

B.TECH. DEGREE EXAMINATION, MAY 2014**Seventh Semester**

Branch : Applied Electronics and Instrumentation / Electronics and Instrumentation Engineering

ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM (Elective I) (AS)

Time : Three Hours

Maximum : 100 Marks

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

1. Explain tower of Hanoi problem.
2. A problem solving search can proceed either forward or backward. What factors determine the choice of direction for a particular problem?
3. Is the minmax procedure a depth first or breadth first procedure? Justify your answer.
4. Explain best first search.
5. Define Fuzzi logic.
6. Define WWF with an example.
7. Explain in detail about Semantic net with its types and application.
8. Show a conceptual dependency representation of the sentence – Mary begged John for a pencil.
9. Describe some of the limitations of expert system.
10. Why is it easier to correct mistakes in expert system than in conventional program?

(10 × 4 = 40 marks)

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

11. Explain AI application in detail.

Or

12. Show how Mean end Analysis could be used to solve the problem of getting from one place to another. Assume that the available operators are walk, drive, take the bus, take a cab and fly.
13. Write a black track algorithm for AND/OR graph.

Or

14. Implement α - β search procedure using simple game like tic-tac-toe.

Turn over



15. Write unification algorithm. Describe resolution with unification.

Or

16. (a) How will you represent facts in propositional logic with an example.

(b) Explain resolution in brief with an example.

(6 + 6 = 12 marks)

17. Explain different methods of learning.

Or

18. Draw a Semantic net for the following given statement – scooter is a two wheeler and it is a moving vehicle. Vehicle needs an engine, a fuel system to sustain the engine running, an electric system for its lights, horn and breaks.

19. Discuss about the structure of expert system.

Or

20. Give the advantage of expert system. Explain it with the help of a case study.

[5 × 12 = 60 marks]

