Code No: 157AM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, January/February - 2023
ARTIFICIAL INTELLIGENCE
(Computer Science and Engineering)

Time: 3 Hours   **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
    ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
    iii) In Part B, Answer any one question from each unit. Each question carries 10 marks
       and may have a, b as sub questions.

PART – A

                                                      (25 Marks)

1.a)   What is well defined problem?   [2]
  b)   Define search tree and write its properties.   [3]
  c)   What is game tree?   [2]
  d)   Explain evaluation function.   [3]
  e)   Define atomic and complex sentence in first order logic.   [2]
  f)   What is First order logic?   [3]
  g)   Define temporal constraints.   [2]
  h)   Explain classical planning.   [3]
  i)   Define over fitting.   [2]
  j)   State Baye's rule.   [3]

PART – B

                                                      (50 Marks)

2.a)   What is simple problem solving agent? Explain it briefly.
  b)   Discuss Greedy best first search algorithm.   [5+5]
                                        OR
3.a)   What is bidirectional search ? Explain in detail.
  b)   Explain Breadth First Search algorithm with an example.   [5+5]

4.a)   Elaborate on knowledge based agents.
  b)   Explain CSP problem for job scheduling.   [5+5]
                                        OR
5.a)   What is Resolution? Explain Resolution algorithm for Proposition logic.
  b)   Explain backtracking searching technique.   [5+5]

6.a)   Explain quantifier estimates and its types.
  b)   Analyze the steps in knowledge-engineering process.   [5+5]
                                        OR
7.a)   Explain reasoning with default information.
  b)   Write simple forward chaining algorithm.   [5+5]

8.a) Discuss regressive relevant state space search.
  b) What is Graph Plan? Explain in detail. [5+5]

OR

9.a) Describe multi agent planning.
  b) Give the solution for scheduling planning. [5+5]

10.a) Explain inductive logic programming.
  b) Describe Bayesian networks in detail. [5+5]

OR

11.a) What is Decision tree? Explain steps to construct to Decision tree.
  b) Explain the issues in decision tree learning. [5+5]

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