B 267

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Fourth Semester

Computer Science and Engineering

CS 240 — ARTIFICIAL INTELLIGENCE

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. Define rational agent.
2. Why does one go for heuristic search?
3. What is the application of Best First search?
4. What do you understand by logical reasoning?
5. Why does one go for cognitive modeling?
6. What is meant by inverse links?
7. How is uncertainty knowledge represented? Give an example.
8. What is non-monotonic reasoning?
9. How to represent experience using learning techniques?
10. What are the operators in Genetic Programming?

PART B — ($5 \times 16 = 80$ marks)

11. (i) Can robots replace human beings? Justify your answer. (4)

    (ii) With reference to understanding, learning, testing and performance during actual test, how do Intelligent Machines perform on encountering strange situations? Compare the performance of a man and a machine under normal situation and ub-normal conditions. (12)

12. (a) (i) Write an algorithm for Best First search. When does one prefer it? Also discuss A^* algorithm. (12)

    (ii) What is meant by state space search? (4)

    Or

    (b) Explain learning in problem solving. Do Heuristic technique simplify problem solving?

13. (a) (i) How are facts represented using prepositional logic? Give an example. (10)

(ii) Describe Non-monotonic logic with an example. (6)

Or

(b) (i) What is meant by PEAS? (4)

(ii) List out few agent types and describe their PEAS? (12)

14. (a) (i) What do you understand by soft computing? (4)

(ii) Differentiate conventional and formal learning techniques / Theory and learning via forms of reward and punishment. (12)

Or

(b) (i) Discuss partial order planning with unbound variables. (6)

(ii) With reference to planning discuss progression and regression. (6)

(iii) What are the languages suited for planning? (4)

15. (a) (i) How do deal with uncertainty? (6)

(ii) How to further proceed to decision-making? (10)

Or

(b) (i) Explain frames with an example. (8)

(ii) Explain the control knowledge with reference to knowledge representation. (8)
