LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – COMPUTER SCIENCE

FIRST SEMESTER – NOVEMBER 2022

PCS1MC02 – MACHINE LEARNING USING PYTHON

Date: 25-11-2022   Dept. No.   Max. : 100 Marks
Time: 01:00 PM - 04:00 PM

	SECTION A		
	Answer ALL the questions		
1	**Answer the following**		**(5 x 1 = 5)**
a)	Define Machine Learning.	K1	CO1
b)	Differentiate supervised and unsupervised learning.	K1	CO1
c)	What is cross validation?	K1	CO1
d)	Define stemming.	K1	CO1
e)	Mention the limitation of the single layer perceptron.	K1	CO1
2	**Fill in the blanks**		**(5 x 1 = 5)**
a)	Finding the class label of a new observation is called _____	K2	CO1
b)	_____ used for dimensionality reduction.	K2	CO1
c)	_____ methods enable combining multiple model scores into a single score to create a robust generalized model.	K2	CO1
d)	In _____ representation the font size relates to its frequency.	K2	CO1
e)	_____is used to utilize the knowledge gained while solving one problem to solve a different but related problem.	K2	CO1
	SECTION B		
	Answer any THREE of the following in 500 words		**(3 x 10 = 30)**
3	Explain about Feature Engineering	K3	CO2
4	How to evaluate a classification Model? Explain	K3	CO2
5	Illustrate the k Fold cross validation with example.	K3	CO2
6	Illustrate about Data Exploration.	K3	CO2
7	Explain about reinforcement learning.	K3	CO2
	SECTION C		
	Answer any TWO of the following in 500 words		**(2 x 12.5 = 25)**
8	Explain in detail about linear Regression.	K4	CO3
9	Elaborate the k-means clustering with example	K4	CO3
10	Analyze the concepts of stacking and bagging.	K4	CO3
11	Elaborate the data pre-processing techniques for text mining	K4	CO3
	SECTION D		
	Answer any ONE of the following in 1000 words		**(1 x 15 = 15)**
12	Evaluate the KNN classification algorithm with example.	K5	CO4
13	Evaluate and explain about Ada Boost Algorithm.	K5	CO4
	SECTION E		
	Answer any ONE of the following in 1000 words		**(1 x 20 = 20)**
14	Construct the Random Forest classification algorithm with example	K6	CO5
15	Develop and explain the Convolutional Neural Networks.	K6	CO5

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