

# CBCS Scheme

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15CS562

## Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018 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. State the algorithm for steepest ascent hill climbing along with its disadvantages. (06 Marks)  
b. Solve the following cryptarithmic problem: SEND + MORE = MONEY. (10 Marks)

OR

- 2 a. Define Artificial Intelligence, and list the task domains of artificial intelligence. (04 Marks)  
b. Explain four categories of production system. (04 Marks)  
c. Explain problem characteristics with respect to heuristic search. (08 Marks)

### Module-2

- 3 a. Explain the frame problem. (06 Marks)  
b. Write the algorithm for conversion to clause form. (10 Marks)

OR

- 4 a. Define Horn clause and give the syntactic difference between PROLOG and logic. (04 Marks)  
b. Write the algorithm to unify ( $L_1, L_2$ ). (06 Marks)  
c. Write a note on conflict resolution. (06 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. Define conceptual dependency, mention its goals along with representation. (06 Marks)  
b. Write the algorithm for minimax (position, depth, players) and explain. (10 Marks)

OR

- 8 a. Write the algorithm for  
i) Depth first iterative deepening ii) Iterative deepening - A\* (06 Marks)  
b. Write a note on global ontology. (10 Marks)

### Module-5

- 9 a. Explain classification of spell checking techniques. (06 Marks)  
b. Explain knowledge acquisition. (10 Marks)

OR

- 10 a. Briefly explain four ways of handling sentences. (04 Marks)  
b. Write a note on decision trees. (06 Marks)  
c. Write the algorithm for candidate elimination. (06 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.