



LOTUS PETAL SENIOR SECONDARY SCHOOL
GRADE - 9
SUBJECT - Computer

Month	Chapter	Learning objectives	Teaching Methods	Learning Outcomes	Subject Enrichment Activity	Art Integration /Multi-Disciplinary
April 18	Python	<p>Introduction Understand the basics of algorithms and flowcharts, including their importance and components. Develop skills to create algorithms and flowcharts for solving simple problems and connecting them to programming.</p> <p>Understand the basics of Python programming, including its applications and significance.</p> <p>Learn fundamental concepts such as variables, data types (integer, float, string), and expressions. Develop skills in using basic Python functions like <code>print()</code> and <code>input()</code>.</p>	<p>explanation of what algorithms and flowcharts are, emphasizing their importance in solving problems systematically and visualizing solutions. Provide real-life examples, such as daily routines or recipes, to make the concept relatable.</p> <p>Briefly explain Python's topic Explaining how to Declaring variables and Performing arithmetic operations. Working with <code>print()</code> and <code>input()</code>.</p>	<p>Demonstrate an understanding of Python's core concepts and its significance.</p> <p>Write and execute basic Python programs involving variables, arithmetic operations, and input/output.</p> <p>Apply list operations (add, remove, sort) to solve real-life problems.</p> <p>Develop problem-solving skills using Python's interactive environment.</p>	Programming	Mathematics Programming Questions
	Unit 1 - Communication skill	<p>What is Communication</p> <p>Explaining Methods of communication Verbal Non-verbal</p>	<p>Writing pros and cons of written, verbal and non-verbal communication.</p>	<p>Will be able to :- Understand various methods of communication. Demonstrate the knowledge of basic writing skills.</p>	Create a block diagram of communication process	Language and Literature Students can practice verbal communication by creating short skits,

		<p>Visual Methods of Communication</p> <p>Meaning of communication Importance of communication skills</p> <p>Elements of communication cycle-</p> <p>(I) sender,</p> <p>(ii) ideas,</p> <p>(iii) encoding,</p> <p>(iv) communication channel,</p> <p>(v) receiver,</p> <p>(vi) decoding, and</p> <p>(vii) feedback</p>	<p>Listing do's and don'ts for avoiding common body language mistakes.</p> <p>Draw a diagram of communication cycle.</p> <p>Role plays on communication process related to the sector/job role</p> <p>Group discussion on factors affecting perspectives in communication.</p> <p>Sharing of experiences on factors affecting perspectives.</p> <p>Sharing experiences on factors affecting communication at workplace</p>	<p>Identify the factors affecting our perspective.</p> <p>Identify elements of communication cyc</p>		<p>role plays, and dialogues that include elements from literary texts or stories</p>
May 11	Python	<p>conditional and loop structures</p> <p>Understand conditional statements (if, else, elif) and loop structures (for, while).</p> <p>Apply loops and conditionals to solve programming problems.</p> <p>Write and debug code involving conditions and loops.</p>	<p>Engage students in discussions to explain the purpose and real-world applications of conditionals and loops in programming.</p> <p>Provide hands-on coding exercises where students write their own programs using conditionals and loops.</p> <p>Utilize flowcharts, diagrams, and visual aids to help students understand the control flow of programs using conditionals and loops.</p>	<p>Proficiently write and understand code using loops and conditions.</p> <p>Apply logical thinking to solve programming tasks.</p> <p>Effectively debug and optimize code with conditionals and loops.</p>	Programming	<p>Mathematics Programming Questions</p>
July 16	Python	<p>List and String.</p> <p>Understand Lists and Strings</p> <p>Define what lists and strings are in programming and their key</p>	<p>Provide hands-on exercises where students create, manipulate, and perform operations on lists and strings.</p>	<p>Students will apply their knowledge of lists and strings to solve programming problems efficiently.</p>	Programming	<p>Mathematics Programming Questions</p>

		<p>characteristics. Explain how lists and strings can store multiple values or characters. Learn Operations on Lists</p> <p>Perform operations like adding, removing, accessing, and slicing elements in a list. Use built-in functions and methods to manipulate lists (e.g., append(), extend(), remove()). Work with Strings</p> <p>Understand how to manipulate strings using functions such as lower(), upper(), strip(), split(), and join(). Compare Lists and Strings</p> <p>Distinguish between lists (mutable) and strings (immutable) in terms of operations and behavior.</p>	<p>Explanation of the uses of every functions</p> <p>Provide hands-on coding exercises where students write their own programs using conditionals and loops.</p>	Students will be able to create, access, modify, and perform operations on lists effectively.		
	Unit 2 - Self management skills	<p>Self-management-- Features, Rule and importance Meaning of self-management Positive results of self- management Self-management skills Strengths and Weaknesses Knowing yourself. Analysis of Strengths and Weaknesses</p>	<p>Identification of self-management skills.</p> <p>Strength and weakness analysis.</p>	<p>Will be able to :- Describe the meaning and importance of self-management Identify the factors that helps in building self- confidence</p>	-	<p>Language and Literature Write essay on your strengths and weaknesses</p>
August 14	Introduction to AI	<p>Excite To identify and appreciate Artificial Intelligence and describe its applications in daily life. To relate, apply and reflect on the Human-Machine Interactions. To identify and interact with the three domains of AI: Data, Computer Vision and Natural Language Processing.</p>	<p>Giving them awareness on where Artificial Intelligence is relevant in their lives. Practice storytelling using an open source AI tool. Activity for Identifying advantage points which are appropriate for achieving SDGs using AI solutions.</p>	<p>After completion of the unit, learners will be able to describe: The relation and application of AI in their daily life Identify the 3 domains of AI Learners will be able to relate to the relevance and</p>	Create a timeline of AI	<p>Integration with Science Relate AI applications in healthcare to medical imaging, diagnostic tools, and genetic research.</p>

		<p>To undergo an assessment for analysing progress towards acquired AI-Readiness skills.</p> <p>To imagine, examine and reflect on the skills required for futuristic job opportunities.</p> <p>Relate</p> <p>Learners relate to application of Artificial Intelligence in their daily lives.</p> <p>To unleash their imagination towards smart homes and build an interactive story around it. To relate, apply and reflect on the Human-Machine Interactions.</p>		<p>application of AI in the context of their homes</p> <p>Learners will be able to extend learning and apply it to interactive story writing</p> <p>Learners will be able to describe and explore the application of AI in different fields and various industries.</p>		
	Unit 2 - Self management skill	<p>Self-confidence and Positive Thinking</p> <p>Factors that help in building self-confidence - social, cultural, and physical factors.</p> <p>Self-confidence building tips getting rid of the negative thoughts, thinking positively, staying happy with small things, staying clean, hygienic and smart, chatting with positive people, etc.</p> <p>Personal Hygiene and Self-grooming</p> <p>Explaining about how to maintain personal hygiene.</p>	<p>General conversation to teach the use of positive metaphors/ words.</p> <p>Positive stroking on wakeup and before going bed.</p> <p>Role-play on Helping others and working for community.</p>	<p>Will be able to :-</p> <p>Describe the meaning and importance of self-management</p> <p>Identify the factors that helps in building self- confidence</p>	Write Any 5 positive thoughts	<p>Integration with Value Education</p> <p>Discuss values like empathy, respect, integrity, helping others, and giving back as core aspects of self-management and personal growth.</p>
September 8	Introduction to AI	<p>Purpose</p> <p>To tell the impact of Artificial Intelligence on Sustainable Development Goals to develop responsible citizenship.</p> <p>To research and develop awareness of skills required for jobs of the future.</p> <p>Possibilities</p> <p>To imagine, examine and reflect on the skills required for the futuristic opportunities.</p>	<p>To inspire students by using local examples of AI application in their community, to create a summary of their findings in a form of a future Job Advertisement and share it with other teams.</p> <p>Explaining the Awareness of the ethical concerns regarding Artificial Intelligence (AI)</p>	<p>Learners will be able to identify and develop awareness for SDGs using AI solutions.</p> <p>Learners will be able to describe some ethical concerns of AI with respect to inclusion, bias, and privacy.</p>		<p>Integration with Ethics and Moral Studies</p> <p>Discuss AI ethics related to privacy, bias, autonomy, responsibility, and transparency</p>

		<p>To develop effective communication and collaborative work skills.</p> <p>AI Ethics</p> <p>To understand and reflect on the ethical issues around AI.</p> <p>To gain awareness around AI bias and AI access.</p>				
October 10	AI project Cycle	<p>Problem Scoping</p> <p>Identify the AI Project Cycle framework.</p> <p>Learn problem scoping and ways to set goals for an AI project.</p> <p>Identify stakeholders involved in the problem scoped.</p> <p>Understand the iterative nature of problem scoping for in the AI project cycle.</p> <p>Foresee the kind of data required and the kind of analysis to be done.</p> <p>Data Acquisition</p> <p>Identify data requirements and find reliable sources to obtain relevant data.</p> <p>Data Exploration</p> <p>To understand the purpose of Data Visualisation</p> <p>Use various types of graphs to visualise acquired data.</p> <p>Modelling</p> <p>Understand, create and implement the concept of Decision Trees.</p> <p>Understand and visualise computer's ability to identify alphabets and handwritings.</p>	<p>Brainstorming on the ethical issues involved around the problem selected.</p> <p>Teaching the concepts through flowcharts.</p> <p>Explaining the AI Project Cycle through the diagram.</p> <p>Teaching how to acquire data from reliable and authentic sources and how to analyse the data features which affect their problem scoped.</p> <p>Using system maps for the same.</p> <p>Introducing rule based AI models, and undertaking activities to appreciate the distinction between each. Giving overview of the various types of regression, classification and clustering models.</p>	<p>After completion of the AI project cycle learners will be able to:</p> <p>Describe, explain and apply the different stages in project cycle.</p> <p>Enquire about, state the problem for the project cycle, and create a system map.</p> <p>Understand different ways for data acquisition and interpretation through graphs and Model and evaluate the problem for the project cycle.</p> <p>Recognise different type of graphs and explore various patterns and trends out of the data explore</p>	Create a block diagram of phase of project cycle .	<p>Integration with Mathematics:</p> <p>Data Visualization:</p> <p>Use graphical representation of data (bar graphs, pie charts, histograms, scatter plots) to visualize and analyze data.</p>
	Unit - 3 ICT skill	<p>Basic ICT Tools</p> <p>Introduction to ICT</p> <p>Role and importance of ICT in personal life and at workplace</p>	<p>Describe the role of Information and Communication Technology (ICT) in our daily life (examples) to-day life and workplace.</p>	<p>Will be able to :-</p> <p>Understand the role of ICT</p>	PPT on ICT	Poster on ICT at workplace

		ICT in our daily life. ICT tools-Mobile, tab, radio etc.				
November 12	Unit - 3 ICT skills	Parts of a computer and Peripherals Computer system Central Processing Unit (CPU), memory, motherboard, storage devices. Hardware and software of a computer system. Role and functions of Random Access Memory (RAM) and Read Only Memory (ROM) Role and functions of Central Processing Unit Procedure for starting and shutting down a computer. Peripherals devices and their uses mouse, keyboard, scanner, webcam, etc. of a computer system.	Connecting the cables and peripherals to the Central Processing Unit. Starting and shutting down a computer. Group discussion on the various aspects of hardware and software. Identification of various parts and peripherals of a computer Demonstration and practice on the use of mouse. Demonstration and practice on the use of keyboard. Demonstration of the uses of printers, webcams, scanner and Other peripheral devices. Drawing diagram of computer system and labelling	Will be able to :- Identify components of basic computer system and their functions. Demonstrate use of various components and peripherals of computer system Demonstrate basic computer skills	Difference between various types of memory	Integration with Life Skills: Computer Safety: Teach students safe practices while using computers (e.g., preventing data loss, identifying virus risks).
	AI neural Network	Understand and appreciate the concept of Neural Network through gamification. Learn basic programming skills through gamified platforms. Acquire introductory Python programming skills in a very user-friendly format.	Explaining what a neural network is like. Using brain-working example to explain neural network.	Learners will be able to develop an understanding of Neural Networks. Learners will be able to describe the working of Neural Networks.	Draw the structure of neural network	Integration with Science: Biological Neural Networks: Draw parallels between human brain neural networks and computer-based neural networks.
December 13	Unit 4 - Entrepreneurship Skills	About Entrepreneurship Skills and Types of Business Activities Types of businesses-service, Manufacturing, hybrid. Types of businesses found in our community Business activities Around us. Role of Entrepreneurs and Wage	Prepare posters of business activities found in cities/villages, using pictures. Discuss the various types of activities, generally adopted by Small businesses in a local community. Best out of waste.	Will be able to:- Identify various types of business activities Demonstrate the knowledge of distinguishing characteristics of entrepreneurship	Search about any entrepreneurs	Integration with Economics Market Analysis: Discuss how market demand and supply affect entrepreneurial success and business activities.

		<p>Meaning of entrepreneurship development.</p> <p>Distinguishing characteristics of entrepreneurship</p> <p>Role and rewards of entrepreneurship</p>	<p>Costing of the product made out of waste.</p> <p>Selling of items made from waste materials.</p> <p>Prepare list of businesses that Provides goods and services in exchange for money.</p> <p>Prepare charts showing advantages of entrepreneurship over wages</p> <p>Group discussions on role and features of entrepreneurship</p> <p>Lectures/presentations by entrepreneurs on their experiences and success stories</p> <p>Identify core skills of successful entrepreneur</p>			
--	--	---	--	--	--	--