



Department of **SCIENCE**  
Annual Academic Plan-2024-25  
**Grade: 12**      **Subject: BIOLOGY**

Reference Text – **NCERT**  
IP: **No. of Instructional Periods**

# Month # Working Days # Periods	Week & Date Range	# IP	LEARNING OBJECTIVES		EXPECTED LEARNING OUTCOMES [STUDENTS WILL BE ABLE TO] Activities/Projects/Practical's/Experiments/Art Integration (Mention the serial no. in the Daily Plan)	Methodology to be used	Assessment Tool(s) through various NEP 2020 & NCF 2023 [Ref. 1.2: Suggested]
			Behavior Skills. [Ref. 1.1: For identifying skills]	(Unit/Chapter/Subtopic to be covered)			
June 2024 20 Days Periods	03-06-2024 to 07-06-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Human reproduction	1. Describe events of human reproduction. 2. Describe male and female reproductive system. 3. Illustrate the structure of male and female reproductive system. 4. Illustrate the process of ovulation.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	Work sheet <a href="https://drive.google.com/file/d/OD7we1NpE6JD9u_/view?usp=sharing">https://drive.google.com/file/d/OD7we1NpE6JD9u_/view?usp=</a>
	10-06-2024 to 14-06-2024	8		Human reproduction	5. Explain fertilization. 6. Explain spermatogenesis and oogenesis. 7. Label the structure of sperm and ova. 8. Explain and understand about menstrual cycle. 9. List the function of testis and ovary. 10.Explain the role of progesterone and testosterone.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	NCERT Question Discussion, MCQs Evaluation test

					11.Explain embryonic development and in human. 12.Describe parturition and lactation.		
17-06-2024 to 21-06-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Sexual reproduction in flowering plants	<ol style="list-style-type: none"> <li>1. State the structure &amp; function of the floral parts including: Sepal, petal, stamen, carpel.</li> <li>2. State that the Pollen grain produces male gamete and define the terms: pollination, self-pollination with Outline methods of pollination including: cross-pollination &amp; self- pollination.</li> <li>3. Explain various techniques of outbreeding devices.</li> <li>4. State that the Embryo sac produces an egg cell &amp; polar nuclei.</li> <li>5. Define the term: fertilisation.</li> <li>6. Outline seed structure &amp; function of following: testa, plumule, radicle, embryo, cotyledon</li> </ol>	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	OLAB:: Prepare a temporary mou germination. <a href="https://www.youtube.com/watch?">https://www.youtube.com/watch?</a>	
24-06-2024 to 28-06-2024	8		Sexual reproduction in flowering plants	<ol style="list-style-type: none"> <li>7. Explain development of embryo and seed. &amp; food supply (endosperm or seed leaves)</li> <li>8. Classify plants as monocotyledon or dicotyledon &amp; distinguish between them.</li> <li>9. Make reference to non-endospermic seed.</li> <li>10. Outline fruit formation. Outline seedless fruit production</li> <li>11. Define the term dormancy. State advantages of dormancy.</li> <li>12. Explain importance of apospory for hybrid seed production.</li> <li>13. Draw well labelled diagrams of of mega sporangium, microsporangium, various stages of mega and microsporogenesis, development of embryo and structure of seed.</li> </ol>	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/YN2ipbc3Fu0es2oUf/view?usp=">https://drive.google.com/file/d/YN2ipbc3Fu0es2oUf/view?usp=</a>  NCERT Question Discussion, MCQs Evaluation test	

July 2024 23Days Periods	01-07-2024 to 5-07-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Reproductive health	<ul style="list-style-type: none"> <li>• Understand the role and need of MTP(Medical termination of Pregnancy)</li> <li>• Advocate for MTP.</li> <li>• Know about the cause and method of cure and how to prevent STDs.</li> <li>• Understand the reasons of infertility.</li> <li>• Aware of different assisted reproductive technology (ART) for childless couple and their need for the society.</li> </ul>	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/mxUIjw33MxpTYqfN1V/view?u">https://drive.google.com/file/d/mxUIjw33MxpTYqfN1V/view?u</a>
				Human helath and disease	At the end of the chapter students will able to- i) Define disease and symptoms. ii)Differentiate between the infectious and non infectious diseases. ii) Explain the mode of transmission of different diseases. iv) Describe the process of multiplication of HIV virus.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	NCERT Question Discussion, MCQs Evaluation test
	08-07-2024 to 12-07-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Human helath and disease	v) List out the name of microbes cause ringworm, filariasis, ascariasis and malaria.vi) Explain the function of immunity system in our body. vii) Know the importance of passive immunity during snake bites. viii) Explain the role of T-cell during organ tranplantation .	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/P1arrjaBU0BGZHF2Am9GtXjK3ng">https://drive.google.com/file/d/P1arrjaBU0BGZHF2Am9GtXjK3ng</a>
	15-07-2024 to 20-07-2024	8		Human helath and disease	ix) Define cancer and its types. x) Describe the harmful effects of drugs and alcohol abuse. xi) Apply their knowledge in day today life.		NCERT Question Discussion, MCQs Evaluation test

	22-07-2024 to 26-07-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Microbes in human welfare	At the end of the chapter students will able to- i) Define fermentation and antibiotic. ii) Identify the important microbes in our daily life. ii) Explain the role of the microbes in industries and sewage treatment. iv) Describe the process of biogas production. v) List out the name of microbes help in nitrogen fixation.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/jNjZVrzNjLH7t9T1/view?usp=s">https://drive.google.com/file/d/jNjZVrzNjLH7t9T1/view?usp=s</a>
	29-07-2024 to 31-07-2024	4		Microbes in human welfare	vi) Explain the function of cyclosporine A, Statins and Streptokinase . vii) Know the importance BGA in agriculture. viii) Explain the role of baculoviruses as biological control agent. ix) Define floc. x) Describe the harmful effects of chemical pesticides. xi) Apply their knowledge in day today life.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	NCERT Question Discussion, MCQs Evaluation test
August 2024 18 Days Periods	01-08-2024 to 02-08-2024	4	Develop scientific temperament , Develop observation skills, Thinking skills	Principles of inheritance and variation	Mendel's experimental design and his innovation Understand the difference between dominant and recessive trait difference between homozygous and heterozygous? Use of punnet square Testcross Mendel's First Law: Law of dominance and law of Segregation Dihybrid crosses, their ratio Mendel's Second Law: Independent Assortment	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/EPnpybKZKkcBUh-m/view?usp">https://drive.google.com/file/d/EPnpybKZKkcBUh-m/view?usp</a>
	05-08-2024 to 09-08-2024	8		Principles of inheritance and variation	How do genes influence traits? Non-Mendelian Inheritance Continuous variance.		NCERT Question Discussion, MCQs Evaluation test

					Pleiotropic effects Environmental Effects Co dominance Theory of Chromosomal Inheritance Sex-linked traits Nondisjunction Pedigrees – How do they work? What are they used for?		
	12-08-2024 to 17-08-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Molecular basis of inheritance	Students will know and understand DNA, RNA, Replication, Transcription, Genetic code, Translation, Regulation of gene expression. Students will be able to- differentiate between transcription and translation. Differentiate between axon and intron Differentiate m-RNA and tRNA etc	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	OLAB: Prepare a temporary mound study mitosis. <a href="http://amrita.olabs.edu.in/?sub=7&amp;cnt=1">http://amrita.olabs.edu.in/?sub=7&amp;cnt=1</a>
	19-08-2024 to 24-08-2024	8		Molecular basis of inheritance	Explain transcription, translation, gene regulation. They will be able to prepare the model of DNA, RNA, Nucleotide, Nucleoside etc They can use this knowledge in their higher study.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/1tRFe0UME3YC_4mSV/view?usp=sharing">https://drive.google.com/file/d/1tRFe0UME3YC_4mSV/view?usp=sharing</a>
	27-08-2024 to 31-08-2024	8		Molecular basis of inheritance	They will be able to answer all the questions asked in various exams.		NCERT Question Discussion, MCQs Evaluation test
September 2024	02-09-2024 to 06-09-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Biotechnology: Principles and processes	Students will know and understand . Principle of biotechnology Tools of recombinant DNA technology	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	

17 Days Periods	09-09-2024 to 13-09-2024	8		Biotechnology: Principles and processes	Selection of transferred and recombinant cell. Mechanism of amplification of DNA They will be able to differentiate between DNA and Recombinant DNA .between sparged and stirred tank bioreact		OLAB.: Isolate DNA from available spinach, green pea seeds, papaya
	23-09-2024 to 26-09-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Biotechnology: Application	They can explain the use of selectable marker for selection of recombinant cells. They can explain recombinant DNA technology. They can use this knowledge in their higher study. Collaborative learning ,Critical thinking , problem solving and development of communication skill.  Students will know and understand: The biotechnological applications in agriculture ,medicine, transgenic animals and ethical issues..  Students will know and understand: Students would able to understand mechanism of developing Bt. Cotton, RNA interference Competencies developed in students: Students will know and understand: Students would able to understand mechanism of developing Bt. Cotton, RNA interference Competencies developed in students:	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/pyXPuZxv7g06MaRRy/view?usp=sharing">https://drive.google.com/file/d/pyXPuZxv7g06MaRRy/view?usp=sharing</a> <a href="https://drive.google.com/file/d/pyXPuZxv7g06MaRRy/view?usp=sharing">https://drive.google.com/file/d/pyXPuZxv7g06MaRRy/view?usp=sharing</a> <a href="https://drive.google.com/file/d/1FxEFyutS14ynDAbCyep9d/view?usp=sharing">https://drive.google.com/file/d/1FxEFyutS14ynDAbCyep9d/view?usp=sharing</a>  NCERT Question Discussion, MCQs Evaluation test
				TERM 1 EXAMINATIONS (27/09/2024 TO 07/10/2024)			

october 2024 21 Days Periods	07-10-2024 to 11-10-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Evolution	Attainment of Concept on various theories of evolution Knowledge about evolution and its patterns Evidences of evolution Strategies of hardy Weinberg principle.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	<a href="https://drive.google.com/file/d/BkPbgXI9KKxoTV5tg/view?usp">https://drive.google.com/file/d/BkPbgXI9KKxoTV5tg/view?usp</a>
	14-10-2024 to 19-10-2024	8		Evolution	Deviations from Hardy Weinberg principle. Knowledge of evolution of plants and animals. Understanding of mechanisms of evolution & its significance		
	21-10-2024 to 26-10-2024	8	Develop scientific temperament , Develop observation skills, Thinking skills	Organism and population	To describe behavioural and physiological mechanisms by which organisms interact with other organisms and with their physical environment.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	ASSIGNMENT AND PRESENTATION CHAPTER ECOSYSTEM
	28-10-2024 to 30-10-2024	8		Organism and population	To describe biotic and abiotic factors that influence the dynamics of populations. To describe how biogeochemistry, energy flow, or biodiversity of ecosystems responds to climate change or another disturbance. To explain how we use ecological principles to explain the consequences of human activity current economic and social issues. To explain how we apply a mathematical or conceptual model to population or community dynamics.	ICT 2.Teacher resource video/Diagrams 3.Explanation with Still Models/Diagrams	

November 2024 23 Days Periods	01-11-2024				REVISION		
	04-11-2024 to 08-11-2024	8	1. Human health and disease 2. Biotechnology-Principles & processes 3. Biotechnology-Applications 4. Evolution				S.E Test (10 Marks)
	11-11-2024 to 16-11-2024	8	5. Organisms & populations 6. Ecology -Ecosystem 7. Biodiversity and Conservation				S.E Test (10 Marks)
	18-11-2024 to 22-11-2024	8	8. Human reproduction 9. Reproductive health 10. Reproduction in Flowering Plants				S.E Test (10 Marks)
	25-11-2024 to 30-11-2024	8	11. Principles of inheritance and variation 12. Molecular basis of inheritance				Mock Test (70 Marks)
December 2024 18 Days Periods	02-12-2024 to 04-12-2024				1. Mock Test Qp Discussion 2. Two Set Previous Year Qp Discussion		
	05/12/2024 TO 11/12/2024				TERM TWO EXAMINATIONS		
	09-12-2024 to 13-12-2024						
	16-12-2024 to 20-12-2024						
	30-12-2024 to 31-12-2024						
	01-01-2025 to 05-01-2025						



January 2025 22 Days Periods	06-01-2025 to 10-01-2025						
	13-01-2025 to 18-01-2025						
	20-01-2025 to 24-01-2025						
	27-01-2025 to 31-01-2025						
Februar y 2025 21 Days Periods	01-02-2025						
	03-02-2025 to 07-02-2025						
	10-02-2025 to 15-02-2025						
	17-02-2025 to 21-02-2025						
	24-02-2025 to 28-02-2025						
March 2025 20 Days Periods	03-03-2025 to 07-03-2025						
	10-03-2025 to 14-03-2025						
	17-03-2025 to						

	21-03-2025						
	24-03-2025 to 28-03-2025						

**1.1 Behavioral Skills:** Imbibe values like care, concern, sharing, love, affection, empathy, confidence. Develop Comprehensive skills, Analytical skills, thinking skills, Language skills, develop patriotism, Love for mother tongue, develop scientific temperament, Develop observation skills, Deduction (Reasoning Skills), etc.

**1.2 Suggested Assessment Modes through Activities:** Assignments, Comprehension questions, Textual questions, worksheets, drop quizzes, presentations, Slip test, Open Book assignments, MCQ's, Seminars, Case Studies, Poster presentations, FA's, SA's, Character Sketches, Identification of Literacy, Device marking, Identify marking, Identify diagrams, Map work, Drawing, Coloring, Diagram, Flow Chart, Chart work, Model making, Photographic evidences for experiments, Group activities, Brain storming, Discussions, Role play, Zig Zag puzzles, Word hunt, Charades(Guess Games),Debates, Free writing, Self-evaluation, Peer evaluation, Art Integration etc.



**Slip Test:** To improve students' academic performance and better understanding of the subject by conducting slip test that contains two short questions and one descriptive / problematic question.





## Department of Mathematics

Annual Academic Plan-2024-25

### MATHEMATICS

Reference Text – **NCERT TEXT BOOK FOR MATHEMATICS - CLASS12**

IP for the term: (225 Periods)

Week & Date Range	# IP	Expected behaviour outcomes	Expected learning outcomes [students will be able to]	Topics to be covered during the week	Methodology to be used Activities/Projects/Practical's/Experiments/Art Integration (Mention the serial no. in the Daily Plan)	Assessment Tool(s) through various activities.
<p><b>Wk – 1</b></p> <p><b>Date</b> 3/06/24 to 7/06/24</p>	6	Develop confidence	<ul style="list-style-type: none"> <li>✓ Find determinant of a square matrix.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Evaluating the value of a determinant</li> <li>✓ Solving system of simultaneous equations using matrix method,</li> </ul>	Explanation- Interpretation	<ul style="list-style-type: none"> <li>• Worksheet including MCQ ,A&amp;R&amp; Case study Questions</li> </ul>

<p style="text-align: center;"><b>WK-2</b></p> <p>10-06-2024 to 14-06-2024</p>	7		<ul style="list-style-type: none"> <li>✓ Define the inverse of a square matrix</li> <li>✓ Apply properties of inverse of matrices</li> <li>✓ Inverse of coefficient matrix</li> <li>✓ Formulate real life problems into a system of simultaneous linear equations and solve it using these methods. Apply properties of inverse of matrices</li> </ul>	<ul style="list-style-type: none"> <li>✓ Inverse of a matrix.</li> <li>✓ Solving system of simultaneous equations using matrix method,</li> </ul>	<p style="text-align: center;"><b>Deductive method &amp; Chalk &amp; Talk</b></p>	<p style="text-align: center;">Hw from text book</p>
<p style="text-align: center;"><b>WK-3</b></p> <p>17-06-2024 to 21-06-2024</p>	7	<p>Develop analytical thinking</p>	<ul style="list-style-type: none"> <li>✓ Identify reflexive, symmetric and transitive relations</li> <li>✓ Understand Equivalence relation &amp; equivalence class.</li> <li>✓ To identify one to one, onto functions</li> <li>✓ To identify bijective <ul style="list-style-type: none"> <li>○ functions</li> </ul> </li> <li>✓ To understand how will be a function invertible .</li> <li>✓ To find inverse of a function if it exists.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Types of relations</li> <li>✓ Types of functions &amp; Invertible functions</li> </ul>	<p style="text-align: center;"><b>Inductive method with examples</b></p> <p style="text-align: center;"><b>Chalk &amp; Talk</b></p> <p style="text-align: center;"><b>Visual Learning</b>  <a href="https://youtu.be/Uz0MtFILD-k?si=sCJ1hpN2LPojQQxw">https://youtu.be/Uz0MtFILD-k?si=sCJ1hpN2LPojQQxw</a></p>	<p style="text-align: center;">worksheet</p>

<p style="text-align: center;"><b>WK-4</b></p> <p>24-06-2024 to 28-06-2024</p>	8	Develop scientific temperament	<ul style="list-style-type: none"> <li>✓ To find inverse values of trigonometric functions</li> <li>✓ To identify different inverse trigonometric functions graph</li> <li>✓ To acquire the skill of solving practical problems</li> </ul>	<ul style="list-style-type: none"> <li>✓ Basic concepts and graph</li> <li>✓ Inverse Trigonometric functions</li> </ul>	Problem solving	Hw from text book
<p style="text-align: center;"><b>WK-5</b></p> <p>01-07-2024 to 5-07-2024</p>	6	Develop confidence	<ul style="list-style-type: none"> <li>✓ Understand and determine indefinite integrals of simple functions as anti-derivative</li> </ul>	<ul style="list-style-type: none"> <li>✓ Rate of measure</li> </ul>	Experiments using paper cuttings	Work sheet
<p style="text-align: center;"><b>WK- 6</b></p> <p>08-07-2024 to 12-07-2024</p>	7	Develop analytical thinking	<ul style="list-style-type: none"> <li>✓ Analyse the functions and Synthesis the Increasing and decreasing functions</li> </ul>	<ul style="list-style-type: none"> <li>✓ Increasing and Decreasing functions</li> </ul>	Activity -NCERT	MCQ & case study
<p style="text-align: center;"><b>WK-7</b></p> <p>15-07-2024 to 20-07-2024</p>	8	Develop analytical thinking	<ul style="list-style-type: none"> <li>✓ To acquire the skill of solving practical problems</li> </ul>	<ul style="list-style-type: none"> <li>✓ Maxima &amp; Minima</li> </ul>	Activity_NCERT	HW from text book
<p style="text-align: center;"><b>WK-8</b></p> <p>22-07-2024 to 26-07-2024</p>	7	Develop analytical thinking	<ul style="list-style-type: none"> <li>✓ To acquire the skill of drawing graphs of</li> </ul>	<ul style="list-style-type: none"> <li>✓ Bounded and unbounded LP Problems</li> </ul>	Graphical method Visual learning <a href="https://youtu.be/IKMHZkswjrI?si=6gTEcYmJQMdk7992">https://youtu.be/IKMHZkswjrI?si=6gTEcYmJQMdk7992</a>	quizzes

			bounded & unbounded LPP			
<p style="text-align: center;"><b>WK-9</b></p> <p>29-07-2024 to 31-07-2024</p>	8	Develop deductive reasoning	<ul style="list-style-type: none"> <li>✓ Understand the definition, terminology, and notation of conditional probability.</li> <li>✓ find whether the probability of one event is dependent on the outcome of another event</li> <li>✓ calculate conditional probabilities using the formula <math>P(A B) = P(A \cap B)/P(B)</math></li> </ul>	<ul style="list-style-type: none"> <li>✓ Conditional probability</li> <li>✓ Independent events</li> </ul>	<b>Activity_NCERT</b>	<b>Work sheet</b>
<p style="text-align: center;"><b>WK-10</b></p> <p>01-08-2024 to 02-08-2024</p>	8		<ul style="list-style-type: none"> <li>✓ Know the theory of Bayes' Theorem &amp; apply the formula in daily life problems.</li> <li>✓ Know the random variable &amp;</li> </ul>	<ul style="list-style-type: none"> <li>✓ Bayes' Theorem</li> <li>✓ Random Variable</li> <li>✓ Probabaility distribution</li> </ul>	<b>Problem solving</b>	<b>Hw from text book</b>

		Develop analytical thinking	<p>probability distribution and find the probability of the required event.</p> <ul style="list-style-type: none"> <li>✓ Know the Mean and variance of the probability distribution.</li> </ul>			
<p>WK-11 05-08-2024 to 09-08-2024</p>	8	Develop scientific temperament	<ul style="list-style-type: none"> <li>✓ Distinguish between scalars and vectors</li> <li>✓ Define different types of vectors</li> <li>✓ Add and subtract vectors</li> <li>✓ Multiply a vector by a scalar</li> <li>✓ Apply section formula for vectors</li> <li>✓ Find a unit vector along a vector</li> <li>✓ Express a vector in space in terms of i, j, k components</li> </ul>	<ul style="list-style-type: none"> <li>✓ Concept of vectors</li> <li>✓ Algebra of vectors</li> <li>✓ Properties of Vectors</li> </ul>	<p>Visual Learning</p> <p><a href="https://youtu.be/wAs1TliF7A0?si=npwBjinfYO-drxSt">https://youtu.be/wAs1TliF7A0?si=npwBjinfYO-drxSt</a></p>	worksheet
<p>WK-12 12-08-2024 to 17-08-2024</p>	8	Develop confidence	<ul style="list-style-type: none"> <li>✓ Understand the dot product of two vectors.</li> <li>✓ Find the angle between two vectors</li> </ul>	<ul style="list-style-type: none"> <li>✓ Projection of vector</li> <li>✓ Dot Product</li> <li>✓ Cross Product</li> </ul>	<p>Visual Learning</p> <p><a href="https://youtu.be/wAs1TliF7A0?si=npwBjinfYO-drxSt">https://youtu.be/wAs1TliF7A0?si=npwBjinfYO-drxSt</a></p>	MCQ & case study



			<ul style="list-style-type: none"> <li>✓ Find the projection of a vector along another vector.</li> <li>✓ Understand the cross product of two vectors.</li> <li>✓ Find the area of a parallelogram</li> </ul>			
<p style="text-align: center;"><b>WK-13</b></p> <p>19-08-2024 to 24-08-2024</p>	7	Develop confidence	<ul style="list-style-type: none"> <li>✓ Define Direction ratios &amp; Direction cosines.</li> <li>✓ Understand Direction cosines of a line.</li> <li>✓ Derive the equation of a line in space</li> </ul>	<ul style="list-style-type: none"> <li>✓ 3-Dimensional Geometry- Lines</li> <li>✓ Equations of lines</li> </ul>	<p style="color: red;">Visual Learning</p> <p><a href="https://youtu.be/RWJsy9ufxtc?si=qu_D4NpF-hpk2zK">https://youtu.be/RWJsy9ufxtc?si=qu_D4NpF-hpk2zK</a></p> <p><a href="https://youtu.be/yPysmMXI_Is?si=7ScdiPcPHISqC5nU">https://youtu.be/yPysmMXI_Is?si=7ScdiPcPHISqC5nU</a></p>	Q & A
<p style="text-align: center;"><b>WK-13</b></p> <p>27-08-2024 to 31-08-2024</p>	7	Develop observation skill	<ul style="list-style-type: none"> <li>✓ Find the angle between two lines whose equations are given.</li> <li>✓ Definition of skew lines and find the shortest distance between two skew lines.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Shortest Distance</li> </ul>	<p><a href="https://youtu.be/BXzj9mJvTKQ?si=PPZhWvnLB4z9htYf">https://youtu.be/BXzj9mJvTKQ?si=PPZhWvnLB4z9htYf</a></p>	Formula test

<p style="text-align: center;"><b>WK-14</b> 02-09-2024 to 06-09-2024</p>	7	Develop analytical thinking	<ul style="list-style-type: none"> <li>✓ Express Calculus differentiation rules as antidifferentiation rules.</li> <li>✓ 2. Use these anti differentiation rules and appropriate substitutions to calculate indefinite integrals.</li> <li>✓ 3. Use identities to prepare indefinite integrals for solution by substitution.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Integration as inverse process of differentiation</li> <li>✓ Integration of different functions by Substitution</li> <li>✓ Integration by Trigonometric identities</li> <li>✓ Integration by Partial Fraction</li> <li>✓ Integration by parts</li> <li>✓ Integration of special functions</li> </ul>	<b>Problem solving_Exemplar</b>	<b>Hw from text book</b>
<p style="text-align: center;"><b>WK-15</b> 09-09-2024 to 13-09-2024</p>	8	Develop skill	<ul style="list-style-type: none"> <li>✓ 4. Evaluate an indefinite integral using integration by parts.</li> <li>✓ 5. Evaluate an indefinite integral using integration by partial fraction.</li> <li>✓ 6. Evaluate an indefinite integral using integration</li> </ul>	<ul style="list-style-type: none"> <li>✓ Integration by partial fraction</li> <li>✓ Integration by parts</li> </ul>	<b>Problem solving</b>	<b>Hw from text book &amp; case study</b>

			<p>trigonometric identities.</p> <ul style="list-style-type: none"> <li>✓ 7. Evaluate an indefinite integral using integration by selecting appropriate technique</li> <li>✓ 8. Evaluate an indefinite integral using integration by using a compilation of techniques.</li> </ul>			
<p><b>WEEK 16</b></p> <p>23-09-2024 to 28-09-2024</p>			<ul style="list-style-type: none"> <li>✓ Using the properties and solve the problems</li> </ul>	Definite Integral	<b>Problem solving</b>	<b>worksheet</b>
30-09-2024	<b>8</b>	Develop analytical thinking	<ul style="list-style-type: none"> <li>✓ 1. Standard equations of straight lines</li> <li>✓ 2. Equation of circles with Centre at the origin, and center at (h,k)</li> <li>✓ 3. Equation of parabolas</li> <li>✓ 4. Equation of ellipse</li> <li>✓ 5. First fundamental theorem of integral calculus</li> </ul>	Application of Integrals	<b>Activity_NCERT</b>	<b>HW from text book</b>

WEEK 17 01-10-2024 to 05-10-2024	7	Develop observation skill	✓ 6. Second fundamental theorem of integral calculus			
WEEK 18 07-10-2024 to 11-10-2024	6	Develop confidence	1.The learner will learn the concept of differential equation 2. Identify an ordinary differential equation its order and degree	Differential Equations	Problem solving & Visual Learning <a href="https://youtu.be/FrbK2c-UMTY?si=VXEwKVyLmsF_Lgpf">https://youtu.be/FrbK2c-UMTY?si=VXEwKVyLmsF_Lgpf</a>	HW from Text book
WEEK 19 14-10-2024 to 19-10-2024	7	Develop analytical thinking	3. Verify whether a given function is a solution of a given ordinary differential equation 4. Find solutions of variableseparable differential equations.	Verify differential equation	Problem solving	MCQ
WEEK 20  21-10-2024 to 26-10-2024	8	Develop confidence	5. Find solutions of homogenous differential equations 6. Solve first order linear differential equations 7. Model of radioactive, compound interest, and mixing problems using first order equations.	Solving differential equations  Variable seperable -Homogeneous	Problem solving	HW from text book
WEEK 21  28-10-2024 to 30-10-2024	8	develop scientific temperament	8. Model of population dynamics using first order differential equations 9. Mathematical model that bring understanding about the universe and the world around us.		Problem solving	Work sheet

			10. Additionally, over the course of the class XII , the child will develop an increased ability to reason abstractly about mathematical concepts related to differential equations.	Solving differential equations- LDE		
01-11-2024			<b>REVISION</b>			
<b>WEEK 22</b> 04-11-2024 to 08-11-2024	7		Relations & Functions Inverse Trigonometry Matrices & Determinants LPP		Revision ws & Sample paper	Revision test
<b>WEEK 23</b> 11-11-2024 to 16-11-2024	7		Vector Algebra 3 D Probability		Revision ws & Sample paper	Revision test
<b>WEEK 24</b> 18-11-2024 to 22-11-2024	7		Continuity Differentiability Application of derivatives		Revision ws & Sample paper	Revision test
<b>WEEK 25</b> 25-11-2024 to 30-11-2024	7		Integration Application of Integration Differential equations		Revision ws & Sample paper	Revision test
<b>DECEMBER 2024</b>			<b>MODEL EXAM 1</b>			
<b>JANUARY 2024</b>			<b>MODELEXAM 2 PRACTICAL EXAM</b>			
<b>FEBRUARY 2024</b>			<b>REVISION</b>			
<b>MARCH 2024</b>			<b>BOARD EXAM</b>			





Department of Computer Science  
Annual Academic Plan-2024-25  
**Grade: XII      Subject: Computer Science(083)**

Computer Science with python-Preethi Arora.

IP: 132

# Month # Working Days # Periods	Week & Date Range	# IP	LEARNING OBJECTIVES		EXPECTED LEARNING OUTCOMES [STUDENTS WILL BE ABLE TO] Activities/Projects/Practical's/Experiments/Art Integration (Mention the serial no. in the Daily Plan)	Assessment Tool(s) through various activities. w.r.to NEP 2020 & NCF 2023 [Ref. 1.2: Suggested Assessment Modes]
			Behavior Skills. [Ref. 1.1: For identifying skills]	(Unit/Chapter/Subtopic to be covered)		
June 2024 20 Days Periods	03-06-2024 to 07-06-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of Python topics covered in Class XI.	Revise the topics Ability to do more logic-based questions.	<b>MT 1</b> Worksheets
	10-06-2024 to 14-06-2024	6	Analytical skills Thinking skills, Reasoning Skills	<b>Chapter2</b> Computational Thinking and Programming – 2  Functions- flow of execution, scope of a variable (global scope, local scope)	Python script using function call and function definition. Ability to use libraries, modules, functions available in Python.	<b>MT 1</b> Worksheets Brain storming Collaborative learning
	17-06-2024 to 21-06-2024	6	Analytical skills Thinking skills, Reasoning Skills	<b>Chapter2</b> Computational Thinking and Programming – 2  Functions- Lab Programs as per the Lab Manuel  Functions- Revision & Doubt Clearance sessions	Customizing functions available in random module and using it in a Python script. Using various string and mathematical functions available in Python.  Understanding the core concepts of programming using Python- Functions	Worksheets Brain storming Collaborative learning
	24-06-2024 to	6	Analytical skills	<b>Chapter3</b>	Importance of modules and packages in python programming	

	28-06-2024		Thinking skills, Reasoning Skills	Using Python Libraries  Understanding of software development approach.		Worksheets Brain storming Collaborative learning
July 2024 23Days Periods	01-07-2024 to 5-07-2024	6	Analytical skills Thinking skills, Reasoning Skills	<b>Chapter4</b> File Handling  Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause.	To know how to adopt modular approach of programming and how to develop and create modules and packages in solving problems through python.  Students will be able to understand need for file handling.	Worksheets Collaborative learning
	08-07-2024 to 12-07-2024	6	Analytical skills Thinking skills, Reasoning Skills	<b>Chapter4</b> File Handling  Text file: writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(),	Students will be able to write python programs to read,write into files.	Worksheets Brain storming Collaborative learning
	15-07-2024 to 20-07-2024	8	Analytical skills Thinking skills, Reasoning Skills	Text file: seek and tell methods, manipulation of data in a text file	Students will be able to write python programs and perform operations on files	Worksheets Brain storming Collaborative learning
	22-07-2024 to 26-07-2024	6	Analytical skills Thinking skills, Reasoning Skills	Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file	The students will be able give differences between text and binary file.  They can compare pickling and unpickling.  At the end of this chapter the students will be able to gain the knowledge on how to handle data files.	<b>MT 2</b> Worksheets Brain storming Collaborative learning



	29-07-2024 to 31-07-2024	4	Analytical skills Thinking skills, Reasoning Skills	Chapter 6 Data Structure-Stack + Lab Programs  Chapter 6 Data Structure-Stack + Lab Programs	To implement stack operations in python using list.  To understanding about writing python code for push and pop operations using list	<b>MT 2</b> Worksheets Brain storming Collaborative learning
August 2024 18 Days Periods	01-08-2024 to 02-08-2024	2	Analytical skills Thinking skills, Reasoning Skills	Chapter 7 Database Management Database concepts: introduction to database concepts and its need	Students will learn the purpose of creating a Database and its advantages	Worksheets Brain storming Collaborative learning
	05-08-2024 to 09-08-2024	6	Analytical skills Thinking skills, Reasoning Skills	Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key)	Students will be able to understand need for SQL. At the end of this chapter the students will be able to gain the knowledge on how to use MySQL software to create database, tables and view.	Worksheets Brain storming Collaborative learning
	12-08-2024 to 17-08-2024	6	Analytical skills Thinking skills, Reasoning Skills	<b>Structured Query Language:</b> introduction, Data Definition Language and Data Manipulation Language, data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key),	They will understand how python program can be connected to MySQL and works as front end and SQL works as back end.	Worksheets Brain storming Collaborative learning
	19-08-2024 to 24-08-2024	8	Analytical skills Thinking skills, Reasoning Skills	Database Management Alter table (add and remove an attribute, add and remove primary key), drop table	Students will learn the purpose of creating a Database and its advantages compared to traditional method. Students will be able to make alterations on the structure of table by adding an attribute or removing any.	Worksheets Brain storming Collaborative learning
	27-08-2024 to 31-08-2024	6	Analytical skills Thinking skills, Reasoning Skills	insert , delete , select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by	Students will learn the purpose of creating a Database and its advantages compared to traditional method. Students will be able to make alterations on the structure of table by adding an attribute or removing any.	Worksheets Brain storming Collaborative learning

September 2024 17 Days Periods	02-09-2024 to 06-09-2024	6	Analytical skills Thinking skills, Reasoning Skills	Database Management DDL and DML commands with all clauses like where , order by , group by , having Meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count),	Understand how MySQL and Python can be used for creating projects.	Worksheets Brain storming Collaborative learning
	09-09-2024 to 13-09-2024	6	Analytical skills Thinking skills, Reasoning Skills	Database Management Joins: cartesian product on two tables, equi-join and natural join	Experiment with the SQL command from python environment.	Worksheets Brain storming Collaborative learning
	23-09-2024 to 28-09-2024	8	Analytical skills Thinking skills, Reasoning Skills	Interface of python with an SQL database: connecting SQL with Python,performing insert, update, delete queries using cursor, Display data by using fetchone(), fetchall()	Students will learn how to take information from two tables various ways of retrieving data from MySQL through python interface	<b>TERM 1</b> Worksheets Brain storming Collaborative learning
	30-09-2024	2	Analytical skills Thinking skills, Reasoning Skills	rowcount, creating database connectivity applications	Students will learn how to take information from two tables various ways of retrieving data from MySQL through python interface	<b>TERM 1</b> Worksheets Brain storming Collaborative learning
October2024 21 Days Periods	01-10-2024 to 05-10-2024	6	Analytical skills Thinking skills, Reasoning Skills	<b>Evolution of networking:</b> introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)	Students will learn the concept of Computer Network, its evolution and data transfer rate	<b>TERM 1</b> Worksheets Brain storming Collaborative learning
	07-10-2024 to 11-10-2024	6	Analytical skills Thinking skills, Reasoning Skills	concept of communication , components of data communication ,measuring capacity of communication media	Students will learn the concept of data communication terminologies	<b>TERM 1</b> Worksheets Brain storming Collaborative learning

	14-10-2024 to 19-10-2024	6	Analytical skills Thinking skills, Reasoning Skills	IP address, switching techniques (Circuit switching, Packet switching)	Students will learn the concept of data communication terminologies	Worksheets Brain storming Collaborative learning
	21-10-2024 to 26-10-2024	6	Analytical skills Thinking skills, Reasoning Skills	Project work	Students will learn how the front end and back end of a software works.	Worksheets Brain storming Collaborative learning
	28-10-2024 to 30-10-2024	4	Analytical skills Thinking skills, Reasoning Skills	Project Work	Students can learn the importance of python and SQL connectivity deeply.	Worksheets Brain storming Collaborative learning
November 2024 23 Days Periods	01-11-2024	2	Analytical skills Thinking skills, Reasoning Skills	Revision of Python topics covered in Class XI.	Revise the topics and do more practice papers	Worksheets and Question papers
	04-11-2024 to 08-11-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of Python topics covered in Class XI.	Revise the topics and do more practice papers	<b>MT 3</b> Worksheets and Question papers
	11-11-2024 to 16-11-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of python functions	Revise the topics and do more practice papers	<b>MT3</b> Worksheets and Question papers
	18-11-2024 to 22-11-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of python functions	Revise the topics and do more practice papers	Worksheets and Question papers
	25-11-2024 to 30-11-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of Python Libraries	Revise the topics and do more practice papers	Worksheets and Question papers

December 2024 18 Days Periods	02-12-2024 to 07-12-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of File Handling	Revise the topics and do more practice papers	<b>MODEL 1</b> Worksheets and Question papers
	09-12-2024 to 13-12-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of File Handling	Revise the topics and do more practice papers	<b>MODEL 1</b> Worksheets and Question papers
	16-12-2024 to 20-12-2024	6	Analytical skills Thinking skills, Reasoning Skills	Revision of Data Structure	Revise the topics and do more practice papers	Worksheets and Question papers
	30-12-2024 to 31-12-2024	2	Analytical skills Thinking skills, Reasoning Skills	Revision of Database Management System	Revise the topics and do more practice papers	Worksheets and Question papers
January 2025 22 Days Periods	01-01-2025 to 05-01-2025	6	Analytical skills Thinking skills, Reasoning Skills	Revision of Database Management System	Revise the topics and do more practice papers	<b>MODEL 2</b> Worksheets and Question papers
	06-01-2025 to 10-01-2025	6	Analytical skills Thinking skills, Reasoning Skills	Revision of SQL	Revise the topics and do more practice papers	<b>MODEL 2</b> Worksheets and Question papers
	13-01-2025 to 18-01-2025	6	Analytical skills Thinking skills, Reasoning Skills	Revision of SQL, Interface of python with an SQL database:	Revise the topics and do more practice papers	<b>MODEL 2</b> Worksheets and Question papers
	20-01-2025 to 24-01-2025	6	Analytical skills Thinking skills, Reasoning Skills	Evolution of networking:	Revise the topics and do more practice papers	Worksheets and Question papers
	27-01-2025 to 31-01-2025	6	Analytical skills Thinking skills, Reasoning Skills	Evolution of networking:	Revise the topics and do more practice papers	Worksheets and Question papers

February 2025 21 Days Periods	01-02-2025	2	Analytical skills Thinking skills, Reasoning Skills	Question paper discussion and practice		
	03-02-2025 to 07-02-2025	6	Analytical skills Thinking skills, Reasoning Skills	Question paper discussion and practice		
	10-02-2025 to 15-02-2025	6	Analytical skills Thinking skills, Reasoning Skills	Question paper discussion and practice		
	17-02-2025 to 21-02-2025	6				
	24-02-2025 to 28-02-2025	6				
March 2025 20 Days Periods	03-03-2025 to 07-03-2025	6				
	10-03-2025 to 14-03-2025	6				
	17-03-2025 to 21-03-2025	6				
	24-03-2025 to 28-03-2025	6				

**1.1 Behavioral Skills:** Imbibe values like care, concern, sharing, love, affection, empathy, confidence. Develop Comprehensive skills, Analytical skills, thinking skills, Language skills, develop patriotism, Love for mother tongue, develop scientific temperament, Develop observation skills, Deduction (Reasoning Skills), etc.

**1.2 Suggested Assessment Modes through Activities:** Assignments, Comprehension questions, Textual questions, worksheets, drop quizzes, presentations, Slip test, Open Book assignments, MCQ's, Seminars, Case Studies, Poster presentations, FA's, SA's, Character Sketches, Identification of Literacy, Device marking, Identify marking, Identify diagrams, Map work, Drawing, Coloring, Diagram, Flow Chart, Chart work, Model making, Photographic evidences for experiments, Group activities, Brain storming, Discussions, Role play, Zig Zag puzzles, Word hunt, Charades(Guess Games), Debates, Free writing, Self-evaluation, Peer evaluation, Art Integration etc.



**Slip Test:** To improve students' academic performance and better understanding of the subject by conducting slip test that contains two short questions and one descriptive / problematic question.



Department of **COMPUTER SCIENCE**  
Annual Academic Plan-2024-25

Grade: XII AB

Subject: **INFORMATICS PRACTICES [065]**

Reference Text – KIPS, S-CHAND, SULTAN CHAND, NCERT

IP: No. of Instructional Periods May 2024- 20 Days [Periods: 10 Online +10 Hours HW & 3 hours HW/Assignment Time]

Week & Date Range (02-05-2024 to 24-05-2024) Date & Day	# IP 10+3	Expected Behavior Outcomes. [Ref. 1.1: For identifying skills]	EXPECTED LEARNING OUTCOMES [STUDENTS WILL BE ABLE TO] Activities/Projects/Practical's/Experiments/Art Integration (Mention the serial no. in the Daily Plan)	COMPONENT	METHODOLOGY TO BE USED	Assessment Tool(s) through various activities. w.r.to NEP 2020 & NCF 2023 [Ref. 1.2: Suggested Assessment Modes]
06-05-2024 MONDAY	1 hr	Confidence & Thinking Skills	<b>1. Python Pandas</b> <ul style="list-style-type: none"> <li>- Reflections of the coding portions discussed in March 2024</li> <li>- Discussing the various aspects of Lists and Dictionary</li> <li>- Thought provoking questions based on last years learnings.</li> <li>- Introducing the Jupyter platform</li> </ul>	Programming Concepts	Problem Solving Strategies- through algorithmic thinking. Introducing the online platform (Google Colab for collaborating their works)	Debugging exercises- Identify and fix the errors. <b>MCQ's-Online Assessment</b> <b>Time: 30 minutes</b>
07-05-2024 TUESDAY	1 hr	Develop Analytical & Thinking Skills	<ul style="list-style-type: none"> <li>- Know about Python libraries.</li> <li>- Use Matplotlib library in Python</li> <li>- Create and Use data structures in pandas</li> <li>- Create Series from ndarray, dictionary and scalar values</li> </ul>	Algorithms & Conceptual understanding	Active learning through problem solving and discussions.	Assess students based on their ability to analyze the problem and implement it through python programming. <b>Lab Programs (HW)</b> <b>Time: 90 minutes</b>
08-05-2024 WEDNESDAY	1 hr	Develop Analytical Skills	<ul style="list-style-type: none"> <li>- Perform mathematical operations on Series objects.</li> </ul>	Programming Concepts	Problem based learning and self-directed learning	Coding Challenges <b>Lab Programs (HW)</b> <b>Time: 90 minutes</b>

		& Scientific temperament	<ul style="list-style-type: none"> <li>- Use head() and tail() functions with Series objects</li> </ul>			
09-05-2024 THURSDAY	1 hr	Develop Thinking Skills and Observation skills	<ul style="list-style-type: none"> <li>- Perform selection, indexing and slicing operations on the Series objects.</li> <li>- Know about DataFrames</li> <li>- How to create them from Dictionary of Series, list of dictionaries and text of CSV files.</li> </ul>	Functions & Procedures	Collaborative Learning and game based approach	Code Reviews Lab Programs (HW) Time: 90 minutes
10-05-2024 FRIDAY	1 hr	Get Confidence for writing programs	<ul style="list-style-type: none"> <li>- More programs on DataFrames.</li> <li>- Perform various operations on DataFrames.</li> </ul>	Program concept in details. HOTS questions	Inquiry-Based Learning & Problem solving strategies through algorithmic thinking.	Practical Programs by giving hints and concepts Complete the coding (HW) Time: 90 minutes
13-05-2024 MONDAY	1 hr	Developing Analytical Skills	<b>2. Importing/exporting Data between CSV Files &amp; DataFrames</b> <ul style="list-style-type: none"> <li>- Recap Python-Series &amp; DataFrames</li> <li>- Know about CSV files</li> <li>- Advantages &amp; Disadvantages</li> </ul>	Confidence, Comprehensive Skills	Discussions, Sharing real time examples to understand the concepts	MCQ's-Online Assessment Time: 30 minutes
14-05-2024 TUESDAY	1 hr	Developing Thinking Skills and Awareness	<ul style="list-style-type: none"> <li>- Create CSV Files</li> <li>- Read data from CSV files</li> <li>- Sample Programs</li> </ul>	Develop Observation Skills	Active engagement by each child	MCQ's-Online Assessment Time: 30 minutes
15-05-2024 WEDNESDAY	1 hr	Developing Deduction and Observation Skills	<ul style="list-style-type: none"> <li>- Convert Pandas DataFrame to CSV Files</li> <li>- Assertion Reasoning questions</li> <li>- Competency based questions.</li> </ul> <b>3. Data Visualization</b> <ul style="list-style-type: none"> <li>- Intro to Data Visualization</li> </ul>	Applying the real-world applications	Constructivism-Constructing knowledge and understanding	Lab Activity (HW) Time: 90 minutes
16-05-2024 THURSDAY	1 hr	Develop Scientific temperament and Observation Skills	<ul style="list-style-type: none"> <li>- Know more about Python Matplotlib library.</li> </ul>	Designing algorithms to solve	Peer Instruction-Students answering	Competency Based Questions (HW)



			<ul style="list-style-type: none"> <li>- Use Matplotlib &amp; Pyplot to create line, bar and histogram plots</li> </ul>	computational problems	the questions asked by the teacher.	<b>Time: 30 minutes</b>
18-05-2024 FRIDAY	1 hr	Deeper understanding of the concepts and better thinking skills	<ul style="list-style-type: none"> <li>- Customize the labels, colours and look of matplotlib charts</li> <li>- Create charts from DataFrames</li> <li>- Save the figure after creating Charts.</li> <li>- Recap</li> </ul>	Collaborative Learning through shared knowledge and interactions.	Debugging Exercises through coding platform.	<b>Case Study Questions (HW)</b> <b>Time: 30 minutes</b>
20-05-2024 MONDAY	3 hrs	Analyzing the learning outcomes of the student by giving assessments through various learning styles.	<p><b>25 MCQ's includes Assertion-Reasoning, Case Studies, HOTS and Competency based questions.</b></p> <p><b>5 Error Correction Questions</b></p> <p><b>5 Output Prediction Questions</b></p> <p><b>5 Coding Questions</b> from Pandas Series</p> <p><b>5 Coding Questions</b> from Pandas DataFrames</p> <p><b>5 Coding Questions</b> from Data Visualization</p>	Checking the learning outcomes through differentiated instructions. (By providing multiple pathways to check the LO's)	Problem Solving tasks, Coding Challenges, Conceptual understanding through <b>Assertion-Reasoning, Case Studies, HOTS and Competency based questions.</b>	<b>Pen-Paper Test Assignment</b> <b>Time: 180 minutes</b>

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**1.2 Suggested Assessment Modes through Activities:** Assignments, Comprehension questions, Textual questions, worksheets, drop quizzes, presentations, Slip test, Open Book assignments, MCQ's, Seminars, Case Studies, Poster presentations, FA's, SA's, Character Sketches, Identification of Literacy, Device marking, Identify marking, Identify diagrams, Map work, Drawing, Coloring, Diagram, Flow Chart, Chart work, Model making, Photographic evidences for experiments, Group activities, Brain storming, Discussions, Role play, Zig Zag puzzles, Word hunt, Charades(Guess Games), Debates, Free writing, Self-evaluation, Peer evaluation, Art Integration etc.



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**DEPARTMENT OF SCIENCE**  
**ANNUAL ACADEMIC PLAN 2024-25**  
**GRADE 12 CHEMISTRY**

WEEK DATE	IP	EXPECTED BEHAVIOUR OUTCOME	LEARNING OUTCOME (STUDENTS WILL BE ABLE TO)	SUB TOPIC	METHODOLOGY TO BE USED	Assessment Tool(s) through various activities. w.r.to NEP 2020 & NCF 2023 [Ref. 1.2: Suggested Assessment Modes]
03-06-2024 to 07-06-2024	7	Student is able to analyse and compare the two laws . Applies to real life experience Of the effect of adding a non volatile solute to increase boiling point of water.	. Learning the factors affecting the solubility of gases in liquids' Comparison of Raoult's law and Henry's law. Understand the difference between ideal and non ideal solution.	SOLUTIONS. Henry's Law and its applications. Raoult's law and applications.	Lecture method. ppt presentation  Volumetric analysis of KMnO <sub>4</sub> x Mohr's salt	Worksheets
10-06-2024 to 14-06-2024	8	The student differentiate between the different types of Colligative properties	Explaining positive deviation and negative deviation. Introduction of colligative property. *relative lowering of vap. pr *elevation in BP *Depression in FP *osmosis	Ideal and non ideal solutions. Colligative properties	. Students to draw the graphs of positive and negative deviation	Graphical representation
17-06-2024 to 21-06-2024	8	Analytical skill	Discussing the applications of osmosis.	Osmosis and its applications Understanding the concept of molar conductance and specific conductance. Able to know about Kohlrausch's law. What are the applications of Kohlrausch's law. Relation between conductance, specific conductance and molar	Lecture method  Ppt presentation	Experiments

24-06-2024 to 28-06-2024	8	Problem solving skill	The student understands: Factors of abnormal molecular mass like association and dissociation	Numericals . Abnormal mol. Mass Vant hoff factor	The student do numericals .	Worksheets and assignments
01-07-2024 to 5-07-2024	8	Develop scientific temperament	The student is able to understand about: Structure of protein. Denaturation of protein Classification of protein	Carbohydrates  Protein	Lecture method	Open book assignments
15-07-2024 to 20-07-2024	8	Analytical skills	Understanding the concept of molar conductance and specific conductance. Able to know about Kohlraushs law. What are the applications of Kohlraushs law. Relation between conductance,specific conductance and molar conductance. Understand the quantitative aspect of electrolysis.  Explain corrosion as an electrochemical cell	Molar conductance and specific conductance  Electrolysis and applications of electrolysis	Plotting graphs between molar conductance and concentration  Observing galvanic cell in lab and its working.	Worksheets
22-07-2024 to 26-07-2024	8	Classification skill	How haloalkane reacts and forms nucleophilic reactions.	Naming and preparation  Physical properties of haloalkanes	Ppt presentation	Open book assignments
29-07-2024 to 31-07-2024	5	Able to differentiate  Comparative skill	Differentiate between SN1 and SN2  Stereochemistry of SN1 and SN2 At the end of the chapter student will be able to: *Learn name of the compounds *Differentiate between SN1 and SN2 *Stereochemistry of SN1 and SN2 Comparing the reactivity of haloalkane and haloarene and the reasons Discussing the different electrophilic reactions of haloalkanes	SN1 and SN2 Naming and preparation Physical properties of haloalkanes SN1 and SN2 Comparison of haloalkane and haloarene  . Electrophilic substitution reactions	Lecture method  Comparative chart preparation	Worksheets

01-08-2024 TO 02-08-2024	3	Application skill to apply the concept to real life	.Comparison of different order reactions.Relation between half life and rate of reaction.  Equipping students to use this technology to find the age of fossil	Rate of reaction,order and molecularity.  First order and zero order reactions  Half life period	. Lecture method  .	Numericals
05-08-2024 to 09-08-2024	8	Students will be able to analyse collision theory and explain the effect of temp.for the reaction.	Dependence of temperature on rate of reaction.  Arrhenius equation and its applications. Factors affecting rate of reaction	Arrhenius equation Collision theory Activated complex theory		NCERT textbook questions and self framed questions
12-08-2024 to 17-08-2024	8	Correlate physical properties of alcohols.  Understand chemical reactions of 3 different alcohols and phenols.	Understanding Naming of alcohols. Comparative study of diff.alcohols.  Comparing the different reactions of alcohols Lucas test to distinguish between different alcohols.. Reaction mechanism of dehydration reaction .	Preparation of alcohols and phenols. Chemical properties of alcohols and phenols.	. PPT presentation  Experiment to distinguish between different alcohols.	Worksheets
19-08-2024 to 24-08-2024	8	Student will be sensitised about the harmful effects of ethanol . Appreciate the use of phenol in the manufacture of aspirin .	Reasoning of acidity of alcohols and phenols Understanding the preparation of ether and its reaction. Williamsons synthesis	Mechanism of different reactions. Acidity of phenols Ether- preparation and properties	. Detecton of alcohol and phenolic group in a given organic compound.	Practise questions
27-08-2024 to 31-08-2024	7	Understanding skill  Application skill to name different aldehydes	Students are able to name aldehydes.	Naming and preparation Chemical reactions of aldehydes and ketones	Practical tests to distinguish between aldehydes and ketomes	Worksheets
02-09-2024 to 06-09-2024	8	Able to distinguish between different aldehydes.	Addition reactions. Condensation reaction How to distinguish between aldehydes and ketones. Differentiate between aromatic and aliphatic aldehyde	Chemical reactions of aldehydes and ketones Carboxylic acids	Practical tests in laboratory to detect whether a compound is acid	Lab assesment
09-09-2024 to 13-09-2024	8	Appreciate the uses of amines in day today life	Naming of amines  Preparation of amines Basicity of amines	Understanding the names of different amines. Learnng the preparation of amines Comparing the basicity of types of amines	Digital presentation to compare the different types of amines	Worksheets
23-09-2024 to 28-09-2024	8	Recognise the amines in everyday life	Benzene diazoium chloride	Preparation and reactions of benzene diazoium chloride	Lecture method  Draw diagramatic presentation	TERM 1
30-09-2024	1	Critical thinking	Cordination compounds	Elementary idea of co ordination compound.	Ppt presentation	Worksheets

1-10-2024 to 05-10-2024	8	Data analysis	IUPAC naming Werners theory Valence bond theory	Discussing the theories behind this compound and explaining the structure.	Class discussion and doing exercises	Assignment
07-10-2024 to 11-10-2024	7	Research and project development skill	Crystal field theory Bonding in metal carbonyls	Open discussion on merits of VB theory and the developments of CFSE . Understanding the bonding in metal carbonyls	Discussion on the methods studied and conclude	Brainstorming
14-10-2024 to 19-10-2024	8	Analytical skill	D block elements ----- Properties of d block elements	The student understand : *What are transition elements. *General trends of transition elements. *Importance of transition metals as Catalyst, interstitial compound, alloy, magnetic substance.	Representing in table manner.  Discussions	Data sheet
21-10-2024 to 26-10-2024	8	Research skill and critical thinking skill	Preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$	Understanding about: * the preparation of $KMnO_4$ and $K_2Cr_2O_7$ *Chemical reactions and oxidative property of pot. permanganate and pot dichromate. *Structure of manganate and permanganate. *Structure of chromate and dichromate	Lecture method  Ppt presentation	Model question papers
28-10-2024 to 30-10-2024	8	Data analysis	Lanthanoids	Lanthanoid contraction Reason Consequences Actinoids	Ppt presentation	Questionnaire
01-11-2024		REVISION	TERM 1			
04-11-2024 to 08-11-2024		REVISION	TERM 1			
11-11-2024 to 16-11-2024		REVISION	TERM 1			

18-11-2024 to 22-11-2024		REVISION	TERM 2			
25-11-2024 to 30-11-2024		REVISION	TERM 2			
02-12-2024 to 07-12-2024		MODEL 1				
09-12-2024 to 13-12-2024		MODEL 1				
16-12-2024 to 20-12-2024		REVISION				
30-12-2024 to 31-12-2024		REVISION				
01-01-2025 to 05-01-2025		MODEL 2				
06-01-2025 to 10-01-2025		MODEL 2				
13-01-2025 to 18-01-2025		REVISION				

20-01-2025 to 24-01-2025		REVISION				
27-01-2025 to 31-01-2025		REVISION				
01-02-2025		BOARD EXAM				
03-02-2025 to 07-02-2025						
10-02-2025 to 15-02-2025		BOARD EXAM				
17-02-2025 to 21-02-2025		BOARD EXAM				
24-02-2025 to 28-02-2025		BOARD EXAM				
03-03-2025 to 07-03-2025		BOARD EXAM				
10-03-2025 to 14-03-2025		BOARD EXAM				
17-03-2025		BOARD EXAM				

to 21-03- 2025						
24-03- 2025 to 28-03- 2025		BOARD EXAM				

**1.1 Behavioral Skills:** Imbibe values like care, concern, sharing, love, affection, empathy, confidence. Develop Comprehensive skills, Analytical skills, thinking skills, Language skills, develop patriotism, Love for mother tongue, develop scientific temperament, Develop observation skills, Deduction (Reasoning Skills), etc.





Department of **COMPUTER SCIENCE**  
Annual Academic Plan-2024-25

Grade: XII AB

Subject: **INFORMATICS PRACTICES [065]**

**ONLINE**

Reference Text – KIPS, S-CHAND, SULTAN CHAND, NCERT

IP: No. of Instructional Periods May 2024- 20 Days [Periods: 10 Online +10 Hours HW & 3 hours HW/Assignment Time]

Week & Date Range (02-05-2024 to 24-05-2024) Date & Day	# IP 10+3	Expected Behavior Outcomes. [Ref. 1.1: For identifying skills]	EXPECTED LEARNING OUTCOMES [STUDENTS WILL BE ABLE TO] Activities/Projects/Practical's/Experiments/Art Integration (Mention the serial no. in the Daily Plan)	COMPONENT	METHODOLOGY TO BE USED	Assessment Tool(s) through various activities. w.r.to NEP 2020 & NCF 2023 [Ref. 1.2: Suggested Assessment Modes]
06-05-2024 MONDAY	1 hr	Confidence & Thinking Skills	<b>1. Python Pandas</b> <ul style="list-style-type: none"> <li>- Reflections of the coding portions discussed in March 2024</li> <li>- Discussing the various aspects of Lists and Dictionary</li> <li>- Thought provoking questions based on last years learnings.</li> <li>- Introducing the Jupyter platform</li> </ul>	Programming Concepts	Problem Solving Strategies- through algorithmic thinking. Introducing the online platform (Google Colab for collaborating their works)	Debugging exercises- Identify and fix the errors. <b>MCQ's-Online Assessment</b> <b>Time: 30 minutes</b>
07-05-2024 TUESDAY	1 hr	Develop Analytical & Thinking Skills	<ul style="list-style-type: none"> <li>- Know about Python libraries.</li> <li>- Use Matplotlib library in Python</li> <li>- Create and Use data structures in pandas</li> <li>- Create Series from ndarray, dictionary and scalar values</li> </ul>	Algorithms & Conceptual understanding	Active learning through problem solving and discussions.	Assess students based on their ability to analyze the problem and implement it through python programming. <b>Lab Programs (HW)</b> <b>Time: 90 minutes</b>
08-05-2024 WEDNESDAY	1 hr	Develop Analytical Skills	<ul style="list-style-type: none"> <li>- Perform mathematical operations on Series objects.</li> </ul>	Programming Concepts	Problem based learning and self-directed learning	Coding Challenges <b>Lab Programs (HW)</b> <b>Time: 90 minutes</b>

		& Scientific temperament	<ul style="list-style-type: none"> <li>- Use head() and tail() functions with Series objects</li> </ul>			
09-05-2024 THURSDAY	1 hr	Develop Thinking Skills and Observation skills	<ul style="list-style-type: none"> <li>- Perform selection, indexing and slicing operations on the Series objects.</li> <li>- Know about DataFrames</li> <li>- How to create them from Dictionary of Series, list of dictionaries and text of CSV files.</li> </ul>	Functions & Procedures	Collaborative Learning and game based approach	Code Reviews Lab Programs (HW) Time: 90 minutes
10-05-2024 FRIDAY	1 hr	Get Confidence for writing programs	<ul style="list-style-type: none"> <li>- More programs on DataFrames.</li> <li>- Perform various operations on DataFrames.</li> </ul>	Program concept in details. HOTS questions	Inquiry-Based Learning & Problem solving strategies through algorithmic thinking.	Practical Programs by giving hints and concepts Complete the coding (HW) Time: 90 minutes
13-05-2024 MONDAY	1 hr	Developing Analytical Skills	<b>2. Importing/exporting Data between CSV Files &amp; DataFrames</b> <ul style="list-style-type: none"> <li>- Recap Python-Series &amp; DataFrames</li> <li>- Know about CSV files</li> <li>- Advantages &amp; Disadvantages</li> </ul>	Confidence, Comprehensive Skills	Discussions, Sharing real time examples to understand the concepts	MCQ's-Online Assessment Time: 30 minutes
14-05-2024 TUESDAY	1 hr	Developing Thinking Skills and Awareness	<ul style="list-style-type: none"> <li>- Create CSV Files</li> <li>- Read data from CSV files</li> <li>- Sample Programs</li> </ul>	Develop Observation Skills	Active engagement by each child	MCQ's-Online Assessment Time: 30 minutes
15-05-2024 WEDNESDAY	1 hr	Developing Deduction and Observation Skills	<ul style="list-style-type: none"> <li>- Convert Pandas DataFrame to CSV Files</li> <li>- Assertion Reasoning questions</li> <li>- Competency based questions.</li> </ul> <b>3. Data Visualization</b> <ul style="list-style-type: none"> <li>- Intro to Data Visualization</li> </ul>	Applying the real-world applications	Constructivism-Constructing knowledge and understanding	Lab Activity (HW) Time: 90 minutes
16-05-2024 THURSDAY	1 hr	Develop Scientific temperament and Observation Skills	<ul style="list-style-type: none"> <li>- Know more about Python Matplotlib library.</li> </ul>	Designing algorithms to solve	Peer Instruction-Students answering	Competency Based Questions (HW)

			<ul style="list-style-type: none"> <li>- Use Matplotlib &amp; Pyplot to create line, bar and histogram plots</li> </ul>	computational problems	the questions asked by the teacher.	<b>Time: 30 minutes</b>
18-05-2024 FRIDAY	1 hr	Deeper understanding of the concepts and better thinking skills	<ul style="list-style-type: none"> <li>- Customize the labels, colours and look of matplotlib charts</li> <li>- Create charts from DataFrames</li> <li>- Save the figure after creating Charts.</li> <li>- Recap</li> </ul>	Collaborative Learning through shared knowledge and interactions.	Debugging Exercises through coding platform.	<b>Case Study Questions (HW)</b> <b>Time: 30 minutes</b>
20-05-2024 MONDAY	3 hrs	Analyzing the learning outcomes of the student by giving assessments through various learning styles.	<p><b>25 MCQ's includes Assertion-Reasoning, Case Studies, HOTS and Competency based questions.</b></p> <p><b>5 Error Correction Questions</b></p> <p><b>5 Output Prediction Questions</b></p> <p><b>5 Coding Questions</b> from Pandas Series</p> <p><b>5 Coding Questions</b> from Pandas DataFrames</p> <p><b>5 Coding Questions</b> from Data Visualization</p>	Checking the learning outcomes through differentiated instructions. (By providing multiple pathways to check the LO's)	Problem Solving tasks, Coding Challenges, Conceptual understanding through <b>Assertion-Reasoning, Case Studies, HOTS and Competency based questions.</b>	<b>Pen-Paper Test Assignment</b> <b>Time: 180 minutes</b>

**1.1 Behavioral Skills:** Imbibe values like care, concern, sharing, love, affection, empathy, confidence. Develop Comprehensive skills, Analytical skills, thinking skills, Language skills, develop patriotism, Love for mother tongue, develop scientific temperament, Develop observation skills, Deduction (Reasoning Skills), etc.

**1.2 Suggested Assessment Modes through Activities:** Assignments, Comprehension questions, Textual questions, worksheets, drop quizzes, presentations, Slip test, Open Book assignments, MCQ's, Seminars, Case Studies, Poster presentations, FA's, SA's, Character Sketches, Identification of Literacy, Device marking, Identify marking, Identify diagrams, Map work, Drawing, Coloring, Diagram, Flow Chart, Chart work, Model making, Photographic evidences for experiments, Group activities, Brain storming, Discussions, Role play, Zig Zag puzzles, Word hunt, Charades(Guess Games), Debates, Free writing, Self-evaluation, Peer evaluation, Art Integration etc.



**Slip Test:** To improve students' academic performance and better understanding of the subject by conducting slip test that contains two short questions and one descriptive / problematic question.

Department of **COMPUTER SCIENCE**  
Annual Academic Plan-2024-25

Grade: XII AB

Subject: **INFORMATICS PRACTICES [065]**

**OFFLINE**

Reference Text – KIPS, S-CHAND, SULTAN CHAND, NCERT

IP: No. of Instructional Periods June 2024 to March 2025

Month & Date Range	# IP	Expected Behavior Outcomes. [Ref. 1.1: For identifying skills]	EXPECTED LEARNING OUTCOMES [STUDENTS WILL BE ABLE TO] Activities/Projects/Practical's/Experiments/Art Integration (Mention the serial no. in the Daily Plan)	COMPONENT	METHODOLOGY TO BE USED	Assessment Tool(s) through various activities. w.r.to NEP 2020 & NCF 2023 [Ref. 1.2: Suggested Assessment Modes]
JUNE 2024 [20 Days] 29 Periods						
03-06-2024 to 07-06-2024	7	Deeper understanding of the concepts and better thinking skills	Data structures in Pandas - Series	Programming Concepts: - Variables, Data Types, and Operators	Active Learning: Encouraging students to actively engage with the material through problem-solving, discussions, and hands-on activities.	Debugging exercises- Identify and fix the errors.
10-06-2024 to 14-06-2024	7	Develop Analytical Skills & Scientific temperament	Data structures in Pandas - Data Frames iteration; Operations on rows and columns: add, select, delete, rename; <b>Lab Session: Cycle 1</b>	- Object-Oriented Programming Concepts	Problem-Based Learning (PBL): Presenting students with authentic, open-ended problems to solve, encouraging critical thinking, and self-directed learning.	Assess students based on their ability to write clean and efficient code, solve programming challenges, and implement appropriate algorithms and data structures.
17-06-2024 to 21-06-2024	6	Develop Analytical Skills & Scientific temperament	Importing/Exporting Data between CSV files and Data Frames <b>Project Allocation</b>	Solving computational problems.	Project-Based Learning (PBL): Focusing on real-world projects where	Problem-Solving Tasks

24-06-2024 to 28-06-2024	7	Develop Thinking Skills and Observation skills	Data Visualization: Purpose of plotting; drawing and saving following types of plots using Matplotlib – line plot, bar graph, histogram <b>Lab Session: Cycle 2</b>	Data Structures- Graphs	students apply their knowledge and skills to solve practical problems.	Conduct code reviews where students evaluate and provide feedback on each other's code.
JULY 2024 [23 Days] 29 Periods						
01-07-2024 to 5-07-2024	7	Develop Thinking Skills and Observation skills	Customizing plots: adding label, title, and legend in plots. Lab Sessions	Flowcharts based on given conditions	Project-Based Learning (PBL): Focusing on real-world projects where students apply their knowledge and skills to solve practical problems.  Differentiated Instruction: Tailoring instruction to meet the diverse learning needs and preferences of students, providing multiple pathways to understanding and mastery.	Problem-Solving Tasks
08-07-2024 to 12-07-2024	7	Deeper understanding of the concepts and better thinking skills	Database Query using SQL: Revision of database concepts and SQL commands covered in class XI <b>Lab Session: Cycle 3</b>	Database Management		Debugging Exercises: - Provide students with code containing bugs or errors and ask them to identify and fix the issues.
15-07-2024 to 20-07-2024	4	Get Confidence for writing programs	Math functions: POWER (), ROUND (), MOD (). <b>Project Review-1</b>	Understanding and designing algorithms to solve computational problems efficiently		Application-Level Questions
22-07-2024 to 26-07-2024	7	Develop Analytical Skills & Scientific temperament	Text functions: UCASE ()/ UPPER (), LCASE ()/ LOWER (), MID ()/ SUBSTRING () /SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM () <b>Lab Session: Cycle 4</b>	Relational Database Concepts		Conduct code reviews where students evaluate and provide feedback on each other's code.
29-07-2024 to 31-07-2024	4	Developing Thinking Skills and Awareness	Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME ()	SQL (Structured Query Language) for Querying and Manipulating Data	Cooperative Learning: Structuring learning activities to promote collaboration and teamwork among	Assess students based on the correctness of their solutions, the efficiency of their code, and their ability

					students, fostering a sense of community and shared responsibility for learning.	to explain their approach and reasoning.
AUGUST 2024 [18 Days] 23 Periods						
01-08-2024 to 02-08-2024	2	Get Confidence for writing programs	Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*) <b>Lab Session: Cycle 5</b>	Database Transactions and ACID Properties	Differentiated Instruction: Tailoring instruction to meet the diverse learning needs and preferences of students, providing multiple pathways to understanding and mastery.	Assess students based on the correctness of their solutions, the efficiency of their code, and their ability to explain their approach and reasoning.
05-08-2024 to 09-08-2024	7	Develop Thinking Skills and Observation skills	Querying and manipulating data using Group by, Having, Order by. <b>Project Review-2</b>	Database Design	Project-Based Learning (PBL): Focusing on real-world projects where students apply their knowledge and skills to solve practical problems.	Problem-Solving Tasks
12-08-2024 to 17-08-2024	5	Get Confidence for writing programs & Analytical Skills	Working with two tables using equi-join <b>Lab Session: Cycle 6</b>	Database Transactions and ACID Properties	Mastery Learning: Providing opportunities for students to master concepts and skills at their own pace through repeated practice, feedback, and assessment.	Debugging Exercises: - Provide students with code containing bugs or errors and ask them to identify and fix the issues.
19-08-2024 to 24-08-2024	5	Developing Thinking Skills and Awareness	Introduction to Computer Networks Introduction to networks, Types of network: PAN, LAN, MAN, WAN. <b>Project Review-3</b>	IT concepts & Adhering to ethical guidelines	Experiential Learning: Providing hands-on	<b>Competency Based Questions (HW)</b>

					experiences and opportunities.	
27-08-2024 to 31-08-2024	4	Developing Thinking Skills and Awareness	Network Devices: modem, hub, switch, repeater, router, gateway	Understanding networking concepts.	Game-Based Learning: Using educational games and simulations to engage students and reinforce learning objectives through interactive and immersive experiences.	Case Study Questions (HW)

SEPTEMBER 2024 [17 Days] 18 Periods

02-09-2024 to 06-09-2024	4	Develop Thinking Skills and Observation skills	Network Topologies: Star, Bus, Tree, Mesh. <b>Project Review-4</b>	Configuring and troubleshooting network devices and services.	Inquiry-Based Learning: Guiding students through inquiry-based activities where they explore topics, ask questions, and investigate solutions independently.	Problem-Solving Tasks
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09-09-2024 to 13-09-2024	7	Analyzing the learning outcomes of the student by giving assessments through various learning styles	<b>Revision till 6<sup>th</sup> September 2024</b>			
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**ONAM HOLIDAYS (14<sup>th</sup> to 22<sup>nd</sup> September 2024)**

23-09-2024 to 28-09-2024	7	Analyzing the learning outcomes of the student by giving assessments	<b>Revision</b>			
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		through various learning styles				
30-09-2024	<b>TERM 1 EXAMINATIONS</b>					
OCTOBER 2024 [21 Days] 20 Periods						
01-10-2024 to 05-10-2024	<b>TERM 1 EXAMINATIONS</b>					
07-10-2024 to 11-10-2024	5	Developing Thinking Skills and Awareness	Introduction to Internet, URL, W W W, and its applications- Web, email, Chat, VoIP. <b>Project Review-5</b>	Understanding protocols, and technologies.	Flipped Classroom: Reversing the traditional classroom model by delivering instructional content outside of class	<b>MCQ's-Offline Assessment</b>
14-10-2024 to 19-10-2024	7	Develop Analytical Skills & Scientific temperament	Website: Introduction, difference between a website and webpage, static vs dynamic web page, web server and hosting of a website. Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug-ins, cookies. <b>Lab Session: Cycle 7</b>	Understanding security threats and vulnerabilities in computer systems and networks.	through videos or readings, and using class time for interactive discussions and activities.	- Assess students based on their presentation skills, clarity of explanation, and depth of understanding demonstrated during the presentation.
21-10-2024 to 26-10-2024	7	Deeper understanding of the concepts and better thinking skills	Societal Impacts: Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act.	Implementing security measures to protect against cyber-attacks, such as encryption, firewalls, and intrusion detection systems.	Experiential Learning: Providing hands-on experiences and opportunities for students to learn through experimentation and reflection.	Assertion-Reasoning Questions
28-10-2024 to 30-10-2024	3	Develop Thinking Skills and Observation skills	E-waste: hazards and management. Awareness about health concerns related to the usage of technology <b>Project Review-6</b>	Discussing ethical issues related to technology, such as privacy,	Collaborative Learning: Emphasizing group work and peer-to-peer interaction to	- Assess students based on their presentation skills, clarity of explanation, and depth of



				data protection, and intellectual property rights.	facilitate learning through shared knowledge and experiences.	understanding demonstrated during the presentation.
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NOVEMBER 2024 [23 Days] 29 Periods

01-11-2024	1	Analyzing the learning outcomes of the student by giving assessments through various learning styles	<b>Practical's Revision Worksheets &amp; Previous year QP discussion</b>			
04-11-2024 to 08-11-2024	7		<b>Practical's &amp; Project Revision Worksheets &amp; Previous year QP discussion</b>			
11-11-2024 to 16-11-2024	7					
18-11-2024 to 22-11-2024	7					
25-11-2024 to 30-11-2024	7		<b>Revision Revision Worksheets &amp; Previous year QP discussion</b>			

DECEMBER 2024 [18 Days] 5 Periods

02-12-2024 to 07-12-2024	<b>MODEL 1 EXAMINATIONS, PRACTICAL PRACTICE SESSIONS &amp; REVISIONS</b>				
09-12-2024 to 13-12-2024					
16-12-2024 to 20-12-2024					

**CHRISTMAS HOLIDAYS (21<sup>st</sup> to 29<sup>th</sup> December 2024)**

30-12-2024 to 31-12-2024	REVISION SESSIONS & DOUBT CLEARANCE CLASSES
JANUARY 2025 [22 Days] 16 Periods	
01-01-2025 to 05-01-2025	MODEL 2 EXAMINATIONS, PRACTICAL MODELS & REVISIONS
06-01-2025 to 10-01-2025	
13-01-2025 to 18-01-2025	
20-01-2025 to 24-01-2025	CBSE BOARD PRACTICALS
27-01-2025 to 31-01-2025	
FEBRUARY 2025 [21 Days] 20 Periods	
	REVISION CLASSES & SPECIAL/REMEDIAL SESSIONS
03-02-2025 to 07-02-2025	
10-02-2025 to 15-02-2025	
17-02-2025 to 21-02-2025	
24-02-2025 to	CBSE BOARD EXAMS

28-02-2025	
MARCH 2025 [20 Days] 20 Periods for Revision	
03-03-2025 to 07-03-2025	CBSE BOARD EXAMS NEW CLASS 12 BRIDGE SESSIONS (ACADEMIC YEAR 2025-26)
10-03-2025 to 14-03-2025	
17-03-2025 to 21-03-2025	
24-03-2025 to 28-03-2025	
04-04-2025	
	PTA & PROGRESS CARD

**Note:** Worksheets and Homework will be given on weekly basis.



Department of Physical Education(048)  
Annual Academic Plan-2024-25

**Grade: XII**

**Subject: Physical Education**

Reference Text – Physical Education

**IP: No. of Instructional Periods**

# Month # Working Days # Periods	Week & Date Range	# IP	LEARNING OBJECTIVES		EXPECTED LEARNING OUTCOMES [STUDENTS WILL BE ABLE TO] Activities/Projects/Practical's/Experiments/A rt Integration (Mention the serial no. in the Daily Plan)	Assessment Tool(s) through various activities. w.r.to NEP 2020 & NCF 2023 [Ref. 1.2: Suggested Assessment Modes]
			Behavior Skills. [Ref. 1.1: For identifying skills]	(Unit/Chapter/Subt opic to be covered)		
June 2024 20 Days Periods	03-06-2024 to 07-06-2024	5	To make the students understand the need and meaning of planning in sports, committees, and their responsibilities for conducting the sports event or tournament.	Unit 1 - Management of Sporting Events 1. Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling)	After completing the unit, the students will be able to: * Describe the functions of Sports Event management * Classify the committees and their responsibilities in the sports event  * Differentiate the different types of tournaments. * Prepare fixtures of knockout, league & combination.	Comprehension Questions  Textual Questions
			To teach them about the different types of tournaments and the detailed procedure of drawing fixtures for Knock Out, League Tournaments, and Combination tournaments.	2. Various Committees & their Responsibilities (pre; during & post)		
	10-06-2024 to 14-06-2024	5	To make the students understand the need for the meaning and significance of intramural	3. Fixtures and their Procedures – Knock-Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular	* Distinguish between intramural and extramural sports events  * Design and prepare different types of community	Formative Assessment

			<p>and extramural tournaments.</p> <p>To teach the students about the different types of community sports and their importance in our society.</p> <p>To teach the students about the various types of camps and how to organise that successfully.</p>	<p>method) and Combination tournaments.</p> <p>4. Intramural &amp; Extramural tournaments – Meaning, Objectives &amp; Its Significance</p> <p>5. Community sports program (Sports Day, Health Run, Run for Fun, Run for Specific Cause &amp; Run for Unity)</p>	<p>.</p> <p>*To be able to set up intramural and Extramural tournaments</p> <p>*To have a good understanding about what and how different types of tournaments.</p> <p>*Increased community participation in sports and physical activities.</p> <p>*Enhanced awareness of health and fitness among participants.</p> <p>*Promotion of teamwork and camaraderie through collective participation.</p> <p>*Fostering a sense of unity and inclusivity among diverse community members.</p> <p>*Encouraging regular physical activity as a lifestyle choice.</p> <p>*Building community spirit and pride through shared recreational events.</p>	Worksheets
17-06-2024 to 21-06-2024	4	To make students understand the exercise guidelines of WHO for different age groups	<p>Unit 2 Children &amp; Women in Sports</p> <p>1. Exercise guidelines of WHO for different age groups.</p>	<p>*Improved overall physical health and well-being across all age groups.</p> <p>*Reduced risk of chronic diseases such as cardiovascular diseases, diabetes, and obesity.</p> <p>*Enhanced muscle strength, flexibility, and endurance.</p> <p>*Better management of mental health conditions such as depression and anxiety.</p> <p>*Promotion of healthy aging and maintenance of functional abilities in older adults.</p>	Verbal Questioning	

			<p>To make students aware of the common postural deformities</p> <p>To make students aware of women's sports participation in India and about the special conditions of women.</p> <p>To make students understand menarche and menstrual dysfunction among women athletes.</p>	<p>2. Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs and their respective corrective measures.</p> <p>3. Women's participation in Sports – Physical, Psychological, and social benefits</p>	<p>*Reduced risk of falls and injuries through regular exercise.</p> <p>*Development of healthy habits and lifestyles from a young age</p> <p>*Classify common postural deformities and identify corrective measures.</p> <p>* Recognize the role and importance of sports participation of women in India.</p> <p>* Identify special considerations relate to menarche and menstrual dysfunction.</p> <p>* Express female athlete triad according to eating disorders.</p>	<p>Discussion with the help of worksheets</p>
24-06-2024 to 28-06-2024	5	<p>Increased awareness and understanding of the impact of menarche and menstrual dysfunction on female athletes' performance and well-being.</p> <p>Implementation of tailored exercise and training regimens to accommodate hormonal fluctuations and menstrual irregularities.</p> <p>Prevention and management of the female athlete triad through education, counseling, and support services.</p>	<p>4. Special consideration (menarche and menstrual dysfunction)</p> <p>5. Female athlete triad (osteoporosis, amenorrhea, eating disorders).</p>	<p>Increased awareness and understanding of the physiological changes associated with menarche and menstrual dysfunction.</p> <p>Implementation of appropriate training and recovery strategies to accommodate menstrual cycle variations and minimize performance impacts.</p> <p>Promotion of proactive healthcare practices among female athletes to address menstrual irregularities and optimize overall well-being.</p> <p>Prevention and early detection of the female athlete triad through regular monitoring and screening protocols.</p> <p>Adoption of holistic approaches to training, nutrition, and mental health to mitigate the risk factors associated with the female athlete triad and promote long-term athletic success.</p>	<p>Formative Assessment</p> <p>Comprehension Questions</p>	

			<p>Promotion of healthy attitudes towards body image, nutrition, and physical activity among female athletes.</p> <p>Facilitation of open communication between athletes, coaches, and healthcare professionals regarding menstrual health and related issues.</p>			
<p>July 2024 23Days Periods</p>	<p>01-07-2024 to 5-07-2024</p>	<p>5</p>	<p>To make students Understand about the main life style diseases Obesity, Hypertension, Diabetes, Back Pain and Asthma.</p> <p>To know about different Asanas in detail which can help as a preventive Measures for those Lifestyle Diseases.</p> <p>Improved adherence to regular exercise routines due to the accessibility and simplicity of yoga poses.</p> <p>Enhanced self-efficacy and confidence in managing diabetes through the mastery of various yoga postures.</p> <p>Increased mindfulness and self-awareness, leading to</p>	<p>Unit 3 Yoga as Preventive measure for Lifestyle Disease</p> <p>1. Obesity: Procedure, Benefits &amp; Contraindications for Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha – Matsyendrasana, Dhanurasana,</p> <p>2. Diabetes: Procedure, Benefits &amp; Contraindications for Katichakrasana, Pavanmuktasana, Bhujangasana, Shalabhasana, Dhanurasana, Supta -vajarasana, Paschimottanasana-a, Ardha-Mastendrasana, Mandukasana, Gomukasana,</p>	<p>After completing the unit, the students will be able to:</p> <p>* Identify the asanas beneficial for different ailments and health problems.</p> <p>* Recognize importance of various asanas for preventive measures of obesity, diabetes, asthma, hypertension, back pain and arthritis</p> <p>* Describe the procedure for performing a variety of asanas for maximal benefits.</p> <p>* Distinguish the contraindications associated with performing different asanas.</p> <p>* Outline the role of yogic management for various health benefits and preventive measures.</p> <p>*Improved insulin sensitivity and glucose metabolism through regular practice of yoga asanas.</p>	<p>Verbal Questioning</p> <p>Worksheets</p>

		<p>better self-regulation dietary habits and lifestyle choices.</p> <p>Reduction in symptoms of anxiety and depression, contributing to overall mental well-being and resilience in coping with diabetes.</p> <p>Development of a sense of empowerment and control over one's health, fostering a positive attitude towards diabetes management.</p> <p>Improved Breathing Patterns: Regular practice of these yoga poses can lead to better control over breathing, reducing the frequency and severity of asthma symptoms.</p> <p>Enhanced Lung Capacity: By expanding the chest and improving respiratory muscle strength, these poses may increase lung capacity, aiding in better airflow and oxygenation.</p> <p>Stress Reduction: Engaging in yoga has been shown to lower stress levels, which can be beneficial for asthma management as stress often exacerbates symptoms.</p> <p>Increased Mindfulness: Practicing yoga fosters a sense of mindfulness and</p>	<p>Yogmudra, Ushtrasana, Kapalabhati.</p> <p>3.Asthma:Procedure, Benefits &amp; Contraindications for Tadasana, Urdhwahastottansana, UttanMandukasana, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalabhati, Gomukhasana, Matsyaasana, Anulomana -Viloma.</p>	<p>*Enhanced circulation and blood flow to vital organs, aiding in diabetes management.</p> <p>*Reduction of stress levels and promotion of relaxation, which can contribute to better glycemic control.</p> <p>*Strengthening of muscles and joints, leading to better physical function and mobility for individuals with diabetes.</p> <p>*Increased mindfulness and body awareness, fostering better adherence to diabetes management strategies and overall well-being.</p> <p>*Through the alignment and strengthening of muscles, these poses promote better posture, which can aid in optimizing breathing mechanics and reducing respiratory discomfort.</p> <p>*Learning and mastering these yoga asanas can empower individuals with asthma to take an active role in their own health and well-being, fostering a sense of control and self-efficacy.</p>	<p>Textual Questions</p>
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			body awareness, allowing individuals to better recognize and respond to early signs of asthma flare-ups, promoting proactive management.			
08-07-2024 to 12-07-2024	5	<p>Regular participation in yoga can foster a greater commitment to healthy lifestyle habits such as exercise, mindfulness, and stress management, leading to more effective hypertension management over time.</p> <p>Mastery of yoga poses builds confidence and a sense of control over one's body and mind, empowering individuals to better manage their hypertension and related symptoms.</p> <p>Regular practice of yoga can lead to decreased reliance on pain medication and increased ability to manage discomfort through non-pharmacological means.</p> <p>Enhanced Self-Efficacy: By mastering yoga poses and experiencing improvements in pain and mobility, individuals may feel more confident in their ability to cope with and manage their conditions.</p> <p>Stress Reduction: Engaging in yoga promotes relaxation and stress relief, which can</p>	<p>4. Hypertension: Procedure, Benefits &amp; Contraindications for Tadasana, Katichakransana, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasan -a, Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadi -shodhanapranayam, Sitlipranayam.</p> <p>5. Back Pain and Arthritis: Procedure, Benefits &amp; Contraindications of Tadasana, Urdhawahastootansana, Ardh-Chakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrasana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana, Nadi-Shodhana pranayama.</p>	<p>After completing the unit, the students will be able to:</p> <ul style="list-style-type: none"> <li>*Understand what hypertension is, including normal blood pressure ranges.</li> <li>*Recognize that there is no single procedure for hypertension, but rather various lifestyle changes and medications used in its management.</li> <li>*Learn about the positive effects of controlling hypertension, such as reduced risk of heart disease, stroke, and kidney problems.</li> <li>* Be aware of situations where certain medications or lifestyle changes for hypertension might not be suitable.</li> <li>*Understand the importance of consulting a healthcare provider for diagnosis, treatment plan creation, and monitoring of hypertension.</li> </ul> <p>*Yoga teaches individual techniques to alleviate and manage pain associated with back pain and arthritis, providing relief and enhancing overall well-being.</p> <p>*Regular practice of yogasanas can increase flexibility and mobility in joints and muscles, reducing stiffness and discomfort commonly experienced with back pain and arthritis.</p> <p>*Yoga promotes relaxation and stress relief through controlled breathing and mindful movement, helping individuals cope with the physical and emotional toll of chronic pain conditions.</p> <p>*Better Posture and Body Mechanics:</p> <p>* Through yoga practice, individuals learn self-care techniques and strategies to manage</p>	<p>Comprehension Questions</p> <p>Workout Questions</p>	

			help alleviate tension and reduce the perception of pain associated with back pain and arthritis.		their conditions independently, empowering them to take an active role in their health and well-being.	
15-07-2024 to 20-07-2024	6	<p>To make students understand the concept of Disability and Disorder.</p> <p>To teach students about the types of disabilities &amp; disorders, their causes, and their nature.</p> <p>Refer to the person before the disability (e.g., "a person with a disability" instead of "a disabled person").</p> <p>Respect personal space and boundaries: Always ask before offering assistance and respect the individual's decision.</p> <p>Avoid making assumptions: Don't assume limitations based on appearance or disability type.</p> <p>Speak directly to the person: Even if they have a caregiver or interpreter</p>	<p>Unit 4 -Physical Education and Sports for CWSN (Children with Special Needs - Divyang)</p> <p>1. Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics)</p> <p>2. Concept of Classification and Divisioning in Sports.</p>	<p>After completing the unit, the students will be able to:</p> <p>*Enhance motor skills development, including coordination and balance.</p> <p>*Improve social interaction and communication skills through group activities.</p> <p>*Increase self-confidence and self-esteem as children achieve physical milestones.</p> <p>*Better emotional regulation and stress management through physical exertion.</p> <p>*Enhanced overall health and well-being, including cardiovascular fitness and muscular strength.</p> <p>*foster diversity: Inclusion promotes diversity by welcoming individuals of various backgrounds, abilities, and identities into sports activities, creating a rich and diverse community.</p> <p>*promote equality: Inclusion ensures that everyone has equal opportunities to participate in sports, regardless of their background or abilities, promoting fairness and justice.</p> <p>*enhance social cohesion: Inclusion brings people together, fostering a sense of belonging and unity among participants, regardless of differences, leading to stronger bonds and social cohesion.</p> <p>*maximize potential: By including individuals from diverse backgrounds and abilities, sports teams and communities can tap into a wider range of talents, skills, and perspectives, maximizing the potential for success and innovation.</p>	<p>Comprehension Questions with Worksheets</p> <p>Comprehension Questions with Worksheets</p>	

		<p>present, address the individual directly.</p> <p>Offer assistance respectfully: If someone appears to need help, ask how you can assist rather than assuming they require assistance.</p> <p>Embracing diversity</p> <p>Respecting differences</p> <p>Creating a supportive environment</p> <p>Demonstrating empathy</p> <p>Advocating for fairness</p> <p>Promoting teamwork and collaboration</p>	<p>3. Concept of Inclusion in sports, its need, and Implementation;</p>	<p>*encourage empathy and understanding: Inclusion in sports helps break down barriers and stereotypes, promoting empathy, understanding, and acceptance of others, both on and off the field.</p> <p>*Understand diversity</p> <p>*Value inclusivity:</p> <p>*Promote equity</p> <p>*Increase empathy and understanding</p> <p>*Enhance teamwork and collaboration:</p> <p>*Improve social skills</p> <p>*Develop inclusive attitudes</p> <p>*Create inclusive environments</p> <p>*Provide equal opportunities</p> <p>*Promote diversity</p>	<p>Formative Assessment</p>
<p>22-07-2024 to 26-07-2024</p>	<p>5</p>	<p>Engaging in physical activities encourages interaction with peers, fostering socialization skills such as communication, cooperation, and teamwork.</p> <p>Enhanced Self-Confidence: Participation in physical activities provides opportunities for success and mastery, boosting self-esteem and confidence in children with special needs.</p> <p>Stress Reduction: Physical activity serves as a</p>	<p>4. Advantages of Physical Activities for children with special needs</p>	<p>*Promotes the development of fine and gross motor skills, including coordination, balance, and strength.</p> <p>*Participation in physical activities stimulates brain activity, enhancing cognitive functions such as attention, memory, and problem-solving skills.</p> <p>*Physical activities provide sensory input, promoting sensory integration and enhancing sensory processing abilities in children with special needs.</p> <p>*Physical activities offer opportunities for socialization and peer interaction, fostering communication, cooperation, and relationship-building skills.</p>	<p>Worksheet and Comprehension Questions / Formative Assessment</p>

			<p>positive outlet for releasing energy and reducing stress and anxiety, promoting emotional well-being and resilience.</p> <p>Increased Independence: By participating in physical activities, children with special needs learn to navigate and engage with their environment, promoting independence and self-reliance.</p> <p>Regular physical activity helps regulate mood and behavior, reducing the likelihood of disruptive behaviors and promoting focus and attention.</p>		<p>*Participating in physical activities instills healthy habits from a young age, promoting lifelong physical fitness, health, and well-being.</p>	
29-07-2024 to 31-07-2024	3	<p>Tailor physical activities to meet the unique needs and abilities of each child with special needs, taking into account their strengths, interests, and preferences.</p> <p>Provide adapted equipment and facilities, such as specialized sports gear or accessible playgrounds, to ensure that children with special needs can fully participate in physical activities.</p> <p>Encourage peer support and modeling by pairing children with special needs with peers who can provide assistance, guidance, and positive role</p>	<p>5. Strategies to make Physical Activities assessable for children with special need.</p>	<p>*provide specialized equipment and accessible facilities tailored to the needs of children with special needs.</p> <p>*offer personalized guidance and support based on each child's abilities and preferences during physical activities.</p> <p>*utilize visual aids such as pictures, diagrams, or visual schedules to enhance understanding and participation in physical activities.</p> <p>*encourage peer support and collaboration by pairing children with special needs with supportive peers who can assist and motivate them during activities.</p> <p>*establish inclusive environments where all children feel welcomed and valued, promoting a</p>	<p>Summarising in student's own words with the guidance of the teacher and worksheets</p>	

			<p>modeling during physical activities.</p> <p>Foster an inclusive environment where children with special needs feel welcome, accepted, and valued, promoting a sense of belonging and empowerment during physical activities.</p>		<p>sense of belonging and participation in physical activities.</p>	
<p>August 2024 18 Days Periods</p>	<p>01-08-2024 to 02-08-2024</p>	<p>2</p>	<p>Informed food choices: Knowing about a balanced diet enables better decision-making when selecting meals, leading to healthier eating habits.</p> <p>Energy regulation: Understanding the importance of balanced nutrition helps maintain stable energy levels throughout the day, supporting consistent performance and productivity.</p> <p>Long-term health: Awareness of a balanced diet fosters preventive behaviors, reducing the risk of chronic diseases and promoting overall well-being.</p>	<p>Unit 5 Sports &amp; Nutrition 1. Concept of balanced diet and nutrition</p>	<p>After completing the unit, the students will be able to:</p> <ul style="list-style-type: none"> <li>*understand what constitutes a balanced diet, which helps prevent deficiencies and reduces the risk of chronic diseases such as obesity, diabetes, and heart disease.</li> <li>*know how to fuel the body with the right mix of carbohydrates, proteins, fats, vitamins, and minerals supports sustained energy levels and promotes vitality.</li> <li>*understanding the components of a balanced diet helps individuals maintain a healthy weight. By making informed food choices and practicing portion control, people can achieve and sustain their desired weight more effectively. A balanced diet is associated with a lower risk of various health conditions and can contribute to a longer, healthier life. It helps to strengthen the immune system, reduce inflammation, and promote overall resilience against illness and disease.</li> <li>*understand the importance of a balanced diet also extends to its environmental impact. Choosing a diet rich in plant-based foods and sustainably sourced proteins can help reduce greenhouse gas emissions, conserve water resources, and promote biodiversity.</li> </ul>	<p>Worksheets</p>
	<p>05-08-2024 to 09-08-2024</p>	<p>5</p>	<p>Knowing about macro and micronutrients, their food sources, and functions enables individuals to</p>	<p>2. Macro and Micro Nutrients: Food sources &amp; functions</p>	<ul style="list-style-type: none"> <li>*Improved Dietary Habits</li> <li>*Optimized Nutrient Intake</li> </ul>	<p>Comprehension Questions</p>

			<p>make informed dietary choices, ensuring they meet their nutritional needs for optimal health and performance.</p> <p>-Optimal Nutrition -Health Maintenance -Disease Prevention -Digestive Health -Enhanced Culinary Skills -Awareness of Food Safety:</p>	<p>3. Nutritive &amp; Non-Nutritive components of Diet</p>	<p>*Increased Performance</p> <p>*Empowerment for Self-care</p> <p>*Nutritional Literacy *Healthy Eating Habits *Disease Prevention *Digestive Health Awareness *Culinary Skills Enhancement *Critical Thinking and Decision Making *Food Safety Awareness:</p>	<p>Slip Test/ Comprehension Questions</p>
12-08-2024 to 17-08-2024	4	<p>Knowing how to balance calorie intake with energy expenditure is crucial for maintaining a healthy weight.</p> <p>Understanding the principles of portion control, nutrient density, and mindful eating.</p> <p>Learning about the energy content of different foods and the importance of physical activity in calorie expenditure.</p> <p>To develop a habit of maintaining proper nutrition before, during, and after competition ensures that athletes have the energy, stamina, and mental focus needed to perform at their best.</p>	<p>4. Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance and Food Myths</p> <p>5. Importance of Diet in Sports-Pre, During and Post competition Requirements</p>	<p>*learn about the concept of a healthy weight and how it is determined based on factors such as body mass index (BMI), body composition, and individual health goals.</p> <p>*understand the importance of maintaining a healthy weight for overall health and well-being, including reducing the risk of obesity-related diseases.</p> <p>*explore common pitfalls of dieting, such as restrictive eating, fad diets, and yo-yo dieting.</p> <p>*learn about the potential negative effects of dieting on physical and mental health, including nutrient deficiencies, disordered eating behaviors, and negative body image.</p> <p>*learn about food intolerances, including lactose intolerance, gluten intolerance (celiac disease), and other common intolerances.</p> <p>*understand the difference between food intolerances and food allergies, as well as the symptoms and dietary management strategies for various intolerances.</p> <p>*understand how proper nutrition can enhance athletic performance by providing the necessary energy, nutrients, and hydration for optimal physical and mental function during training and competition.</p> <p>*learn about the importance of timing meals and snacks to fuel workouts and promote recovery.</p>	<p>Worksheets/Verbal Questioning</p> <p>Textual Questions</p>	

			<p>To develop a habit of maintaining pre-competition nutrition which provides athletes with the energy reserves necessary to sustain physical activity and prevent fatigue during competition.</p> <p>To develop a habit of maintaining adequate hydration before, during, and after competition.</p> <p>To develop a habit of maintaining post-competition nutrition which plays a vital role in muscle recovery and repair.</p> <p>To develop a habit of maintaining a well-balanced diet rich in vitamins, minerals, and antioxidants.</p> <p>To develop a habit of maintaining nutrition strategies tailored to individual energy and nutrient requirements help athletes achieve and maintain optimal body composition for their sport.</p>		<p>*learn about the importance of hydration in sports and how to develop hydration strategies to maintain fluid balance and prevent dehydration during training and competition.</p> <p>*understand the role of nutrition in muscle recovery and repair after intense exercise.</p> <p>*learn how proper nutrition can help prevent injuries and support immune function in athletes.</p>	
19-08-2024 to 24-08-2024	5	Knowing about test and measurement protocols, athletes are more likely to set specific, measurable goals for their performance. This encourages accountability as athletes strive to achieve and improve upon	Unit 6-Test & Measurement in Sports 1. Fitness Test – SAI Khelo India Fitness Test in school	After completing the unit, the students will be able to: *understand of Performance Metrics *equip themselves with data Analysis Skills *application of scientific Principles *goal Setting and monitoring *risk Assessment and injury Prevention *sports Performance optimization *communication and collaboration	Verbal Questioning/Worksheets	

		<p>these measurable benchmarks.  Test and measurement results provide athletes with feedback on their strengths and weaknesses. Awareness of the role of tests and measurements in identifying movement deficiencies and injury risks prompts athletes to prioritize injury prevention strategies.  Understanding that test and measurement data are used to evaluate readiness for competition fosters a competitive mindset among athletes.</p>			
		<p>Understanding the measurement of cardiovascular fitness is essential for,  -assessing health status  -monitoring fitness levels  -evaluating athletic performance  -prescribing exercise programs  -stratifying cardiovascular risk  -motivating behavior change  -promoting cardiovascular health and well-being.</p>	<p>2. Measurement of Cardio  -Vascular Fitness – Harvard Step Test – Duration of the Exercise in Seconds x100/5.5 X  Pulse count of 1 -1.5 Min after Exercise.</p>	<p>After completing the subunit, the students will be able to do:  *health assessment  *fitness monitoring  *performance evaluation  *exercise prescription  *risk stratification  *motivation and goal setting  *health promotion and disease prevention</p>	<p>Textual Worksheets</p>
		<p>Understanding the Computing Basal Metabolic Rate is important to,  -estimate of the number of calories the body needs at rest.</p>	<p>3. Computing Basal Metabolic Rate (BMR)</p>	<p>Learning about BMR provides an understanding of the body's baseline metabolic rate and the energy required for essential physiological functions at rest.</p> <p>After completing the subunit, the students will be able to promote personalized dietary choices for weight management and overall health.</p>	<p>Verbal Questioning</p>



			<p>-adjust their calorie intake and expenditure</p> <p>-designing nutrition plans that align with individual energy needs.</p> <p>-tailor exercise programs.</p>		<p>After completing the subunit, the students will be able to develop effective strategies for weight management, including setting appropriate calorie intake goals, monitoring progress, and making adjustments as needed.</p>	
27-08-2024 to 31-08-2024	5	<p>Learning about the different fitness tests introduces the child to various components of fitness, including strength, flexibility, agility, and aerobic endurance. This awareness can motivate the child to engage in physical activities that target these areas for overall fitness improvement.</p> <p>Learning about the specific tests, such as the Chair Stand Test for lower body strength or the Back Scratch Test for upper body flexibility, helps the child understand the purpose and methods of fitness assessment.</p> <p>Participating in the fitness tests and understanding their significance may motivate the child to engage in regular physical activity to improve their fitness levels.</p>	<p>4. Rikli &amp; Jones</p> <p>- Senior Citizen Fitness Test</p> <ul style="list-style-type: none"> <li>• Chair Stand Test for lower body strength</li> <li>• Arm Curl Test for upper body strength</li> <li>• Chair Sit &amp; Reach Test for lower body flexibility</li> <li>• Back Scratch Test for upper body flexibility</li> <li>• Eight Foot Up &amp; Go Test for agility</li> <li>• Six-Minute Walk Test for Aerobic Endurance</li> </ul>	<p>*By learning about the different tests within the fitness assessment, such as lower body strength, upper body strength, flexibility, agility, and aerobic endurance, children gain an understanding of the various components of physical fitness and their importance for overall health and well-being.</p> <p>*Through participation in the fitness tests, children gain insight into their own physical abilities and fitness levels.</p> <p>*Learning about the fitness tests encourages children to set personal fitness goals based on their performance in each test. They are motivated to work towards achieving these goals, whether it's improving their lower body strength, increasing flexibility, enhancing agility, or improving aerobic endurance.</p> <p>*Engaging in fitness testing and learning about the importance of physical fitness promotes the adoption of healthy lifestyle choices in children.</p>	Verbal Questioning/Slip Test	

			<p>Learning about the Senior Citizen Fitness Test can encourage the child to set fitness goals and assess their progress over time.</p> <p>Learning the Johnsen-Methney Test of Motor Educability promotes the</p> <ul style="list-style-type: none"> <li>-development of fundamental motor skills,</li> <li>-physical confidence,</li> <li>-engagement in physical activity,</li> <li>-spatial awareness,</li> <li>-perseverance,</li> <li>-resilience,</li> <li>-problem-solving skills in children,</li> <li>-contributing to their overall physical,</li> <li>-cognitive development.</li> </ul>	<p>5. Johnsen – Methney Test of Motor Educability (Front Roll, Roll, Jumping Half-Turn, Jumping full-turn</p>	<p>*By practicing the various motor tasks included in the test, such as front roll, roll, jumping half-turn, and jumping full-turn, children can improve their coordination, balance, agility, and overall motor skills. They learn how to perform these movements with greater precision and control.</p> <p>*Successfully mastering the motor tasks can boost children's confidence in their physical abilities.</p> <p>*Engaging in the motor tasks included in the test encourages children to be physically active and explore different movement patterns.</p> <p>*Learning the motor tasks involves understanding and navigating spatial relationships, body positioning, and movement patterns.</p> <p>*Mastering the motor tasks may require practice, persistence, and resilience in the face of challenges or setbacks. Children learn the importance of perseverance and effort in achieving their goals, fostering a growth mindset and a willingness to tackle new challenges.</p>	<p>Textual Worksheets</p>
<p>September 2024 17 Days Periods</p>	<p>02-09-2024 to 06-09-2024</p>	<p>5</p>	<p>Understanding these physiological factors helps individuals</p> <ul style="list-style-type: none"> <li>-design and implement effective training programs tailored to improve specific components of physical fitness. By addressing these underlying mechanisms, individuals can</li> <li>-optimize their fitness outcomes</li> </ul>	<p>Unit 7 - Physiology &amp; Injuries in Sport 1. Physiological factors determining components of physical fitness</p>	<p>*Children develop an understanding of how various physiological systems, such as the cardiovascular, muscular, and respiratory systems, contribute to different components of physical fitness. They learn about the roles these systems play in activities like endurance, strength, flexibility, and agility.</p> <p>*By learning about physiological factors, children gain insight into their own fitness levels and capabilities.</p>	<p>Comprehension Questions with worksheets</p>

		<ul style="list-style-type: none"> <li>-achieve their health performance goal</li> <li>-increased motivation for physical activity,</li> <li>-goal setting and monitoring,</li> <li>-improved exercise selection and programming,</li> <li>-healthier lifestyle choices,</li> <li>-self-regulation,</li> <li>-self-efficacy, -enhanced body awareness and body image.</li> </ul>		<ul style="list-style-type: none"> <li>*Understanding physiological factors allows children to set realistic fitness goals based on their understanding of their body's capabilities.</li> <li>*Armed with knowledge about how physical activity impacts physiological factors, children are motivated to engage in regular exercise. They recognize the importance of activities like cardiovascular exercise, strength training, and stretching for overall health and well-being.</li> <li>*Children learn about the health benefits associated with different components of physical fitness.</li> <li>*Development of Healthy Habits: Learning about physiological factors encourages children to adopt healthy lifestyle habits.</li> </ul>	
		<p>Understanding the effects of exercise on the muscular system equips children with the</p> <ul style="list-style-type: none"> <li>-knowledge, -motivation,</li> <li>-habits to</li> <li>-prioritize physical activity,</li> <li>-maintain healthy muscles,</li> <li>-lead active lifestyles throughout their lives.</li> </ul>	2. Effect of exercise on the Muscular System	<p>After completing the unit, the students will be able to develop:</p> <ul style="list-style-type: none"> <li>*knowledge of Muscle Function</li> <li>*understanding Muscle Adaptation</li> <li>*awareness of Muscle Soreness and Recovery</li> <li>*recognition of Exercise Benefits</li> <li>*motivation for Physical Activity</li> <li>*development of Exercise Habits</li> <li>*appreciation for Muscle Diversity</li> </ul>	Worksheets
		<p>Understanding the effects of exercise on the cardiorespiratory system equips children with the</p> <ul style="list-style-type: none"> <li>-knowledge, -motivation,</li> <li>-habits to</li> <li>-prioritize physical activity,</li> <li>-maintain cardiovascular health,</li> <li>-lead active lifestyles throughout their lives.</li> </ul>	3. Effect of exercise on the Cardio-Respiratory System	<p>After completing the unit, the students will be able to develop:</p> <ul style="list-style-type: none"> <li>*understanding of Cardiovascular Function</li> <li>*awareness of Respiratory Function</li> <li>*knowledge of Exercise Benefits</li> <li>*recognition of Exercise Intensity</li> <li>*motivation for Physical Activity</li> <li>*development of Exercise Habits</li> <li>*appreciation for Fitness Improvement</li> </ul>	Worksheets
		<p>Learning about physiological changes due to aging</p>	4. Physiological changes due to aging	<p>After completing the unit, the students will be able to develop:</p>	Textual Worksheets

			<p>-equips children with knowledge, empathy, -respect for older adults, -prepares them for their own aging process, -promotes healthy aging practices, -fosters age-inclusive attitudes - intergenerational relationships.</p> <p>Learning about sports injuries and their classification equips children with -knowledge, -skills, and -attitudes to prevent injuries, -respond effectively to injuries, -prioritize safety, -show empathy and support, -adapt to challenges in sports and physical activities.</p>	<p>5. Sports injuries: Classification (Soft Tissue Injuries - Abrasion, Contusion, Laceration, Incision, Sprain &amp; Strain; Bone &amp; Joint Injuries - Dislocation, Fractures - Green Stick, Comminuted, Transverse Oblique &amp; Impacted)</p>	<p>*understanding of Human Development *awareness of Age-Related Changes *empathy and Respect for Older Adults *recognition of Healthy Aging Practices *preparation for the Future *appreciation for Intergenerational Relationships *promotion of Age-Inclusive Attitudes</p> <p>After completing the unit, the students will be able to develop: *Understanding of Injury Types *Awareness of Injury Mechanisms *Injury Prevention Strategies *Safety Consciousness *Better response to Injuries *Empathy and Support *Resilience and Adaptation</p>	Worksheets
09-09-2024 to 13-09-2024	5	<p>Newton's Laws of Motion and their application in sports equips children with a deeper understanding of -motion principles, -enhances sports performance, -develops problem-solving skills, -promotes safety awareness, -fosters critical thinking abilities, and -may inspire an interest in STEM subjects related to sports science and biomechanics.</p> <p>Learning about types of levers and their application</p>	<p>Unit 8 - Biomechanics and Sports 1. Newton's Law of Motion &amp; its application in sports</p>	<p>After completing the unit, the students will be able to develop: *Understanding of Motion Principles *Application to Sports Skills *Insight into Sports Techniques *Problem-Solving Skills *Safety Awareness *Critical Thinking Abilities *Interest in STEM Subjects</p> <p>After completing the unit, the students will be able to develop:</p>	Comprehension Questions with Worksheets	

			<p>in sports equips children with a -deeper understanding of mechanical principles, -enhances sports performance, -develops problem-solving skills, -promotes safety awareness, and -may inspire an interest in STEM subjects related to biomechanics and sports science.</p>	<p>2. Types of Levers and their application in Sports.</p>	<p>-Understanding of Mechanical Principles          -Recognition of Lever Classes          -Application to Sports Skills          -Enhanced Performance and Efficiency          -Problem-Solving Skills          -Safety Awareness</p>	<p>Textual Worksheets</p>
<p>23-09-2024 to 28-09-2024</p>	<p>6</p>	<p>It develops comprehensive grasp of stability through understanding equilibrium, dynamic and static balance, and the center of gravity.          Improved balance skills leading to enhanced athletic performance.          Increased awareness of safety measures in sports activities.          Enhanced problem-solving abilities when encountering challenges in sports settings.          Potential development of an interest in STEM fields, such as biomechanics and sports science.</p>	<p>3. Equilibrium – Dynamic &amp; Static and Centre of Gravity and its application in sports</p>	<p>*Children develop an understanding of balance and stability in sports settings, including the concepts of dynamic and static equilibrium. They learn how balance is essential for maintaining control and coordination during various movements and activities.          *By learning about equilibrium and the center of gravity, children gain awareness of their body positioning and its impact on stability and performance in sports.          *Understanding equilibrium and the center of gravity enables children to apply these concepts to improve sports skills and techniques.          *By applying principles of equilibrium and the center of gravity, children can optimize their movements to enhance performance and efficiency in sports.          * Learning about equilibrium and the center of gravity promotes safety awareness in sports settings.          *Understanding equilibrium and the center of gravity fosters problem-solving skills as children analyze sports-related challenges and adjust their techniques accordingly. They learn to identify optimal body positions and movement strategies to overcome obstacles and achieve their goals in sports.</p>	<p>*Children develop an understanding of balance and stability in sports settings, including the concepts of dynamic and static equilibrium. They learn how balance is essential for maintaining control and coordination during various movements and activities.          *By learning about equilibrium and the center of gravity, children gain awareness of their body positioning and its impact on stability and performance in sports.          *Understanding equilibrium and the center of gravity enables children to apply these concepts to improve sports skills and techniques.          *By applying principles of equilibrium and the center of gravity, children can optimize their movements to enhance performance and efficiency in sports.          * Learning about equilibrium and the center of gravity promotes safety awareness in sports settings.          *Understanding equilibrium and the center of gravity fosters problem-solving skills as children analyze sports-related challenges and adjust their techniques accordingly. They learn to identify optimal body positions and movement strategies to overcome obstacles and achieve their goals in sports.</p>	<p>Slip Test</p>
		<p>Understanding friction in sports is relevant for -optimizing performance, -preventing injuries,</p>	<p>4. Friction &amp; Sports</p>	<p>After completing the unit, the students will be able to develop:          *an understanding of the concept of friction and how it relates to sports activities.</p>	<p>Textual Worksheets</p>	

			<ul style="list-style-type: none"> <li>-adapting to different playing conditions,</li> <li>-gaining a tactical advantage, -designing and maintaining sports equipment, and</li> <li>-developing fundamental skills. It empowers athletes to make -informed decisions and</li> <li>-adjustments to -enhance their overall athletic experience and success.</li> </ul>		<ul style="list-style-type: none"> <li>*awareness of how different surfaces interact during sports activities.</li> <li>*understanding about how friction enables children to apply this knowledge to improve their performance in sports.</li> <li>*an idea about how friction influences the performance of sports equipment, such as balls, rackets, or footwear.</li> <li>*an idea about the role of friction in causing slips, falls, and injuries, particularly on slippery or uneven surfaces, and how to minimize injury risk through proper technique and footwear selection.</li> <li>*an idea about how to use knowledge of friction strategically in sports tactics and strategies.</li> </ul>	
	30-09-2024	1	Learning about projectiles in sports equips children with knowledge and skills to improve their performance, make strategic decisions, solve problems, promote safety, and develop an appreciation for the role of physics in sports.	5. Projectile in Sports	<p>After completing the unit, the students will be able to develop:</p> <ul style="list-style-type: none"> <li>*Children develop an understanding of the principles of projectile motion, including factors such as angle, velocity, and gravity.</li> <li>*By learning about projectile motion, children can apply this knowledge to improve their performance in sports.</li> <li>*Understanding projectile motion enhances children's strategic decision-making abilities in sports.</li> <li>*Learning about projectile motion fosters problem-solving skills as children apply principles of physics to overcome challenges in sports settings.</li> <li>*Understanding projectile motion fosters an appreciation for the role of physics in sports.</li> <li>*Children learn that scientific principles play a crucial role in determining the outcome of sports actions and events, enhancing their overall understanding and enjoyment of sports activities.</li> </ul>	Worksheets
october2024 21 Days Periods	01-10-2024 to 05-10-2024	4	<p>Personality and its types equips children with valuable insights and skills for -self-understanding,</p> <ul style="list-style-type: none"> <li>-social interaction,</li> <li>-conflict resolution,</li> <li>-goal achievement,</li> <li>-leadership</li> </ul>	<p>Unit 9 - Psychology and Sports</p> <p>1. Personality; its definition &amp; types (Jung Classification &amp; Big Five Theory)</p>	<p>After completing the unit, the students will be able to develop:</p> <ul style="list-style-type: none"> <li>*Self-Understanding</li> <li>*Understanding Others</li> <li>*Social Skills Development</li> <li>*Conflict Resolution</li> <li>*Goal Setting and Achievement</li> <li>*Leadership Development</li> </ul>	Textual Questions

			<p>-development, -career exploration, -personal growth, -fostering their -overall development and well-being.</p> <p>Motivation related to sports equips children with</p> <ul style="list-style-type: none"> <li>-valuable insights</li> <li>-skills for self-awareness,</li> <li>-goal setting,</li> <li>-resilience,</li> <li>-confidence,</li> <li>-teamwork,</li> <li>-leadership, and the</li> <li>-adoption of effective motivational techniques,</li> <li>-enhancing their overall athletic performance and</li> <li>-enjoyment of sports.</li> </ul> <p>Exercise adherence</p> <ul style="list-style-type: none"> <li>-equips children with knowledge, skills, and</li> <li>-attitudes to prioritize physical activity,</li> <li>-set and achieve fitness goals,</li> <li>- overcome obstacles, and</li> <li>-cultivate lifelong habits of health and well-being,</li> <li>-enhancing their overall quality of life.</li> </ul>	<p>2. Motivation, its type &amp; techniques.</p> <p>3. Exercise Adherence: Reasons, Benefits &amp; Strategies for Enhancing it</p>	<p>*Career Exploration *Personal Growth and Well-being</p> <p>After completing the subunit, the students will be able to develop:</p> <ul style="list-style-type: none"> <li>*Understanding of Sports Motivation</li> <li>*Identification of Motivational Factors</li> <li>*Self-Awareness of Motivation</li> <li>*Goal Setting and Achievement</li> <li>*Resilience and Perseverance</li> <li>*Positive Mindset and Confidence</li> <li>*Teamwork and Leadership Skills</li> <li>*Adoption of Motivational Techniques</li> </ul> <p>After completing the subunit, the students will be able to develop:</p> <ul style="list-style-type: none"> <li>*an understanding of the importance of regular exercise for overall health and well-being.</li> <li>*an ability learn to identify factors such as enjoyment, social interaction, health goals, and athletic performance that drive their exercise behavior.</li> <li>*an understanding about exercise adherence helps children set realistic and achievable fitness goals.</li> <li>* health literacy and self-care skills related to exercise and physical activity.</li> <li>*social and emotional skills through exercise adherence, including teamwork, communication, and stress management.</li> </ul>	<p>Worksheets</p> <p>Textual Worksheets</p>
07-10-2024 to 11-10-2024	5	<p>Learning about the meaning, concept, and types of aggression in sports equips children with</p> <ul style="list-style-type: none"> <li>-knowledge,</li> <li>-skills,</li> </ul>	<p>4. Meaning, Concept &amp; Types of Aggressions in Sports</p>	<ul style="list-style-type: none"> <li>*Children develop an understanding of aggression as a natural and complex behavior that can occur in sports settings.</li> <li>*Children become aware of the different types of aggressive behaviors that can occur, such as</li> </ul>	<p>Worksheets</p>	

			<p>-attitudes to understand and -manage aggressive behaviors effectively,          -promote sportsmanship and -fair play,          -resolve conflicts constructively, and          -uphold ethical standards in sports behavior, contributing to -positive experiences and outcomes in sports participation.</p> <p>Learning about psychological attributes in -sports, such as          -self-esteem,          -mental imagery,          -self-talk, and          -goal setting, can lead to          -several learning outcomes for a child.</p>	<p>5. Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self-Talk, Goal Setting</p>	<p>verbal taunting, physical intimidation, rule violations, and unsportsmanlike conduct.          *Understanding aggression helps children develop emotional regulation skills in sports settings.          *Learning about aggression promotes conflict resolution skills in children.          *Understanding aggression enhances children's communication skills in sports settings.          *Learning about aggression encourages ethical decision-making in children's sports behavior.          *Understanding aggression helps children prevent conflicts and negative interactions in sports settings.</p> <p>*Children develop a positive self-concept and self-esteem through understanding the role of self-esteem in sports.          *By learning about mental imagery, children develop the ability to visualize success and positive outcomes in sports.          *Understanding self-talk helps children develop positive and effective self-talk strategies to enhance performance and well-being in sports.          *Learning about goal setting empowers children to set and achieve meaningful and realistic goals in sports.          *Understanding psychological attributes enhances children's ability to concentrate and maintain focus during sports activities.          *Children develop self-regulation and emotional control skills through psychological attributes in sports.</p>	<p>Textual Worksheets</p>
14-10-2024 to 19-10-2024	6	<p>Talent identification and talent development in sports empowers children to -recognize and cultivate their athletic potential, -set ambitious goals,          -develop resilience and perseverance, -embrace feedback and coaching, and -pursue lifelong learning and development in their sports journey.</p>	<p>Unit 10- Training in Sports          1. Concept of Talent Identification and Talent Development in Sports</p>	<p>*Children develop an understanding of what talent means in the context of sports.          *They gain insights into areas where they excel or show promise, helping them identify and pursue sports that align with their talents and interests.          talent development inspires children to set ambitious goals and aspirations in sports.          *Learning about talent identification and development motivates children to invest time, effort, and energy into developing their skills and capabilities in sports.          *Understanding talent identification fosters self-awareness and self-reflection in children.</p>	<p>Comprehension questions/ Textual questions</p>	



			<p>Demonstrating regular attendance and active participation in training sessions.</p> <p>Engaging with drills and exercises with focus and dedication.</p> <p>Setting specific, measurable goals for skill improvement and physical conditioning.</p> <p>Adapting to changing training demands and progressively challenging oneself.</p> <p>Effectively communicating with coaches and teammates.</p> <p>Collaborating to achieve team goals and provide constructive feedback.</p> <p>Displaying resilience in overcoming setbacks and maintaining motivation.</p>	<p>2. Introduction to Sports Training Cycle – Micro, Meso, Macro Cycle</p>	<p>*Children cultivate coachability and a growth mindset through talent development. *Learning about talent identification and development instills a lifelong commitment to learning and development in children.</p> <p>After completing the subunit, the students will be able to develop: *the definition of sports training. *the importance of training in enhancing athletic performance. *the overview of the components of sports training: physical conditioning, skill development, mental preparation, and recovery. *Planation of the microcycle as the shortest training cycle, typically lasting a week. *the definition of the mesocycle as a medium-term training phase, typically lasting several weeks to a few months. *an explanation of the macrocycle as the longest training cycle, encompassing an entire season or year.</p>	<p>Textual Worksheets</p>
	<p>21-10-2024 to 26-10-2024</p>		<p>Making the students Understand different types &amp; methods of strengths, • endurance, and speed.</p>	<p>3. Types &amp; Methods to Develop – Strength, Endurance, and Speed.</p>	<p>After completing the subunit, the students will be able to develop: *Improved Physical Fitness *Enhanced Performance *Injury Prevention *Increased Confidence</p>	<p>Worksheets</p>

		<p>Persistence: Individuals demonstrate perseverance in practicing flexibility exercises and coordinative drills, even when facing challenges or initial difficulty in mastering new movements.</p> <p>Patience: Learners exhibit patience as they gradually improve flexibility and coordinative skills over time, understanding that progress may be gradual and consistent effort is required for development.</p> <p>Focus: During flexibility sessions and coordinative activities, individuals maintain concentration and focus on performing movements with precision and control, enhancing their mind-body connection.</p> <p>Adaptability: Students show adaptability by adjusting their approach to flexibility and coordinative training based on feedback from coaches or instructors, as well as their own physical limitations and progress.</p> <p>Body Awareness: Developing flexibility and coordinative ability fosters a heightened sense of body</p>	<p>4. Types &amp; Methods to Develop – Flexibility and Coordinative Ability.</p>	<p>*Health Benefits *Functional Strength *Adaptability</p> <p>Developing flexibility through stretching routines and coordinative ability through drills and exercises helps improve joint mobility, muscle elasticity, and neuromuscular control, reducing the risk of injuries during physical activities.</p> <p>By improving flexibility, individuals can achieve a greater range of motion in their joints, allowing for better performance in activities of daily living and sports-specific movements.</p> <p>Engaging in flexibility exercises like yoga or Pilates, as well as coordinative activities such as dance or martial arts, promotes relaxation, reduces muscle tension, and alleviates stress, contributing to overall well-being.</p> <p>Developing flexibility in tight muscles and improving coordinative abilities helps correct postural imbalances.</p> <p>Mastering flexibility and coordinative skills builds confidence in one's physical abilities.</p>	<p>Textual Worksheets</p>
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			awareness, enabling individuals to better understand their movement patterns, posture, and spatial orientation.			
	28-10-2024 to 30-10-2024		Making the students understand Circuit training and its importance.	5. Circuit Training - Introduction & its importance	<p>After completing the subunit, the students will be able to develop:</p> <p><b>*a better idea about improving Cardiovascular Health</b></p> <p><b>*Strength and Muscle Endurance:</b> Utilizes resistance exercises to develop strength and muscular endurance.</p> <p><b>*Weight Loss or Management:</b> Burns calories effectively, aiding in weight loss goals.</p> <p><b>*Overall Fitness:</b> Improves flexibility, balance, and coordination alongside strength and endurance.</p> <p><b>*a sense of Variety and Fun:</b> Offers diverse exercises to keep workouts interesting and engaging.</p>	Textual Worksheets
November 2024 23 Days Periods	01-11-2024			REVISION		
	04-11-2024 to 08-11-2024			REVISION		
	11-11-2024 to 16-11-2024			REVISION		
	18-11-2024					

	to 22-11-2024					
	25-11-2024 to 30-11-2024					
december 2024 18 Days Periods	02-12-2024 to 07-12-2024					
	09-12-2024 to 13-12-2024					
	16-12-2024 to 20-12-2024					
	30-12-2024 to 31-12-2024					
January 2025 22 Days Periods	01-01-2025 to 05-01-2025					
	06-01-2025 to 10-01-2025					
	13-01-2025 to 18-01-2025					
	20-01-2025 to 24-01-2025					
	27-01-2025 to 31-01-2025					
February 2025	01-02-2025					
	03-02-2025					

21 Days Periods	to 07-02-2025					
	10-02-2025 to 15-02-2025					
	17-02-2025 to 21-02-2025					
	24-02-2025 to 28-02-2025					
March 2025 20 Days Periods	03-03-2025 to 07-03-2025					
	10-03-2025 to 14-03-2025					
	17-03-2025 to 21-03-2025					
	24-03-2025 to 28-03-2025					

**1.1 Behavioral Skills:** Imbibe values like care, concern, sharing, love, affection, empathy, confidence. Develop Comprehensive skills, Analytical skills, thinking skills, Language skills, develop patriotism, Love for mother tongue, develop scientific temperament, Develop observation skills, Deduction (Reasoning Skills), etc.

**1.2 Suggested Assessment Modes through Activities:** Assignments, Comprehension questions, Textual questions, worksheets, drop quizzes, presentations, Slip test, Open Book assignments, MCQ's, Seminars, Case Studies, Poster presentations, FA's, SA's, Character Sketches, Identification of Literacy, Device marking, Identify marking, Identify diagrams, Map work, Drawing, Coloring, Diagram, Flow Chart, Chart work, Model making, Photographic evidences for experiments, Group activities, Brain storming, Discussions, Role play, Zig Zag puzzles, Word hunt, Charades(Guess Games),Debates, Free writing, Self-evaluation, Peer evaluation, Art Integration etc.

**Slip Test:** To improve students' academic performance and better understanding of the subject by conducting slip test that contains two short questions and one descriptive / problematic question.





Department of **-Science**  
Annual Academic Plan-2024-25  
**Grade: XII Subject: Physics**

Reference Text – Comprehensive Physics Class XII & NCERT Class XII

IP: No. of Instructional Periods

# Month # Working Days # Periods	Week & Date Range	# IP	LEARNING OBJECTIVES		EXPECTED LEARNING OUTCOMES [STUDENTS WILL BE ABLE TO] Activities/Projects/Practical's /Experiments/Art Integration (Mention the serial no. in the Daily Plan)	Methodology to be used  Activities/ Projects/ Practical's/ Experiments /Art Integration (Mention the serial no. in the Daily Plan)	Assessment Tool(s) through various activities. w.r.to NEP 2020 & NCF 2023.  [Ref. 1.2: Suggested Assessment Modes]
			Behavior Skills. [Ref. 1.1: For identifying skills]	(Unit/Chapter/Subtopic to be covered)			
June 2024 20 Days	03-06-2024 to 07-06-2024	8	Problem solving  Critical Thinking  Technical Skill	Unit I: Electrostatics: Chapter-1: Electric Charges and Fields Electric charges, Conservation of charge, Coulomb's law-force between two-point charges; forces between multiple charges; superposition principle and continuous charge distribution.	Define and give examples of the process of electric charging by friction (Electrification).  List the properties of electrostatic force and charge.	1. Brainstorming method 2. Discussion 3. Teacher resource video/Diagrams	Assignment – 1 (Related to Electrostatics)  Worksheet

Periods				Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole,	<p>Identify common instruments used to produce and detect electrically charged objects. Recognize the shape of various electric field patterns. State the mathematical definitions of Coulomb force, electric field, electrostatic potential and voltage.</p> <p>Use diagrams and written descriptions to describe the process of charging objects by conduction and by induction.</p>	Problem solving, Discussion	
	10-06-2024 to 14-06-2024	8	<p>Scientific skills</p> <p>Problem solving</p> <p>Critical Thinking</p> <p>Research and project development skills</p> <p>Data Analysis.</p> <p>Team Work</p>	Unit I: Electrostatics: Torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).	<p>Use mathematical operations to quantify and analyze the nature of electric forces and fields. Use electrostatic units of measurement correctly in calculations, reports and tables. Solve problems involving combinations of electric force and electric field. Describe a force field and calculate the strength of an electric field due to a point charge</p> <p>Calculate the force exerted on a test charge by an electric field</p> <p><b>Experiment: 1</b></p> <p><b>Activity:1</b> To assemble the</p>	<p>1. Differentiated Instruction</p> <p>2. Teacher resource video/Diagrams</p> <p>Problem solving, Discussion and expeditionary learning</p>	MT1



					house hold circuit comprising 3 bulbs, 3 switches, a fuse and a power source		
17-06-2024 to 21-06-2024	8	Problem solving Critical Thinking Scientific skills  Problem solving  Critical Thinking  Research and project development skills  Data Analysis.	<b>Chapter–2: Electrostatic Potential and Capacitance</b> Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor (no derivation)	Student will be able to relate the Electrical potential with electric field. Student will be able to understand the working of charge storing device i.e., capacitor. Explain equipotential surface Understand the working of charge storing device- capacitor Derive the expression for capacitors in series and parallel. Derive the expression with and without dielectric. <b>Experiment: 2</b>	1. Brainstorming method 2. Discussion 3. Teacher resource video/Diagrams   Problem solving, Discussion and expeditionary learning	MCQs   Worksheet	

	24-06-2024 to 28-06-2024	8	Scientific skills Problem solving Critical Thinking Research and project development skills Data Analysis.	<b>Unit III: Current electricity:</b> <b>Chapter-3: Current Electricity</b> Drift velocity Mobility Ohm's law VI characteristics Electrical energy and power Electrical Resistivity and conductivity Series and parallel combinations of resistors. Internal resistance of a cell, Potential difference and EMF of a cell, Kirchhoff's laws. Wheatstone Bridge	Students will be able to understand the practical application of resistors and cells and its different combination in real life. Students will be able to operate different electrical instruments like POT, Meter bridge, Galvanometer, Voltmeter, ammeter etc. also they learned to find the least count of given measuring instrument. <b>Experiment: 3</b>	1. Brainstorming method 2. Discussion 3. Teacher resource video/Diagrams  Problem solving, Discussion and expeditionary learning	Assignment -2 Based on Current Electricity  Worksheet
July 2024 23 Days Periods	01-07-2024 to 5-07-2024	8	Scientific skills Problem solving Critical Thinking Research and project development skills Data Analysis.	<b>Unit III: Magnetic Effects of Current and Magnetism</b> <b>Chapter-4: Moving Charges and Magnetism</b> Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop.	. Student will learn about the relation between electricity and Magnetism and different methods to find the Magnetic field due to different types of conductors. Identify the presence and direction of the magnetic field. State and explain Biot Savart law <b>Activity:2</b> To study the variation of potential drop with length of a wire for a steady current	1. Brainstorming method 2. Discussion 3. Teacher resource video/Diagrams	Assignment -3  Worksheet
	08-07-2024 to 12-07-2024	8	Scientific skills Problem solving	<b>Magnetic Effects of Current and Magnetism</b>	Student will learn about the force between two parallel conductors and its mathematical analysis	1. Differentiated Instruction	FA

			<p>Critical Thinking</p> <p>Research and project development skills</p> <p>Data Analysis.</p>	<p>Ampere's law and its applications to infinitely long straight wire. Straight solenoid (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields. Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere .</p>	<p>depending upon the directions of current. State and explain Ampere's law.</p> <p><b>Experiment: 4</b></p>	<p>2. Teacher resource video/Diagrams</p> <p>Problem solving, Discussion and expeditionary learning</p>	
15-07-2024 to 20-07-2024	8	<p>Scientific skills</p> <p>Problem solving</p> <p>Critical Thinking</p> <p>Research and project development skills</p> <p>Data Analysis.</p>	<p><b>Magnetic Effects of Current and Magnetism</b></p> <p>Torque experienced by a current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer, its current sensitivity and conversion to ammeter and voltmeter</p>	<p>Student will learn about the conversion of galvanometer into ammeter and voltmeter of desired range. Derive expressions for force acting on two parallel straight current carrying conductors. Derive expression for torque acting on a current loop in a magnetic field. Describe the construction and working of a moving coil galvanometer.</p> <p><b>Activity:3;</b></p> <p>To measure the resistance Voltage (AC/DC), Current (AC/DC) and check continuity of a given circuit using multimeter To identify a diode, LED, a resistor.</p>	<p>1. Differentiated Instruction</p> <p>2. Teacher resource video/Diagrams</p>	<p>MCQS</p> <p>Worksheet</p>	
22-07-2024 to 26-07-2024	8	<p>Scientific skills</p> <p>Problem solving</p> <p>Critical Thinking</p>	<p><b>Unit III: Chapter-5: Magnetism and Matter</b> Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole</p>	<p>understand the different kinds of magnetic material and earth's magnetic field.</p>	<p>1. Differentiated Instruction</p> <p>2. Teacher resource video/Diagrams</p>	<p>MT2</p>	

			<p>Research and project development skills</p> <p>Data Analysis.</p>	<p>(bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only)</p> <p>Magnetic dipole moment of a revolving electron</p> <p>Bar magnet as an equivalent solenoid</p> <p>Magnetic field lines. magnetic field lines. Magnetic properties of Materials- Para-, Dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of Temperature on magnetic properties</p>	<p><b>Experiment: 5</b></p>	<p>Problem solving, Discussion and expeditionary learning</p>	
29-07-2024 to 31-07-2024	4	<p>Scientific skills</p> <p>Problem solving</p> <p>Critical Thinking</p> <p>Research and project development skills</p> <p>Data Analysis.</p>	<p><b>Unit IV: Chapter-6: Electromagnetic induction.</b></p> <p>Electromagnetic induction. Faraday's law</p>	<p>Define EMI</p> <p>State Faraday's law and Lenz law</p> <p><b>Experiment: 6</b></p>	<p>1. Brainstorming method</p> <p>2. Discussion</p> <p>3. Teacher resource video/Diagrams</p> <p>Problem solving, Discussion and expeditionary learning</p>	<p>MT2</p> <p>Worksheet</p>	
01-08-2024 to 02-08-2024	4	<p>Scientific skills</p> <p>Problem solving</p> <p>Critical Thinking</p>	<p>Induced EMF and current</p> <p>Lenz's law eddy currents</p> <p>Self and mutual induction</p>	<p>Students will learn about the different method to induce an emf in a given conductor which is useful to understand</p>	<p>1. Differentiated Instruction</p> <p>2. Teacher resource video/Diagrams</p>	<p>Assignment -4</p>	

August 2024 18 Days Periods			Research and project development skills  Data Analysis.		the concept of Mutual and self-induction.  <b>Experiment: 7</b>  <b>Activity:4</b> identification of electronic components	Problem solving, Discussion and expeditionary learning	
	05-08-2024 to 09-08-2024	8	Scientific skills  Problem solving  Critical Thinking  Research and project development skills  Data Analysis.	<b>Unit IV: Chapter 7 Alternating currents</b> Alternating currents Peak and RMS value of alternating current	Identify the special features of AC  Recognize the importance of Rms values  <b>Activity:5</b> Observe the diffraction of a single slit	1.Brainstorming method 2.Discussion 3. Teacher resource video/Diagrams	MCQS  Worksheet
	12-08-2024 to 17-08-2024	8	Scientific skills  Problem solving  Critical Thinking  Research and project development skills	Reactance and impedance LC Oscillations LCR Series circuit. LCR Phasor diagrams. Impedance	Compare and identify LC oscillations as SHM Draw phasor diagram and impedance triangle  <b>Experiment: 8</b>	1. Differentiated Instruction 2. Teacher resource video/Diagrams  Problem solving, Discussion and expeditionary learning	FA
	19-08-2024 to 24-08-2024	8	Scientific skills  Problem solving  Critical Thinking	Resonance., power factor, wattles current. Power in AC circuits AC generator	Appreciate the phenomenon of resonance in AC circuits Appreciate the importance of transformers in long distance		Assignment -4  Worksheet

			Research and project development skills Data Analysis.	Transformer.	transmission of electrical energy. Suggest measures to reduce losses in transformers. <b>Activity 6:</b> trace the path of the ray passing through rectangular glass prism		
27-08-2024 to 31-08-2024	8	Scientific skills Problem solving Critical Thinking Research and project development skills Data Analysis.	<p><b>Unit V: Electromagnetic waves Chapter-8: Electromagnetic Waves</b> Basic idea of displacement Current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only) electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.</p> <p><b>Unit VI: Optics Chapter-9: Ray Optics and Optical Instruments</b> Introduction to ray optics. Applications of total internal reflection. Refraction at spherical surfaces. Refraction from denser to rarer medium, Refraction from rarer to denser medium.</p>	<p>Learner will get basic idea of displacement current and electromagnetic waves.</p> <p>Student acquires knowledge about the Practical application of EMW in our Daily life.</p> <p>Student will learn about the different types of mirror and lenses and respective ray diagrams for image formation along the mathematical tactics and Analysis. Learner recollects their knowledge about ray optics. Recall definition of reflection of light refraction of light. Recognize Mirrors Derive Mirror formula.</p>	<p>1. Brainstorming method 2. Discussion 3. Teacher resource video/Diagrams</p>	<p>MCQS</p> <p>Worksheet</p> <p>Assignment -5</p> <p>Worksheet</p>	

September 2024 17 Days Periods	02-09-2024 to 06-09-2024	8	Scientific skills  Problem solving  Critical Thinking  Research and project development skills  Data Analysis.	Lenses. Thin lens formula. Lens Maker's formula Power of a lens Combination of thin lenses in contact.  Refraction and Dispersion of light through a prism. Optical instruments Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.	Derive the various formulas related with the nature of surface and medium Derive thin lens formula Recall Len's makers formula. Derive the formulas related with spherical surfaces. Define power of a lens. Explain refraction of light through a prism. Design optical instruments: Microscopes and astronomical telescopes.	1. Differentiated Instruction 2. Teacher resource video/Diagrams	Assignment -6 MCQS
	09-09-2024 to 13-09-2024	8	Scientific skills  Problem solving  Critical Thinking  Research and project development skills  Data Analysis.	<b>Chapter-10: Wave Optics</b> Wavefront and Huygen's principle Refraction and reflection of plane wave at a plane surface using wavefronts. Proof of laws of reflection and refraction.	Student are able to differentiate between the ray and wave nature of a light. . Draws various wave fronts. Verifies the laws of reflection using wave theory.	1. Differentiated Instruction 2. Brainstorming	worksheet
	23-09-2024 to 28-09-2024	8		Young double slit experiment Sustained interference of light; Diffraction due to single slit.  Revision	Derives equations for constructive and destructive interference. Solves numerical problems Explain interference and diffraction	1. Differentiated Instruction 2. Teacher resource video/Diagrams	Term 1 Revision Worksheet
	30-09-2024	1		Revision	Conceptual understanding through numerical,	Problem solving, Discussion	Term 1 Revision Worksheet

					Assertion Reasoning, Case Studies, HOTS and Competency based questions		
october2024 21 Days Periods	01-10-2024 to 05-10-2024	8		Revision	Conceptual understanding through numerical, Assertion Reasoning, Case Studies, HOTS and Competency based questions	Problem solving, Discussion	Term 1 Revision Worksheet
	07-10-2024 to 11-10-2024	8	Scientific skills Problem solving Critical Thinking Research and project development skills Data Analysis.	Unit VII: <b>Chapter–11: Dual Nature of Radiation and Matter</b>  Dual nature of radiation. Photo electric effect Hertz and Lenard's observation. Experimental study of photo electric effect, Einstein Photoelectric equation wave nature of particles. De Broglie relation	Investigate the duality nature of light.  Explain photo electric effect.  Verify data and challenge conclusions with other sources of information	1. Brainstorming method 2. Discussion 3. Teacher resource video/Diagrams	MCQS  Worksheet
	14-10-2024 to 19-10-2024	8	Scientific skills Problem solving Critical Thinking Research and project development skills Data Analysis.	Unit VIII: Atoms and Nuclei  <b>Chapter–12: Atoms</b>  Alpha particle scattering experiment Rutherford's model of atom Bohr Model Energy levels Hydrogen spectrum. Expression for radius of nth orbit.	Identify alpha particle experiment. Recognize its drawbacks. State the postulates of Bohr atom model Derives the expression for energy of an electron in an orbit. Illustrates the hydrogen spectrum.	1. Differentiated Instruction 2. Teacher resource video/Diagrams	FA



				<p>Velocity and energy of e electron in its orbit of hydrogen line spectra</p> <p>Chapter–13: Nuclei</p> <p>Composition and size of nucleus ..Nuclear force ,</p> <p>Mass –energy relation, mass defect, binding energy per nucleon</p> <p>Nuclear fission and fusion.</p>	<p>Learner get the idea of nuclear energy and its properties.</p> <p>Learner will able to calculate binding energy and Mass defect.</p> <p>Student will understand fission and fusion.</p> <p><b>PROJECT: From the given list of CBSE</b></p>	<p>Problem solving, Discussion and expeditionary learning</p>	<p>Project</p>
21-10-2024 to 26-10-2024	8	<p>Scientific skills</p> <p>Problem solving</p> <p>Critical Thinking</p> <p>Research and project development skills</p> <p>Data Analysis.</p>	<p>Unit IX: Electronic Devices</p> <p><b>Chapter–14:</b></p> <p><b>Semiconductor</b></p> <p><b>Electronics:</b></p> <p><b>Materials, Devices and Simple Circuits</b></p> <p>Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Intrinsic and extrinsic semiconductors- p and n type, p-n junction</p>	<p>Learners will be able to understand the Concept of Conductors, Insulator and semiconductor with the help of Band Energy</p> <p><b>PROJECT: From the given list of CBSE</b></p>	<p>1. Brainstorming method</p> <p>2. Discussion</p> <p>3. Teacher resource video/Diagrams</p> <p>Problem solving, Discussion and expeditionary learning</p>	<p>Assignment -6</p> <p>Worksheet</p> <p>Project</p>	
28-10-2024 to 30-10-2024	4	<p>Scientific skills</p> <p>Problem solving</p> <p>Critical Thinking</p> <p>Research and project development skills</p>	<p>Semiconductor diode</p> <p>I-V characteristics in forward and reverse</p> <p>bias, application of junction diode</p> <p>diode as a Rectifier</p>	<p>Learners will be able to understand the Classification of semiconductors along with Practical applications in PN diode, Rectifiers.</p>	<p>1. Differentiated Instruction</p> <p>2. Teacher resource video/Diagrams</p>	<p>MCQS Worksheet</p>	

			Data Analysis.	Revision	<b>PROJECT: From the given list of CBSE</b>	Problem solving, Discussion and expeditionary learning	Project
November 2024 23 Days Periods	01-11-2024			REVISION MODEL 1	Conceptual understanding through numerical, Assertion Reasoning, Case Studies, HOTS and Competency based questions	Problem solving, Discussion	Revision Worksheet
	04-11-2024 to 08-11-2024						
	11-11-2024 to 16-11-2024						
	18-11-2024 to 22-11-2024						
	25-11-2024 to 30-11-2024						
december 2024 18 Days Periods	02-12-2024 to 07-12-2024						
	09-12-2024 to 13-12-2024						

	16-12-2024 to 20-12-2024						
	30-12-2024 to 31-12-2024						
January 2025 22 Days Periods	01-01-2025 to 05-01-2025						
	06-01-2025 to 10-01-2025						
	13-01-2025 to 18-01-2025						
	20-01-2025 to 24-01-2025						
	27-01-2025 to 31-01-2025						
February 2025 21 Days Periods	01-02-2025						
	03-02-2025 to 07-02-2025						
	10-02-2025 to 15-02-2025						
	17-02-2025 to 21-02-2025						

	24-02-2025 to 28-02-2025						
March 2025 20 Days Periods	03-03-2025 to 07-03-2025						
	10-03-2025 to 14-03-2025						
	17-03-2025 to 21-03-2025						
	24-03-2025 to 28-03-2025						

**1.1 Behavioral Skills:** Imbibe values like care, concern, sharing, love, affection, empathy, confidence. Develop Comprehensive skills, Analytical skills, thinking skills, Language skills, develop patriotism, Love for mother tongue, develop scientific temperament, Develop observation skills, Deduction (Reasoning Skills), etc.

**1.2 Suggested Assessment Modes through Activities:** Assignments, Comprehension questions, Textual questions, worksheets, drop quizzes, presentations, Slip test, Open Book assignments, MCQ's, Seminars, Case Studies, Poster presentations, FA's, SA's, Character Sketches, Identification of Literacy, Device marking, Identify marking, Identify diagrams, Map work, Drawing, Coloring, Diagram, Flow Chart, Chart work, Model making, Photographic evidences for experiments, Group activities, Brain storming, Discussions, Role play, Zig Zag puzzles, Word hunt, Charades(Guess Games), Debates, Free writing, Self-evaluation, Peer evaluation, Art Integration etc.



**Slip Test:** To improve students' academic performance and better understanding of the subject by conducting slip test that contains two short questions and one descriptive / problematic question.

