

**RAMAKRISHNA MISSION VIDYAMANDIRA**  
(Residential Autonomous College affiliated to University of Calcutta)

FIRST YEAR [2018 - 21]  
B.A./B.Sc. FIRST SEMESTER (July – December) 2018  
Mid-Semester Examination, September 2018

Date : 26/09/2018

Time : 12 noon - 1 pm

**STATISTICS (General)**

Paper: I

Full Marks: 25

**[Use a separate Answer Book for each group]**

**Group : A**

Answer **any three** questions of the following:

(3 × 5)

1. Explain with examples different types of bar diagram.
2. Prove that  $\frac{R^2}{2n} \leq s^2 \leq \frac{R^2}{n}$  [ where R = Range, s = Standard deviation, n = no of observations]
3. Obtain the formula of mode in case of frequency distribution.
4. Write short note on **any one** of the following: [ 1 × 5]
  - a) Geometric mean
  - b) Ogive and Median
  - c) Comparative note on different measures of dispersion.

**Group : B**

Answer **any two** questions of the following:

(2 × 5)

5. A die is loaded in such a way that the probability of the face with j dots turning up is proportional to j for j = 1, 2,....., 6. What is the probability, in one roll of the die, that an odd number of dots will turn up?
6. Two people take turns rolling a fair die. Person X rolls first, then person Y, then X, and so on. The winner is the first to roll a 6. What is the probability that person X wins?
7. Let A and B be independent events with P(A) = P(B) and  $P(A \cup B) = 0.5$ . What is the probability of the event A?

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