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Roll No. ....

MCA-V Sem.

## MCA-54

MCA Examination, Dec. 2014

Artificial Intelligence

[MCA-514(O)]

Time : Three Hours / [Maximum Marks : 100]

**Note :** Attempt **all** the sections as per instructions.

### Section - A

#### (Very Short Answer Questions)

**Note :** Attempt **all** questions. Each question carries 4 marks.  $4 \times 5 = 20$

1. (a) What is Artificial Intelligence.
- (b) What are different applications of artificial intelligence.

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2. What is best search process. Explain.
3. (a) Define WWF with an example.  
(b) Differentiate between propositional and FOL logic.
4. What is supervised and un-supervised learning. Explain.
5. 'We never test the same attribute twice along one path in a Decision Tree' why not?

### Section - B

#### (Short Answer Questions)

**Note :** Attempt any **two** questions. Each question carries 10 marks.  $10 \times 2 = 20$

6. Explain AO\* algorithm with an example.
7. What are different issues in knowledge representation. Explain.
8. What are different models in parameter learning with complete Data. Explain each in details.

### Section - C

#### (Detailed Answer Questions)

**Note :** Attempt any **three** questions. Each question carries 20 marks.  $20 \times 3 = 60$

9. (a) What is hill climbing algorithm. Explain.  
(b) What are problems encountered during hill climbing and what are ways available to deal with these problems.
10. Explain the use of Hidden-Markov Models in speech recognition.
11. Explain unification algorithm used for reasoning under predicate logic with an example in details.
12. (a) Explain Naive Bayes Models.  
(b) What is the general form of EM algorithm.



13. (a) What is Reinforcement learning. What are its types.

(b) What are Design principles of pattern recognition system.