Course: B. Tech. CSE (AI/ML) (IIIrd)
Subject: Artificial Intelligence, Subject Code: ETCS-209
Semester: III

Time: 03 Hours   **Max Marks: 70**

Instructions to the Students:

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of short answer type. All questions are compulsory. Each question carries 2 marks.
3. Section B comprises 8 long answer type questions out of which students must attempt any 5. Each question carries 10 marks.
4. Do not write anything on the question paper.

Q. No.	SECTION –A (SHORT ANSWER TYPE QUESTIONS)	Marks

1. a. What do you mean by Agent? (2)

 b. What do you mean by State space representation? (2)

 c. Define the Bayesian Networks. (2)

 d. What is Heuristic search? (2)

 e. What do you mean by construction and interference? (2)

 f. Explain lists and Operator in Prolog. (2)

 g. What is a Search graph? (2)

 h. Define Random search. (2)

 i. Define Conditional Probability. (2)

 j. What is a semantic Network? (2)

SECTION –B (LONG ANSWER TYPE QUESTIONS)

2. What do you mean by AI? Explain contribution of AI in various fields. (10)

3. Explain Breath First Search in detail with a suitable example. (10)

4. Explain the A* algorithm. Under what situations it can be used?

(10)

5. What is meant by a "Knowledge-Based System"? Describe the basic components of a knowledge-based system. Also mention the various levels of knowledge representation.

(10)

6. Differentiate between Data, Belief, Hypothesis & Knowledge. What is tautology? Give an example.

(10)

7. What is minimax search for game playing? Explain the Min Max algorithm.

(10)

8. Explain hidden Markov model in detail.

(10)

9. a. Explain Why Matching Variable Is Important In Prolog? What Is The Method To Match Variables?

(10)

b. Explain Why Prolog Language Is Stated As A Procedural Language?

===END OF PAPER===