F–12091

Register No. | | | | | | | | |

BTech Degree Examination November 2016

Fifth Semester

Information Technology

14CSE02 – ARTIFICIAL INTELLIGENCE

(Regulations 2014)

Time: Three hours Maximum: 100 marks

Answer all Questions

Part – A (10 × 2 = 20 marks)

1. How to improve the effectiveness of a search-based problem solving techniques?
2. Give PEAS parameters of i) English Tutor ii) Cricket Player.
3. Write the following sentences using predicate logic \
   i) Everyone likes sweet ii) Kumar is a brother of Anamika and Suresh.
4. State the purpose of memoization in backward chaining system.
5. What problem in the environment is approached by conditional planning?
6. What is multi agent planning? Give an example.
7. List some rules of inference using full joint distribution.
8. State utility theory.
9. Write the mathematical model of neuron. Indicate the role of each component.
10. List the components of learning agent.

Part – B (5 × 13 = 65 marks)

11. a. What are the properties of task environments? Give a brief description of these properties. Write the characteristics of the following task environments. (13)
    i) Robot soccer player ii) internet book shopping agent iii) medical diagnosis iv) part-picking robot.

    (OR)

    b. i) Explain the steps involved in A* search. Give suitable illustration to support your explanation. (6)

    ii) Give an account on Constraint Satisfaction Problem (CSP). Explain how backtracking search can be used for CSP. Write the algorithm. (7)

12. a. Explain the backward chaining algorithm. Trace the algorithm when it is applied to solve the crime problem. Show the sequence of values taken on by the goals variable, and arrange them into a tree. (13)

    The criminal problem is "The law rays that it is a crime for an American to sell weapons to hostile nations. The country Nono, an enemy of America, has some missiles, and all of its missiles were sold to it by colonel west, who is American".