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**Question Paper Code : 21390**

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

(Regulations 2008/2010)

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

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention how the search strategies are evaluated.
2. Define admissible and consistent heuristics.
3. Give the basic concepts of logic.
4. Define any two inference rules.
5. Give the elements of a search-based problem-solver with their meaning.
6. Define. Contingency planning.
7. What is Uncertainty? Why does this Uncertainty arise?
8. Define. Belief network with its usage.
9. What is inductive learning?
10. Describe statistical learning methods.

PART B — (5 × 16 = 80 marks)

11. (a) Define. Agents. Specify the PAGE descriptions for intelligent agent design with examples and explain basic types of agents. (16)

Or

- (b) Analyze the uninformed search algorithms with respect to different criteria. Explain heuristics for constraint satisfaction problems. (16)
12. (a) Write the forward-chaining and backward chaining inference algorithms and explain with your own sentences to form knowledge in both algorithms. (16)

Or

- (b) Show whether Curiosity kill the cat or not with conversion and resolution refutation procedure on the following statements.

Jack owns a dog.

Every dog owner is an animal lover.

No animal lover kills an animal.

Either Jack or Curiosity killed the cat, who is named Tuna. (16)

13. (a) What is partial-order planning? Describe the algorithm for partial-ordering and explain with example. (16)

Or

- (b) How would a replanning approach to chess work? What might be an appropriate way to combine conditional planning and replanning for chess? (16)

14. (a) Explain the inferences in Bayesian network. (16)

Or

- (b) State and compare Temporal model and Hidden Markov model. (16)

15. (a) Give the role of explanation based learning. How does explanation based learning process work? Explain with example. (16)

Or

- (b) Is reinforcement learning an appropriate abstract model for human learning? Explain. (16)