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

FIRST YEAR [2016-19]
B.A./B.Sc. FIRST SEMESTER (July – December) 2016
Mid-Semester Examination, September 2016

Date : 17/09/2016

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*)   [3×5]

1. State an use of Pie diagram. Explain with an example how pie diagram is constructed.

2. Define mode. Establish the formula of mode from a grouped data.

3. If A, G and H represent respectively A.M, G.M and H.M of the two values x_1 and x_2 then prove that $G = \sqrt{A \times H}$. State an use of harmonic Mean.

4. Define Mean deviation about mean. Show that $MD_x(\overline{x}) = \dfrac{2}{n} \sum_{x_i > \overline{x}} (x_i - \overline{x}) = \dfrac{2}{n} \sum_{x_i < \overline{x}} (\overline{x} - x_i)$.

Group – B

(*Answer **any two** questions*)   [2×5]

5. Let the three mutually independent evens C_1, C_2 and C_3 be such that $P(C_1) = P(C_2) = P(C_3) = \dfrac{1}{4}$. Find $P[(C_1^C \cap C_2^C) \cup C_3]$.

6. A person prepared 4 different letters to be sent to 4 different addresses. For each letter, he prepared an envelope with its correct address. If the 4 letters are to be put into the 4 envelopes at random, what is the probability that only 1 letter will be put into the envelope with its correct address?

7. A magician has a rabbit in the hat. The rabbit is either white or black. He adds one white rabbit into the hat, and then randomly picks up one rabbit which turns out be to be white. What is the probability that the remaining rabbit is also white?

———— × ————