F 3545 (Pages : 2) Reg. No..................................

Name.....................................

B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Eighth Semester

Branch : Computer Science and Engineering/Information Technology

ARTIFICIAL INTELLIGENCE (RT)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours   Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 marks.

1. What is a well-defined problem ?

2. Distinguish between BFS and DFS.

3. What is an informed search ?

4. Describe the A* algorithm.

5. What is a semantic net ? Give an example. Represent the following sentence in partitioned semantic net "The dog bit the mail carrier".

6. List out and explain any *two* state-of-art game programs.

7. What do you mean by quantifiers ? Explain. Write the following sentence in first-order logic using quantifiers "There is a person who loves everyone in the world".

8. What is modus ponens? Give example.

9. What do you meant by ADT stack in prolog ? What are the various operators used in ADT stack ?

10. How do you implement DFS in prolog ?

                                                            (10 × 4 = 40 marks)

Part B

Answer **all** *questions.*
Each question carries 12 marks.

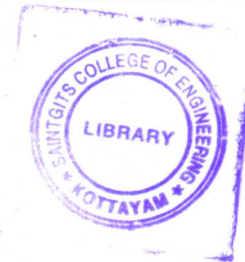11. Explain the application areas of AI.

Or

12. Describe Uniform cost search and Depth-limited search.

13. What is the use of heuristic function ? Explain heuristic for constraint satisfaction problem.

Or

14. Describe the following :—

    (a) Iterative deepening.   (6 marks)

    (b) Simulated annealing.   (6 marks)

15. Briefly explain frames.

Or

16. Describe alpha-beta pruning with suitable example.

17. Describe unification with example.

Or

18. Explain the methods of forward and backward chaining.

19. Explain the following

    (a) Best-first search in prolog.   (6 marks)

    (b) ADT queue in prolog.   (6 marks)

Or

20. What is a Meta interpreter ? Explain semantic net and frames in prolog.

$[5 \times 12 = 60 \text{ marks}]$