

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

FIRST YEAR

B.A./B.SC. FIRST SEMESTER (July – December), 2012

Mid-Semester Examination, September 2012

Date : 12/09/2012

STATISTICS (General)

Time : 11 am – 12 noon

Paper : I

Full Marks : 25

[Answer any five questions taking atleast two from each group]

Group – A

1. Distinguish between— i) Primary Data and Secondary Data
ii) Class limit and Class Boundary [2½+2½]
2. If the geometric mean of n values of a variable x be g , and of another n_2 values be g_2 , then find the g.m. of the combined data. [5]
3. The mean of 50 observations were found to be 18. On further verification it was detected that the values 22 and 16 were wrongly copied as 19 and 24 respectively. Find the correct mean. [5]
4. Find the mean deviation about mean of the following series of values :
 $a, a + b, a + 2b, \dots, a + 2ab, (b > 0)$ [5]

Group – B

5. Show that $P\left(\bigcap_{i=1}^n A_i\right) \geq \sum_{i=1}^n P(A_i) - (n-1)$. [5]
6. A and B alternately toss a fair coin. The first one to throw a head wins. If A starts, find their respective probabilities of winning. [5]
7. Box I contains 10 black and 15 red balls. Box II contains 15 black and 10 red balls. One ball is selected from Box I and transferred to Box II. Next one ball is selected from Box II. It turns out to be black. What is the probability that a black ball was transferred to Box II? [5]
8. A person X fails to remember the last digit of the telephone number of his house physician Dr. Y. What is the probability that at most four attempts are necessary to find the actual number? [5]

