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## Fifth Semester B.E. Degree Examination, June/July 2023 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 Artificial Intelligence? List the task domains of Artificial Intelligence. (06 Marks)  
b. Explain Means – Ends Analysis with an example. (06 Marks)  
c. Explain Production System. (04 Marks)

OR

- 2 a. Write a note on Water Jug Problem using Production Rules. (08 Marks)  
b. Explain how AND – OR graphs are used in Problem reduction. (04 Marks)  
c. Explain Depth – First search algorithm with an example. (04 Marks)

### Module-2

- 3 a. Explain and illustrate unification algorithm. (06 Marks)  
b. What are the properties of a good system for the representation of knowledge? (04 Marks)  
c. Discuss how forward reasoning is different from backward reasoning. (06 Marks)

OR

- 4 a. With an illustration explain the process of converting well formed formulas to clause form. (08 Marks)  
b. Write a note on : i) Conflict resolution ii) Logic programming. (08 Marks)

### Module-3

- 5 a. Define Frame. State the bayes theorem and explain the notations used. (06 Marks)  
b. Write a note on Justification based Truth Maintenance System (JTMS). (10 Marks)

OR

- 6 a. Write a note on closed world assumption. (06 Marks)  
b. Explain Bayesian network. (10 Marks)

### Module-4

- 7 a. Explain the Conceptual dependency representation of an event or action. (08 Marks)  
b. What is Script? Write a script for ordering scene in Restaurant. (08 Marks)

OR

- 8 a. Explain MINMAX Search procedure. (08 Marks)  
b. Write a note on Iterative deepening. (04 Marks)  
c. Give the reasons to build large databases. (04 Marks)

### Module-5

- 9 a. Enlist and explain different components of natural language understanding process. (08 Marks)  
b. How can a program get better without the aid of a teacher? (08 Marks)

OR

- 10 a. Write a note on Analogy. (05 Marks)  
b. Which are the capabilities of expert systems? (04 Marks)  
c. Distinguish semantic and ease grammars. (07 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.