B.TECH. DEGREE EXAMINATION, MAY 2010

Eighth Semester

Branch—Computer Science and Engineering/I.T.

ARTIFICIAL INTELLIGENCE (RT)

(Regular/Supplementary)

Time : Three Hours   Maximum : 100 Marks

*Answer **all** questions.*

Part A

Each question carries 4 marks.

1. Define AI and problem space.

2. What is meant by Breadth first search and uniform cost search ?

3. What is meant by heuristic functions ?

4. What is meant by simulated Annealing ?

5. Discuss knowledge structure.

6. What is meant by imperfect decisions ?

7. What does 'description logics' mean with difference to knowledge representation ?

8. Compare forward chaining and backward chaining.

9. What is Meta predicates ?

10. How facts are represented in prolog ?

(10 × 4 = 40 marks)

Part B

*Answer any **four** questions.*
Each question carries 12 marks.

11. Explain how to define a problem as a state space search, with a suitable example.   (12 marks)

Or

12. Explain Depth-limited search and Bidirectional search.   (12 marks)

13. What is meant by heuristic function and explain heuristic for constraint satisfaction problem ?

(12 marks)

Or

Turn over

14. Explain the following :—

    (a)   Hill climbing.   (6 marks)

    (b)   Simulated Annealing.   (6 marks)

15. Discuss Game playing and knowledge structures.   (12 marks)

Or

16. Briefly discuss the alpha-beta algorithm with suitable examples illustrating the cut-off's clearly.

                                      (12 marks)

17. (a) Discuss inference rules involving quantifiers.   (6 marks)

    (b) Discuss unification algorithm.   (6 marks)

Or

18. Write notes on :

    (a)   Modus ponens.   (6 marks)

    (b)   Resolution.   (6 marks)

19. Discuss alternative strategies in prolog.   (12 marks)

Or

20. Write notes on semantic nets and frames in prolog.   (12 marks)

                                     [5 × 12 = 60 marks]