

Roll No.

Subject Code—679-X

M.C.A. (Fourth Year) EXAMINATION

(5 Years Integrated Course)

(Re-appear)

MCA-402

ARTIFICIAL INTELLIGENCE

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. What is Artificial Intelligence ? Explain the scope of AI in various areas. **20**
2. (a) Write the algorithm for the Hill climbing. Discuss the problems of Hill climbing technique and also discuss the techniques to overcome these problems.
(b) What are production system and control strategies ? Mention characteristics. **10+10**

(2-47)

P.T.O.

3. (a) Define minimax strategy of game playing with alpha-beta cutoffs.
(b) Show how means-end analysis could be used to solve the problem of getting from one place to another. Assume the available operators—walk, drive, take a bus, take a cab, fly. **10+10**
4. Write notes on the following :
(a) Skolem function
(b) Unification algorithm
(c) Modes ponens and Modes tolen
(d) Resolution. **5+5+5+5**
5. (a) Differentiate between forward reasoning and backward reasoning.
(b) What are the rule based systems ? What do you mean by conflict resolution in rule based systems ? **10+10**
6. (a) What are salient features of a knowledge representation system ? Discuss semantic nets as knowledge representation scheme. How does it lead to property of inheritance ?
(b) Compare and contrast scripts and frames. **14+6**

7. What do you understand by learning ? Explain the learning by induction using suitable examples. **20**

8. Write short notes on the following :

- (a) Knowledge acquisition in expert system
(b) Genetic algorithm and operators
(c) Neural nets. **8+7+5**