Artificial Intelligence	**L**	**P**	**C**
	3		**3**

Discipline(s) / EAE / OAE	Semester	Group	Sub-group	Paper Code
CSE/IT/CST/ITE	6	PCE	PCE-3	CIE-374T
ECE	6	PCE	PCE-1	ECE-318T
CSE-AI/CSE-AIML	6	PC	PC	AI-302T
EAE	6	AI-EAE	AI-EAE-1	AI-302T
EAE	6	AIML-EAE	AIML-EAE-1	AI-302T

Marking Scheme:
1. Teachers Continuous Evaluation: 25 marks
2. Term end Theory Examinations: 75 marks

Instructions for paper setter:
1. There should be 9 questions in the term end examinations question paper.
2. The first (1st) question should be compulsory and cover the entire syllabus. This question should be objective, single line answers or short answer type question of total 15 marks.
3. Apart from question 1 which is compulsory, rest of the paper shall consist of 4 units as per the syllabus. Every unit shall have two questions covering the corresponding unit of the syllabus. However, the student shall be asked to attempt only one of the two questions in the unit. Individual questions may contain upto 5 sub-parts / sub-questions. Each Unit shall have a marks weightage of 15.
4. The questions are to be framed keeping in view the learning outcomes of the course / paper. The standard / level of the questions to be asked should be at the level of the prescribed textbook.
5. The requirement of (scientific) calculators / log-tables / data – tables may be specified if required.

Course Objectives :

1.	To impart the definition and basic knowledge of Artificial Intelligence.
2.	To introduces AI by examining the nature of the difficult problems.
3.	To understand with AI demonstration that intelligence requires ability to find reason.
4.	To understand the latest techniques and the future scope of the technology.

Course Outcomes (CO)

CO 1	Ability to use AI methods and control strategies to solve the problems.
CO 2	Understand the production system and its applications. Also, to understand the properties and applications for the different search algorithms.
CO 3	Applying the different algorithms and the techniques, also analyse the reason for the results.
CO 4	Study the expert systems and the modern approaches.

Course Outcomes (CO) to Programme Outcomes (PO) mapping (scale 1: low, 2: Medium, 3: High)

	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO 1	3	3	3	3	3	2	2	-	-	-	-	2
CO 2	3	3	3	3	3	2	2	-	-	-	-	2
CO 3	3	3	3	3	3	2	2	-	-	-	-	2
CO 4	3	3	3	3	3	2	2	-	-	-	-	2

UNIT-I

AI Definition, Problems, The Foundations of Artificial Intelligence, Techniques, Models, Defining Problem as a state space search, production system, Intelligent Agents: Agents and Environments, Characteristics, Search methods and issues in the design of search problems.

UNIT-II

Knowledge representation issues, mapping, frame problem. Predicate logic, facts in logic, representing instance and Isa relationship, Resolution, procedural and declarative knowledge, matching, control knowledge. Symbolic reasoning under uncertainty, Non monotonic reasoning, statistical reasoning.

UNIT-III

Game Playing, minimax search, Alfa beta cut-offs, Natural Language Processing, Learning, Explanation-based learning, discovery, analogy, Neural net learning and Genetic Learning.

UNIT - IV

Fuzzy logic systems, Perception and action, Expert systems, Inference in Bayesian Networks, K-means Clustering Algorithm, Machine learning.

Textbook(s):
1. Elaine Rich, Kevin Knight, and Shivashankar B Nair, "Artificial Intelligence", Tata McGraw Hill.
2. S. Russel and P. Norvig, "Artificial Intelligence: A Modern Approach", Pearson Edu.

References:
1. Deepak Khemani, "A First Choice in Artificial Intelligence", McGraw Hill.
2. K M Fu, "Neural Networks in Computer Intelligence", McGraw Hill.