

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: BSC
BRANCH: CHEMISTRY**

**SEMESTER : I
SESSION : MO/2025**

SUBJECT: ED103 STATISTICAL METHOD-01

TIME: 02 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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|---|------------|------------|-----------|------------|------------|------------|------------------|----|----|----|----|----|--|--|--|
| Q.1(a) Define the following: population, census, sample in statistics | [2] | 1 | | | | | | | | | | | | | |
| Q.1(b) Find the frequency distribution table from the age distribution of 20 people: 51, 65, 68, 87, 76, 56, 69, 75, 89, 80, 61, 66, 73, 86, 79, 70, 71, 54, 87, 78 | [3] | 1 | | | | | | | | | | | | | |
| Q.2(a) Compute the number of class intervals and class width of the frequency distribution in Q.1(b) | [2] | 1 | | | | | | | | | | | | | |
| Q.2(b) Find the mean, median and mode of the following monthly expenses of 4 person: ₹12,000, ₹15,000, ₹13,500, ₹14,000 | [3] | 2 | | | | | | | | | | | | | |
| Q.3(a) Create a Pie Chart of the family for migration in a village with the following details: | [2] | 1 | | | | | | | | | | | | | |
| <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th>Purpose</th> <th>Employment</th> <th>Education</th> <th>Climate</th> <th>Relocation</th> </tr> </thead> <tbody> <tr> <td># families</td> <td>25</td> <td>10</td> <td>5</td> <td>10</td> </tr> </tbody> </table> | Purpose | Employment | Education | Climate | Relocation | # families | 25 | 10 | 5 | 10 | | | | | |
| Purpose | Employment | Education | Climate | Relocation | | | | | | | | | | | |
| # families | 25 | 10 | 5 | 10 | | | | | | | | | | | |
| Q.3(b) Create a bar chart of the following data distribution: | [3] | 1 | | | | | | | | | | | | | |
| <table border="1" style="border-collapse: collapse; width: 100%;"> <thead> <tr> <th>Year</th> <th>1989</th> <th>1990</th> <th>1991</th> <th>1992</th> <th>1993</th> </tr> </thead> <tbody> <tr> <td>Profit (million)</td> <td>10</td> <td>12</td> <td>18</td> <td>25</td> <td>42</td> </tr> </tbody> </table> | Year | 1989 | 1990 | 1991 | 1992 | 1993 | Profit (million) | 10 | 12 | 18 | 25 | 42 | | | |
| Year | 1989 | 1990 | 1991 | 1992 | 1993 | | | | | | | | | | |
| Profit (million) | 10 | 12 | 18 | 25 | 42 | | | | | | | | | | |
| Q.4(a) Compute the mean of grouped data in frequency distribution table of Q.1(b) | [2] | 2 | | | | | | | | | | | | | |
| Q.4(b) Compute the mode of the grouped data in frequency distribution table of Q.1(b) | [3] | 2 | | | | | | | | | | | | | |
| Q.5(a) Define merit and demerits of mean, median and mode of a given data. | [2] | 2 | | | | | | | | | | | | | |
| Q.5(b) Compute the median of the grouped data in frequency distribution table of Q.1(b) | [3] | 2 | | | | | | | | | | | | | |

:::18/09/2025 :::E