

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

CLASS: IMSc
BRANCH: QEDS

SEMESTER: I
SESSION: MO/2022

SUBJECT: ED103 STATISTICAL METHOD-I

TIME: 2 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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| | CO | BL |
| Q.1(a) Distinguish between population and sample. | [2] | 1 |
| Q.1(b) Discuss the merits and demerits of complete enumeration (census) and Sample survey method. | [3] | 1 |

- Q.2 Draw the histogram of the following frequency distribution and find the proportion of firms with annual sales greater than Rs. 70000: [5] 1

Annual Sales (Rs '000):	0-20	20-50	50-100	100-250	250-500	500-1000
No. of firms	20	50	69	30	25	19

- Q.3 For a group of 100 candidates the mean and standard deviation of their marks were found to be 60 and 15 respectively. Later on it was found that the scores 45 and 72 were wrongly entered as 40 and 27. Find the correct mean and standard deviation. [5] 2

- Q.4(a) The temperature of two cities A and B in a winter season are given below. Find which city is more consistent in temperature changes? [5] 2

Temp. of city A (in degree Celsius)	18	20	22	24	26
Temp. of city B (in degree Celsius)	11	14	15	17	18

- Q.5(a) If the first quartile is 142 and semi-interquartile range is 18, find the median (assuming the distribution to be symmetrical about mean or median) [2]

- Q.5(b) Calculate the coefficient of skewness based on quartiles from the following: [3]

More than 0	5474
More than 10	5426
More than 20	5259
More than 30	5023
More than 40	4475
More than 50	3712
More than 60	2718
More than 70	1406
More than 80	764
More than 90	370
More than 100	160
More than 110	39