Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya, Latur

(Empowered Autonomous Institute)

NAAC A+ Grade (4th Cycle) with 3.49 CGPA,
UGC-CPE (Phase-III) & DST-FIST Status

Structure and Curriculum of

Certificate Course

in

Introduction to Artificial Intelligence

(Under PM - USHA)

(Under "Grants to Strengthen Colleges" Scheme)

Approved by

Board of Studies in IT

Rajarshi Shahu Mahavidyalaya, Latur
(Empowered Autonomous Institute)

w. e. f. December, 2025

Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya, Latur

(Empowered Autonomous Institute)

Certificate Course under PM- USHA

Introduction to Artificial Intelligence

SYLLABUS

(Free of Cost Certificate Course)

Credits: 02 **Max. Marks: 50** **Lectures: 30 Hrs.**

Learning Objectives:

LO1. To introduce the fundamentals of Artificial Intelligence.

LO2. To understand basic Machine Learning and Neural Network concepts in a simple manner.

LO3. To explore Natural Language Processing and real-life AI applications

LO4. To encourage hands-on learning through easy, no-code AI tools.

LO5. To complete a mini-project demonstrating understanding of AI concepts.

Course Outcomes:

After completion of the course, students will be able to-

CO1. Explain the meaning, history, and applications of AI.

CO2. Understand basic concepts related to data, algorithms, and responsible AI use.

CO3. Describe simple problem-solving and search techniques used in AI.

CO4. Understand the fundamentals of Machine Learning without coding or mathematics.

CO5. Explain neural networks through intuitive, visual understanding.

CO6. Use common AI tools for basic tasks in writing, coding, data analysis, and creativity.

Unit No.	Title of Unit & Contents	Hrs.
I	**Introduction to Artificial Intelligence**	8
	1. Definition, scope, and evolution of AI 2. AI vs Machine Learning vs Deep Learning 3. AI in healthcare, education, finance, agriculture, industry 4. Demonstration of modern AI tools 5. Understanding data, information, and knowledge 6. Training, testing, and evaluation (conceptual)	
	Unit Outcomes: UO1. Define Artificial Intelligence and explain its scope, evolution, and significance in modern computing and society. UO2. Explain the concepts of data, information, and knowledge, and understand their role in AI systems.	
II	**Problem-Solving & Search Techniques**	8

	1. Basic idea of problem-solving in AI 2. Search techniques (simple explanation): a. Breadth-First Search b. Depth-First Search 3. Real-life examples. 4. What is Machine Learning? 5. Real-life examples of ML 6. Types of ML: a. Supervised Learning (concept only) b. Unsupervised Learning (concept only) 7. Very simple algorithms (intuitive explanation)	
	Unit Outcomes: UO1. Describe basic search techniques such as Breadth-First Search (BFS) and Depth-First Search (DFS) in an intuitive and non-mathematical manner. UO2. Explain the concept of Machine Learning and identify real-life applications of ML.	
III	**Neural Networks– Easy Concepts**	**10**
	1. What are neural networks? (brain analogy) 2. Applications of deep learning 3. What is NLP? 4. How to use AI safely and responsibly? 5. Introduction to prompt-writing	
	Unit Outcome: UO1. Identify applications of deep learning and Natural Language Processing (NLP) in real-world scenarios. UO2. Demonstrate awareness of ethical, safe, and responsible use of AI technologies. UO3. Apply basic prompt-writing techniques for effective interaction with AI tools.	
IV	**Mini Project & Assessment**	**4**
	Students choose one mini project: 1. Build podcast of .pdf file using any AI Tool 2. Develop a Video by using any AI Tool 3. Create Mind Maps of .pdf file by using any AI Tool 4. Build Flash Cards by using any AI Tool **Assessment:** Mini project + short test or presentation	
	Unit Outcome: UO1. Present and explain the project outcomes, showing creativity, clarity, and responsible AI usage.	

Recommended Tools & Platforms

1. Google Teachable Machine

2. Microsoft Lobe
3. Orange Data Mining
4. Google Colab(optional)
5. ChatGPT/other AI assistants

Learning Resources:

1. "Artificial Intelligence– A Guide for Thinking Humans"– Melanie Mitchell
2. "AI Basics for Schools"– Online resources
3. Google AI Education (free online modules)
4. Microsoft's AI Learning Path (beginner level)

Prof. V.D.Panchal
Chairman
Board of Studies in IT
Rajarshi Shahu Mahavidyalaya, Latur
(Empowered Autonomous Institute)

Dr. Mahadev Gavhane
Principal
Rajarshi Shahu Mahavidyalaya, Latur
(Empowered Autonomous Institute)