M 6534

Reg. No. : ..... BCOM

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)**
