



M 6534

Reg. No. :

B.COM

Name :

II Semester B.Com. Degree (CCSS – Reg./Supple./Improv.)
Examination, May 2014
COMPLEMENTARY COURSE IN COMMERCE
2C02 COM : Quantitative Techniques for Business Decisions
(2012 Admn. Onwards)

Time: 3 Hours

Max. Weightage: 30

PART – A

This Part consist of **two** bunches of questions carrying **equal** weightage of **one**.
Each bunch consists of **four** objective type questions. Answer **all** questions :

- I. 1) Correlation for one values of both variables under study move in the same direction
a) negative b) positive c) linear d) non-linear
- 2) If one of the regression coefficient is less than unity the other must be
a) one b) zero
c) greater than unity d) less than unity
- 3) People spend more money to buy goods during the days of festivals is an example for
a) Seasonal b) Cyclical
c) Trend d) Irregular
- 4) The happening of one prevents the happening of another, then the two are
a) exhaustive b) mutually exclusive
c) equally likely d) favourable

(W = 1)

- II. 5) In how many way can 4 flower be chosen out of nine ?
a) $9C_4$ b) $9C_2$ c) $9P_4$ d) $9P_2$
- 6) For a binomial distribution with $n = 9$ and $p = \frac{1}{3}$ find the variance
a) 3 b) 9 c) 2 d) 18

P.T.O.



- 7) Since height of a person depend on age, the variable age is _____ variable.
- a) Dependent b) Independent c) Correlated d) Random
- 8) The rank correlation is discovered by
- a) Spearman b) Bernoulli c) Karl Pearson d) C. R. Rao (W = 1)

PART – B

Answer **any eight** questions in **one** or **two** sentences **each**. **Each** question carries a weightage of **one** :

9. Comment on the statement : “The correlation between X and Y is – 0.95”.
10. Bring out the treatment in Rank correlation when two or more values are identical.
11. What is linear regression ?
12. Write down the properties of regression coefficients.
13. What is meant by moving average ?
14. Any two examples for irregular fluctuation.
15. State addition theorem of probability.
16. Define conditional probability.
17. Define normal distribution.
18. Derive mean of poisson. (W = 8×1=8)

PART – C

Answer **any six** questions. Answer not to exceed **one page each**. **Each** question carries a weightage of **two** :

19. Calculate the correlation coefficient :

X	15	16	17	18	19	20
Y	80	75	60	40	30	15

20. The regression equations are $8x - 10y + 66 = 0$ and $20x + 9y = 107$. Find the average values of x and y and also find the correlation coefficient.



- 21. Distinguish between seasonal and cyclical variation of time series.
- 22. Derive the mean of a binomial distribution.
- 23. Out of 4 officers and 9 clerk in a firm, a committee consisting of one officer and 2 clerks is to be formed. In how many way can this be done if
 - a) any officer and any clerk be included
 - b) one particular clerk must included
 - c) two particular clerks can not be in the committee.
- 24. Explain Scatter diagram.
- 25. For a random variables X has normal distribution with mean 5 and variance 4, find :
 - a) $P(x \geq 6)$
 - b) $P(x < 5)$
 - c) $P(1 \leq x \leq 9)$.
- 26. A card is drawn at random from a well shuffled pack of 52 cards. What is the probability that it is a heart or a queen ? **(W = 6×2=12)**

PART – D

Answer **any two**. **Each** question carries a weightage of 4 :

- 27. What are regression lines ? Describe the method of least squares to find the regression lines.
- 28. Fit a straight line trend by the method of least squares.

Year	2000	2001	2002	2003	2004	2005
Production (in lakh)	7	10	12	14	17	20

- 29. Three identical boxes contain two balls each. One has both red, one has one red and one black and the third has two black balls. A person chooses a box at random and take out a ball. If the ball is black find the probability that the other ball in the box is also black ? **(W = 2×4=8)**
-