities Each child will be able to: • Explain nature of memory • Describe the stage model • State the memory systems • State the types of long term memory		
December	• Nature and causes of forgetting • Mnemonics Chapter 8: Thinking • Nature of thinking • Problem solving • Reasoning • Nature and process of creative thinking • Thought and Language	Each child will be able to: • Explain theories of forgetting • Describe the different types of Mnemonics Each child will be able to: • Explain the nature of thinking • Describe mental image • Explain functional fixedness • Explain linguistic relativity hypothesis Each child will be able to: • Explain the motivation cycle • Describe types of motives	• Create mnemonics for different theories • Students will close eyes and imagine an ice cream and then later describe how it looked to create a mental image	• Assignments • Practice Sheet • MCQ • Quiz

	Chapter 9: Motivation and Emotion • Nature of motivation • Types of motives • Maslow's hierarchy of needs • Frustration and conflict • Theories of emotion	• Explain Maslow's theory • Explain types of conflicts • Explain theories of emotions	• Create a motivation cycle with a specific goal	
January	Class XII syllabus Chapter 3: Meeting life challenges • Introduction • Nature, types and sources of stress • A measure of stressful life events • Effects of stress on psychological functioning and health • Examination anxiety • Stress and health general • Adaptation Syndrome • Stress and Immune System • Coping with stress • Stress management techniques • Promoting positive health and well-being	Each student will be able to: • Explain nature of stress • State sources of stress • Differentiate between eustress and distress • Explain effects of stress on psychological functioning • Describe GAS model • Explain the relationship between stress and immune system • Explain ways of	• Responding on a stress rating scale • Task to analyze problem focused coping from given situations. • Creative visualization	• Assignments • Practice Sheet • MCQ • Quiz

	• Life Skills • Resilience and • Health Revision of Term 2 syllabus	coping with stress • Explain the various stress management techniques • Explain life skills Describe resilience		

HOME SCIENCE

MONTH	NO. OF PERIODS/TOPICS COVERED	LEARNING OUTCOME	ACTIVITIES	ASSESSMENTS
JULY (20 DAYS)	**UNDERSTANGING ONESELF: (08 days)** **ADOLESCENCE** - Who am I? (1 class) - Development and characteristics of self (2 classes) - Influences on identity: (1 class)	**Students will be able to:** - Explain the concept of self-esteem and self-identity. - Outline the changes in self-description from infancy to adolescence. - Describe influence of biological and physical changes on identity of adolescent.	Padlet activity, jam board, group discussion on adolescence a phase of dilemma and disagreements.	1) Google form 2) Kahoot quiz 3) Class test (google form)

	biological and physical changes; socio-cultural effects; emotional changes; Cognitive changes (4 classes)	- Recite the emotional changes in the stage		
	FOOD, NUTRITION, HEALTH AND FITNESS (7days) - Balanced Diet (1 class) - Food Groups (1 class) - Diet for Adolescent (2 class) - Factors influencing eating behaviors, - Eating disorders. (2 classes) - Practical (2 classes)	**Students will be able to:** - define the terms food, nutrition, health, fitness and balanced diet. -explain the food groups - Outline the changes in diet of an adolescent. - highlight the factors influencing eating behavior. -explain the term eating disorders.	1) Record a 24 hour diet for yourself and calculate your BMI on that basis 2) Plan a suitable balanced diet for an adolescent keeping in mind his likes and dislikes.	1) Oral questioning 2) Worksheet 3) Assignment questions 4) Class test
	NUTRITION, HEALTH & HYGIENE (5 DAYS) - Health and its dimensions (1 day) - Health indicators (2 days) - Nutrients, nutrition and health (1day) - Factors affecting nutritional wellbeing (1 day)	Students will be able to – - Discuss the importance of health and its dimensions - Outline the relationship between nutrition and health - Identify the consequences of under- and over- nutrition - Enumerate the functions and diseases of each nutrient.	To prepare a food thali (any cuisine) that has nearly all macro and micro nutrients. Make a small video presentation of the same.	- Worksheet - Assignment - Class test
AUGUST (19 days)	**<u>MANAGEMENT OF RESOURCES (6 days)</u>** Classification of resources	Students will be able to - Define the term 'resources'	**Activity:** To identify 10 resources available in the neighborhood and to classify them under human and non-	A) Oral questioning B) Worksheet

	(1day) -Characteristics of resources (2 days) -Steps in management or management process (3 days)	- Classify Resources - State the characteristics of resources - Recognize the importance of management - Apply management process in real life situations	human resources.	C) Assignment questions Class test
	FABRICS AROUND US (6 days) - Fibers and its classification (2 days) - Characteristics and suitability to use of- cotton, silk, wool, rayon, nylon, polyester, blended fabrics (2 days) - Comparison of different fabrics (2 days)	Students will be able to- define fibre and yarn. - Classify fibers - List the properties of each fiber type - Analyze the suitability of various fibres.	**ART INTEGRATION** Collect samples of different types of fabrics easily available at home. Make a collage with the same	- Worksheet - Assignment - Class test
	NUTRITION, HEALTH AND WELL BEING (07 days) - During infancy Nutritional needs Breastfeeding Weaning foods Immunization Problems in infants (3 classes) - During pre-school stage Nutritional needs Healthy eating Feeding CWSN Immunization (3 classes) - For school-going children Nutritional needs Diet planning Factors affecting diet (4	Students will be able to- - Describe the nutritional needs of children at different stages of development - Plan balanced meals for children - Elaborate on the food habits - Outline health and nutritional problems of children Describe the immunization schedule that is suitable for them	Activity: Prepare an educational tool to enumerate the importance of healthy eating, for a target audience of 6-10 years. -	Worksheet Assignment - Class test

	classes)			
SEPTEMBER – 22 DAYS **(7 DAYS TEACHING, REST OF THE DAYS REVISION AND EXAMS)**	**MEDIA AND COMMUNICATION TECHNOLOGY (7 DAYS)** • What is Communication and Classification of communication (1day) • How does communication takes place (1day) • Media classification and functions ¬ What is communication technology (1day) • Classification of communication technologies (2days) • Modern communication technologies(1day)	Each child will be able to: - Define the term media, communication and technology - Classify the different types of media - Tabulate the functions of media and communication	Collaborative google slides activity	- Worksheet - Assignment - Class test
OCTOBER – 13 DAYS	**RESOURCES AVAILABILITY AND MANAGEMENT (7 days)** - Time Management (1 day) - Formulating a time plan (2days) - Steps of energy conservation (2 days) - Space management: principles (2 days)	Students will be able to- - Describe time and space as important resources. - Discuss ways of managing time and space - Enumerate the tools in time management. - Enlist the principles of space management.	Aesthetic organization of your room to enhance space, by incorporating different elements and principles of design	- Worksheet - Assignment - Google form
	SURVIVAL, GROWTH AND DEVELOPMENT (6 days) - Growth and development (2 classes) - Domains of development (2 classes)	Students will be able to- - Explain survival, growth and development - Differentiate between growth and development - Elaborate on the characteristics of	**Activity:** Visit to the online school nursery and observe the preschooler. Make the observations across all the domains of development. Write a report on the same.	- Worksheet - Assignment - Class test

	- Stages of development (2 classes) -	different domains od development at each stage of life till adolescence - Outline developmental milestones		
NOVEMEBER – 21 DAYS	**HEALTH & WELLNESS (during adulthood) (10 DAYS)** - Health parameter like BMI (2 classes) - Fitness (2 classes) - Wellness and its dimensions (1 class) - Stress and coping with it (2 classes) - Practical (3 classes)	Students will be able to- - Outline the importance of health and fitness - Explain the health concerns and challenges during adulthood - Describe the concept of wellness - Describe the steps to promote good health	Make a diet chart for adult, outlining portion size and dos and don'ts of eating. Assess the BMI of self and all members of the family. Suggest corrective measures, if required.	- Worksheet - Assignment - Class test
	OUR APPAREL (11 days) - Functions (3 classes) - Factors affecting clothes selection (3 classes) - Clothing requirement at different childhood stages and during adolescence (3 classes) - Practical (2 classes)	Students will be able to- - Enumerate the functions of food - Outline criteria for selection of clothing for children across different age groups - Elaborate on the clothing needs of CWSN	You have to buy clothes for your 5-year-old nephew. Outline the criteria based on which you will make your selection.	- Worksheet - Assignment - Class test
DECEMBER- 22 DAYS	**FINANCIAL MANAGEMENT AND PLANNING (11 DAYS)** - Financial management (2 classes) - Types of family income (2 classes) - Family budget and formulations (2 classes) - Record of expenses (1	Students will be able to- - Understand the meaning and concept of financial management - Know the different types of family income - Explain the steps of making family budget - Define meaning of savings and	**Activity-** Prepare a weekly record of income and expenditure of your family. Suggest ways to increase income and reduce expenditure.	- Worksheet - Assignment - Class test

	class) - Meaning of saving and investment (1 classes) - Principles of investment (2 classes) - Practical (2 classes)	investments - Elaborate the principles of investment		
DECEMBER	**CARE & MAINTENANCE OF FABRICS (11 days)** - Laundry and stain removal (2 classes) - Different methods of cleaning (2 classes) - Fabric finishes (2 classes) - Properties of fabrics and the methods of care (2 classes) - Care labels (1 class) - Practical (2 classes)	Students will be able to- - Enumerate the various aspects of care and maintenance - Outline the procedure for removal of different types of stains - Describe the role of soaps and detergents - Describe the correct process of care of different types of fabrics	- Market survey- To survey the market and find out various types of soaps/ detergents/ reagents used for washing of garments.	- Worksheet - Assignment - Class test
	COMPLETION OF PRACTICAL FILE: 1. Plan a budget for a given situation/purpose. 2. a) Record the fabrics and apparel used in a day b) Categorize them according to functionality 3. Relationship of fiber properties to their usage: a) Thermal property and flammability b) Moisture absorbency and comfort 4. (a) Analyze label of any one garment with respect to: Clarity, fiber content, size	**Each child will be able to:** 1) complete their file work 2) learn to use the different fabrics 3) evaluate the thermal properties of fibers 4) develop and analyze the label of any one garment.	Complete the given activites	Skill presentation

	and care instructions. (b) Prepare one care label of any garment. (c) analyze two different fabric samples for color			
JANUARY	**REVISION FOR TERM END** 1) Survival, Growth and Development 2) Nutrition, Health and Wellbeing 3) Our Apparel 4) Health and Wellness 5) Financial Management and planning 6) Care and Maintenance of fabrics	**Each child will be able to:** - Revise the topics - Clear their doubts - Ask their queries - Prepare well for term 2 exams	Revision questions from the all topics that were covered during term 1	- Worksheet - Class test

BIOLOGY

MONTH	NO. OF PERIODS/TOPICS COVERED	LEARNING OUTCOMES	ACTIVITIES	ASSESSMENT
July	Morphology of Flowering Plants (6)	Each student will be able to: • name two types of root systems and give example of each • draw diagram to show regions of root tip • state the modifications of root, stem and leaf • differentiate between racemose and cymose inflorescence • compare hypogynous, perigynous and epigynous flowers • explain the four main types of aestivation • describe the types of placentation • distinguish between dicot and monocot seed • draw the floral diagram of Solanaceae and mention its floral formula	• Identification of different modifications in roots, stems and leaves as well as different parts of a flower from their pictures • Identification of different types of inflorescence, phyllotaxy, aestivation and placentation from their pictures as well as drawing their diagrams • Creation of floral formula and floral diagram from the features of the family Solanaceae **Experiment (Biology Lab) (4 classes)** • Parts of a compound microscope • Study and describe locally available common flowering plants, from family Solanaceae(Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) including dissection and display of	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)

			floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams), type of root (tap and adventitious); type of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound) • Different types of inflorescence (cymose and racemose)	
	Morphology of Flowering Plants ****	*Each student will be able to:* • *draw the floral diagram of Fabaceae and Liliaceae and mention their floral formula*	• *Creation of floral formula and floral diagram from the features of the families Fabaceae and Liliaceae*	• *Class participation (written and oral)*
	Anatomy of Flowering Plants (6)	Each student will be able to: • name the two main groups of plant tissues • explain the various meristematic tissues	• Identification of different types of plant tissues from their pictures. • Comparing the structure, location and function of parenchyma, collenchyma and sclerenchyma	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)

		• compare parenchyma, collenchyma and sclerenchyma • mention three types of tissue systems • compare the anatomy of dicot and monocot plants • describe the formation of secondary growth . • differentiate between heart wood and sap wood	• Drawing diagrams of simple and complex tissues as well as different types of vascular bundles • Comparing the anatomical features of monocot and dicot root, stem and leaf with the help of their diagrams **Experiment (Biology Lab) (2 classes)** • Preparation and study of T.S. of dicot and monocot roots and stems (primary).	
	Structural organization in animals (3)	Each student will be able to: • explain digestive, circulatory, respiratory, nervous and reproductive system of frog	• Identification of external features of frog • Diagrammatic representation of internal organs of frog showing complete digestive system • Identification of parts of male and female reproductive system of frog	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)

	Structural Organisation in Animals ****	*Each student will be able to:* • *name the different types of animal tissues.* • *differentiate between simple epithelium and compound epithelium* • *mention the function of connective tissue* • *distinguish between tendon and ligament as well as bone and cartilage* • *state the components of blood* • *compare striated, smooth and cardiac muscle* • *describe the structure of neuron and explain its function* • *draw the diagram of a neuron* • *explain alimentary canal, circulatory system and reproductive system of earthworm and cockroach*	• *Identification of different types of animal tissues from their pictures as well as drawing their labelled diagrams* • *Comparing the skeletal, smooth and cardiac muscles with the help of their diagrams*	• *Class participation (written and oral)*
	Cell: The Unit of Life (5)	Each student will be able to:	• Comparing plant cell and animal cell as well as	• Quiz using Google forms

		• explain discovery of cell • mention the cell theory • compare plant cell and animal cell as well as prokaryotic cell and eukaryotic cell • state the role of mesosome in prokaryotic cell • mention the structure and function of cell membrane, cell wall, Golgi apparatus, vacuoles, endoplasmic reticulum and lysosomes • differentiate between smooth endoplasmic reticulum and rough endoplasmic reticulum • explain the structure and function of mitochondrion and draw its diagram • name the three types of plastids and state their functions • describe the structure of chloroplast and draw its diagram • compare the electron microscopic structure of	prokaryotic and eukaryotic cell • Identification of different cell organelles from their pictures as well as drawing their labelled diagrams • Drawing the structure of mitochondrion and chloroplast as well as electron microscopic structure of cilia • Comparing three types of plastids on the basis of their pigments and function • Drawing four types of chromosomes based on the position of centromere as well as labelled diagrams of plant cell and animal cell • Practice of key words **Art Integration** **'Edible Cell Model'** • Each student will build an edible model of either a plant or an animal cell (cake/pizza/ cookie) using various food items to represent each part/organelle.	• Class participation (written and oral) • Weekly assignment/ worksheet (submission of work) • Art integrated learning

		cilia/flagella and centriole • draw four types of chromosomes based on the position of centromere • draw labeled diagram of plant and animal cell	**Experiment (Biology Lab) (2 classes)** • Study of osmosis by potato osmometer • Study of plasmolysis in epidermal peels (e.g. Rhoeo/lily leaves or flashy scale leaves of onion bulb)	
August	Biomolecules (5)	Each student will be able to: • give two examples of biomacromolecules • give reason as to why lipids are not biomacromolecules • list the functions of proteins, carbohydrates and nucleic acids • explain four levels of protein structure • describe the structure of DNA • mention three properties of enzymes and explain their functions	• Diagrammatic representation of small molecular weight organic compounds in living tissues • Drawing four levels of protein structure and secondary structure of DNA • Drawing graphs to show effect of change in pH, temperature and concentration of substrate on enzyme activity **Experiment (Biology Lab) (2 classes)** • Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)

		• explain activation energy of enzymes • list three factors affecting the functions of enzymes • state three kinds of cofactors and mention their application.		
	Biomolecules ****	*Each student will be able to:* • *name the bonds linking monomers in a polymer* • *explain the concept of metabolism* • *compare anabolic and catabolic pathways* • *justify that the living state is a non-equilibrium steady state to be able to perform work*	• *Drawing diagram indicating secondary structure of DNA*	• *Class participation (written and oral)*
	Cell Cycle and Cell Division (5)	Each student will be able to: • explain cell cycle • state three processes which take place in interphase • mention the significance of mitosis • describe the different stages	• Identification of the various stages of mitosis and meiosis from their pictures as well as drawing their diagrams • Comparison of mitosis and meiosis • Discussion on the	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)

		of mitosis with the help of labelled diagrams • compare cytokinesis in plant cell and animal cell • differentiate between mitosis and meiosis • explain the significance of meiosis • describe the different stages of meiosis I and II with the help of labelled diagrams	significance of mitosis and meiosis **Experiment (Biology Lab) (2 classes)** • Mitosis in onion root tip cells and animal cells (grasshopper) from permanent slides.	
	Transport in Plants ****	*Each student will be able to:* • *mention two factors affecting the rate of diffusion* • *explain the role of protein pumps during active transport* • *give reason as to why pure water has maximum water potential* • *draw diagram to show plant cell plasmolysis* • *differentiate between imbibition and diffusion* • *state mass flow hypothesis*	• *Identification of facilitated diffusion and plant cell plasmolysis from their pictures* • *Comparison of symplast and apoplast pathways of movement of water with the help of their diagrams* • *Diagrammatic representation of the mechanism of transpiration and translocation and the comparison of two mechanisms*	• *Class participation*

		• *compare apoplast and symplast pathways of movement of water in plants* • *justify that transpiration is a necessary evil* • *list the factors responsible for ascent of xylem sap in plants* • *describe pressure flow hypothesis of translocation of sugar in plants*		
	Mineral Nutrition *****	*Each student will be able to:* • *list four broad groups of essential elements* • *mention the criteria for essentiality of an element in plant* • *state the importance of various minerals for the growth of plants and mention their deficiency symptoms* • *differentiate between active and passive absorption* • *describe the process of nitrogen fixation in plants*	• *Making a flow chart to show macronutrients and micronutrients* • *Diagrammatic representation of the nitrogen cycle showing relationship between the three main nitrogen pools - atmosphere, soil and biomass as well as development of root nodules in soyabean*	• *Class participation*

		• *explain the process of development of root nodules in plants*		
	Photosynthesis in Higher Plants (7)	Each student will be able to: • state the importance of photosynthesis • mention the site of photosynthesis • name four pigments involved in photosynthesis • explain the structure of chloroplast and its role in photosynthesis • compare cyclic and non-cyclic photophosphorylation • illustrate Calvin cycle and Hatch and Slack pathway • differentiate between the anatomy of leaf in C_3 and C_4 plants • explain the process of photorespiration	• Identification of graph showing the absorption spectrum of chlorophyll a, b and the carotenoids • Drawing a labelled diagram of the structure of chloroplast • Comparison of cyclic photophosphorylation and non-cyclic photophosphorylation with the help of their diagrams • Diagrammatic representation of Calvin cycle and Hatch and Slack pathway • Comparison of anatomy of leaf in C3 and C4 plants **Experiment (Biology Lab) (2 classes)** • Separation of plant pigments through paper chromatography	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work) **Term-I Weekly test -12.08.22** • Morphology of Flowering Plants • Anatomy of Flowering Plants • Structural organization in animals

		• list the various factors affecting the process of photosynthesis	• Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.	
	Respiration in Plants (2)	Each student will be able to: • name two types of respiration and compare them • explain glycolysis and fermentation • mention two steps of glycolysis in which ATP is utilized	• Making a one-line flow diagram to show steps of glycolysis. **Experiment (Biology Lab) (2 classes)** • Study of distribution of stomata in the upper and lower surfaces of leaves • Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.	• Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)
September	Respiration in Plants (2)	Each student will be able to: • illustrate the citric acid cycle • differentiate between glycolysis and citric acid cycle • describe electron transport system	• Diagrammatic representation of the citric acid cycle and electron transport system • Comparison of glycolysis and citric acid cycle • Making a flow chart to show interrelationship among	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet

		• justify that aerobic respiration is more efficient • give reason as to why respiratory pathway is called amphibolic pathway	metabolic pathways showing respiration mediated breakdown of different organic molecules to carbon dioxide and water	
	Plant Growth and Development (5)	Each student will be able to: • state the characteristics and conditions for growth • name the three phases of growth • plot graphs to show arithmetic and geometric growth • explain differentiation, dedifferentiation and redifferentiation • describe the characteristics, discovery, physiological effects and application of various plant growth regulators	• Plotting graphs to show arithmetic and geometric growth • Making a flow chart to show various plant growth regulators	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)
	The Living World (2)	Each student will be able to: • mention any two characteristics of	• Finding out the generic and specific names of 5 plants and animals	• Quiz using Google forms • Class participation (written and oral)

		living organisms • give reason as to why it is important to classify organisms • explain binomial nomenclature with an example • list the universal rules of nomenclature • name taxonomic categories in ascending order of hierarchical arrangement	• Arrangement of taxonomic categories showing hierarchial arrangement in ascending order	• Weekly assignment/ worksheet (submission of work)
	The Living World ****	*Each student will be able to:* • *describe the different taxonomical aids*	• *list five zoological parks of India*	• *Class participation*
	Revision for Mid-Term Exams (7)	Each student will be able to: • answer simple MCQs on various concepts. • solve assertion-reasoning based MCQs • recall and apply concept to solve complex MCQs.	• Students will solve questions given for practice from NCERT Textbook, Assignments, and Exemplar (both written and oral) and get their doubts clarified • Discussion on Important points and common errors	• Class participation (written and oral) **Mid-Term Examinations 21.09.22 to 30.09.22** • Morphology of Flowering Plants • Anatomy of Flowering Plants • Structural Organisation in

		• solve source-based, case-based and diagram-based questions		Animals • Cell: The Unit of Life • Biomolecules • Cell Cycle and Cell Division • Photosynthesis in Higher Plants • Respiration in Plants
October	Biological Classification (4)	Each student will be able to: • compare characteristics of the five kingdoms • name the four categories of bacteria based on their shape • distinguish between Archaebacteria and Eubacteria • name the groups of Kingdom Protista and state two characteristics of each. • mention two features of Kingdom Fungi • compare the features of classes of fungi • mention one feature each of	• Comparison of the characteristics of the five kingdoms • Identification of different types of bacteria, protists and fungi from their pictures **Art integration** **'Video Presentation'** • Students in groups will make video presentation on different kingdoms/groups and present the same in the class	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work) • Art integrated learning

		viruses, viroids, prions and lichens		
	Plant Kingdom (4)	Each student will be able to: • describe the basis of classification of algae • state two characteristics each of Algae, Bryophyta, Pteridophyta, Gymnosperms • compare the features of chlorophyceae, Phaeophyceae and Rhodophyceae. • differentiate between bryophytes and pteridophytes • explain the importance of algae and gymnosperms	• Comparison of divisions of algae and their main characteristics • Identification of different types of algae, bryophytes, pteridophytes and gymnosperms from their pictures **Experiment (Biology Lab) (2 classes)** • Specimens/slides/models and identification with reasons - Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)
	Plant Kingdom ****	*Each student will be able to:* • *explain the features of angiosperms* • *describe plant cycle and alternation of generations.*	• *Drawing life cycle of an angiosperm* • *Diagrammatic representation of Life cycle patterns: (a) Haplontic (b) Diplontic (c) Haplo-diplontic*	• *Class participation (written and oral)*

	Animal Kingdom (5)	Each student will be able to: • explain the different features used as basis of animal classification. • state two characteristic features of different phyla (Porifera, Coelenterata, Ctenophora, Platyhelminthes, Aschelminthes, Annelida, Arthropoda, Mollusca and Echinodermata) • give one example each of Porifera, Coelenterata, Ctenophora, Platyhelminthes, Aschelminthes, Annelida, Arthropoda, Mollusca and Echinodermata • mention two characteristic features each of Amphibia, Reptilia, Aves and Mammalia • give one example each of Amphibia, Reptilia, Aves and Mammalia	• Comparison of chordates and non-chordates, Chondrichthyes and Osteichthyes as well as amphbians and reptiles **Experiment (Biology Lab) (2 classes)** • Virtual specimens / slides/models and identifying features of – Amoeba, Hydra,liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honey bee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit **Art Integration 'Role play'** • Each student will select one animal from a particular phylum and enact the same explaining its characteristic features.	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work) • Art integrated learning

November	*Digestion and Absorption* ****	*Each student will be able to:* • *list the organs of human alimentary canal in sequence* • *draw a well labeled diagram of human digestive system.* • *explain the structure and function of different parts of alimentary canal* • *name the different types of teeth and their number in an adult human* • *state the dental formula of human beings* • *describe the mechanical and chemical processes involved in digestion of food* • *explain absorption of digested products in humans* • *mention any two disorders of digestive system*	• *Identification of different parts of the alimentary canal and drawing its labelled diagram* • *Identification of different types of teeth in the jaw on one side* • *Diagrammatic representation of transverse section of gut*	• *Class participation*
	Breathing and Exchange of gases (5)	Each student will be able to:	• Identification of different parts of the human	• Quiz using Google forms

		• explain human respiratory system • draw respiratory system of human beings • list the steps involved in respiration • differentiate between inspiration and expiration • describe exchange and transport of gases • draw oxygen dissociation curve • explain regulation of respiration • name any two disorders of respiratory system	respiratory system and drawing its labelled diagram • Comparison of the process of inspiration and expiration with the help of their diagrams • Diagrammatic representation of exchange of gases at the alveolus and the body tissues with blood and transport of oxygen and carbon dioxide • Diagrammatic representation of a section of an alveolus with a pulmonary capillary • Drawing of oxygen dissociation curve **Art Integration 'PowerPoint Presentation'** • Students will create an amusement park based on the various systems and organs within the human body and present the same in the class	• Class participation (written and oral) • Weekly assignment/ worksheet (submission of work) • Art integrated learning

	Body Fluids and Circulation (8)	Each student will be able to: • mention the different components of human blood and state their functions • list the four types of blood groups and their donor compatibility • give reason as to why the wound does not continue to bleed for a long time • state the function of lymphatic system • differentiate between open and closed circulatory system. • draw and explain the structure and function of human heart • explain cardiac cycle • state the use of ECG • explain regulation of cardiac activity • list the disorders related to circulatory system.	• Identification and diagrammatic representation of formed elements in blood • Showing the correct matching of the blood group of a recipient with that of a donor in a tabular form • Comparison of blood and lymph as well as open and closed circulatory system • Making flow diagrams to depict single and double circulation • Diagrammatic representation of a section of a human heart • Representation of schematic plan of blood circulation in humans • Making a flow chart showing the stages of cardiac cycle in proper order • Diagrammatic presentation of a standard ECG and identification of the different segments in it	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)

			• Comparison of heart failure and cardiac arrest	
	Excretory Products and their elimination (8)	Each student will be able to: • give reason as to why terrestrial animals are generally either ureotelic or uricotelic but not ammonotelic • name the parts of human excretory system • draw labelled diagram of human excretory system • explain the structure of kidney and nephron with the help of diagrams • describe the process of urine formation • state the function of proximal convoluted tubule, Henle's loop, distal convoluted tubule and collecting duct • explain the counter current mechanism • describe the regulation of kidney function	• Identification of the parts of human excretory system and drawing its labelled diagram • Diagrammatic representation of the longitudinal section of kidney as well as a nephron showing blood vessels, duct and tubule • Representation of the reabsorption and secretion of major substances at different parts of the nephron • Diagrammatic representation of a nephron and vasa recta showing counter current mechanisms **Experiment (Biology Lab) (6 classes)** • Test for presence of urea in urine. • Test for presence of sugar in urine. • Test for presence of albumin in urine.	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work) **Term-II Weekly test Round 1-25.11.22** • The Living World • Biological Classification • Plant Kingdom • Animal kingdom

		• state the role of lungs, liver and skin in the elimination of wastes from the body • mention any two disorders of the excretory system	• Test for presence of bile salts in urine.	
December	Locomotion and Movement (6)	Each student will be able to: • mention the structure and function of skeletal muscle • explain the structure of contractile proteins • describe the sliding filament theory of muscle contraction • mention basic types of movements in various animals. • explain the skeleton system of humans • describe the various joints • list the different disorders of bones in humans.	• Comparison of actin filament and myosin filament with the help of diagrams • Diagrammatic representation of a sarcomere as well as sliding filament theory of muscle contraction • Diagrammatic representation of human skull, vertebral column, ribs and rib cage as well as pelvic and pectoral girdle **Experiment (Biology Lab) (6 classes)** • Human skeleton and different types of joints with the help of virtual images/models only	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)

	Neural Control and Coordination (8)	Each student will be able to: • explain nervous system in humans • describe the structure and types of neurons • explain the generation, conduction and transmission of nerve impulse • differentiate between CNS and PNS • name the three major parts of brain and explain their functions	• Diagrammatic representation of structure of neuron and impulse conduction through an axon • Comparison of thalamus and hypothalamus as well as cerebrum and cerebellum • Diagrammatic representation of sagital section of human brain	• Quiz using Google forms • Class participation (written and oral) • Weekly assignment/ worksheet (submission of work)
	Neural Control and Coordination ****	*Each student will be able to:* • *explain reflex action and reflex arc* • *state two examples of reflex action.* • *describe the structure and function of human eye and ear* • *explain mechanism of vision and hearing*	• *Diagrammatic representation of reflex action* • *Diagram showing parts of an eye* • *Diagrammatic view of ear* • *Diagrammatic representation of the sectional view of cochlea*	• *Class participation (written and oral)*
	Chemical Coordination and	Each student will be able to:	• Correct location of	• Quiz using Google forms

	Integration (8)	• list the various endocrine glands. • describe the location and structure of any two endocrine glands, the hormones secreted by them, their functions in human body and various disorders related to them. • explain role of hormones of heart, kidney and gastrointestinal tract • describe mechanism of hormone action	endocrine glands in human body • Diagrammatic representation of pituitary and its relationship with hypothalamus • Diagrammatic representation of (a) Adrenal gland above kidney (b) Section showing two parts of adrenal gland • Making flow chart to show mechanism of hormone action • Diagrammatic representation of the mechanism of hormone action (a) Protein hormone (b) Steroid hormone	• Class participation (written and oral) • Weekly assignment/ worksheet (submission of work) **Term-II Weekly test Round 2- 30.12.22** • Breathing and Exchange of gases • Body Fluids and Circulation • Excretory Products and their elimination
January/February	Revision for End Term Examination	Each student will be able to: • answer objective and short answer type questions on various concepts. • solve case-based and assertion-reasoning type questions • recall and apply concept to solve questions based on	• Students will solve questions given for practice from NCERT Textbook, Assignments, and Exemplar (both written and oral) and get their doubts clarified • Discussion on Important points and common errors	• Class participation (written and oral) **End-Term Examination 17.02.23 to 27.02.23** • The Living World • Biological Classification • Plant Kingdom • Animal Kingdom • Morphology of Flowering Plants

		Plant Physiology and Human Physiology • relate the concept and solve questions on Cell Cycle and Cell Division • draw diagrams of different stages of mitosis and meiosis, Calvin cycle, Hatch and Slack pathway, glycolysis, cyclic and non-cyclic photophosphorylation.		• Anatomy of Flowering Plants • Structural Organisation in Animals • Cell: The Unit of Life • Biomolecules • Cell Cycle and Cell Division • Photosynthesis in Higher Plants • Respiration in Plants • Plant - Growth and Development • Breathing and Exchange of Gases • Body Fluids and Circulation • Excretory Products and their Elimination • Locomotion and Movement • Neural Control and Coordination • Chemical Coordination and Integration
****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2022-23. However, these topics will be covered through discussion in the class to bridge the learning gaps.			

CHEMISTRY

Month	Topic Covered & No. of Periods	Learning outcomes	Activities	Assessments
July	**Classification Of Elements and Periodicity in Properties** **No. of periods: 12**	**Each student will be able to:** • Discuss the need of classification of elements. • State Modern Periodic Law. • Discuss the basis and features, merits and demerits of Mendeleev's and Modern Periodic	• Diagnostic activity (Quiz) • Picture prompt activity • Write the electronic configuration to determine valency of the given elements. • Simulation Activity	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet

		Table. • Explain the significance of electronic configuration as the basis of classification. • Explain the features, merits and demerits of long form of Periodic Table. • Write and explain the electronic configuration of first twenty elements (using rules for filling of orbitals). • Classify the elements into s, p, d & f blocks and compare their characteristics. • Calculate the valency of the above elements from their configuration. • Write IUPAC names for elements with Z > 100. • Predict the position of the elements (period and group no) in the periodic table using configuration. • Define periodic properties- atomic and ionic radii, ionization enthalpy, electron affinity, electronegativity, valency and chemical reactivity. • Explain the trends and exceptions related to the above periodic properties. • Compare the relationship between ionization enthalpy and metallic character. • Explain diagonal relationship shown by Li and Mg, Be and Al. • Solve reasoning-based questions on the periodic trends.	• Brainstorming for the trends of periodic properties. • Prepare a concept map for the periodic trends. • **Case study** on periodic properties and their trends. • **Lab Activity (Volumetric Analysis)** • Instructions for Volumetric analysis & experiment demonstration and file format discussion. **(4 periods)** • Determine the strength of the given NaOH solution by titrating it against M/10 HCl solution. **(4 periods)**	(Submission of work) • Class Test
July **contd.**	**Some Basic Concepts Of Chemistry** **No. of periods: 8 (+2 extra)**	**Each child will be able to:** • Explain the characteristics of three states of matter. • Classify different substances into elements, compound and mixtures. • Define & explain various laws of chemical combination and solve related numerical. • Discuss the significance of atomic mass, average atomic mass, molecular mass and formula mass.	• Student will tabulate the differences between solids, liquids and gases. • Students will prepare a formula sheet using graphic organizer (Mole concept & molality, molarity etc) • **Hook activity -** Mole Concept • Simulation Activity • Sandwich preparation activity discussion- concept of limiting reagent- Simulation game on stoichiometric calculations.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work)

		• Explain the term mole and write formulae related to mole concept. • Solve numerical on mole concept. • Define the term empirical formula and molecular formula and relate the two. • Calculate the empirical & molecular formula for a compound from the given data. • Define the terms- molarity, molality and mole fraction. • Solve numerical based on molarity, molality and mole fraction.	• **Lab Activity (Volumetric Analysis)** • Determine the strength of the given NaOH solution by titrating it against M/20 oxalic acid solution. **(4 periods)** • Determine the strength of the given Na_2CO_3 solution by titrating it against M/10 HCl solution. **(4 periods)**	
August	**Some Basic Concepts Of Chemistry** **No. of periods: 2**	**Each child will be able to:** • Define the terms-limiting reagent and stoichiometry. • Solve numerical based on limiting reagent and stoichiometric calculations.	• **Case study** on molarity and molality/ stoichiometric calculations.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet • Class Test
August **Contd.**	**Redox Reactions** **No. of periods: 10**	**Each student will be able to:** • Define the terms oxidation, reduction, oxidizing & reducing agent in terms of classical concept and electronic concept. • Cite examples for redox reactions in terms of classical, electronic & Oxidation number concept. • Apply rules to calculate oxidation number of an atom in different species. • Discuss the term disproportionation reaction. • Apply the rules to calculate oxidation number for an element in different species. • Balance redox reactions using half reaction & oxidation number method. • Learn the concept of redox reactions in terms of electrode process (Galvanic cell) and electrochemical series. • Apply electrochemical series to determine the relative strength of oxidants and reductants and feasibility of reactions.	• **Hook activity** to initiate discussion on Redox reactions • Prepare a concept map for basis to classify oxidation and reduction & types of redox reactions • Simulation Activity • Students' presentation on types of redox reactions. • Discussion on Electrochemical Cells as storage devices and applications of electrochemical series. • **Case study** on electrochemical cells. • **Lab Activity (Qualitative analysis)** Instructions for the classification and the chemical tests of acidic radicals (anions) and basic radicals (cations). **(4 Periods)** To determine an anion and a cation present in the given salt samples. (Group 1 – Pb salts) **(4 Periods)**	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work) • Class Test • **Weekly Test I (18.08.22)** ✓ Some Basic Concepts of Chemistry ✓ Classification Of Elements and Periodicity in Properties

August **Contd.**	**Structure Of Atom** **No. of periods: 7** **(+2 extra)**	**Each student will be able to:** • Draw and explain Electromagnetic spectra. • Differentiate between continuous and discontinuous spectra (Atomic absorption and Atomic emission spectra). • Define & explain Black body radiation, Planck's Quantum theory and Photoelectric effect. • Discuss the postulates and limitations of Bohr atomic model. • Draw and explain the line spectrum of Hydrogen atom. • Derive de Broglie equation and formula for Heisenberg's Uncertainty Principle. • Solve numerical on de Broglie equation and Heisenberg's Uncertainty Principle.	• Group discussion on continuous spectrum, black body radiation, photoelectric effect and Bohr's model of atom. • Students' presentation on continuous and discontinuous spectra, Black body radiation, Planck's Quantum theory and Photoelectric effect. • Define & explain Black body radiation, Planck's Quantum theory and Photoelectric effect. • Draw and analyse line spectrum of Hydrogen, draw orbital picture diagrams for different orbitals • Simulation Activity • Discussion on Atomic Spectra, orbits and energy levels. • **Lab Activity (Qualitative analysis)** To determine an anion and a cation present in the given salt samples. (Zero Group – NH_4^+ salts) **(4 Periods)** To determine an anion and a cation present in the given salt samples. (Group 3 – Al salts) **(4 Periods)**	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work)
Sept.	**Structure Of Atom Contd.** **No. of periods: 6** **(+1 extra)**	**Each student will be able to:** • Discuss the basis and postulates of Quantum mechanical model. • Discuss the properties of different types of orbitals (s, p, d, f). • Draw orbital picture diagrams for s, p and d orbitals. • Interpret the quantum numbers for a given notation. • State and explain the rules involved in the filling of orbitals-Aufbau rule, n+l rule, Pauli's Principle and Hund's rule. • Predict and write the electronic configuration	• **Hook Activity** Picture prompt on orbital diagrams. • Compare magnetic behaviour of different ions using electronic configuration. • Simulation Activity • **Case study** on Atomic spectra/ magnetic behaviour of species. • **Lab Activity (Qualitative analysis)** To determine an anion and a cation present in the	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work) • Class test • **Mid Term Examination (21.09.22 to 30.09.22)** ✓ Some Basic Concepts of Chemistry

	Revision **No. of periods: 3**	of the different species (atoms/ ions). • Discuss reason for the exceptional configurations. • Predict the magnetic behaviour of different species from their electronic configuration. • Identify the iso-electronic species. • Solve reasoning and application-based questions on the above topics.	given salt samples. (Group 5 –Ba, Sr, Ca salts) **(4 Periods)**	✓ Structure of Atom ✓ Classification Of Elements and Periodicity in Properties ✓ Redox Reactions
Oct	**Chemical Bonding and Molecular Structure** **No. of periods: 13**	**Each student will be able to:** • Explain Kossel-Lewis approach to chemical bonding. • State and explain octet rule & its limitations. • Depict the formation of different types of bonds. • Draw Lewis dot structure & hence calculate formal charge on each atom of the molecule. • Explain the valence bond approach to covalent bond. • Differentiate between σ & π bonds. • Predict the directional properties of covalent bond. • Discuss the concept of Resonance & also draw the resonating structures. • Draw and explain the hybridization patterns for different molecules and ions. • Apply VSEPR Theory to predict the geometries of molecules. • Define dipole moment and discuss its applications. • Predict and justify the magnetic behaviour of the molecules using dipole moment concept. • Explain H-bonding and its requirements. • Differentiate between inter and intra	• Prompts / Discussion on the terms hybrid/ hybridisation & resonance. • Comparison between ionic and covalent compounds. • Simulation Activity • Picture prompt (Review activity) Complete the chart by identifying the correct hybridization and geometry. • Hook activity on different bonding concepts. **Art Integration Activity** **3-D Ball and Stick models** • Design two (3-D) molecular models [for covalent compounds /isomers / diamond / graphite (allotropes of C] and explain the hybridisation involved in the structure of compound (using materials of your choice). • **Case study** on dipole moment. • **Lab Activity (Qualitative analysis)** To determine an anion and a cation present in the	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work). • **Art Integration**

		molecular H-bonding. • Explain the effect of different types of H-bonding on the physical properties. • Solve reasoning and application-based questions on the above concepts.	given salt samples. (Group 4 –Zn salts) **(4 Periods)** To determine an anion and a cation present in the given salt samples. (Group 6 – Mg salts) **(4 Periods)**	
Novem.	**Chemical Bonding and Molecular Structure Contd.** **No. of periods: 3**	**Each student will be able to:** • Explain the postulates of Molecular Orbital Theory. • Differentiate between bonding and anti-bonding molecular orbitals. • Draw the energy level diagrams of homo diatomic molecules to predict their magnetic behavior	• Prompts / Discussion on the molecular orbital theory. • Comparative chart between bonding and anti-bonding molecular orbitals. • Draw energy level diagrams of different homo-atomic molecules/ions.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work) • Class Test
Novem. **Contd.**	**Organic Chemistry: Basic principles & techniques** **No. of periods: 15**	**Each student will be able to:** • Explain the nature of carbon and formation of organic compounds. • Give reasons for the tetravalency of carbon • Differentiate between organic and inorganic compounds. • Interpret the types of bonds in a molecule based on hybridization. • Explain tetravalency in carbon. • Draw the structures of organic molecules in various ways (complete, condensed). • Classify the organic compounds using flow diagram. • List some characteristic features of pi bonds. • Explain how bond length and bond strength depends on the size of the hybrid orbitals. • Draw condensed structures and bond line structures of organic molecules. • Solve application- based questions based on structural representation of some organic	• **Picture prompt** (types of compounds) • Hook activity on structural representation of organic compounds. • Drawing the flow chart for the classification of organic compounds. • **Picture prompt** – Isomerism • **Hook activity** - on different concepts of organic chemistry • Drawing structures of organic compounds, isomers and structure of carbocations, carbanions and free radicals.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work) • Class Test

		compounds. • Classify the organic compounds using flow diagram. • Identify the functional group and homologous series for a given molecular/structural formula. • Name, classify and draw the structures of the organic compounds according to IUPAC nomenclature. • Name aliphatic, aromatic and polyfunctional compounds as per IUPAC nomenclature. • Explain the types of structural and stereo isomerism and draw the structures of the isomers for a given molecular formula. • Differentiate between homolytic and heterolytic fission. • Draw and explain the structure of reaction intermediates & explain their stability orders. • Define and differentiate between Inductive effect and Electromeric effect. • Explain hyperconjugation and resonance effects and draw resonating structures of the given molecule. • Solve reasoning questions on above effects.	• **Case study** on electron displacement effects. • **Lab Activity** To separate the coloured components present in the given mixture of ink by ascending paper chromatography and also calculate R_f values. **(4 Periods)** To determine an anion and a cation present in the given salt samples. (Unknown salt sample practice) **(4 Periods)**	
Novem. **Contd..**	**Hydrocarbons** **No. of periods: 3**	**Each student will be able to:** • Discuss classification and IUPAC nomenclature of hydrocarbons. • Draw structures of isomers for a given molecular formula. • Explain the preparation methods of ethane and write their respective equations.	• **Picture prompt / Hook activity** on classification. • Prepare a concept map / flow chart for classification of hydrocarbons. • Drawing structures of isomers for a given molecular formula.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work)
Dec	**Hydrocarbons** **No. of periods: 15**	**Each student will be able to:** • Explain the preparation methods, properties of ethane, ethene, ethyne and Benzene and write their respective equations. • Draw the Sawhorse & Newman projections for ethane and discuss their stabilities.	• **Picture prompt / Hook activity** on projection formula. • Simulation Activity • Students will make and present on the conformations of ethane using their own 3-D ball and stick models.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work)

		• Comment on the name reactions (Wurtz, Kolbe reaction, dehydrohalogenation). • Explain Huckel's rule for aromaticity. • Explain the sp^2 hybridization in the structure of benzene. • Explain the mechanism involved in the properties of ethane, ethene and ethyne. • Explain free radical chain mechanism of halogenation of alkanes. • Explain mechanism involved in Markovnikov's, anti Markovnikov's addition and dehydrohalogenation reactions. • Define Markovnikov's and Saytzeff'rule. • Explain the mechanism involved in the electrophilic substitution reactions of Benzene. • Predict the directive influence of substituents in monosubstituted benzene. • Solve interconversions based on the reactions of hydrocarbons.	• Drawing projection formulae of hydrocarbons, resonating structures of Benzene. • Practice mechanisms for aromatic electrophilic substitution reactions. • **Case study** on conformations/ polyaromatic compounds. • **Lab Activity (Qualitative analysis)** To determine an anion and a cation present in the given salt samples. (Unknown salt samples practice) **(4+4 Periods)**	• Class Test • **Weekly Test II (02.12.22)** ✓ Chemical Bonding and Molecular Structure ✓ Organic Chemistry: Basic principles & techniques
Dec **Contd.**	**Chemical Equilibrium** **No. of periods: 7**	**Each student will be able to:** • Explain the dynamic nature of physical and chemical equilibrium. • Describe the characteristics of chemical equilibria. • State and explain law of mass action & chemical equilibrium. • Write expression for equilibrium constant. • Derive the relation between Kp & Kc, Kc & Q. • Explain the characteristics, expression, units, applications of K. • Discuss the types of equilibria& write expressions for Kc. • State Le-Chatlier's Principle & solve problems related to it.	• Discussion on the term equilibrium. • Differentiate between physical and chemical equilibria. • Simulation Activity • Solve numerical on Q, Kp and Kc.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work)

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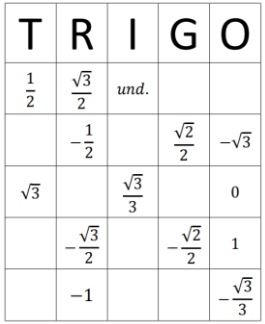
Jan	**Chemical Equilibrium** **No. of periods: 10**	**Each student will be able to:** • Discuss concept of ionic equilibrium in solution. • Differentiate between strong & weak electrolytes. • Derive Ostwald's Law. • Distinguish between strong and weak acids & bases. • Discuss ionic product of water, pH, pOH, pK_w and derive the relation between them. • Solve numerical based on ionic product of water, pH, pOH, pK_w. • Justify solubility equilibria of sparingly soluble salts and calculate solubility product constant & its applications. • Explain common ion effect and buffers. • Apply common ion effect and solubility product in qualitative analysis principles.	• Solve numerical on ionic product of water, pH, pOH, pK_w • Draw a concept map for different concepts of acid and base. • **Case study** on concepts of ionic equilibrium.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work)
Jan **Contd.**	**Thermodynamics** **No. of periods: 3**	**Each student will be able to:** • Explain the terms – system and surroundings. • Differentiate between open, closed and isolated systems. • Explain internal energy, work and heat, state function. • Differentiate between extensive and intensive properties. • State, explain first law of thermodynamics & derive its formulae. • Understand the criteria of spontaneity.	• Discussion on the term thermodynamics and its significance.	• Class Participation (Oral and Written) • Weekly Assignment / Worksheet (Submission of work) • **Weekly Test III (12.01.23)** ✓ **Hydrocarbons** ✓ **Chemical Equilibrium (till the covered topics)**
Feb	**Revision and Exams**			• **End Term Examination**

				(17.02.23 to 27.02.23) ✓ Whole Syllabus **(9 units)**

MATHEMATICS

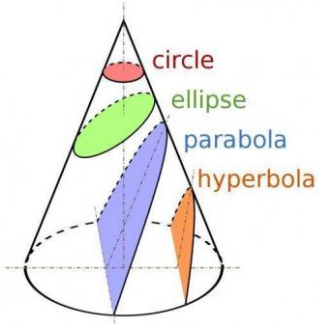
MONTH	TOPICS / NUMBER OF PERIODS	LEARNING OUTCOMES	ACTIVITIES	ASSESSMENTS
July **Teaching Days: 20**	**Topic:** Sets (5)	**Each student will be able to:** *define the term set. *represent a set in roaster and set-builder form. *list the various types of sets. *define equal sets. *define a subset. ***define a power set. *define a universal set. *explain the various operations on sets i.e. Union, intersection, complement, difference ***solve practical problems on union and intersection of sets *apply the concept of Venn diagrams for solving statement questions.	Quiz based on Venn Diagram Concept. **Lab activities (SE)** 1. Students will find the number of subsets of a given set and verify that if a set has n number of elements, then the total number of sets is 2^n (SE) 2. To represent set theoretic operations using Venn diagrams. 3. Students will verify distributive law for three given non-empty sets (SE)	Oral Questions Few questions from Assignment and NCERT Ex-1.2,1.3,1.4,1.5 and Miscellaneous exercise Online Quiz-Google Form 10QsX1m=10m Class Participation Assignment including MCQs and case study-based questions also.
	Topic: Relations and Functions (7)	**Each child will be able to:** *define the Cartesian product of sets. *find the number of elements in a Cartesian product. *define a relation. *describe a relation in roaster, set-builder, arrow diagram form. *find the domain and range of a relation. *define a function *find the domain and range of a function. *list the various	**Lab activities (SE)** 1) To distinguish between a Relation and a Function. 2) To verify that for two sets A and B, n (A×B) = p q and the total number of relations from A to B is 2^{pq}, where n(A) = p and n(B) = q	Oral Questions Few questions from Assignment and NCERT Ex-2.1,2.2, 2.3 and Miscellaneous Exercise Online Quiz-Google Form 10QsX1m=10m

		types of function. *draw the graphs of various functions. ***acquire knowledge of composition of functions.		
	Topic: Trigonometric Functions (8)	**Each child will be able to:** *Identify positive and negative angles. *Measure angles in radian and in degree and conversion from one measure to another. *define trigonometric functions with the help of unit circle. *Signs of trigonometric functions. *find the trigonometric ratio over the domain R *find the trigonometric ratio over the domain R *list the various formulas: $\cos(A \pm B)$ $\sin(A \pm B)$ $\tan(A \pm B)$	**Experiential Activity.** Trigo Tambola: Students will create colourful tickets using trigonometric identities and formulas. The one who finish line, column or diagonal first will be the winner.  **Lab activities (SE)** To plot the graphs of sin x, sin 2x, 2sinx and sin x/2 , using same coordinate axes.	Oral questions Class work Few questions from Assignment and NCERT Ex- 3.1, 3.2 Homework
Aug **Teaching Days: 19**	**Topic:** Trigonometric Functions (cont…) (6)	**Each child will be able to:** *State the S/D and product formulas *State the half angle formulas *recall the graphs of various trigonometric functions * apply all formulas and identities in solving questions. *** solve trigonometric equations rule (will be done as it is required in class12)	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises	Through oral tests on formulas- Quiz Few questions from Assignment and NCERT Ex- 3.3,3.4 and Miscellaneous exercise Class work, Homework Online Quiz-Google Form 10QsX1m=10m
	Topic: Limits and Derivatives (11)	**Each child will be able to:** *define limit of a function *perceive the geometrical interpretation of	**Experiential Activity:** Students will verify the geometrical significance of derivatives.	Through oral tests in Fundamentals- Quiz **Classwork** Few questions from Assignment and

		limits *evaluate the limit of various functions *define derivative of a function at a point *perceive the geometrical interpretation of derivatives *evaluate derivatives using the method of first principle. *learn the formulas of derivatives of some standard functions *perceive the concept of chain rule, quotient rule and product rule	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve questions from Assignment	NCERT Ex- 13.1, 13.2 and Miscellaneous exercise **Homework** **Friday Test- 05/08/2022** 1.Sets 2.Relations and Functions 3. Trigonometric functions (till ex 3.3)
	Topic: Complex Numbers and Quadratic Equations (2)	**Each child will be able to:** *recognize the need of a system of numbers beyond Real Numbers. *define iota. *define a complex number	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve questions from Assignment	Through oral tests in Fundamentals- Quiz Home work Class work Home work Few questions from NCERT Ex- 5.1 and Miscellaneous exercise Online Quiz-Google Form 10QsX1m=10m
September **Working Days :22** **Teaching Days:10**	**Topic:** Complex Numbers and Quadratic Equations(1) **Topic:** Linear Inequalities **(3)**	**Each child will be able to:** * find the sum, difference, quotient and product of two complex numbers. ***define conjugate and modulus of z. ***state the properties of modulus and conjugate of z. **Each child will be able to:** *define an Inequation *find algebraic as well as graphical solutions of linear inequations in one variable *find graphical solutions of linear inequations in two variable	Extra questions based on Graphical and Algebraic method will be done. **Lab activities (SE)** To verify that the graph of a given inequality, say 5x+4y-40<0 of the form ax+by+c<0 where a, b >0, c<0 represents only one of the two half planes.	Through oral tests in Fundamentals- Quiz Home work Class work Few questions from NCERT Ex-7.1, 7.3 and Miscellaneous

	Revision for Term - I (6)	**Each child will be able to:** Recall Formulae, concepts, properties, theorems Discussion on Important points and solve questions from mentioned topics.	Students will recall, revise and apply the mentioned topics and clarify their doubts, if any.	• Oral Questions • worksheet for diagnosing the learning gaps
	Practical Exam for Term – I	**Each child will be able to:** *Perform the given lab activity *answer the questions asked in viva.		
October **Teaching Days:13**	**Topic:** Permutation and Combination (10)	**Each child will be able to:** *state the fundamental principle of Addition / Multiplication * factorial notation *define permutation. *find the number of permutations of n different objects with or without repetition. *define combination. *differentiate btw Permutation and Combination *apply the various formulas of ${}^{n}P_{r}$ and ${}^{n}C_{r}$ in solving statement questions.	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises. Students will solve questions from Assignment	Through oral tests in Fundamentals- Quiz Few questions from Ex- 7.1, 7.2, 7.3, 7.4, Assignment and Miscellaneous Exercise of NCERT Online Quiz-Google Form 10QsX1m=10m
	Topic: Sequence and Series (3)	**Each child will be able to:** *recall the definition of sequence & series ***recall the definition of an A.P and the formula for its nth term *state the formula for sum of n terms of A.P *define A.M between two numbers a & b *define a G.P *find the nth term of a G.P	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve questions from Assignment	Classwork Homework Oral Questions Few questions from Assignment and NCERT Ex- 9.1, 9.3

November **Teaching Days:21**	**Topic:** Sequence and Series (6)	**Each child will be able to:** *state the formula for sum of n terms of G.P *find the sum to infinity of a G.P *define G.M between two numbers a & b *recognize the relationship between A.M and G.M	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve questions from Assignment	Classwork Homework Oral Questions Few questions from Assignment and NCERT Ex- 9.3 and Miscellaneous Exercise Online Quiz-Google Form 10QsX1m=10m
	Topic: Straight Lines (12)	**Each child will be able to:** *find the slope of a line *convert various forms of equation of a line: 1.one-point form, 2. two-point form, 3. slope-intercept form, 4. intercept form, 5. normal form *find the equation of a line using the various forms of Line. *Calculate the distance of a point from a line *Calculate the distance between two parallel lines.	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve questions from Assignment	Through oral tests in Fundamentals- Quiz Home work Class work Few questions from Assignment and NCERT Ex- 10.1, 10.2, 10.3 and Miscellaneous exercise Assignment including MCQs and case study-based questions also. Online Quiz-Google Form 10QsX1m=10m
	Topic: Conic Sections (3)	**Each child will be able to:** *state and explain various sections of a cone *write the equation of a circle with given radius and centre *find the centre and radius of a circle	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises	Through oral tests in Fundamentals- Quiz Home work Class work Few questions from NCERT Ex- 11.1
December **Teaching Days:22**	**Topic:** Conic Sections (4)	**Each child will be able to:** *define a parabola and recognize/find the standard equation of parabola *define/find the coordinates of focus, axis,	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve questions from	Through oral tests in Fundamentals- Quiz Home work Class work Few questions from NCERT Ex- 11.2, 11.3, 11.4 and Miscellaneous exercise

		equation of directrix and length of latus rectum of a parabola *define an ellipse and recognize /find the standard equations of an ellipse *state the relationship between semi-major axis, semi-minor axis and the distance of focus from the centre of the ellipse *define eccentricity *define/find the coordinates of foci, vertices, lengths of major axis, and minor axis, eccentricity and length of latus rectum of the given ellipse *define a hyperbola and recognize/find the standard equations of a hyperbola *define/find the coordinates of foci, vertices, eccentricity and length of latus rectum of the given hyperbola	Assignment **Experiential Learning:**  **Lab Activity**: Construct a Parabola.	Online Quiz-Google Form 10QsX1m=10m **Friday Test- 09/12/2022** 1. Sequence and Series 2. Permutation and Combination 3. Straight Lines
	Topic: Probability (10)	**Each child will be able to:** *recall the concept of probability *recall the definition of random experiment, sample space *write the sample space of a Random experiment *list the various kinds of events : mutually exclusive, exhaustive events *prove events to be mutually Exclusive or exhaustive *state and apply the formulae for probability of an event *state the Addition formulae of probability	Students will solve Exercises from chapter 16 (NCERT) Students will solve questions from Assignment **Lab Activity:** **1.** To find the number of ways in which three cards can be selected from given 5 cards 2. To write a sample space , when a coin is tossed once, twice, thrice and four times	Oral questions Few questions from Ex- 16.1,16.2,16.3 and Miscellaneous Exercise of NCERT Assignment Online Quiz-Google Form 10QsX1m=10m

	Topic: Matrices (8)	**Each child will be able to:** *identify a ^{ij} element of a matrix *apply the basic operations of +, - *define various types of matrices *solve the problem of equality of matrices. *define transpose of a matrix *define symmetric and skew symmetric matrices. *find the transpose of a matrix *differentiate between symmetric. and skew symmetric matrices. *define inverse of a matrix. *****find the inverse using transformation method	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve Exercises from Matrices (NCERT- XII)- Chapter 3	Oral questions Few questions from Chapter Ex 3.1, 3.2, 3.3, and Miscellaneous (NCERT) Online Quiz-Google Form 10QsX1m=10m Class Participation (Written and Oral)
January **Teaching Days:13**	**Topic:** Determinants (5) **Revision- Term II** (8)	**Each child will be able to:** *Perceive the concept of Determinants, minors, cofactors, adjoint and inverse. ****Properties of Determinants * find the area of triangle * solve the system of equations using matrices	Students will practice solved examples of NCERT at home which will help in further solving questions from Exercises Students will solve Exercises Determinants (NCERT- XII)- Chapter 4	Oral questions Few questions from Chapter 4- Ex 4.1, 4.3 to Miscellaneous (NCERT) Online Quiz-Google Form 10QsX1m=10m Class Participation (Written and Oral)
February **Working Days:20**	**Revision- Term II** (5)	**Each child will be able to:** Recall Formulae, concepts, properties, theorems Discussion on Important points and solve questions from mentioned topics	Students will recall, revise and apply the mentioned topics and clarify their doubts, if any.	• Oral Questions • worksheet for diagnosing the learning gaps

	Practical Exam for Term –II (5)	**Each child will be able to:** *Perform the given lab activity *answer the questions asked in viva.		
****	The topics marked with asterisk in the syllabus have been deleted by CBSE for the academic year 2022-23. However, these topics will be covered through discussion in the class to bridge the learning gaps.			

ECONOMICS

Month	Topics covered	Learning	Activites	Assessments
July 2022	**Micro Economics-** Introduction to micro and macro economics, Economic problems, basic problems, concepts of utility and indifference. Demand- factors, law of demand, changes in demand and changes in factors affecting demand, elasticity of demand, numericals.	Each student will be able to: Categorize different activities in an economy as economic or non-economic activity. Interrelate micro and macro concepts. Apply the law of diminishing marginal utility in different situations in life for different commodities. Analyse changes thathappen when price in the market changes and how the consumer's behaviour changes keeping income given. Each student will be able to Identify the concept of Demand Analyse the factors affecting Demand. Derive the Law of Demand Represent the movements and Shifts in demand curve diagrammatically Analyse the factors affecting demand Interpret the theory related to the calculations of demand to practice by doing the numericals.	Kahoot Quiz for Assessment. Unemployment is reduced due to measures taken by the government. State its economic value. What price is the consumer willing to pay for a commodity in state of his equilibrium? A consumer consumes only two goods. Explain consumer's equilibrium with the help of the utility analysis. Higher consumption of a commodity may mean lower and lower marginal utility, but it never implies negative utility .Do you agree? When the price of onions is very high the poor man simply stops buying it. Explain the economics of it, using utility analysis. • Create a utility analysis if you had a choice to eat unlimited burgers. What causes the following: An upward movement along the demand curve A downward movement along the demand curve A right shift of the demand curve. A left shift of the demand curve. What is the effect on the demand curve of the following: Fall/rise in the price of a substitute good Fall/rise in the price of a complement good. Discuss the factors that affect Individual demand Discuss the degrees of elasticity of demand Explain how in any two ways demand for electricity can be decreased when price elasticity of demand is extremely low.	Class test worksheets
August 2022	STATISTICS FOR ECONOMICS	Each student will be able to: Understand how economics is linked with the study of economic activities in consumption, production and	During the day, identify atleast 10 activities undertaken by your family members and categorise them into economic and non-economic activities.	Worksheets,

	WHAT IS ECONOMICS Collection of Data ORGANISATION OF DATA. PRESENTATION OF DATA	distribution. Differentiate 4 points between Economic and Non-Economic activities. Define Economics. Distinguish 3 points Economics as Science and Art. Discuss three points of functions and importance of statistics. Identify sources of Data. Draft a Questionnaire Identify methods of collecting Data. Conduct Surveys. Classify data into the three series. Each student will be able to: a. Define classification. b. Identify three objectives of classification and highlight the main methods of classification. Organize data in the form of individual series and Frequency series Each student will be able to: Represent Cricket scores of the World Cup in tabular, diagrammatic and Graphic presentation. Each student will be able to: explain the parts of a Table Define tabulation. Explain the merits of tabulation Present the data in diagrammatic and Graphic presentation.	Brain storming activities used for explaining good and bad impacts of Collected Data. **Data on Covid** and its presentation in different forms. Identify activities for Statistics as science or art. Discussion on " Economics is a study of scarcity". Discussion on ' Statistics these days is indispensable for dealing with Socio-economic problems'. **Covid** data-' Statistics is science of counting'. **Covid** data ' Statistics affects everybody and touches life at many points'. 'The Government and policy maker use statistical data to formulate suitable policies of economic development'. Illustrate with two examples. **Covid cases**- economics a positive or normative science Brain storming activities will be used for explaining good and bad impacts of Collected Data. Statistics as science or art. Prepare collage of different items at home kept in the form representing multiple bar diagram, sub divided bar diagram, percentage bar diagram. Prepare a Salad decoration representing Pie diagram. " Economics is a study of scarcity". Discuss **'** Statistics these days is indispensable for dealing with Socio-economic problems'. ' Statistics is science of counting'. ' Statistics affects everybody and touches life at many points' Discuss. Define Statistics in Plural sense and explain its components. 'The Government and policy maker use statistical data to formulate suitable policies of economic development'. Illustrate with two examples. Is economics a positive or normative science? Explain. **Home assignments on the given topic to the students.** Distinguish between Primary data and Secondary data on the basis of 'Originality'. Application based case studies on data collection will be given and students will decide on the methods and type of data they will use. There are 10 students in your school who excel in the game of cricket. All are equally brilliant , but you are to select only 3 for representing your school in the inter zonal cricket tournament. How would you do it. Give details with reasons. Prepare a questionnaire on CCE vs Board exams in CBSE. Merits and Demerits of Personal interview. Why is there need for Indirect personal interview. Can there be any advantage in classifying things? Explain with the help	

			of an example from your daily life. Do you agree that classified data is better than raw data? Compare Discrete and continuous variables. Briefly explain the principles of classification. Tabulation is done with certain objective in mind. Defend or Refute. Differentiate between headnote and footnote.	
September 2022	Mean Median Mode	Each student will be able to : Do computation of mean. Compute mean in individual series by direct and shortcut methods. • Compute mean in discrete series by direct, shortcut and step deviation methods. • Compute mean in continuous series by direct. Compute value of Median. Compute median in individual series • Compute median in discrete series • Compute median and mode in continuous series. Compute Mode	Newspaper articles on the topics discussed. Find average monthly expenditure for your household. Class Test Define Mean. Numerical questions Newspaper articles on the topics discussed. What is the difference between Median and Mode? Numerical worksheets on the three measures of Central Tendency. From data on **Covid** of different states compute its mean. Find average monthly expenditure for your household.	Class test worksheets
Mid Term Examination				
October 2022	Supply Supply-Concept, Supply schedule, function Law of Supply Price Elasticity	Each student will be able to: Create a supply schedule. Plot the supply curve. Specify why supply curve is upward rising. Define individual supply and market supply schedule. Explain the factors affecting supply. Illustrate the law of supply. Explain the movement along the supply curve. Define elasticity of supply. Identify and Draw the different degrees of elasticity.	A firms supply curve shows its supply function. Comment At a point of intersection of two supply curves, flatter curve shows higher elasticity of supply. Numericals on price elasticity. Will the seller always be ready to sell more of a commodity at a higher price in the market?	Class test worksheets
November 2022	Correlation	Each student will be able to : Compute correlation by karl pearson's method using actual method and direct method. Compute Rank correlation	Group discussion based on related topic. Kahoot quiz.	Class test worksheets
	Production Cost Revenue Production function and Returns to a Factor Cost and Revenue	Each student will be able to a. Define cost and revenue b .Discuss the different types of costs and revenues. c.Derive the condition for equilibrium at the producers level. d.Derive the relationships between different costs and total revenue and marginal revenue.	Group discussion based on topics related to cost and revenue.. For example, If Reliance Fresh has announced the slashed prices. Discussion on its impact on the cost and revenue. Survey to be conducted by students to assess the cost and revenue Paper chain factory activity	Class test worksheets

	and their Relationship	e.Calculate the different costs and revenue applying the formulae. Numericals		
December 2022	Index numbers Price equilibrium derivation of the price equilibrium and quantity exchanged in the market with both demand and supply. Price Control;-Floor price and Ceiling price	Each student will be able to : Compute Unweighted index - simple average, simple average of price relatives. Weighted index- Laspeyres and paasches method, weighted average of price relatives Identify 3 reasons for the need to find indeces for economic growth and compare. Derive the price equilibrium and the quantity exchanged in the market with the given market conditions discuss the derivation of the changes in the equilibrium price and quantity under different market conditions.	Worksheet on Index numbers Newspaper articles. What are index numbers? How do they determine the cost of living? Numerical Worksheet Giving the different market situations with reference to changes in demand and supply, the students will make the diagrams and show the changes that occur correspondingly. Home Assignment based on demand supply and equilibrium Diagrammatic presentation of the different market situation. What will happen if the price prevailing in the market is above the equilibrium price. • Representing situation based diagrams	Class test worksheets
January 2023	INDIAN ECONOMY ON THE EVE OF INDEPENDENCE FIVE YEAR PLANS a. Common Goals of Five Year Plans Meaning of Five Year Plans b. Objectives of Planning. c. Analysing the importance of Planning in development. d. Achievement of the Goals of planning e. Failures of Planning f. Features of Economic Policy under Planning till 1991.	Each student will be able to : Agriculture sector and industrial sector on the eve of independence with the help of concept mapping. Foreign trade, demographic conditions, Infrastructure, occupational structure on the eve of independence with the help of BALA, real life examples and storytelling method. Good and bad impacts of British government on Indian Economy with the help of think pair and share method. The importance of planning in life-Individual as well as an economy To comprehend the meaning of planning by think pair and share method. Identify the goals of five year plan Analyze the importance of planning in development and the achievements as well as the failures of planning with concept mapping	Talk to your Parents and Grand parents and gather information on the situation of Indian population during the British raj. Students will be asked to write positive and negative impacts of British Government on Indian Economy(L) . Oral questions will be asked on meaning de-industrialization, Zamindari system ,Mahalwari system,Ryotwari system (AB) Assignment will be given from text book and reference book Planning an activity in school What are the achievements and failures of Planning in India? https://www.youtube.com/watch?v=f7CW7S0zxv4 Dr. Shashi Tharoor's talk over how Britain used India for their own benefit. (16 min) https://www.youtube.com/watch?v=g27s8Ligsww Tahreer – Mushi Premchand's story – Poos ki Raat. To understand the relationship between farmer and the money lender. Why credit facility is needed in	worksheets

			agriculture. (26 min) https://www.youtube.com/watch?v=k6P_xznlv4g Detailed analysis of why British developed railways in India and to whom it benefited. (6min)	
February 2023	Revision			
March 2023	End Term Exam			

(PHYSICS)

Month	**Topic**	**Learning Outcomes**	**Activities**	**Assessment**
July	**Units and Measurements (6 classes)**	Each student will be able to- *infer the process of measurement as method of comparison *tabulate the different systems of units *list the advantages of SI system of units over other systems of units *differentiate between fundamental and derived units *derive units of different physical quantities other than fundamental quantities *explain the difference between accuracy and precision in measurement *list the different types of errors in measurements *derive the equations for error propagation in different mathematical operation. * differentiate between different dimensional quantities, variables. *apply the concepts of dimensions and solve related numerical.	*List the various methods to measure very short and very large distances and relate them with those used in their day to day life. *make a paper scale of 0.2 cm/0.5 cm least count and use the same to measure dimensions of study table etc. *measure any one of the three quantities- length/time/mass using different instruments that may be available at home and distinguish between accuracy	*Practice Worksheet *Weekly Assignment Questions (submission of work) * Class Test / Assessment worksheet

			and precision. *Practice Worksheet. **Lab Activity:** Expt 1: To measure diameter of a small spherical/cylindrical body using Vernier Calipers. (4 classes)	
Month	**Topic**	**Learning Outcomes**	**Activities**	**Assessment**
July (contd)	**Kinematics -Motion along Straight Line (6 classes), Motion in a plane (8 classes)**	Each student will be able to- *differentiate between rest and motion. *represent graphically the variation of position, velocity, displacement etc with time for one dimensional motion. *define uniformly accelerated motion and represent the same graphically. * deduce the equations of accelerated motion using graphical method. *differentiate between scalar and vector quantities. *draw vector diagram to represent position vector and displacement vector. * write the equations for position vector and displacement vector. *list the different types of vectors and diagrammatically represent them. *state the condition for equality of vectors. *conclude the effect on the magnitude of a vector when multiplied by a real number. state and prove the laws of vector addition. *represent the rectangular component of vectors by mathematical equation.	*perform activity to measure reaction time in free fall taking help of either sibling or parent and note the factors on which reaction time depends. *draw the various velocity time and position time graphs and relate them to at least one real life situation. *create their own mind map / flow chart on terms/concepts related to scalars and vectors. *identify at least	*Practice Worksheet *Weekly Assignment Questions (submission of work) * Class Test / Assessment worksheet

		*apply formulae and solve related numerical.	three different types of vectors in their study room and draw the same. ***Lab Activity-:** Expt 2: To measure the internal diameter and depth of a given beaker/ calorimeter using Vernier Calipers and find its volume (4 classes) Expt 3:To measure diameter of a given wire and thickness of a given sheet using screw gauge *Practice Worksheet.	
Month	**Topic**	**Learning Outcomes**	**Activities**	**Assessment**
August	**Kinematics -Motion in a plane(9 classes)**	Each student will be able to- *compare scalar and vector product of two vectors. *apply formulae and solve numerical related to vector algebra. *represent horizontal projectile and angular projectile diagrammatically. *list examples (at least two each) for horizontal and angular projectile. *derive mathematical equations for trajectory, time of flight, height and range for horizontal as	*mark the various components of velocity on a horizontal and oblique projectile at different positions. ***Art Integrated Learning Activity Director's Cut-** make a short	*Practice Worksheet *Weekly Assignment Questions (submission of work) *Class Test/Assessment worksheet ***Weekly Test 1**

		well as angular projectile. *apply the formulae logically and solve conceptual question, numerical.	movie/video on projectile motion to show the factors on which the horizontal range of the projectile depends. Detailed instruction to be shared in the Google Classroom. **Lab Activity**- Expt 4: To find the weight of a given body using parallelogram law of vectors. Expt 5: Using a simple pendulum, plot its L-T^2 graph and use it to find the effective length of second's pendulum. *Practice Worksheet.	**8.8.2022** • **Units and Measurement** • **Kinematics- Motion along a straight line**
Month	**Topic**	**Learning Outcomes**	**Activities**	**Assessment**
August(contd.)	**Laws of Motion (9 classes)+(3 extra class)**	Each student will be able to- *explain the effect of force in terms of the different changes that it may cause on an object. *explain the relation between force and inertia (relate to real life example) *interpret the relation between inertia and mass. *state the laws of motion.	*prepare a flow chart on the various forces in nature and their origin. *compare the role of inertia on the force applied with real life examples.	*Practice Worksheet *Weekly Assignment Questions (submission of work) *Class Test/Assessment worksheet

		*differentiate between mass and weight. *list the causes of friction *list the three different types of friction and differentiate between them. *state the laws of friction. *derive the equations for the dynamics of motion on level curved road and banked curved road. *apply concepts and formulae to solve related questions.	*graphically represent the variation of frictional force with applied force, mark regions of the three types of friction. * make DIY friction tray to explore the factors on which friction depends. *mark the various forces acting on a vehicle negotiating a banked curved road in a diagram ***Lab Activity**- Expt 6: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. *Practice Worksheet.	
Month	**Topic**	**Learning Outcomes**	**Activities**	**Assessment**
September	**Work, Energy Power (8 classes)**	Each student will be able to- *derive relation for work done by constant and variable force. *interpret the conditions for positive, negative and zero work done.	* draw graphs for force and displacement for constant and variable force, also	*Practice Worksheet *Weekly Assignment Questions (submission of work)

	Revision for Mid Term Examination (4 classes)	*state and prove mathematically work energy theorem. *correlate between the two types of potential energy with real life examples. *derive expressions for potential energy of mass spring system. *state the principle of conservation of energy. *apply concepts and formulae to solve related questions.	write at least one example from real life situation. * prepare a formula sheet. *using phet simulation draw graphs to show transformation of energy and energy conseevation.	***Mid Term Examination** **21.9.2022-30.9.2022** • **Units and Measurements** • **Motion in a straight line** • **Motion in a plane** • **Laws of Motion**
Month	**Topic**	**Learning Outcomes**	**Activities**	**Assessment**
October	**Work, Energy Power (6 classes)** **Gravitation (7 classes)**	Each student will be able to- *draw free body diagram of connected system. *relate some examples of connected motion from real life. *write the equation for common acceleration and tension. *differentiate between elastic and inelastic collision. *represent diagrammatically elastic collision in one and two dimensions. *apply concepts and formulae to solve related questions. Each student will be able to	* students will make a list of examples of connected motion from real life. *using phet simulation students will note the key points of difference between elastic collision in 1 and 2 dimension and inelastic collision.	*Practice Worksheet *Weekly Assignment Questions (submission of work) *Class Test /Assessment worksheet

		*differentiate between gravity and gravitation with example. *differentiate between acceleration and acceleration due to gravity. *infer the dependance of acceleration due to gravity on altitude above the surface of earth and depth below the surface of earth. *compare gravitational field with that of magnetic field. *differentiate between gravitational potential and potential energy. *apply superposition principle to find the resultant gravitational field intensity for simple mass configurations. *differentiate between escape velocity and orbital velocity. *apply concepts and formulae to solve related questions.	*students will note the time taken by different objects (paper, cloth, coin etc) to fall through the same height under acceleration due to gravity and draw their own conclusion. * draw graph representing variation of 'g' with height above the surface of earth and depth below the surface of earth. *draw vector diagram to show resultant gravitational field intensity. **Lab Activity:** Expt 7**:** To find the force constant of a helical spring by plotting a graph between load and extension.	
Month	**Topic**	**Learning Outcomes**	**Activities**	**Assessment**

November	**Gravitation(contd.)** **(4 classes)** **System of Particles and Rotational Motion** **(17 classes)**	Each student will be able to- *differentiate between escape velocity and orbital velocity. *apply concepts and formulae to solve related questions. Each student will be able to: *explain conservation of momentum in context with centre of mass. *infer the location of centre of mass of a uniform rod using mathematical calculation. *conclude torque, angular momentum are the rotational analogue of force, momentum. * write the equations defining them. *state the principle of conservation of angular momentum. *list at least 2 applications of conservation of angular momentum from real life situation. *apply rotational motion equations to solve related questions. *define the terms Moment of inertia, radius of gyration * list the values of moments of inertia for simple geometrical objects. *apply formulae and concepts to solve related questions	*using phet simulations, students will differentiate between escape velocity and orbital velocity. * List the location of centre of mass of regularly shaped symmetrical objects. *working in pairs, students will find the location of centre of mass of irregular lamina. *list some real life applications of the concept of moment of inertia. *list some of the real life applications of the concept of torque. **Lab Activity:** Expt 8: To study the relation between the length of a given wire and tension for constant frequency using sonometer.	*Practice Worksheet *Weekly Assignment Questions (submission of work) ***Weekly Test 2** **18.11.2022** • **Work Energy and Power** • **Gravitation**

Month		Topic	Learning Outcomes	Activities	Assessment
December	**Properties of Bulk matter (20 classes)** ***Mechanical properties of solids (6 classes)** ***Mechanical Properties of Fluids (10 classes)** ***Thermal Properties of Matter (4 classes)**	Each student will be able to- *list the different types of stress and strain. *state Hooke's law and graphically represent the variation of stress with strain *define moduli of elasticity (Young's and Bulk's) and express them mathematically. *state Pascal's Law and discuss its application in hydraulic lift. *differentiate between streamline, laminar and turbulent flow of liquid on the basis of Reynolds's number and critical velocity. *represent them diagrammatically. *state and prove Bernoulli's theorem. *list applications of the same from real life situation (in dynamic uplift, atomizer) *define surface tension and surface energy. *differentiate between the three types of thermal expansion and deduce relation between them. *relate the three types of heat transfer to the material medium. *explain the factors on which thermal conductivity depends on the basis of the equation. *apply the concepts and formulae to solve related questions.	*Research in groups on the different designs of bridges on the basis of elastic and thermal properties of materials and present their findings to the class. *discussion on the role of surface tension and angle of contact on the shape of liquid meniscus. *discussion on the value of thermal conductivity of materials and their role in thermal insulation. * case based worksheet on thermal conductivity of materials ***Lab Activity** Expt 9:To determine the coefficient of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.	*Practice Worksheet *Weekly Assignment Questions (submission of work) *Class Test /Assessment worksheet ***Weekly Test 3** **23.12.2022** • **System of Particles and Rotational Motion** • **Mechanical Properties of Solids**	

Month	Topic	Learning Outcomes	Activities	Assessment
January	**Oscillations and Waves (12)**	Each student will be able to- *differentiate between SHM and periodic motion. *deduce the differential equation for SHM. *graphically represent the phase relation between displacement, velocity and acceleration of a simple harmonic oscillator.	*List real life examples of SHM. *Graphically represent the phase relation between displacement, velocity and	*Practice Worksheet *Weekly Assignment Questions (submission of work)

February	**Revision for End Term Examination**	*mathematically derive equations for time period of oscillation of a loaded spring and a pendulum. *infer total energy conservation in SHM in case of a loaded spring, pendulum. *differentiate between free, forced and damped oscillation. *distinguish between mechanical and electromagnetic waves, transverse and longitudinal waves. *derive the displacement equation for a plane progressive wave. *derive equation of resultant stationary waves in a stretched string and organ pipe.	acceleration for harmonic waves. *Discussion on the frequency of sound produced by vibrating air column and its length. *Write the equation for position of nodes and antinodes for closed organ pipe using equations for open organ pipe.	*Class Test /Assessment worksheet **End Term Examination** **17.2.2023 – 27.2.2023** **Whole Syllabus**

COMPUTER SCIENCE

Month/ T. Days	**No of Periods** **Topics/Subtopics**	**Learning Outcomes**	**Activities**	**Assessment**
JULY	**Unit II: Computational Thinking and Programming -** Familiarization with the basics of Python programming: a simple "hello world" program, the process of writing a program (Interactive & Script mode), running it and print statements; simple data-types: integer, float and string. ● Features of Python, Python Character Set, Token & Identifiers, Keywords, Literals, Delimiters, Operators. ● Comments: (Single line & Multiline/ Continuation statements), Clarity & Simplification of expression ● Introduce the notion of a variable and methods to manipulate it (concept of L-value and R-value even if not taught explicitly). ● Knowledge of data types and operators: accepting input from the console, assignment statement, expressions, operators and their precedence. ● Operators & types: Binary	*Students will be able to–* ➢ state the purpose behind algorithms and flowcharts. ➢ Identify different shapes of flowchart ➢ use each shape in a flowchart. ➢ Define data and identify different data types. ➢ Understand rules of naming variables and identifying datatypes ➢ Be able to assign proper variable names. ➢ Use the statements according to syntax and in proper sequence. ➢ Identify the different types of operators used in PYTHON. ➢ Use the operator according to requirement in the program ➢ use the statements according to the syntax ➢ form proper condition checking statements ➢ differentiate among looping statements di ➢ use these statements in programs ➢ Use if..else statements in a program ➢ Use loops to create applications	Worksheets & Assignments [based on basic Python statements] Lab Assignments Art Integration- Flowchart of Programming problems / Structured chart of Python Operators	Students will be assessed through: Short Revision test through Google forms/ Class Test Class participation Submission of work Practice Worksheets Assignment Questions Lab Work:-Basic Python Quiz

	operators-Arithmetic, Relational Operators, Logical Operators, Augmented Assignment Operators. ● Execution of a program, errors-syntax error, run-time error and logical error. ● Conditional statements: if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number. ● Notion of iterative computation and control flow: for(range(),len()), while, using flowcharts, suggested programs: calculation of simple and compound interests, finding the factorial of a positive number etc.			
AUGUST	**Unit I: Computer Systems and Organization** Number System: numbers in base 2, 8, 16 and binary addition Programs for Number Conversion Boolean logic: NOT, AND, OR, NAND, NOR, XOR, NOT, truth tables and De Morgan's laws, Logic circuits **Unit I: Computer Systems and Organization** ● Basic computer organization: description of a computer system	*Students will be able to–.* ➢ Identify different number systems ➢ Convert numbers from one system to other ➢ Identify different types of gates ➢ Design circuits diagrams ➢ Write equations for different circuit diagrams Students will be able to : ➢ Identify parts of a computer system ➢ Differentiate among different types of softwares ➢ Differentiate between interpreter and compiler ➢ State different units of memory ➢ State role of operating system in	Worksheets & Assignments Lab Assignments [based on CSO and Python Lists] **Art Integration** Poster making-I/O Devices Digital Board Game Designing	Students will be assessed through: Short Revision test through Google forms/ Class Test Class participation Submission of work Practice Worksheets Assignment Questions Lab Work:-strings, lists, functions Quiz

	and mobile system, CPU, memory, hard disk, I/O, battery. ● Types of software: Application software, System software and Utility software. ● Memory Units: bit, byte, MB, GB, TB, and PB. ● Concept of Compiler and Interpreter ● Operating System (OS) - need for an operating system, brief introduction to functions of OS, user interface ● Encoding Schemes : UTF8, UTF32 ● Concept of cloud computing and cloud services (SaaS,IaaS,PaaS), cloud (public/private), **Blockchain technology** **Unit II: Computational Thinking and** Programming - Strings: Traversal, operations – concatenation, repetition, membership; functions/methods– len(), capitalize(), title(), upper(), lower(), count(), find(), index(), isalnum(), islower(), isupper(), isspace(), isalpha(), isdigit(), split(), partition(), strip(), lstrip(), rstrip(), replace(); String slicing. Lists: Definition, Creation of a list, Traversal of a list. Operations on a list - concatenation, repetition,	computer system Students will be able to : ➢ use the nested loops statements according to the syntax ➢ form proper condition checking statements ➢ use the statements in programs ➢ use functions for different operations- character math , string etc. ➢ create user defined functions ➢ apply concepts of string slicing in programming ➢ use different inbuilt functions in programming ➢ Define lists ➢ Declare lists and nested lists ➢ Apply lists-based functions in programs		Weekly test-(35+15 Marks) ,

	membership; functions/methods– len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), min(), max(), sum(); Lists Slicing; Nested lists; 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.			
SEPT	**Tuples:** Definition, Creation of a Tuple, Traversal of a tuple. Operations on a tuple - concatenation, repetition, membership; functions/methods – len(), tuple(), count(), index(), sorted(), min(), max(), sum(); Nested tuple; Tuple slicing; 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. **REVISION FOR MID TERM EXAMS**	Students will be able to :- ➢ Define tuples ➢ Appreciate advantages of using tuples in a program ➢ Work with tuples using loops ➢ Store data and display data ➢ Identify functions related to tuples ➢ Students will be able to clarify their doubts in Python and fundamentals	Worksheets & Assignments [based on tuples] Lab Assignments Question Bank Problem Solving	Students will be assessed through: Short Revision test through Google forms/ Class Test Class participation Submission of work Practice Worksheets Assignment Questions Lab Work:-tuples ;programming Quiz **Mid Term-Examination** Python Programming Computer Systems and Organization (CSO) **Practical Exam-** Python Programming

OCT	**Dictionary:** Definition, Creation, Accessing elements of a dictionary, add an item, modify an item in a dictionary; Traversal, functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted() copy(); Suggested programs : count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them **Random module** (random, randint, randrange), statistics module (mean, median, mode	➢ Define Dictionaries ➢ Compare Lists/ tuples/ Dictionaries ➢ Appreciate advantages of using Lists/ tuples/ Dictionaries in a program ➢ Work with Dictionaries using loops ➢ Store data and display data ➢ Identify functions related to Dictionaries Students will be able to :- ➢ follow logical sequence of statements Use random functions in game creation	Worksheets & Assignments [based on Dictionaries and random module] Write code for Guess the number game	Students will be assessed through: Short Revision test through Google forms/ Class Test Class participation Submission of work Practice Worksheets Assignment Questions Lab Work:-Dictionary and Random module Quiz
NOV	Unit III: Society, Law and Ethics ● Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying. ● Appropriate usage of social networks: spread of rumours, and common social networking sites (Twitter, LinkedIn, and Facebook) and	Students will be able to :- => define terms related to …. Cyber safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying =>Appreciate Use social networks: spread of rumors, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules.	Worksheets & Assignments [based on Dictionaries and cyber safety] Comic Strip Designing /movie making on cyber safety/ cyber security	Students will be assessed through: Short Revision test through Google forms/ Class Test Class participation Submission of work Practice Worksheets

	specific usage rules. ● Safely accessing web sites: adware, malware, viruses, trojans ● Safely communicating data: secure connections, eavesdropping, phishing and identity verification. ● Intellectual property rights, plagiarism, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. ● Privacy laws, fraud; cyber-crime- phishing, illegal downloads, child pornography, scams; cyber forensics, IT Act, 2000. ● Technology and society: ● understanding of societal issues and cultural changes induced by technology. ● E-waste management: proper disposal of used electronic gadgets. ● Identity theft, unique ids and biometrics. Gender and disability issues while teaching and using computers.	=>Learn Safe access to web sites: =>Learn Safe way to communicate with data: =>define eavesdropping, phishing and identity verification.		Assignment Questions Quiz
Dec	Unit III: Database Management (XII) Database Concepts: Introduction to database concepts and its need. Relational data	Students will be able to : Work with the following. ➢ Relational databases	Worksheets and Assignments [based on database concepts]	Students will be assessed through: Short Revision test through

	model: Concept of domain, relation, tuple, attribute, degree, cardinality, key, primary key, candidate	➢ Define databases and the need for it, relations, keys, primary key, foreign key; use SQL commands to create a table, keys, foreign keys; insert/delete an entry, delete a table.		Google forms/ Class Test Class participation Submission of work Practice Worksheets Assignment Questions Lab Work:-MYSQL Quiz
Jan & Feb	REVISION Final Exams			