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MCA
(SEM IV) THEORY EXAMINATION 2021-22
MACHINE LEARNING**Time: 3 Hours****Total Marks: 100****Note:** Attempt all Sections. If you require any missing data, then choose suitably.**SECTION A****1. Attempt all questions in brief. 2*10 = 20**

Q.no	Questions	CO
(a)	Define the term learning in Machine Learning.	1
(b)	List out the four issues in Machine Learning.	1
(c)	Describe logistic regression.	2
(d)	Explain the term Hyper Plane in SVM.	2
(e)	What is Instance Based Learning?	3
(f)	What is meant by information gain?	3
(g)	What is Perceptron in Artificial Neural Network?	4
(h)	Explain the function of Pooling Layer in CNN.	4
(i)	Identify four applications of reinforcement learning.	5
(j)	Define the term Mutation in Genetic Algorithm.	5

SECTION B**2. Attempt any three of the following: 10*3 = 30**

Q.no	Questions	CO
(a)	Explain the history of Machine Learning based on their application.	1
(b)	Explain Naïve bayes classifier and its principle.	2
(c)	List out the five Issues in Decision tree learning.	3
(d)	Differentiate between supervised and unsupervised learning.	4
(e)	Explain Markov decision process.	5

SECTION C**3. Attempt any one part of the following: 10*1 = 10**

(a)	How is clustering approach different from decision tree learning?	1
(b)	Describe the architecture of artificial neural network. State the learning parameters used in ANN.	1

4. Attempt any one part of the following: 10 *1 = 10

(a)	Explain in detail about Regression and its types.	2
(b)	What is the importance of support vector kernel? Explain its types.	2

5. Attempt any one part of the following: 10*1 = 10

(a)	Describe ID-3 algorithm with an example.	3
(b)	Explain k-Nearest Neighbor Learning algorithm with an example.	3

6. Attempt any one part of the following: 10*1 = 10

(a)	What is gradient descent problem? Explain its types.	4
(b)	Describe CNN architecture. Specify the function of each layer.	4

7. Attempt any one part of the following: 10*1 = 10

(a)	Explain in detail about Q-learning and Deep Q-learning.	5
(b)	Explain Genetic Algorithm cycle of reproduction with its components.	5