

ARTIFICIAL INTELLIGENCE (2023-24)

CLASS X

Month	Book	Unit	Activities/ Practical
April	Artificial Intelligence	Unit 1 Introduction to AI	<p>*What is Intelligence? * Decision Making. ● How do you make decisions? ● Make your choices! *What is Artificial Intelligence and what is not?</p> <p>Introduction to AI and related terminologies. ● Introducing AI, ML & DL. ● Introduction to AI Domains (Data Sciences, CV & NLP) ● Gamified tools for each domain- ○ Data Sciences- Impact Filter (Impact of rise in temperature on different species) https://artsexperiments.withgoogle.com/impactfilter/ ○ CV- Autodraw (It pairs machine learning with drawings from talented artists to help you draw stuff fast.) https://www.autodraw.com/ https://artsexperiments.withgoogle.com/impactfilter/ NLP- Wordtune (AI writing tool that rewrites, rephrases, and rewords your writing) https://www.wordtune.com/</p>
May	Employability Skills Artificial Intelligence	Unit 1 Communication Skills UNIT 2: AI PROJECT CYCLE	<p>Problem Scoping, Data Acquisition, Data Exploration, Modelling & Evaluation Teachable Machine Experiment: This experiment is based on the Computer Vision domain of AI. The main aim of this experiment is to teach an AI machine to recognize your actions. Once the AI machine is trained, it works according to your actions. Open the following link to use this experiment: https://teachablemachine.withgoogle.com/ Click on Get Started button</p>
June	Summer Break		

July	Artificial Intelligence	UNIT 3 : ADVANCE PYTHON	Understand to work with Jupyter Notebook, creating virtual environment, installing Python Packages. Basic Python programs using fundamental concepts such as variables, data types, operators, and control structures. Python built-in functions and libraries.
	Employability Skills	Unit 2: Self-management Skills	
August	Artificial Intelligence	UNIT 4: DATA SCIENCES	Introduction to Data Science, Applications of Data Science Activities: Game: Rock, Paper & Scissors https://next.rockpaperscissors.ai/ Python for Data Sciences Numpy , Pandas , Matplotlib Statistical Learning & Data Visualisation
	Employability Skills	Unit 3: Information and Communication Technology Skills	Make a ppt/collage on topic ROLE AND IMPORTANCE OF ICT IN PERSONAL LIFE AND AT WORKPLACE
September	HY Exams		
October	Artificial Intelligence	UNIT 5: COMPUTER VISION	Session: Introduction to OpenCV Hands-on: Image Processing
	Employability Skills	Unit 4: Entrepreneurial Skills	
November	Artificial Intelligence	UNIT 6: NATURAL LANGUAGE PROCESSING	Session: Introduction to Natural Language Processing Activity : Use of Google Translate for same spelling words Session: NLP Applications Session: Revisiting AI Project Cycle Activity: Introduction to Chatbots Session: Human Language VS Computer Language Session: Data Processing <ul style="list-style-type: none"> • Text Normalisation • Bag of Words Hands-on: Text processing <ul style="list-style-type: none"> • Data Processing • Bag of Words
	Employability Skills	Unit 5: Green Skills-II	

December	Artificial Intelligence	UNIT 7: EVALUATION	Session: Introduction to Model Evaluation <ul style="list-style-type: none"> • What is Evaluation? • Different types of Evaluation techniques- Underfit, Perfect Fit, OverFit Session: Model Evaluation Terminologies <ul style="list-style-type: none"> • The Scenario - Prediction, Reality, True Positive, True Negative, False Positive, False Negative • Confusion Matrix • Activity- to make a confusion matrix based on data given for Containment Zone Prediction Model Session & Activity: Confusion Matrix Session: Evaluation Methods <ul style="list-style-type: none"> • Accuracy • Precision • Recall • Which Metric is Important? - Precision or Recall • F1 Score
January	Revision		
February	Revision		
March	Annual Exam		

PRACTICAL WORK Programs List

- Write a program to add the elements of the two lists.
- Write a program to calculate mean, median and mode using Numpy
- Write a program to display line chart from (2,5) to (9,10).
- Write a program to display a scatter chart for the following points (2,5), (9,10), (8,3), (5,7), (6,18).
- Read csv file saved in your system and display 10 rows.
- Read csv file saved in your system and display its information
- Write a program to read an image and display using Python
- Write a program to read an image and identify its shape using Python