

Name:

Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, May 2021**

**Course: Machine Learning**  
**Program: B.Tech- CS-BAO**  
**Course Code: CSAI2001P**

**Semester: VI**  
**Time: 03 hrs.**  
**Max. Marks: 100**

**Instructions: all questions are compulsory**

**SECTION A**

**Each Questions carry 5 marks**

S. No.	Write short notes on the following	CO
Q 1	What is a stump?	CO1
Q2	Identify and explain the 3 different types of Learning methodology in ML.	CO1
Q3	Explain standard deviation.	CO2
Q4	Differentiate between K-Mean & KNN	CO3
Q5	State at least 4 disadvantages of random forest?	CO2
Q6	Differentiate between Linear and Logistic regression.	CO3

**SECTION B**

**Each Questions carry 10 marks**

	All questions are compulsory	CO
Q7	Identify and explain the different methodology of finding accuracy in a machine learning algorithm.	CO3
Q8	Differentiate between Decision Tree & Random Forest	CO2
Q9	Explain in detail the working principal of ADABOOST.	CO4
Q10	Explain in detail Feed Forward and Back Propagation Network of ANN with diagram.	CO4
Q 11	Differentiate between classification and clustering with examples	CO3

**SECTION-C**

**Question carry 20 marks**

**Attempt only 1 Question out of Q12 & Q13**

Any 1 question is to be attempted ( Marks- [20])

**CO**

<i>RID</i>	<i>age</i>	<i>income</i>	<i>student</i>	<i>credit_rating</i>	<i>Class: buys_computer</i>
1	<=30	high	no	fair	no
2	<=30	high	no	excellent	no
3	31 . . . 40	high	no	fair	yes
4	>40	medium	no	fair	yes
5	>40	low	yes	fair	yes
6	>40	low	yes	excellent	no
7	31 . . . 40	low	yes	excellent	yes
8	<=30	medium	no	fair	no
9	<=30	low	yes	fair	yes
10	>40	medium	yes	fair	yes
11	<=30	medium	yes	excellent	yes
12	31 . . . 40	medium	no	excellent	yes
13	31 . . . 40	high	yes	fair	yes
14	>40	medium	no	excellent	no

Q 12 Given the training data in the table above (Buy Computer Data), predict the class of the following new example using Naïve Bayes classification: age<=30, income=medium, student=yes, credit-rating=fair

**CO5**

Q13 Compare the different types of activation functions in ANN.

**CO5**