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B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2003.

Fourth Semester

Computer Science Engineering

CS 240 — ARTIFICIAL INTELLIGENCE

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Define Artificial Intelligence.

2. What are the requirements by a computer to pass a Turing Test?

3. Define an agent.

4. Define First Order Logic.

5. What is universal quantification?

6. Define Frames.

7. Define Orderability.

8. Define Decomposability.

9. What is Bayesian Learning?

10. What is meant by Neural Networks?

PART B — ($5 \times 16 = 80$ marks)

11. Explain in detail, partial order planning with suitable examples.

12. (a) What is a Heuristic search? How does it simplify learning or knowledge representation?

Or

(b) Explain perfect decision in Game playing. Give an example.

13. (a) Explain in detail the wumpus world environment. Discuss model based agents and goal based agents.

Or

(b) How are the hidden properties of a world deduced in terms of its qualities?

John went out to a restaurant last night. He ordered steak. When he paid for it, he noticed that he was running out of money. He hurried home since it had started to rain.

What are the hidden messages and how do you infer it?

14. (a) What are the major issues in knowledge representation? Also discuss about the reasoning techniques to learn value functions.

Or

(b) Discuss frame based knowledge base and translate it into a logic. Make use of the trait of inheritance with exceptions. How is change or updation feasible?

15. (a) (i) Medical field is inexact science. First order logic cannot be directly applied with a domain like medical diagnosis. Is the above statement acceptable? Justify your answer.

(ii) Discuss on the nature of probabilistic inferences with four patterns of reasoning.

Or

(b) How to represent vagueness? Discuss how learning and planning be improved applying neural nets and genetic algorithms besides Fuzzy logic.
