



**III B.Tech I Semester Supplementary Examinations, July/August 2021****ARTIFICIAL INTELLIGENCE****(Common to CSE & IT)****Time: 3 hours****Max Marks: 70****Answer any FIVE questions. All questions carry equal marks****5 \* 14 = 70 Marks**

1. (a) Differentiate between the depth first search and breadth first search with the help of suitable example. [14]  
(b) Explain the concept of utility-based agent with an example.
2. (a) Justify the need for computable functions and predicates in logic. [14]  
(b) How forward chaining is different from backward chaining inference method? [14]
3. (a) Explain Bayesian networks with example. [14]  
(b) How do AI systems deal with uncertainty? Explain with an example. [14]
4. (a) Explain advantages and disadvantages of Hidden Markov Model. [14]  
(b) Explain general model of learning agent with neat sketch. [14]
5. (a) Discuss about the information needed for visual control of a vehicle on a freeway. [14]  
(b) Define robot and explain properties of environments. [14]
6. (a) Explain about A\* algorithm in detail. [14]  
(b) Explain wumpus world with suitable example. [14]
7. (a) Explain conditional probability with example. [14]  
(b) What is supervised learning. Explain decision tree with example. [14]
8. (a) What are the desirable properties of knowledge representation? [14]  
(b) How do you represent knowledge in an uncertain domain? Explain. [14]

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