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Roll No

MCA-401

M.C.A. IV Semester

Examination, June 2020

Artificial Intelligence and Applications

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Define Artificial intelligence. Also discuss its applications.
b) What is LISP? Why it is used in AI? Give some examples of applications built in LISP.
2. a) Explain Heuristic functions. Give Heuristic function for 8-puzzle problem.
b) Explain Hill climbing method. Compare it with generate and test method.
3. a) Explain terms F, SOLVED and FUTILITY in AO* algorithm with example.
b) Explain constraint satisfaction with example.
4. a) Convert the following sentences in predicate logic
 - i) Marcus was a man
 - ii) All men are mortal
 - iii) No mortal lives longer than 150 years
 - iv) 5 is an odd number
 - v) All prime numbers are divisible by 1 and number itself only
b) Explain Game playing with example.

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5. a) Explain the following terms in Game playing with examples
 - i) Minimax (Position, Depth, Player)
 - ii) Deep-enough (Position, Depth)
- b) What are the components of Planning systems? Explain.

6. a) What are the essential characteristics of a Knowledge representation system? Also write some common schemes of knowledge representation.
- b) Discuss various problems in representing knowledge.

7. a) Explain Alpha-beta cutoffs in game playing with example.
- b) Parse the following sentence :
 - i) Bill printed the file
 - ii) Sunil is good boy

8. Write short notes on any three
 - a) Rote learning
 - b) Applications of expert system
 - c) Understanding
 - d) Recursive transition nets

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