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Roll No 0827CA16DD08

## MCADD-605

### M.C.A. (Integrated Course), VI Semester

Examination, May 2019

### Artificial Intelligence

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What is LISP? Discuss Lambda expression and function definition in LISP.  
b) Define Artificial Intelligence. List the applications of Artificial Intelligence.
2. a) There are two jugs, a 5 gallon and other a 3 gallon with no measuring marker on them. There is endless supply of water through the tap goal is to get 4 gallons of water in the 5 gallon jug. Construct state space representation and solve the above water jug Problem.  
b) Explain hill climbing algorithm. Explain plateau, ridge local maxima and global maxima.
3. a) Explain the A\* algorithm to solve a problem.  
b) Apply constrain satisfaction method to solve the following crypt arithmetic problem.  
SEND + MORE = MONEY

4. a) Consider the following sentences :
- i) John likes all kinds of food
  - ii) Apples are food
  - iii) Chicken is food
  - iv) Any thing anyone eats and isn't killed by its food
  - v) Bill eats peanuts and is still alive
  - vi) Sue eats every thing bill eats
- 1) Translate these sentences into formula in predicate logic.
  - 2) Prove that john likes peanuts using Resolution.
- b) Write a script of going to a multiplex to watch a movie.
5. a) Explain the semantic nets and make the partitioned semantic net for the following sentence.  
"Every dog in town has bitten the constable"
- b) What do you understand by conceptual dependency?
6. a) Explain alpha-beta cut-offs algorithm with example.
- b) Explain Natural language processing. What are the levels of knowledge used in language understanding?
7. a) Explain Expert system. Differentiate between expert systems and decision support systems.
- b) Explain probabilistic reasoning and derive Bayes theorem.
8. Write short notes (any three)
- a) Frame
  - b) Learning
  - c) MYCIN
  - d) Planning
  - e) AND/OR graph