

**Bachelor of Commerce Examination: October - 2022**  
**(Distance Education) (New Course)**

Day & Date	Semester	Subject Name	Time	Code	Marks
Saturday 15/10/2022	II (Fresh/ Repeater)	Business Statistics	11.00 AM To 02.10 PM	245208	75

**Instructions: 1) Questions 8 & 9 are Compulsory.**  
**2) Answer any four questions from the rest.**

**Q.1 a)** Find the missing frequency if the mean marks are 26.75 **05**

Marks	0-10	10-20	20-30	30-40	40-50
No. of Students	3	-	15	10	5

**b)** The mean of 10 observations was found to be 28. Later it was discovered that one observation 14 was mis read as 24. Find the correct mean. **05**

**Q.2 a)** Calculate Modal value from the following data: **05**

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No of Students	3	5	7	10	12	15	12

**b)** Calculate  $D_5$  and  $P_{55}$  for the following data. **05**

No of Rooms	3	4	5	6	7	8
No of Houses	34	650	310	42	12	2

**Q.3 a)** Calculate Mean Deviation from the median for the following series. **05**

x	10	11	12	13	14
f	3	12	18	12	3

**b)** Calculate the Range and its coefficient for the following data: **05**

C.I.	10-20	20-30	30-40	40-50	50-60
f	3	5	7	9	6

**Q.4** Calculate Bowley's coefficient of Skewness. **10**

C.I.	0-10	10-20	20-30	30-40	40-50	50-60	60-70
f	8	12	20	10	6	3	1

**Q.5 a)** Obtain the rank correlation coefficient between the variables x and y from the following pair of observed values. **05**

x	50	55	65	50	55	60	50	65	70	75
y	110	110	115	125	140	115	130	120	115	160

**b)** Find the two regression lines from the following data. **05**

x	11	7	9	5	8	6	10
y	16	14	12	11	15	14	17

**Q.6** Calculate  $P_{01}(L)$ ,  $P_{01}(P)$ ,  $P_{01}(D - B)$ ,  $P_{01}(F)$  and  $P_{01}(M - E)$  if **10**  
 $\sum p_0 q_0 = 420$   $\sum p_1 q_0 = 690$   $\sum p_0 q_1 = 200$   $\sum p_1 q_1 = 335$

**Q.7 a)** Obtain the trend value using 3 yearly moving averages for the data given below. **05**

Year	1997	1998	1999	2000	2001	2002	2003	2004
No of bones (in 10,000)	20.5	19.7	21.3	24.1	25.2	22	22.5	24.1

**b)** Obtain the trend values using 4 yearly moving averages for the data given below. **05**

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
No of deaths	152	183	169	196	164	203	175	178	207

**Q.8 a)** Match the Column: **05**

**Column A**

- 1) Coefficient of correlation
- 2) Rank correlation coefficient
- 3) Coefficient of Skewness
- 4) Regression Analysis
- 5) Quartile

**Column B**

- a) Francis Galton
- b) John Wilder Tukey
- c) Karl Pearson's
- d) Spearman's
- e) Bowley's

**b)** State the following formula's **05**

- 1) Q.D.
- 2) Pearsonian Coefficient of skewness
- 3) Correlation coefficient
- 4) Combined Mean
- 5) Walsch's price index Number

**Q.9 Write shorts notes (any 5):** **25**

- a) Merits and Demerits of Median
- b) Properties of coefficient of correlation
- c) Characteristics of Index Number
- d) Concept of Kurtosis
- e) Ration to Moving Average Method
- f) Harmonic Mean
- g) Requisite of good averages