

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- October 2024

BBA-III Semester

COURSE CODE (CREDITS): 23BB1HS311

MAX. MARKS: 25

COURSE NAME: STATISTICS FOR BUSINESS DECISIONS

COURSE INSTRUCTORS: Prof Amit Srivastava

MAX. TIME: 1 Hour 30 Minutes

*Note: (a) All questions are compulsory.*

*(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

- | QNo  | Question  | CO    | Marks |                 |       |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
|--|---|-------|-------|-----------------|-------|-------|-------|-------|-------|--------|----|----|----|----|----|--------|-----|-----|----|----|-----|
| Q1   | Write short notes on the following (max 50 words)<br>a) Inferential Statistics<br>b) Focus Group<br>c) Categorical Variables<br>d) Measures of Location<br>e) Third Quartile  | CO1   | 1x5=5 |                 |       |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
| Q2   | What do you understand by "Chebyshev's Theorem? How is it related with probability distribution?  | CO2   | 2     |                 |       |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
| Q3   | Following is the marks obtained by a student (out of 100) in eight different subjects in T1 and T2 examinations:<br><br>T1: 74, 78, 79, 77, 75, 73, 78, 77<br>T2: 71, 70, 75, 77, 85, 80, 71, 79<br><br>Evaluate the student's performance in two different examinations and report the improvement, if any, is observed. | CO3   | 3     |                 |       |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
| Q4   | Following is the data given for the wages paid in two different firms:  | CO3   | 4     |                 |       |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
| <table border="1"><thead><tr><th>Wages (Rs '000)</th><th>30-40</th><th>40-50</th><th>50-60</th><th>60-70</th><th>70-80</th></tr></thead><tbody><tr><td>Firm A</td><td>20</td><td>15</td><td>25</td><td>30</td><td>32</td></tr><tr><td>Firm B</td><td>150</td><td>100</td><td>90</td><td>80</td><td>120</td></tr></tbody></table> |   |       |       | Wages (Rs '000) | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | Firm A | 20 | 15 | 25 | 30 | 32 | Firm B | 150 | 100 | 90 | 80 | 120 |
| Wages (Rs '000)  | 30-40   | 40-50 | 50-60 | 60-70           | 70-80 |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
| Firm A   | 20  | 15    | 25    | 30              | 32    |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
| Firm B   | 150   | 100   | 90    | 80              | 120   |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |
| Q5   | Which firm has more inequality in wage payment, show relevant calculation also.<br><br>A company is claiming that the its salary is uniformly distributed among its employees. The salary distribution is given below:  | CO4   | 3     |                 |       |       |       |       |       |        |    |    |    |    |    |        |     |     |    |    |     |

Salary (in Rs '000)	20-40	40-60	60-80	80-100	100-120
No of employees	125	135	110	90	40

How far do you agree with the company's claim. Substantiate your answer with suitable calculations.

**Q6** Given that the mean of a distribution is 4, the variance is 16, and the moment coefficient of skewness is 2, find the first three moments about the origin. **CO3 3**

**Q7** A company has conducted a study to evaluate the performance of its sales representatives (SRs) for two different products: Mobile Phone and Laptop. The goal was to understand if there is a correlation between SRs' performance in these products. The data collected includes the sales of 10 SRs (in units): **CO2 5**

SR	1	2	3	4	5	6	7	8	9	10
Mobile	85	78	85	76	90	82	76	88	90	75
Laptop	92	88	91	78	95	85	80	91	95	77

Interpret the results to determine the strength and direction of the relationship between SRs' performance in sales of both the products.