



M 8825

Reg. No. :

Name :

II Semester B.Com. Degree (CCSS – 2014 Admn. – Regular)
Examination, May 2015
COMPLEMENTARY COURSE IN COMMERCE
2C02 COM : Quantitative Techniques For Business Decisions

Time : 3 Hours

Max. Marks : 40

PART – A

Answer **all** questions, **each** carries $1/2$ marks.

- Correlation indicates the relationship between
 - Variable
 - Two variable
 - Three variables
 - None of these
- Regression analysis for studying more than two variables at a time is known as _____
 - Simple regression
 - Single regression
 - Multiple regression
 - None of these
- 3% of a given lot of manufactured parts are defective, what is the probability that in a sample of four items none will be defective
 - $(.97)^4$
 - 97^4
 - $(.87)^4$
 - None of these
- Business cycles and trade cycles
 - seasonal variation
 - cyclic variation
 - Irregular fluctuations
 - None of these

$(1/2 \times 4 = 2)$

PART – B

Answer **four** questions, **each** carries **1** mark.

- State two limitations of Trend Free Hand curve method.
- What is Radons experiments ?

P.T.O.



7. What is the probability of getting 3 white balls in a draw of 3 balls from a box containing 5 white and 4 black balls ?
8. In the study of regression equations, following values were obtained. Regression coefficient of y on $x = .25$, $r = .42$, S. D of $y = 4$, find S. D of x .
9. Define probability.
10. Write notes on Binomial Distribution.
11. Distinguish between cyclic and seasonal fluctuations. (4×1=4)

PART – C

Answer **any six** questions **each** carrying **3** marks **not** exceeding **one** page.

12. List out the components of a time series.
13. Coefficient of correlation between two variates X and Y is 0.48. Their covariation is 36. The variance of $X = 16$. Find the standard deviation of Y series.
14. Explain usefulness of the study of regression.
15. There are 17 balls numbered from 1 to 17 in a bag. If a person selects one at random what is the probability that the number printed on the ball be an even number greater than 9 ?
16. Given the equation :
 $Y = 10(1.5)^x$, (Origin : 2000, x unit – 1 year). Shift the origin to 2002.
17. Explain the ratio to moving average method.
18. Compute the seasonal ideas for the following data :

Quarter/Year	2010	11	12	13
First (J.– March)	75	86	90	100
Second (April – June)	60	65	72	78
Third (July – Sept.)	54	63	66	72
Fourth (Oct. – Dec.)	59	80	85	93

(6×3=18)



PART – D

Answer **any two** questions **each** carrying **8** marks **not** exceeding **3** pages.

19. You are given the following data :

	x	y
Arithmetic Mean	36	85
Standard deviation	11	8

Correlation coefficient between x and y = 0.66.

- i) Find the two regression equations.
 - ii) Estimate the value of x when y = 75.
20. Coefficient of correlation between two variables is calculated to be – .98. Find the value of probable error and hence interpret the result (n = 10). Find the limits within which population correlation coefficient may lie.

21. Find the trend equation from the following information :

$n = 8, \sum y = 47.8, \sum 12, \sum x^2 = 60$ and $\sum xy = 67.4$. (2x8=16)

- a) Simple regression
- b) Multiple regression
- c) None of these

22. In a lot of manufactured parts are defective, what is the probability that in a sample of four items none will be defective

- a) (0.87)⁴
- b) (0.7)⁴
- c) (0.87)⁴
- d) None of these

23. Business cycles and trade cycles

- a) seasonal variation
- b) cyclic variation
- c) Irregular fluctuations
- d) None of these

PART – B

Answer four questions, each carries 1 mark.

5. State two limitations of Trend Free Hand curve method.

6. What is Rado's experiments?