

## Fifth Semester B.E. Degree Examination, July/August 2022 Artificial Intelligence

Time: 3 hrs.

Max. Marks: 80

**Note:** Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. What is an AI Technique? Explain. (06 Marks)  
 b. State and explain Algorithm for Best First Search, with an example. (06 Marks)  
 c. Explain Production System. (04 Marks)

OR

- 2 a. State the algorithm for Steepest Ascent Hill Climbing with its disadvantages. (06 Marks)  
 b. Explain how AND – OR graphs are used in problem reduction. (06 Marks)  
 c. Explain Simulated Annealing. (04 Marks)

### Module-2

- 3 a. Explain the Frame problem. (06 Marks)  
 b. What is "Matching" in rule based system? Briefly explain different proposals for Matching. (06 Marks)  
 c. Explain mapping between Facts and Representation with example. (04 Marks)

OR

- 4 a. Write the algorithm to unify ( $L_1, L_2$ ). (06 Marks)  
 b. Write a note on Conflict Resolution. (06 Marks)  
 c. Write a note on Control Knowledge. (04 Marks)

### Module-3

- 5 a. Briefly explain the motivation for Fuzzy Logic. (06 Marks)  
 b. Write a note on Dempster Shafer Theory. (06 Marks)  
 c. Explain Abduction and Inheritance. (04 Marks)

OR

- 6 a. Define Semantic Networks. Explain with an example. (06 Marks)  
 b. State Baye's theorem. How it is used in statistical reasoning? Explain. (06 Marks)  
 c. Give the reasons to build large databases. (04 Marks)

### Module-4

- 7 a. Write a note on Iterative Deepening. (06 Marks)  
 b. List the rules of Conceptual Dependency. (06 Marks)  
 c. List the components of a Script. (04 Marks)

OR

- 8 a. Explain Conceptual Dependency. (06 Marks)  
 b. Write the algorithm for :  
     i) Depth first iterative deepening      ii) Iterative deepening – A\*. (06 Marks)  
 c. What is Global Ontology? Explain. (04 Marks)

**Module-5**

- 9 a. Distinguish between Semantic Grammars and Case Grammars with examples. (06 Marks)  
b. Explain Spell Checking techniques. (06 Marks)  
c. Explain Rote Learning. (04 Marks)

**OR**

- 10 a. Write a note on Decision Tree. (06 Marks)  
b. Define Learning and give the difference between Neural Net Learning and Genetic Learning. (06 Marks)  
c. Briefly explain four ways of handling sentences. (04 Marks)

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