H

TBC–403

B. C. A. (FOURTH SEMESTER)
MID SEMESTER EXAMINATION,
April/May, 2022

INTRODUCTION TO ARTIFICIAL
INTELLIGENCE AND MACHINE LEARNING

Time : 1½ Hours
Maximum Marks : 50

Note : (i)   Answer all the questions by choosing any *one* of the sub-questions.

     (ii)   Each question carries 10 marks.

1.   (a)   Define in your own words :

10 Marks (CO1)

      (i)   Artificial Intelligence

      (ii)   Intelligent Agent

      (iii) Rationality

      (iv) Rational Agent

      (v)   Task Environment

P. T. O.

OR

(b) What were the reasons for the first AI winter ? 10 Marks (CO1)

2. (a) What do you mean by task environment ? Differentiate between deterministic and stochastic environment with examples.

10 Marks (CO1)

OR

(b) Differentiate between the following environments with examples :

(i) Fully observable vs. Partially observable

(ii) Single agent vs. Multi agent

(iii) Static vs. Dynamic

3. (a) Differentiate between blind search and heuristic search. 10 Marks (CO2)

OR

(b) Explain minimax algorithm in detail.

10 Marks (CO2)

4. (a) How do you formulate a problem ? Explain why problem formulation must follow goal formulation. 10 Marks (CO1)

OR

(b) Explain PEAS description of an Environment. Develop PEAS description of the ask environment for the following : Internet book shopping agent.

10 Marks (CO1)

5. (a) Differentiate between admissible heuristics and consistent heuristics.

10 Marks (CO2)

OR

(b) Differentiate between depth first and breadth first searching strategies.

10 Marks (CO2)

500