JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATIONS-2022
B.Tech-VI Semester (ECE)

COURSE CODE: 19B1WEC636   MAX. MARKS: 15

COURSE NAME: Machine Learning for Data Analysis

COURSE CREDITS: 03   MAX. TIME: 1 Hour

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

Q1. Suppose that the data for analysis includes the attribute age. The age values for the data tuples are (in increasing order) 13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 35, 35, 35, 35, 36, 40, 45, 46, 52, 70.   [CO1] [3]

(a) What is the mean of the data?

(b) What is the median?

(c) What is the mode of the data? Comment on the data's modality (i.e., bimodal, trimodal, etc.).

(d) What is the midrange of the data?

(e) Find the first quartile (Q1) and the third quartile (Q3) of the data?

(f) Show a boxplot of the data.

Q.2 Compute an approximate median value for the given data   [CO1] [3]

Age	Frequency
1-5	200
6-15	450
16-20	300
21-50	1500
51-80	700
81-110	44

Q.3 Differentiate between supervised and unsupervised learning.   [CO2] [3]

Q.4 What is reinforcement learning? Write three application of reinforcement learning for electronic and communication engineers.   [CO2] [3]

Q.5 What is an attribute in data tuples? Define nominal and ordinal attributes with suitable examples.

[CO1] [3]