K23U 4040

Reg. No. : .....

Name : .....

I Semester B.B.A./B.B.A. (RTM) Degree (CBCSS-OBE-Regular/ Supplementary/Improvement) Examination, November 2023 (2019 Admission Onwards) Complementary Elective Course

1C01BBA/BBA (RTM) : STATISTICS FOR BUSINESS DECISIONS

Time : 3 Hours Max. Marks : 40

PART – A

Answer **all** questions. **Each** question carries **1** mark. **(6x1=6)**

1. What is Primary Data ?
2. What do you mean by Tabulation ?
3. What is Time Series ?
4. What is Secular Trend ?
5. What is Linear Correlation ?
6. What is Price Index Number ?

PART – B

Answer **any six** questions. **Each** question carries **2** marks. **(6x2=12)**

7. What are the characteristics of Statistics ?
8. Distinguish between Classification and Tabulation.
9. Construct the Index Numbers for 2021 on the basis of the prices of 2020, from the following data :

Commodities	1	2	3	4	5
Price in 2020	115	72	54	60	80
Price in 2021	130	89	75	72	105

P.T.O.

10. Fit a trend line through semi-average method for the following data :

Year	2015	2016	2017	2018	2019	2020	2021	2022
Income Rs. in '000	45	49	54	60	80	96	100	120

11. What are the types of Correlation ?
12. Calculate the co-efficient of correlation between X and Y series from the following data :

Particulars	X	Y
No. of pairs of observation	15	15
Arithmetic Mean	25	18
Standard Deviation	3.01	3.03
Sum of squares of deviation from the arithmetic mean	136	138

Summation of product deviations of X and Y series from their respective arithmetic mean = 122.

13. What is Regression ? State the utilities of Regression Lines.
14. From the following information, obtain the regression equation of X and Y.

$\bar{x} = 20, \bar{y} = 15, \sigma_x = 4, \sigma_y = 3, r = 0.7$.

PART – C

Answer **any 4** questions. **Each** question carries **3** marks. **(4x3=12)**

15. What are the different parts of a table ?
16. What are the differences between Diagrams and Graphs ?

17. Calculate three yearly moving average of the following data :

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
No. of Students	15	18	17	20	23	25	29	33	36	40

18. Calculate the co-efficient of concurrent deviations from the data given below :

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.
Supply	160	164	172	182	166	170	178	192	186
Price	292	280	260	234	266	254	230	190	200

19. From the following data, calculate :
    i) Correlation Co-efficient.
    ii) Standard Deviation of y

$b_{xy} = 0.85y$

$b_{yx} = 0.89x$

$\sigma_x = 3$.

20. Calculate the consumer price index number through Family Budget Method for the following data :

Commodity	A	B	C	D	E	F
Weight	50	60	35	40	20	10
Price per units 2020	15	17	8	5	20	6
Price per units 2021	25	28	15	9	22	5

PART – D

Answer **any 2** questions. **Each** question carries **5** marks. **(2x5=10)**

21. What are the differences between Primary Data and Secondary Data ?

22. Following are the data related with the output of a factory for 7 years :

Year	2010	2011	2012	2013	2014	2015	2016
Output (in tonnes)	47	64	77	88	97	109	113

Calculate trend values through the method of least squares and also forecast the production in 2019 and 2021.

23. Ten competitions in a beauty contest were ranked by three judges in the following order :

First Judge	1	6	5	10	3	2	4	9	7	8
Second Judge	3	5	8	4	7	10	2	1	6	9
Third Judge	6	4	9	8	1	2	3	10	5	7

Use this method of rank correlation to determine which pair of judge has the nearest approach to common taste in beauty.

24. The following data are related with the prices and quantity consumed for 2020 and 2022.

Commodity	2020		2022	
	Price	Qty	Price	Qty
I	12	30	15	35
II	7	12	10	15
III	9	10	7	12
IV	15	20	12	18
V	10	15	15	12

Compute Price Index numbers through :

a) Laspeyre's Method
b) Paasche's Method
c) Bowley – Dorbish Method
d) Fisher's Ideal Method.