

Roll No.

Subject Code—2082

M.C.A. (Fourth Year) EXAMINATION

(5 Years Integrated Course)

MCA-402

ARTIFICIAL INTELLIGENCE

Time : 3 Hours

Maximum Marks : 100

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

1. (a) Differentiate between artificial intelligence and human intelligence.
6+14
(b) Explain natural language understanding and processing. Also give brief description of Natural language analysis techniques.
2. (a) Define Heuristic search. Explain Hill climbing search with its associated problems and also mention their solutions.

10+10

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P.T.O.

- (b) Define minimax strategy of game playing with alpha-beta cutoffs.
3. Write short notes on the following : 5+5+5+5
- (a) Unification
 - (b) Modus ponens
 - (c) Skolemizing function
 - (d) Resolution.
4. (a) Explain the algorithm to convert WFF's into clause form. 10+10
- (b) Explain the working of forward and backward reasoning with suitable example.
5. (a) What are salient features of a knowledge representation system ? Discuss semantic nets as a knowledge representation system. How does it lead to property inheritance ? 14+6
- (b) Compare and contrast scripts and frame.
6. (a) What do you understand by neural network ? Explain neural network architecture. 10+10

(b) Define fuzzy logic. How does this logic differ from conventional logic ? How is it useful in dealing uncertainty ?

7. What is Learning ? What are the different types of learning ? Why do we still use inductive learning even though it is not a valid form of learning ? Differentiate between selective, constructive and expedient induction.

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8. (a) Explain the expert system and its architecture. Discuss the need and life cycle of expert system. 14+6

(b) Write a short note on MYCIN expert system.