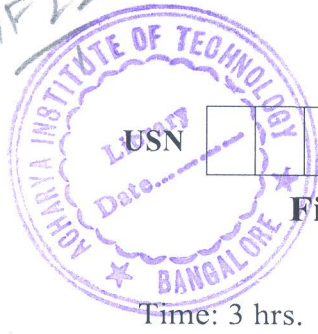


# CBCS SCHEME

15CS562



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## Fifth Semester B.E. Degree Examination, Aug./Sept.2020 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. Define Artificial Intelligence. Classify the task domains of Artificial Intelligence. (04 Marks)  
b. List the properties of Knowledge. (04 Marks)  
c. Discuss the production rules for solving the Water – jug problem. (08 Marks)

OR

- 2 a. Briefly discuss any four problems characteristics. (06 Marks)  
b. Write an algorithm for : i) Steepest – Ascent hill climbing with example. (10 Marks)  
ii) Best – First search with example.

### Module-2

- 3 a. Discuss any two approaches of Knowledge representation. (08 Marks)  
b. Consider the following sentences :  
i) John likes all kinds of food    ii) Apples are food    iii) Chicken is food  
iv) Anything anyone eats and isn't killed by is food.  
v) Bill eats peanuts and is still alive    vi) She eats everything Bill eats.  
Translate these sentences into formulas in predicate logic. (08 Marks)

OR

- 4 a. In brief, discuss forward and backward reasoning. (10 Marks)  
b. Write a resolution algorithm for predicate logic. (06 Marks)

### Module-3

- 5 a. Explain the two approaches of default reasoning. (10 Marks)  
b. Define Baye's theorem. (06 Marks)

OR

- 6 a. Explain Bayesian Networks. (06 Marks)  
b. What is semantic net? List the uses of semantic net. (05 Marks)  
c. Construct partitioned semantic net representation of "Every batter hit a ball". (05 Marks)

### Module-4

- 7 a. What is Conceptual Dependency (CD)? How do you represent Conceptual Dependency? (08 Marks)  
b. What is Script? Write a script for ordering scene in restaurant. (08 Marks)

OR

- 8 a. Briefly explain minmax search procedure. (08 Marks)  
b. Discuss iterative deepening and provide algorithm for depth first iterative deepening. (08 Marks)

### Module-5

- 9 a. Explain the steps of natural language understanding process. (08 Marks)  
b. Discuss the spell checking techniques. (08 Marks)

OR

- 10 a. Write a short note on : i) Rote learning    ii) Learning by taking advice. (08 Marks)  
b. How to built expert system efficiently? (08 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.