

**B.Tech. – VIEP – COMPUTER SCIENCE AND
ENGINEERING (BTCSVI)**

Term-End Examination

00796

June, 2016

BICS-021 : ARTIFICIAL INTELLIGENCE

Time : 3 hours

Maximum Marks : 70

Note : Attempt any seven questions. All questions carry equal marks.

1. (a) What is Artificial Intelligence ? What are the various types of production systems ? 5
- (b) Describe the characteristics of production systems. 5
2. (a) Define the various knowledge representation methods. 5
- (b) Differentiate between forward chaining and backward chaining. In which situation are both preferred ? 5

3. Explain the concepts of planning with state space search. How does it differ from partial order planning? 10
4. What are the various types of reasoning methods? Also discuss Bayes' theorem. 10
5. (a) Discuss the performance of AO* algorithm and also discuss about various types of control strategies. 5
(b) Illustrate the use of first-order-logic to represent knowledge. 5
6. (a) Explain MiniMax procedure. 5
(b) Describe Alpha-beta pruning and give the other modifications to the MiniMax procedure to improve its performance. 5
7. (a) Define the rules of Modus Ponens and Modus Tollens. 5
(b) What is a Skolem function? Explain with an example. 5
8. (a) State and explain the logic for Non-monotonic Reasoning. 5
(b) Explain the Goal Stack Planning with an example. 5

9. What is an expert system ? Explain in short the working of DENDRAL and MYCIN. Also discuss the concept of uncertainty in expert systems. 10

10. Write short notes on any *two* of the following : 2×5=10

- (a) Fuzzy Logic
 - (b) Explanation based Learning
 - (c) A* Algorithm
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