

# Rishi Bankim Chandra Evening College

## M.COM 1<sup>st</sup> Semester Examination, 2022

### BUSINESS STATISTICS

#### COMPAEC01M

Time – 2 Hrs.

F.M. – 40

#### Group – A

Answer any five questions.

2×5=10

1. An unbiased coin is thrown three times; write down the sample space.
2. Define Binomial distribution.
3. Distinguish between primary data and secondary data.
4. Distinguish between 'Discrete variable' and 'Continuous variable'.
5. Given  $\text{Cov}(x, y) = \frac{4}{5}$ ,  $\sigma_x = 1$ ,  $\sigma_y = \frac{6}{5}$ , find  $r_{xy}$ .
6. Define the term 'Statistic' and 'Parameter'.
7. Mention the specific use of Geometric mean.
8. Write the difference between Vertical bar diagram and Histogram.

#### Group –B

Answer any four questions.

4×5=20

9. Two coins are drawn from a pack of 52 cards. Show that the events of appearance of a king and the appearance of a heart are independent event. 5
10. In complex of some some families 20 families read Times of India, 18 families read Hindustan Times 2 families read none of them. Find the maximum and minimum number of families those may live in the complex. 5
11. a) A bag contains 3 red, 6 white 7 red balls. What is the probability of that two balls drawn at a time one will be white and the other blue.  
b) What is Power Set? Give an example. 3+2=5
12. Two regression lines are of the form  $5x + 12y = 7$ ,  $3x + 8y = 11$ . Identify the regression lines. 5
13. The mean of 5 observations is 4.4 and the variance is 8.24. If there of the five observations are 1, 2, and 6. Find the other two. 5
14. In an examination 60% candidate were unsuccessful. What is the probability that out of a group of 4 candidates at least 3 passed the examination?

**Group - C**

Answer any one question.

$10 \times 1 = 10$

15. a) Write all possible distinct samples of size 2 collected from the population {2,5,4,3} in case of a) with replacement, b) without replacement.

b) Find the rank correlation coefficient for the following data of marks obtained by 10 students in math. and stat.

Students' roll no.	1	2	3	4	5	6	7	8	9	10
Marks in math.	80	38	95	30	74	84	91	60	66	44
Marks in stat.	85	50	92	58	70	65	88	56	52	46

$4+6=10$

16. a) Find the mean and median of heights from the following frequency distribution:

Height(cms)	135-140	140-145	145-150	150-155	155-160	160-165	165-170	170-175
No of Students	4	9	18	28	24	10	5	2

Hence, find the mode for the distribution using empirical relation among mean, median, mode.

b) Find the standard deviation of 4, 8, 10, 12, and 16.

$8+2=10$