VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 7023

B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – MAY / JUNE 2024
Fifth Semester
Electronics and Communication Engineering
U19ECV61 – ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
(Regulation 2019)

Time: Three Hours   Maximum: 100 Marks
Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	List down the characteristics of Intelligent agent.	2	K2	CO1
2.	What is artificial Intelligence?	2	K1	CO1
3.	Evaluate performance of problem solving method based on depth first search algorithm.	2	K2	CO2
4.	State the reason when hill climbing often gets stuck?	2	K1	CO2
5.	Define Machine learning.	2	K1	CO3
6.	What is Concepts of probability? What is the importance of it in ML?	2	K1	CO3
7.	What is a Neural Network (NN)? With an example, discuss most suitable NN application.	2	K1	CO4
8.	What is difference between Dimensionality reduction and Feature subset selection?	2	K1	CO4
9.	Write the equation for linear regression and basic functions.	2	K1	CO5
10.	Illustrate the Concept of Cognitive radio.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	How an AI problem is formally defined? List down the components of it.	13	K2	CO1

b)	i.	What is an agent? Explain the basic kinds of agent program.	7	K2	CO1
	ii.	Explain in detail, the structure of different intelligent agents.	6	K2	CO1
12.	a)	Discuss about constrain satisfaction problem with a algorithm for solving a crypt arithmetic problem.	13	K2	CO2

(OR)

b)		Explain the nature of heuristics with example. What is the effect of heuristics accuracy?	13	K2	CO2
13.	a)	List Regression Algorithms. Explain Linear Regression as Regression Model.	13	K2	CO3

(OR)

b)		Discuss the Classification Model in Supervised Machine Learning.	13	K2	CO3
14.	a)	Discuss about Clustering. Explain K-mean clustering algorithm.	13	K2	CO4

(OR)

b)		Explain key elements of unsupervised machine learning. Explain various function approximation methods.	13	K2	CO4
15.	a)	Perform a case study on the application of supervised ML in Cognitive Radio Network based on its effectiveness.	13	K3	CO5

(OR)

b)		Give a case study on deep learning automated ECG noise detection and classification.	13	K3	CO5

PART – C

(1 x 15 = 15Marks)

Q.No.		Questions	Marks	KL	CO
16.	a)	Discuss the major drawbacks of K-Nearest neighbor learning algorithm and how it can be corrected.	15	K2	CO4

(OR)

b)		Give a case study on the application of radar for target detection.	15	K2	CO5