

## **BCOM 2002/BBA 2002**

B.Com./B.B.A. DEGREE EXAMINATION,  
JANUARY 2022.

Second Year — Non- semester

Commerce/B.B.A.

### **BUSINESS STATISTICS**

Time : Three hours                      Maximum : 100 marks

PART A — (5 × 8 = 40 marks)

Answer any FIVE out of Eight questions.

1. Discuss the functions and limitation of Statistics.
2. What is Sampling? Explain the different types of Sampling?
3. Calculate the Harmonic mean from the following data.

X	10	12	14	16	18	20
Y	5	18	20	10	6	1

4. Calculate mean deviation from the median for the following data.

Marks less than	80	70	60	50	40	30	20	10
No. of students	100	90	80	60	32	20	13	5

5. What are the difference between Karl Pearson's co-efficient of correlation and Spearman's Rank correlation co-efficient?

6. Compute the Regression equation Y on X for the following data by Normal Equation Method:

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

7. The expectation of life at different ages for males is shown below :

Age (years)	20	25	30	35	40
Expectation of life (years)	33.0	29.8	26.6	2.35	20.5

Use Newton's formula to estimate the expectation of life at age 32.

8. In a class of 75 students 15 were considered to be very intelligent, 45 as medium and the rest below average. The probability that a very intelligent student fails in a viva voce examination is 0.005; the medium student failing has a probability 0.05; and the corresponding probability for a below average student is 0.15. If a student is known to have passed the viva voce examination, what is the probability that he is below average?

PART B — (4 × 15 = 60 marks)

Answer any FOUR out of six questions.

9. Discuss the various method of collecting primary data. Explain the advantage and limitation of these methods.

10. Find out Mean, Median and Mode from the following data.

Weight (in lbs.)	100-110	110-120	120-130	130-140
No. of persons	4	6	20	32
Weight (in lbs.)	140-150	150-160	160-170	170-180
No. of persons	33	17	8	2

11. Calculate Pearson's coefficient of skewness from the following data:

X	300-400	400-500	500-600	600-700	700-800
F	14	46	58	76	68
X	800-900	900-1000	1000-1100	1100-1200	
F	62	48	22	5	

12. Find the coefficient of correlation between price and sales from the following data

Price (Rs.)	103	98	85	92	90
Sales (units)	500	610	700	630	670
Price (Rs.)	84	88	90	93	95
Sales (units)	800	800	750	700	680

13. From the data given below find  
(a) The two regression equations

(b) The most likely marks in Statistics when marks in Economics are 30.

Marks in Economics 25 28 35 32 31 36

Marks in statistics 43 46 49 41 36 32

Marks in Economics 29 38 34 32

Marks in statistics 31 30 33 39

14. Calculate the trend values by the methods of moving average, assuming the following data relating to sugar production

Year	Sugar production (in tones)
2001	374
2002	311
2003	387
2004	395
2005	479
2006	426
2007	484
2008	646
2009	584
2010	386
2011	514
2012	844