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Fourth Semester B.Com. Degree Examination, May 2021

First Degree Programme under CBCSS

Complementary Course: CO 1431 / CX 1431 / CC 1431

BUSINESS STATISTICS

(Common for Commerce/Commerce & Tax Procedure and Practice / Commerce with Computer Application)

(2015-2017 Admission)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in **one or two** sentences. Each carries **1** mark.

1. Define statistics.
2. Where there is a perfect negative correlation, how will be the plotted points in a scatter diagram?
3. For the regression equation $Y = a + bX$, which are the normal equations to compute '*a*' and '*b*'
4. Which are the types of unweighted index numbers?
5. Why Fisher's index number is called ideal?
6. What is meant by regression?
7. What is a time series data?
8. What is a free hand method, in time series analysis?
9. When concurrent deviation method is appropriate?
10. What are the essentials of ideal classification of data?

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

Answer any **eight** questions in not exceeding one paragraph. Each question carries **2** marks.

11. What are the parts of a table?
12. Distinguish between linear and non linear correlation.
13. Which are the different types of diagrams?
14. What is quartile deviation?
15. In which cases Harmonic mean is used?
16. Why there are two regression lines?
17. What are the algebraic characteristics of Geometric mean?
18. What is factor reversal test?
19. What is feature of Weighted Average of Relatives method?
20. What are the limitations of freehand method, in Time series analysis?
21. How regression coefficients are interpreted?
22. Which are the types of frequency distributions?

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** questions. Each question carries **4** marks.

23. What are the stages of statistical investigation?
24. Distinguish between correlation and regression.
25. What is the significance of probable error?
26. What are the properties of regression coefficients?
27. Which are the different weighted index numbers?

28. Calculate the weighted index by Bowley-Dorbish method and Marshall Edgeworth method.

Commodity	Price		Quantity	
	Base Year	Current Year	Base Year	Current Year
A	4	7	10	8
B	5	9	8	6
C	6	8	15	12
D	2	2	5	6

29. Calculate the coefficient of correlation between x and y series from the following data:

	X Series	Y Series
Number of pairs of observations	15	15
Standard deviation	3.01	3.03

Covariance between x and y is 8.13

30. Find the trend for the following series using a 3 year weighted moving average with weights 1, 2, 1.

Year	1	2	3	4	5	6	7
Value	2	4	5	7	8	10	13

31. What are the limitations of statistics?

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions. Each question carries **15** marks.

32. Which are the different measures of dispersion?

33. Calculate the coefficient of concurrent deviation from the following data.

X	20	25	30	15	28	32	35	17	29
Y	30	18	25	10	30	25	15	30	27

34. A panel of 2 judges P and The graded 7 dramatic performances by independently awarding marks as following:

Performance	1	2	3	4	5	6	7
Marks by P	46	42	44	40	43	41	45
Marks by Q	40	38	36	35	39	37	41

The eighth performance, for which judge Q could not attend, was awarded 37 marks by Judge P. If judge Q has also been present, how many marks would be expected to have been awarded by him to the 8^{th} performance?

35. For the following data below examine whether (a) Fisher's formula. (b) Laspeyers Formula. (c) Paasche's Formula satisfy factor reversal test.

Commodities	2005		2008	
	Price	Qty.	Price	Qty.
A	2	3	3	2
B	8	2	9	3
C	5	5	6	5
D	4	2	5	3
E	3	4	4	2

(2 × 15 = 30 Marks)
