K24U 4081

Reg. No. : .....

Name : .....

First Semester B.B.A./B.B.A.(RTM/AAM) Degree (C.B.C.S.S. – OBE-Supplementary/Improvement) Examination, November 2024
(2019 to 2023 Admission)
Complementary Elective Course
1C01BBA/BBA(RTM/AAM) : STATISTICS FOR BUSINESS DECISIONS

Time : 3 Hours Max. Marks : 40

***Instruction** : **Use** of calculator is **permitted**.*

PART – A
(Short Answer)

Answer **all** questions, **each** question carries **one** mark.

1. Comment on the following "Statistics are aggregate of facts".
2. Write the additive model of time series.
3. Define Laspeyres index number.
4. Define chain base index number.
5. When the correlation is said to be zero ? Write the range of correlation.
6. Write the formula of regression equation of y on x in terms of correlation coefficient. **(6×1=6)**

PART – B
(Short Essay)

Answer **any 6** questions, **each** question carries **two** marks.

7. What are the types of classification ?
8. What is the difference between population and sample ? Write an example for each.
9. Explain secular trend in time series.
10. What do you mean by periodic changes in time series data ?

P.T.O.

11. Explain quantity index number.

12. Check whether Paasche's index number satisfy time reversal test.

13. What are the different types of correlation ?

14. Explain the features of Spearman's correlation coefficient. **(6×2=12)**

PART – C
(Essay)

Answer **any 4** questions, **each** question carries 3 marks.

15. Explain the sources of secondary data.

16. Draw a trend line by the method of semi averages to the following data and estimate the sales for the year 2000.

Year :	1992	1993	1994	1995	1996	1997	1998	1999
Sales (Rs. Lakhs) :	412	438	444	454	470	482	490	500

17. What is (i) time reversal test and (ii) factor reversal test ? Prove that Fisher index number satisfies both time reversal test and factor reversal test.

18. Explain the uses of index number.

19. A computer operator while calculating the correlation coefficient between two variates x and y for 25 pairs of observations obtained the following.

$\sum x = 125$, $n = 25$, $\sum x^2 = 650$, $\sum y = 100$, $\sum y^2 = 460$, $\sum xy = 508$. It was later found that he had copied down two pairs as (6, 14) and (8, 6) while the correct pairs were (8, 12) and (6, 8). Obtain the correct value of the correlation coefficient.

20. What do you mean by cause and effect method ? How we find the mean values of x and y from the two regression lines. **(4×3=12)**

PART – D
(Long Essay)

Answer **any 2** questions, **each** question carries **5** marks.

21. i) Explain the limitations of Statistics.

    ii) Explain the role of tabulation in data analysis.

22. Fit a straight line trend by the method of least squares to the following data. Assuming that the same rate of change continues, what would be predicted earnings for the year 1985 ?

Year :	1976	1977	1978	1979	1980	1981	1982	1983
Sales (Lakh Rs.) :	76	80	130	144	138	120	174	190

23. From the following data of the wholesale process of wheat for ten years construct index numbers taking (a) 1989 as base and (b) by chain base method.

Year	Price of wheat	Year	Price of wheat
1989	50	1994	78
1990	60	1995	82
1991	62	1996	84
1992	65	1997	88
1993	70	1998	90

24. Find the two regression lines from the following data.

X :	158	160	163	165	167	170	172	175	177	181
Y :	163	158	167	170	160	180	170	175	172	175

Estimate Y, when X = 164 **(2×5=10)**