H   Roll No. ....

TCS–421

B. TECH. (CSE)
(FOURTH SEMESTER)
MID SEMESTER EXAMINATION,
April/May, 2022

FUNDAMENTAL OF STATISTICS AND AI

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) "Artificial Intelligence plays an important role almost in every field of real world". Justify the above statement by giving examples to support your answer.

    10 Marks (CO1)

    OR

    (b) With respect to Artificial Intelligence, explain the following and their importance

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as foundation part of Artificial Intelligence :   10 Marks (CO1)

(i) Mathematics

(ii) Philosophy

(iii) Psychology

2. (a) Define the term Agents in Artificial Intelligence. Explain all different types of Agents by giving examples of each.

10 Marks (CO1)

OR

(b) Write short notes on the following :

10 Marks (CO1)

(i) Problems in the development of AI applications

(ii) State Space Representation

3. (a) Define the term Problem Solving in Artificial Intelligence. Explain how Artificial Intelligence approach to solve the problem is different from procedural techniques for solving problem.

10 Marks (CO2)

OR

(b) Discuss the following with the help of an example :   10 Marks (CO2)

   (i) Breadth First Search (BFS)

   (ii) Depth First Search (DFS)

4. (a) Explain the following algorithms in Artificial Intelligence :   10 Marks (CO2)

   (i) A* Algorithm

   (ii) Hill Climbing Algorithm

OR

(b) What is the difference between Informed Search Algorithms and Uninformed Search Algorithms ? Explain in detail giving examples of each. 10 Marks (CO2)

5. (a) Explain the various components of an AI application or program in detail. Discuss the anatomy and structure of an Intelligent Agent.   10 Marks (CO1, CO2)

OR

(b) 'The   excessive   use   of   Artificial
Intelligence   and   various   AI   enabled
application can replace humans in the
future". Comment on the above statement.
Give examples to support your answer.

10 Marks (CO1, CO2)