(8 pages) **Reg. No. :** .....

Code No. : 20452 E **Sub. Code : SMCO 32**

B.Com (CBCS) DEGREE EXAMINATION, NOVEMBER 2019.

Third Semester

Commerce — Main

BUSINESS STATISTICS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Data originally collected by the researcher is called

   (a) Original data (b) Primary data

   (c) Secondary data (d) None of these

2. Choose the odd one out.

   (a) Histogram (b) Ogive

   (c) Lorenz curve (d) Pie diagram

3. The _____ is the simplest measure of dispersion.

   (a) Range

   (b) Quartile Deviation

   (c) Mean deviation

   (d) Standard deviation

4. Range refers to the

   (a) difference between the maximum and minimum value

   (b) maximum value

   (c) minimum value

   (d) none of these

5. Spearman's method is the method of calculating coefficient of correlation by

   (a) Irvin Fischer (b) Charles Spearman

   (c) Lorenz (d) Karl Pearson

6. Minimum value of correlation is

   (a) –2 (b) –1.5

   (c) –1 (d) 0

7. Karl Pearson's coefficient of correlation method of measuring correlation is

   (a) Graphic (b) Mathematical

   (c) Positional (d) None of the above

8. Regression equation is an ———— method

(a) Graphic

(b) Mathematical

(c) Positional

(d) algebraic

9. Quantity index numbers study the changes in the volume of

(a) price (b) goods

(c) supply (d) demand

10. The method of ———— can be used to explain the linear and non-linear trend.

(a) graphic

(b) moving average

(c) least square

(d) semi average method

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) State the limitations of statistics.

Or

(b) Write a note on census method.

12. (a) Calculate harmonic mean from the following data.

x	10	12	14	16	18	20
f	5	18	20	10	6	1

Or

(b) Calculate geometric mean

Weekly wages	13.0	18.5	20.5	22.0	23.0	24.0
No of workers	8	10	14	6	7	3

13. (a) Given below is the marks obtained by 5 B.Com students.

Roll No	1	2	3	4	5
Marks	10	30	20	25	15

Calculate standard deviation.

Or

(b) Calculate mean deviation from median for the following data:

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

14. (a) Calculate Spearman's Rank correlation co-efficient for the following data:

Marks in accountancy	97	51	68	75	42	33
Marks in statistics	15	53	47	28	64	82

Or

(b) Find out correlation coefficient by Concurrent Deviation method:

x	140	154	160	140	170
y	180	160	190	200	210

15. (a) Calculate seasonal indices by the ratio to moving average method from the following data:

Year	I quarter	II quarter	III quarter	IV quarter
2010	68	62	61	63
2011	65	58	66	61
2012	68	63	63	67

Or

(b) State uses of time series.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Differentiate between classification and tabulation.

Or

(b) What are the merits and demerits of the sampling method?

17. (a) Calculate the mean for the data given below:

Daily earnings (Rs.)	50-53	53-56	56-59	59-62	62-65
No. of persons	3	8	14	30	36
Daily earnings (Rs.)	65-68	68-71	71-74	74-77	
No. of persons	28	16	10	5	

Or

(b) Find the median from the following data:

wages Rs.	60-70	50-60	40-50	30-40	20-30
no of labourers	5	10	20	5	5

18. (a) Calculate Karl Pearson's coefficient to correlation from the following data:

x	10	12	18	24	23	27
y	13	18	12	25	30	10

Or

(b) Calculate coefficient of skewness from the following data.

Mean 46.83

Standard deviation = 14.8

Mode = 51.67

19. (a) Coefficient of correlation between two variables X an Y is 0.48. Their covariate is 36. The variance of X is 16. Find the standard deviation of Y series.

Or

(b) Calculation mean deviation using median from the following series.

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

20. (a) Calculate trend value by the method of least square from the data given below and estimate the sale for 2015:

Year	2008	2009	2010	2011	2015
Sales of Company A	70	74	80	86	90

Or

(b) Describe the components of time series.

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