

Artificial Intelligence - 417

CLASS -IX

Session- 2025-26

Date	Chapter/ Unit	Sub Unit/Learning Outcomes	Demo./Practicals/Session
April Days-22	AI reflection , Project Cycle, Ethics	- What is intelligence - What is AI - Types of AI - To identify and appreciate Artificial Intelligence and describe its applications in daily life. - To relate, apply and reflect on the Human-Machine Interactions. - To recognize, engage and relate with the three realms of AI: Computer Vision, Data Statistics and Natural Language Processing - Learners to relate to application of Artificial Intelligence in their daily lives. - To relate, apply and reflect on the Human-Machine Interactions.	The AI Game • Learners to participate in three games based on different AI domains. – Game 1: Rock, Paper and Scissors (based on data) (https://next.rockpaperscissors.ai/) – Game 2: Semantris (based on Natural Language Processing NLP) (https://research.google.com/semantris/) – Game 3: Quick Draw (based on Computer Vision - CV) (https://quickdraw.withgoogle.com/)
	PYTHON:	- Steps involved in computer problem solving Algorithm, Flow chart - Difference between algorithm and flow chart - What is python?, - Important features of python - Role of Python in AI	Introduction to programming using Online Gaming portals like Code Combat.
May No.of working days-19	AI reflection , Project Cycle, Ethics	- To understand the impact of Artificial Intelligence - To imagine, examine and reflect on the skills required for the futuristic opportunities. - To understand and reflect on the ethical issues around AI. - To gain awareness around AI bias and AI access. - To let the students analyse the advantages and disadvantages of Artificial Intelligence.	Activity: • Go Goals Game: Learners to answer questions on Sustainable Development Goals https://go-goals.org/ • AI for Ocean- “helping to conserve oceans is by fighting plastic pollution with machine learning.” (https://code.org/oceans) Theme-based research and Case Studies • Learners will listen to various case-studies of inspiring start-ups, companies or communities where AI has been involved in real-life. • Learners will be allotted a theme around which they need to search for present AI trends and have to visualise the future of AI in and around their respective theme. Moral Machine (https://www.moralmachine.net/)
	INTRODUCTION TO PYTHON:	Uses of Python Python Character Set Statements in Python Tokens	Python Installation Introduction of W3School website https://www.w3schools.com/python/default.asp
July No.of working days-26	AI reflection , Project Cycle, Ethics	AI Project Cycle - Problem Scoping - Identify the AI Project Cycle framework. - Learn problem scoping and ways to set goals for an AI project. - Identify stakeholders involved in the problem scoped. - Brainstorm on the ethical issues involved around the problem selected. - Understand the iterative nature of problem scoping for in the AI project cycle. - Foresee the kind of data required and the kind of analysis to be done.	Activity: Brainstorm around the theme provided and set a goal for the AI project. 4Ws problem canvas and a problem statement to learn more about the problem identified in the community/ society https://www.itechcreations.in/artificial-intelligence/4w-canvas-ai-project-cycle/
	INTRODUCTION TO PYTHON:	- Operators Precedence - Comments in python - The print () function	- To print personal information like Name, Father's Name, Class, School Name. - To print the following patterns using multiple print commands- - To find square of number 7 - To find the sum of two numbers 15 and 20. - To convert length given in kilometers into meters. - To print the table of 5 up to five terms. - To calculate Simple Interest
August No.of working days-23	AI reflection , Project Cycle, Ethics	- Data Acquisition - Identify data requirements and find reliable sources to obtain relevant data. - Data Exploration- To understand the purpose of Data Visualisation - Data Visualisation Use various types of graphs to visualise acquired data. - Modelling Understand modeling (Rule-based & Learningbased) - Understand various evaluation techniques- - True Positive - False Positive - True Negative - False Negative	Activities: Let's use Graphical Tools • Selecting an appropriate graphical format and presenting the graph sketched. • Understanding graphs using (https://datavizcatalogue.com/) • Listing of newly learnt data visualization techniques. https://www.datawrapper.de/ Data Features • Identifying the possible data features affecting the problem. Activity: System Maps https://ncase.me/loopy/ Modeling • Introduction to modeling and types of models (Rule-based & Learning-based) Activity: Rule-based & Learningbased • Rule-based: Students can be asked to create text to speech bot using (https://theaiplayground.com/blocks/new) • Learning-based Activity: Students can be asked to use (https://teachablemachine.withgoogle.com/)
	PYTHON	- The Input() function - Errors in Python - Compilation of all the functions and operators (Variables, Arithmetic Operators, Expressions, Comparison	To calculate Area and Perimeter of a rectangle To calculate Area of a triangle with Base and Height To calculating average marks of 3 subjects To calculate discounted amount with discount % To calculate Surface Area and Volume of a Cuboid

September No. of working days-23	AI reflection Project Cycle, Ethics	Deployment Challenge students to think about how they can apply their knowledge of deployment in future AI projects and encourage them to continue exploring different deployment methods	Deployment Case Study: Preventable Blindness. Activity: Implementation of AI project cycle to develop an AI Model for Personalized Education.
	EMPLOYABILITY SKILLS	Unit 1: Communication Skills-I Unit 2: Self-management Skills-I	
	PYTHON:	- Operators, logical operators, Assignment - Operators, Data Types - integer, float, strings, - type conversion, using print() and input() functions	Practical / Project file assessment
October No. of working days-18	DATA LITERACY	Basics of data literacy - Define data literacy and recognize its importance Understand how data literacy enables informed decision making and critical thinking - Apply the Data Literacy Process Framework to analyze and interpret data effectively - Differentiate between Data Privacy and Security - Identify potential risks associated with data breaches and unauthorized access. - Learn measures to protect data privacy and enhance data security Acquiring Data, Processing & Interpreting Data - Determine the best methods to acquire data. - Classify different types of data and enlist different methodologies to acquire it. - Define and describe data interpretation. - Enlist and explain the different methods of data interpretation. - Recognize the types of data interpretation. - Realize the importance of data interpretation Project Interactive Data Dashboard & Presentation - Recognize the importance of data visualization - Discover different methods of data visualization	Activity: Impact of News Articles Reference Videos: https://www.youtube.com/watch?v=yhO_t-c3yJY https://www.youtube.com/watch?v=aO858HyFbKI https://www.cbse.gov.in/cbsenew/documents/Cyber%20Safety.pdf Activities: - Trend analysis - Visualize and Interpret Data Project Interactive Data Dashboard & Presentation - Data visualization Using Tableau Reference Links https://public.tableau.com/en-us/s/download https://www.datawrappr.de/ Video Links: https://www.youtube.com/watch?v=NLCzpPRCc7U https://www.youtube.com/watch?v=_M8BnosAD78
	INTRODUCTION TO PYTHON:	- Control Structures - Sequential Statements - Lists in Python	- Create a list in Python of children selected for science quiz with following names- Arjun, Sonakshi, Vikram, Sandhya, Sonal, Isha, Kartik Perform the following tasks on the list in sequence- - Print the whole list - Delete the name "Vikram" from the list - Add the name "Jay" at the end - Remove the item which is at the second position. - Create - a list num=[23,12,5,9,65,44] Print the length of the list - Print the elements from second to fourth position using positive indexing - Print the elements from position third to fifth using negative indexing - Create a list of first 10 even numbers, add 1 to each list item and print the final list. - Create a list List_1=[10,20,30,40]. Add the elements [14,15,12] using extend function. Now sort the final list in ascending order and print it.
November No. of working days-23	MATH FOR AI (Statistics & Probability)	Importance of Math for AI - Analyzing the data in the form of numbers/images and find the relation/pattern between the them. - Uses of Math - Importance of Math for AI - Statistics - Linear Algebra - Probability - Calculus Number Patterns Picture Analogy Understand the concept of Statistics in real life. - Definition of Statistics - Applications - Disaster Management - Sports - Diseases Prediction - Weather Forecast Application in various real life scenarios Understand the concept of Probability in real life Introduction to Probability - How to calculate the probability of an event - Types of events - understand the concept of Probability using a relatable example. Application of Probability in various real life scenarios - Sports - Weather Forecast - Traffic Estimation	Activity: - observe the number pattern and find the missing number. - To find connections between sets of images and use that to solve problems Activity: Uses of Statistics in daily life - Students will explore the applications of statistics in real life . They collect data and can apply various statistical measures to analyze the data. Activity: Car Spotting and Tabulating Purpose: To implement the concept of data collection , analysis and interpretation.

	INTRODUCTION TO PYTHON:	• Selection Statements	• Program to check if a person can vote • To check the grade of a student Input a number and check if the number is positive, negative or zero and display an appropriate message • To print first 10 natural numbers • To print first 10 even numbers • To print odd numbers from 1 to n • To print sum of first 10 natural numbers • Program to find the sum of all numbers stored in a list
December No.of working days-25	INTRODUCTION TO GENERATIVE AI	Generative AI & its Classification • Introduction to Generative AI • Generative AI vs Conventional AI • Types of Generative AI • How Generative AI works and recognize how it learns. • Applying Generative AI tools to create content. • Understanding the ethical considerations of using Generative AI. • Examples of Generative AI • Benefits of using Generative AI • Limitations of using Generative AI • Ethical considerations of using Generative AI	Activity: Guess the Real Image vs. the AI-generated image Activity: • GAN Paint • Generative AI tools Session • Ethical considerations of using Generative AI
	PYTHON	• Iterative Statements	Codes based on for loop, If Condition
January	EMPLOYABILITY SKILLS	Unit 3: Information and Communication Technology Skills-I Unit 4: Entrepreneurial Skills-I Unit 5: Green Skills-I	
No.of working days-13	Submission and assessment of the projects/ Practical files		
February	Annual Examination		
No.of working days-23			

Suggested Projects/ Field Visit / Portfolio (any one activity to be one)

Suggested Projects	1. Create an AI Model using tools like- - o Teachable Machine (https://teachablemachine.withgoogle.com/) - o Machine Learning For Kids (https://machinelearningforkids.co.uk/) 2. Choose an issue that pertains to the objectives of sustainable development and carry out the actions listed below. - o To understand more about the problem identified, create a 4Ws problem canvas. - o Identify the data features and create a system map to understand relationship between them - o Visualize the data collected graphically (Spreadsheet software to be used store and visualize the data) - o Suggest an AI enabled solution to it (Prototype/Research Work)
Suggested Field Visit	Visit to an industry or IT company or any other place that is creating or using AI applications and present the report for the same.
Student Portfolio	Maintaining a record of all AI activities and projects (For Example Letter to Futureself, Smart Home Floor Plan, Future Job Advertisement, Research Work on AI for SDGs and AI in Different Sectors, 4Ws canvas, System Map).