

6th Sem. / CSE/ 2022(S)

Th4 Artificial Intelligence & Machine Learning

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. Define artificial intelligence.
 - b. What is knowledge based system?
 - c. Define hill climbing.
 - d. What is decision tree?
 - e. What is Natural Language Processing?
 - f. What is an Artificial Neural Network?
 - g. What is the Turing test?
 - h. What is Game Theory in AI?
 - i. Which search method takes less memory?
 - j. What is machine perception?

2. Answer **Any Six** Questions 6 x 5
 - a. Explain the heuristics functions with example.
 - b. Discuss about the forward chaining with example.
 - c. Differentiate between supervised learning & unsupervised learning.
 - d. What are the applications of Machine Learning?
 - e. What are the various components of the Expert system?
 - f. Describe the different types of reasoning?
 - g. Explain the different applications of artificial intelligence.

3. What is A* search? Explain various stages of A* search. 10
4. What is reinforcement learning? Explain the Active & Passive reinforcement learning. 10
5. Explain the design principle of pattern recognition system. 10
6. Describe the working principle of expert system architecture. 10
7. Define knowledge representation. Explain the different approaches of knowledge representation system. 10