

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -I EXAMINATION- 2025

B.Tech-III Semester (BT/BI)

COURSE CODE (CREDITS):25B11MA313(4)

MAX. MARKS: 15

COURSE NAME:PROBABILITY AND STATISTICAL TECHNIQUES

COURSE INSTRUCTORS: MDS

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

(c) Scientific calculator is allowed.

Q.No	Question	CO	Marks																
	<p>The marks obtained by 50 students in a Physics test (out of 50) are given below:</p> <div><p>12, 18, 25, 30, 32, 35, 28, 40, 42, 38, 20, 5, 27, 22, 31, 37, 29, 34, 45, 48, 13, 17, 20, 22, 25, 10, 14, 19, 23, 26, 33, 36, 39, 41, 47, 16, 21, 24, 28, 30, 32, 35, 38, 43, 44, 27, 31, 34, 36, 40.</p></div> <p>a) Construct a grouped frequency distribution table with tally marks using class intervals of size 10 (i.e., 0–10, 10–20, ..., 40–50).</p> <p>b) Draw a pie chart to represent the distribution and prepare a table showing the percentage and angle for each class interval.</p>	CO-1	3																
Q2	<p>Calculate mean and standard deviation from the following table:</p> <table><tr><td>Marks</td><td>Above than 0</td><td>Above than 20</td><td>Above than 40</td><td>Above than 60</td><td>Above than 80</td></tr><tr><td>No. of students</td><td>80</td><td>66</td><td>40</td><td>18</td><td>6</td></tr></table>	Marks	Above than 0	Above than 20	Above than 40	Above than 60	Above than 80	No. of students	80	66	40	18	6	CO-1	3				
Marks	Above than 0	Above than 20	Above than 40	Above than 60	Above than 80														
No. of students	80	66	40	18	6														
3.	<p>Compute the value of upper quartile and 90th percentile from the following data:</p> <table><tr><td>Class</td><td>10-20</td><td>20-30</td><td>30-40</td><td>40-50</td><td>50-60</td><td>60-70</td></tr><tr><td>Frequency</td><td>10</td><td>14</td><td>30</td><td>10</td><td>4</td><td>2</td></tr></table>	Class	10-20	20-30	30-40	40-50	50-60	60-70	Frequency	10	14	30	10	4	2	CO-1	4		
Class	10-20	20-30	30-40	40-50	50-60	60-70													
Frequency	10	14	30	10	4	2													
Q4.	<p>For the following distribution, calculate the first four central moments, kurtosis and comment on the results:</p> <table><tr><td>Class Interval</td><td>20-30</td><td>30-40</td><td>40-50</td><td>50-60</td><td>60-70</td><td>70-80</td><td>80-90</td></tr><tr><td>Frequency</td><td>5</td><td>14</td><td>20</td><td>25</td><td>17</td><td>11</td><td>8</td></tr></table>	Class Interval	20-30	30-40	40-50	50-60	60-70	70-80	80-90	Frequency	5	14	20	25	17	11	8	CO-1	5
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