BRAINWARE UNIVERSITY

Term End Examination 2022
Programme – B.Tech.(ECE)-2019
Course Name – Artificial Intelligence and Machine Learning
Course Code - OEC701A
(Semester VII)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question)   1 x 15=15

1. *Choose the correct alternative from the following :*

 (i)   The limited number of unambiguous states of the environment, then the nature of that environment is known as_____.

   a) Discrete   b) Continuous
   c) Static   d) Dynamic

 (ii) The car driving indicates which category of environment?

   a) Discrete   b) Continuous
   c) Static   d) Dynamic

 (iii) The test environment ,where one real and artificial agents are simultaneously tested?

   a) Utility based Test environment   b) Turing Test environment
   c) Model based Test environment   d) None of these

 (iv) State space is composition of?

   a) Decision-making algorithm   b) Learning algorithm
   c) Complex algorithm   d) Both Decision-making & Learning algorithm

 (v)   A state space search is formulated by _____ .

   a) Intermediate state   b) Initial state
   c) Successor function, which takes current   d) None of these
      action and returns next immediate state

 (vi) The sum of initial state and goal state creates a_____.

   a) Problem Space   b) Problem instance
   c) Problem Space Graph   d) None of these

 (vii) Give the name of agent that enables the deliberation about the computational entities and actions?

   a) Hybrid   b) Reflective
   c) Relational   d) None of the mentioned

 (viii) The value of alpha-beta search get updated-

   a) Along the path of search   b) Initial state itself
   c) At the end   d) None of the mentioned

 (ix) Supervised learning process uses

a) labeled data   b) unlabeled data
c) labeled knowledgebase   d) unlabeled knowledgebase

(x)   Pattern recognition system is done by

a) Expert Systems   b) Natural Language Processing
c) Neural Networks   d) Robotics

(xi) The heuristic function is

a) f=h   b) f=h+g
c) f>g   d) f<g

(xii) Limitation of propositional logic can be removed by

a) Pre-Propositional Logic   b) Boolean Logic
c) First-Order-Predicate Logic   d) None of these

(xiii) Only Competitive and Cooperative Environment

a) Two-valued logic   b) Crisp set logic
c) Many-valued logic   d) Binary set logic

(xiv) What is Artificial intelligence?

a) Putting your intelligence into Computer   b) Programming with your own intelligence
c) Making a Machine intelligent   d) Playing a Game

(xv) What is the rule of simple reflex agent?

a) Simple-action   b) Condition-action rule
c) Both a & b   d) None of the mentioned

Group-B
(Short Answer Type Questions)   3 x 5=15

2. Explain DFS with iterative deepening in AI.   (3)
3. Explain with some example about different types of production system?   (3)
4. Write and explain the characteristics of AI Problem   (3)
5. Differentiate DFS and BFS with an example   (3)
6. Justify the fundamental goal of Knowledge Representation in AI   (3)

OR

"The goal of AI is to enable the machine to think without any human intervention."-Justify   (3)
statement with your own view.

Group-C
(Long Answer Type Questions)   5 x 6=30

7.   What is Goal based agent? Create an example.   (5)
8.   Define the advantages of an expert system.   (5)
9.   Explain Dempster-Shafer theory of uncertainty management.   (5)
10. Contruct the relationship between machine learning and artificial intelligence?   (5)
11. Illustrate Simulated Annealing with the help of an example.   (5)
12. Explain knowledge based system in the context of artificial intelligence?   (5)

OR

Â Explain depth first search with an example and compare with Depth Limited Search.   (5)

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