22102762

QP CODE: 22102762

Reg No : .....

Name : .....

B.COM DEGREE (CBCS) REGULAR EXAMINATIONS, AUGUST 2022

Fourth Semester

Core Course - CO4CRT12 - QUANTITATIVE TECHNIQUES FOR BUSINESS-II

(Common for all B.Com Degree Programmes)

For Regular Candidates : 2020 Admission Only

For Private Candidates : 2017 Admission Onwards

4E913EDD

Time: 3 Hours Max. Marks : 80

Instructions to Private Candidates Only : *This question paper contains* ***two*** *sections.Answer* ***Section I*** *questions in the answer book provided.* ***Section II,*** *Internal Examination questions must be answered in the question paper itself.Follow the detailed instructions given under* ***Section II***

Section I

Part A

Answer any ***ten*** *questions.*

Each question carries ***2*** *marks.*

1. What is coefficient of Determination?
2. Calculate coefficient of correlation.

   Rank 1 1 4 3 2 5 6

   Rank 2 3 5 6 1 2 4
3. What is concurrent deviation method?
4. What is simple regression?
5. Why the line of regression analysis are called' line of best fit
6. What do you mean by Quantity Index Number?
7. Explain Fisher's ideal method of constructing index numbers.
8. What do you mean by Splicing of Index Numbers?
9. What do you mean by Secular Trend?
10. List out the merits of free hand curve method.

11. State the classical definition of probabilty.

12. List the sample space in selecting two from 3 men and4 women

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Does correlation always signify cause and effect relationship?

14. Define probable error? What are its utilities?

15. Given the following data,what would be the possible yield of rice per acre when rainfall is 29cm?.Coefficient of correlation between rainfall and yield is 0.8.

	Rainfall	Yield
Mean	25	40
variance	9	36

16. From the following data, construct an Index Number of prices under Simple Aggregative Method and Average Relative Method for the year 2018 using 2017 as base year.

Commodities	Price in 2017	Price in 2018
Rice	10	14
Wheat	7	12
Coconut Oil	52	66
Sugar	24	35

17. From the following data, compute Laspeyre's, Paasche's and Fisher's Index Numbers, taking 2012 as the base year.

Articles	2012		2018	
	Price	Quantity	Price	Quantity
A	10	4	15	3
B	30	12	50	10
C	40	18	55	14
D	25	12	45	6

18. Explain how analysis of time series is useful to businessmen and industrialists.

19. Given the trend equation $Y=35+5x+3x^2$ (Origin: 1999, x unit = 1 year). Change the origin of the equation to 2005.

20. A bag contains 7 red, 12 white and 4 green balls. Three balls are drawn. What is the probability that a) 3 balls are all white ; and b)3 balls are one of each colour.

21. Four persons are chosen at random from a group containing 3 men, 2 women and 4 children. Find the probability that exactly 2 of them will be children.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. The following table shows the total number of foreign tourists visited at a tourist destination, their age group and the number of persons interested in trucking.Compute Pearsonian correlation co-efficient of the following variables.

Age group	Total number of tourists visited	Total number of tourists participated in trucking
20-30	2000	500
30-40	5000	2000
40-50	6000	1500
50-60	4000	800
60-70	1000	100

23. You are given data relating to purchases and sales.Obtain the two regression equations by the method of least squaresand estimate the likely sales when the purchases equal 100.

Purchases	62	72	98	76	81	56	76	92	88	49
Sales	112	124	131	117	132	96	120	136	97	85

24. Obtain the straight line trend equation and tabulate against each year after estimation of the trend and short-term fluctuations

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Value	38	40	65	72	69	62	67	95	104

25. An insurance company insured 2000 scooter drivers, 4000 car drivers and 6000 truck drivers. The probability of accident is 0.01, 0.03 and 0.15 respectively. One of the insured person meets with an accident. What is the probability that he is a scooter driver?

(2×15=30)