

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- February, 2022

B.Tech. (CSE, IT) VI Semester

COURSE CODE: 18B1WCI634

MAX. MARKS: 15

COURSE NAME: Machine Learning

COURSE CREDITS: 2

MAX. TIME: 1 Hr.

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

- Q1. CO-1 a. What are the key challenges in developing machine learning applications? [2]
 b. What is F1-Measure and RoC curve? Give their significance. [2]
- Q2. CO-1 Calculate the value of accuracy, precision and recall from the following multiclass confusion matrix. [3]

		Predicted→		
		A	B	C
Actual	A	15	2	3
	B	7	15	8
	C	2	3	45

- Q3. CO-2 a. How do we handle categorical variables in logistic regression? [2]
 b. Differentiate between linear regression and logistic regression. [2]
- Q4. CO-4 Consider the following set of training examples: [4]

Instance	Class Label	F1	F2
1	+	T	T
2	+	T	T
3	-	T	F
4	+	F	F
5	-	F	T
6	-	F	T

Calculate the information gain of both the attributes i.e. F1 and F2 (Show all the steps). Which attribute should be selected as a root node for building a decision tree on the basis of information gain?