JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION- 2025
M.Tech-I Semester (Data Science)

COURSE CODE (CREDITS):22M1WCI133 (3) MAX. MARKS: 15

COURSE NAME: INTRODUCTION TO STATISTICAL LEARNING

COURSE INSTRUCTORS:PROF. PARDEEP KUMAR MAX. TIME: 1 Hour

Note: (a) *All questions are compulsory.*
(b) *The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

Q.No	Question	CO	Marks
Q1	Consider the following credit card transactions (in $): 10,16,11,7,4,4,4,12,17,25,14,0,35,45. Find out the outlier, if any, using Inter Quartile Range (IQR) method. Also show the five-point summary of the given data.	1	3+2
Q2	Suppose we are interested in analyzing transactions at ALLELECTRONICS company with respect to the purchase of computer games and videos. Of the 10000 transactions analyzed, the data show that 6000 of the customer transactions included computer games, while 7500 included videos and 4000 included both computer games and videos. Make the contingency table of the given problem and show that game and video purchases are independent or dependent on each other. The tabular chi-square value of your contingency table with calculated degree of freedom and level of significance α as 0.001 is 10.28.	2	3
Q3.	Find the line of best fit for the following data points of heights and weights of student of CSE branch using the method of least square: Heights (in cm): 160, 162,164,166,168 Weights (in kg): 52,55,57,60,61	2	3
Q4.	Consider the wage rate of factory workers and number of workers as shown in the table below: {{TABLE_Q4}} What kind of distribution the data have? Normal or positive skewed or negative skewed?	1	3
Q5	What are measure of central tendency? Why median is preferred over mean while showing average salaries by the companies?	1	1

Table for Q4:

Wage Rate (Rs/Day)	Number of Workers
50-70	10
70-90	20
90-110	25
110-130	35
130-150	9