JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- APRIL-2023

COURSE CODE (03): 20B1WEC532 (03) MAX. MARKS: 25

COURSE NAME: Introduction to Machine Learning

COURSE INSTRUCTORS: Dr. Sunil Datt Sharma MAX. TIME: 1 Hour 30 Minutes

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Compute the evaluation parameters sensitivity, specificity, accuracy, error rate, precision, recall, and F-measure of a machine learning model for the given confusion matrix:

	Normal (Actual)	Abnormal (Actual)
Normal (Predicted)	85	4
Abnormal (Predicted)	2	9

[CO-1, Marks-07]

Q2. Calculate the Euclidean distance between two features aptitude (Feature1) and communication (feature2).

[CO-4, Marks-06]

Feature1	2	3	6	7	8	6	6	7	8	9
Feature2	6	5.5	4	2.5	3	5.5	7	6	6	7

Q3. Compute the cosine similarity between Feature1 & Feature2, and comment on the relation between Feature1 and Feature2 if the cosine similarity value between Feature1 and Feature2 is "1".

[CO-4, Marks-06]

Feature1	2	4	0	0	2	1	3	0	0
Feature2	2	1	0	0	3	2	1	0	1

Q4. If a coin is tossed 5 times then find the probability of the following events: (a) Exactly 2 heads (b) At least 4 heads. (c) At most 2 heads.

[CO-3, Marks-06]