

Reg. No. : _____

Question Paper Code : 71390

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2015.

Sixth Semester

Computer Science and Engineering

CS 2351/CS 61/10144 CS 601 – ARTIFICIAL INTELLIGENCE

(Common to Seventh Semester – Electronics and Instrumentation Engineering/Instrumentation and Control Engineering/Information Technology)

(Regulation 2008/2010)

(Common to PTCS 2351/10144 CS 601 – Artificial Intelligence for B.E. (Part-Time) Sixth Semester – Computer Science and Engineering – Regulation 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Ideal Rational agents
2. Why Problem formulation must follow goal Formulation?
3. Differentiate Forward Chaining and Backward Chaining.
4. What is the use of Online search agent in unknown environment
5. Define Partial order Planner
6. What are the differences and similarity in problem solver and planner?
7. List down the applications of Bayesian network.
8. Define Uncertainty. How it is solved?
9. What are the methods of Statistical learning?
10. State the advantages of Inductive learning.

11. (a) (i) Explain any two Informed Search Strategies. (10)
(ii) Discuss about Constraint satisfaction Problem. (6)

Or

- (b) Explain the following uninformed search Strategies (6)
(i) Depth first Search (6)
(ii) Iterative Deepening Depth First Search. (6)
(iii) Bidirectional Search. (4)

12. (a) Explain Forward chaining and Backward chaining algorithm with an example.

Or

- (b) (i) Illustrate the use of First Order Logic to represent Knowledge. (10)
(ii) Write Short note on Unification (6)

13. (a) Explain the concept of planning with state space search using suitable examples. (16)

Or

- (b) Explain the use of planning graph in providing better heuristic estimation with suitable example. (16)

14. (a) (i) Explain the Inference in Temporal models. (10)
(ii) Write short notes on Hidden Markov model. (6)

Or

- (b) Explain about the exact inference in Bayesian networks. (16)

Construct Decision tree from the given data

| Department | Age | Salary | Count | Status |
|------------|---------|-----------|-------|--------|
| Sales | 31...35 | 46K...50K | 30 | Senior |
| Sales | 26...30 | 26K...30K | 40 | Junior |
| Sales | 31...35 | 31K...35K | 40 | Junior |
| Systems | 21...25 | 46K...50K | 20 | Junior |
| Systems | 31...35 | 66K...70K | 5 | Senior |
| Systems | 26...30 | 46K...50K | 3 | Junior |
| Systems | 41...45 | 66K...70K | 3 | Senior |
| Marketing | 36...40 | 46K...50K | 10 | Senior |
| Marketing | 31...35 | 41K...45K | 4 | Junior |
| Secretary | 46...50 | 36K...40K | 4 | Senior |
| Secretary | 26...30 | 26K...30K | 6 | Junior |

Or

- (b) Explain in detail about Active and Passive Reinforcement learning. (16)
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