## RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

### FIRST YEAR [2018-21] B.A. /B.Sc. SECOND SEMESTER (January – June) 2019 Mid-Semester Examination, March 2019

Date : 2 Time : 1

7/03/2019	STATISTICS (General)	
1am – 12noon	Paper: II	Full Marks: 25

### (Use a separate Answer Book for each group)

## Group - A

Answer any three questions:

1.	Define	correlation	ratio	$(e_{yx})$ and	correlation	index $(r_k)$ .	Interpret	the	following	situation
	$0 < r^2 <$	$r_3^2 = e_{yx}^2 = 1$								[2+2+1]

Explain the difference between simple correlation coefficient and partial correlation coefficient. 2. [5]

Write a short note on multiple correlation. 3.

 $[2\frac{1}{2}+2\frac{1}{2}]$ Given  $r_{12} = 0.7$ ,  $r_{13} = 0.85$  and  $r_{23} = 0.6$ . obtain  $r_{1,23}$  and  $r_{12,3}$ . 4.

# **Group - B**

Answer any two questions:

- 5. A book of n pages contains on the average  $\lambda$  misprints per page. Find the probability that at least one page will contain more than k misprints. [5]
- If the probability of hitting a target is  $\frac{1}{5}$  and ten shots are fired independently, find the conditional 6. probability that the target is hit at least twice, assuming that at least one hit is scored. [5]
- Derive binomial distribution as the limiting case of hyper-geometric distribution. 7. [5]

\_\_\_\_\_ X \_\_\_\_\_

 $(3 \times 5)$ 

[5]

 $(2\times 5)$