



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

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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.	Distinguish between Supervised and Unsupervised learning.	1(3)
2.	Criticize about Cross fold validation.	1(4)
3.	What do you infer from the word Overfitting.	1(3)
4.	Comment on LDA.	2(3)
5.	State Bayes' Law.	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 Variance.	1(3)

(OR)

7.	Find linear regression equation for the following two sets of data:					1(5)
	a) Plot the data. Do X and Y seem to have linear relationship?					
	b) Predict the Y value when X=10					
	X	2	4	6	8	
	Y	3	7	5	10	

8.	Criticize "PCA is good for dimensionality reduction".	2(4)
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(OR)

9.	Predict whether the child will be allowed to play or not using Naïve Bayes Classification for the given Dataset and X = {Outlook = sunny, Temperature = cool, Humidity = high, Wind = strong}	2(5)
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Day	Outlook	Temperature	Humidity	Wind	Play

1	sunny	hot	high	weak	no
2	sunny	hot	high	strong	no
3	overcast	hot	high	weak	yes
4	rain	mild	high	weak	yes
5	rain	cool	normal	weak	yes
6	rain	cool	normal	strong	no
7	overcast	cool	normal	strong	yes
8	sunny	mild	high	weak	no
9	sunny	cool	normal	weak	yes
10	rain	mild	normal	weak	yes
11	sunny	mild	normal	strong	yes
12	overcast	mild	high	strong	yes
13	overcast	hot	normal	weak	yes
14	rain	mild	high	strong	no