SATHYABAMA
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CONTINUOUS ASSESSMENT TEST - I

Program : B.E/B.Tech-CSE/IT **Max. Marks: 30**
Course : Machine Learning **Time : 1 Hour**
Course code : SCSA1601 **Sem : VI**
Batch : 2019-2023 **Date : 01.02.2022**

Part-A **Answer ALL the questions** **(5×2=10)**

Q.No	Questions	CO (L)
1.	Highlight various types of learning.	1(3)
2.	Criticize about Cross fold validation.	1(4)
3.	What do you infer from the word Underfitting.	1(3)
4.	Comment on LDA.	2(3)
5.	Why do your infer from the word Naïve in naïve bayes classification.	2(3)

Part-B **Answer ALL the questions** **(2×10=20)**

Q.No	Questions	CO (L)
6.	Discuss about PAC Learning. Highlight the tradeoff between Bias and Variarnce.	1(3)
	(OR)	
7.	Find linear regression equation for the following two sets of data: a) Plot the data. Do X and Y seem to have linear relationship? b) Predict the Y value when X=15 **X** 2 4 6 8 **Y** 3 8 5 10	1(5)
8.	Criticize "PCA is good for dimensionality reduction".	2(4)
	(OR)	
9.	Predict whether will buy computer or not using Naïve Bayes Classification for the given Dataset and X = {age = youth, Income = Medium, Student = yes, Creditrate = Fair}	2(5)

Given database:

Class-Labeled Training Tuples from the *AllElectronics* Customer Database

RID	*age*	*income*	*student*	*credit_rating*	*Class: buys_computer*
1	youth	high	no	fair	no
2	youth	high	no	excellent	no
3	middle_aged	high	no	fair	yes
4	senior	medium	no	fair	yes
5	senior	low	yes	fair	yes
6	senior	low	yes	excellent	no
7	middle_aged	low	yes	excellent	yes
8	youth	medium	no	fair	no
9	youth	low	yes	fair	yes
10	senior	medium	yes	fair	yes
11	youth	medium	yes	excellent	yes
12	middle_aged	medium	no	excellent	yes
13	middle_aged	high	yes	fair	yes
14	senior	medium	no	excellent	no