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End Semester Examination, December 2024
B.TECH. CSE– III Semester
FUNDAMENTALS OF AI & ML (SEC034)

Time: 2.5 hrs.

Max Marks: **50**

Note: *All Questions are compulsory. Marks are indicated against each question.*

PART-A

Q.1 **Attempt any five questions:**

- (a) What do you understand by State Space Search. [CO-1] [L-1] **2**
- (b) Explain the relation between Artificial Intelligence, Machine Learning and Deep Learning. [CO-1] [L-2] **2**
- (c) What is the difference between Informed and Uninformed Search. [CO-1] [L-2] **2**
- (d) State differences between Classification and Regression. [CO-1] [L-2] **2**
- (e) Define heuristic function. [CO-1] [L-1] **2**
- (f) What is Artificial Intelligence and mention its key areas of application? [CO-1] [L-1] **2**
- (g) Explain activation function. [CO-1] [L-2]

2

2x5

PART-B

10x4=40

Q.2 What is Constraint Satisfaction Problem. Explain with the help of an example. [CO-2][L-2] **10**

OR

Explain the working of Breadth First Search (BFS) and Depth First Search. What are its advantages and limitations? [CO-2][L-2] **10**

Q.3 Explain Linear Regression Model with an example and elaborate how will you compute the accuracy of the model. [CO-3][L-4] **10**

OR

Explain Logistic Regression Model with an illustrative example and determine the calculation of accuracy of the model. [CO-3][L-2] **10**

Q.4 What do you mean by Machine Learning. Explain its various types with suitable examples. [CO-3][L-2] **10**

OR

What is Reinforcement Learning? What are the key components of a Reinforcement Learning problem? [CO- 5][L-2] **10**

Q.5 What is Natural Language Processing (NLP) and what are the key steps Involved? [CO-2][L-2] **10**

OR

What do you understand by Clustering and explain the types of Clustering in detail. [CO-4][L-3] **10**

