

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE – APRIL - 2024**

FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

[Maximum Marks : 75]

[Time : 3 hours]

PART-A

I. Answer all the following questions in one word or sentence. Each question carries 1 mark.

(9x1=9 marks)

		Module Outcome	Cognitive level
1	Define Machine Learning.	M1.01	R
2	List any two tools of Artificial Intelligence.	M1.04	R
3	List, tuple and range are type of theData Types.	M2.02	R
4	Write the output of the following Python code for i in range(4): print(i)	M2.02	A
5	Which keyword is used for function in Python language?	M2.03	R
6	List the unsupervised machine learning algorithms.	M3.02	R
7	What does K stand for in K-means algorithm?	M3.03	R
8	Which algorithm is used in the Game tree to make decisions of Win/Lose?	M4.02	R
9	Name the environment which is used to figure out the Adversarial search problems.	M4.02	R

PART B

II. Answer any Eight questions from the following. Each question carries 3 marks.

(8x3=24 marks)

		Module Outcome	Cognitive level
1	Explain any two AI models.	M1.04	U
2	Outline the significance of learning AI.(Any three)	M1.04	U
3	List the features of Python.	M2.01	R
4	Write a Python program to get the Fibonacci series between 0 and 50.	M2.02	A
5	Explain the following methods of supported by compiled regular expression objects with example. (a) search() (b) match() (c) findall()	M2.04	U
6	Explain the common methods to handle missing data in a dataset.	M3.04	U
7	What is 'naive' in the Naive Bayes Classifier?	M3.05	R
8	Compare classification and regression algorithms.	M3.02	U
9	Explain different types of searching algorithms in AI.	M4.01	U
10	Explain the properties of Mini-Max algorithm.	M4.02	U

PART C

Answer **all** questions from the following. Each question carries 7 marks.

(6x7=42marks)

		Module Outcome	Cognitive level
III	Explain supervised machine learning. OR	M1.02	U
IV	Explain the working of Reinforcement learning with an example.	M1.02	U
V	Demonstrate the following dictionary methods with an example. (a) get() (b) pop() (c) update() (d) values() OR	M2.03	U
VI	Explain the packages in python.	M2.03	U
VII	Explain the concepts of object oriented programming in python. OR	M2.04	U
VIII	Write a Python function to find the reverse of a string.	M2.03	A
IX	Explain the various techniques used in data preprocessing. OR	M3.04	U
X	Explain clustering in machine learning algorithms.	M3.02	U
XI	Explain linear regression algorithm with example. OR	M3.03	U
XII	Explain Random forest classification algorithm with diagram.	M3.05	U
XIII	Explain the working of Mini-Max algorithm. OR	M4.02	U
XIV	Build a bot to play last coin standing game.	M4.04	A
