

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Artificial Intelligence & Machine Learning/CSE) (Sem.–5)

ARTIFICIAL INTELLIGENCE

Subject Code : BTAIML-502-20

M.Code : 93174

Date of Examination : 24-12-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of TEN questions carrying TWO marks each.
2. **SECTION-B** contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. **SECTION-C** contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) What is the role of AI in game playing?
- b) What is constraint satisfaction?
- c) What is the significance of AND-OR graph?
- d) What is Conjunctive Normal Form?
- e) Compare propositional and first-order inference.
- f) Distinguish between supervised learning and unsupervised learning.
- g) What is shell in Expert systems?
- h) What is Rote learning?
- i) Define knowledge acquisition.
- j) What is Minimax search?

SECTION-B

2. Is AI a science, or is it Engineering? Or neither or both? Explain.
3. What are agents? How agents help in solving problems?
4. Explain the syntax and semantics of first-order logic. Explain the syntax of first-order logic with equality, specified in Backus-Naur Form.
5. Using the axioms of probability, prove that any probability distribution on a discrete random variable must sum to 1.
6. Explain regression and classification with linear models.

SECTION-C

7. What are uninformed search techniques? How are they different from heuristic search? Compare different uninformed search strategies.
8. Explain the process of knowledge acquisition in Expert Systems.
9. Explain :
 - a) Unification in first-order logic.
 - b) Markov Chain Simulation in Bayesian Networks.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.