BHARTIYA VIDYA MANDIR SENIOR SECONDARY SCHOOL
SECTOR-39, CHANDIGARH ROAD, LUDHIANA
SYLLABUS OF CLASS X

BOOK: NCERT	SUBJECT – ARTIFICIAL INTELLIGENCE			SESSION - 2024-2025
Month	**Unit/Chapter/Topic**	**Learning Objective**	**Resources/Art-Integrated Pedagogy Tools Used/ E-Resources**	**Learning Outcomes/ Skills Learnt by Students**
APRIL	**INTRODUCTION TO ARTIFICIAL INTELLIGENCE**	Understand the concept of human intelligence and its various components such as reasoning, problem-solving, and creativity	https://artsexperiments.withgoogle.com/impactfilter/	What is Intelligence? Decision Making. ● How do you make decisions? ● Make your choices! what is Artificial Intelligence and what is not?
	Basics of AI:	Understand the concept of Artificial Intelligence (AI) and its domains	https://www.autodraw.com/	: Introduction to AI and related terminologies. ● Introducing AI, ML & DL. ● Introduction to AI Domains (Data Sciences, CV & NLP) ● Gamified tools for each domain
		Explore the use of AI in real Life.	http://moralmachine.mit.edu/	: AI Ethics ● Moral Machine Activity : a platform for gathering a human perspective on moral decisions made by machine intelligence, such as self-driving cars.
MAY	**AI PROJECT CYCLE**	Introduction Understand the stages involved in the AI project cycle, such as problem scoping, data collection, data exploration, modeling, evaluation.	https://teachablemachine.withgoogle.com/	Introduction to AI Project Cycle Problem Scoping Learn about the importance of project planning in AI development and how to define project goals and objectives.
		Problem Scoping	https://experiments.withgoogle.com/ai/drum-machine/view/	Understanding Problem Scoping & Sustainable Development Goals Data Acquisition Develop an understanding of the importance of data collection in AI and how to choose the right data sources.
		Data Acqisition and Exploration Stage	https://www.wordtune.com/	Simplifying Data Acquisition Data Exploration Know various data exploration techniques and its importance
		Data Modelling and Evaluation	http://moralmachine.mit.edu/	Visualising Data Modelling Know about the different machine learning algorithms used to train AI models Session: Introduction to modelling
		AI approaches	https://experiments.withgoogle.com/ai/drum-machine/view/	● Introduction to Rule Based & Learning Based AI Approaches
		Activity related to AI Project cycle	https://experiments.withgoogle.com/ai/drum-machine/view/	● Activity : Teachable machine to demonstrate Supervised Learning
JUNE	**SUMMER HOLIDAYS**			

JULY	**DATA SCIENCES**	Introduction:Understand the basic concepts of data acquisition, visualization, and exploration.	https://next.rockpaperscissors.ai/	Define the concept of Data Science and understand its applications in various fields.
AUGUST	**COMPUTER VISION**	Introduction: Define the concept of Computer Vision and understand its applications in various fields	https://www.w3schools.com/colors/colors_rgb.asp	Introduction to Computer Vision. Applications of CV
		Understand the basic concepts of image representation, feature extraction, object detection, and segmentation	https://emojiscavengerhunt.withgoogle.com/	Image Representation,Object detection and segmentation
		Activity	Activities: ● Game- Emoji Scavenger Hunt https://emojiscavengerhunt.withgoogle.com/ ● RGB Calculator: https://www.w3schools.com/colors/color s_rgb.asp ● Create your own pixel art: www.piskelapp.com ● Create your own convolutions: http://setosa.io/ev/image-kernels/	Learning by doing
SEPTEMBER	**TERM EXAMINATION**			
OCTOBER	**NATURAL LANGUAGE PROCESSING**	Introduction :Understand the concept of Natural Language Processing (NLP) and its importance in the field of Artificial Intelligence (AI).	Lecture Method	Introduction to Natural Language Processing Activity : Use of Google Translate for same spelling words
NOVEMBER		Chatbots:Explore the various applications of NLP in everyday life, such as chatbots, sentiment analysis, and automatic summarization	Lecture Method	Activity: Introduction to Chatbots
DECEMBER	**EVALUATION**	Introduction Understand the role of evaluation in the development and implementation of AI systems.	Lecture Method	Introduction to Model Evaluation ● What is Evaluation? ● Different types of Evaluation techniques, Underfit, Perfect Fit, OverFit
JANUARY		Confusion Matrix: Learn to make a confusion matrix for given Scenario	Lecture Method	Activity: Confusion Matrix
		Evaluation Methods	Lecture Method	Learn about the different types of evaluation techniques in AI, such as Accuracy, Precision, Recall and F1 Score, and their significance.