

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION MO/2025)

CLASS: BCA
BRANCH: BCA

SEMESTER : III
SESSION : MO/2025

SUBJECT: CN209 STATISTICS WITH R

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 Statistics. How do you think the knowledge of statistics is essential in decision-making? | [2] | 1 1 |
| Q.1(b) | Explain briefly the various methods that are used for the graphical representation of frequency distributions. | [3] | 3 2 |

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| Q.2(a) | Explain primary and secondary data with a suitable example. | [2] | 1 1 |
| Q.2(b) | The daily profits (in thousand rupees) of 100 shops are distributed as follows: | [3] | 1 3,4 |

Daily profits	0-50	50-100	100-150	150-200	200-250	250-300
No. of shops	12	18	27	20	17	6

Draw a histogram and frequency polygon of the above data.

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| Q.3(a) | Explain the characteristics of a good average. | [2] | 1 1 |
| Q.3(b) | If the median of the following frequency distribution is 32.5, find the values of f_1 and f_2 . | [3] | 2 3,4 |

Class interval	10-20	20-30	30-40	40-50	50-60	60-70	70-80	Total
Frequency	12	30	?	65	?	25	18	229

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| Q.4(a) | Describe the various relationships among mean, median, and mode. | [2] | 3 2 |
| Q.4(b) | The profits earned by 100 companies during the 2022-2023 period are listed below. | [3] | 2 3,4 |

Profits (in lakh)	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No. of Companies	4	8	18	30	15	10	8	7

Calculate D_1 and P_{50} .

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| Q.5(a) | Define measures of dispersion. Point out the four basic significances of measuring dispersion. | [2] | 3 1 |
| Q.5(b) | The following data describes the age at which employees reach the level of senior manager in a multinational company: | [3] | 4 3,4 |

Age in Years	Below 35	35-40	40-45	45-50	Above 50
No. of person reaching the level	14	60	95	24	7

Find the Coefficient of quartile deviation.

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