K19U 0301

Reg. No. : .....

Name : .....

II Semester B.Com. Degree (CBCSS – Reg./Supple./Improv.) Examination, April 2019
(2014 Admission Onwards)
COMPLEMENTARY COURSE IN COMMERCE
2C02COM : Quantitative Techniques for Business Decisions

Time : 3 Hours

Max. Marks : 40

PART – A

Answer **all** questions. **Each** question carries ½ mark.

1. P(A∪B) is the probability that _____ will occur.
   a) A b) B c) A and B d) A or B

2. For the normal distribution, the mean plus and minus 1.96 standard deviations will include what per cent of the observations ?
   a) 85 b) 90 c) 95 d) 99

3. The value of 3! is _____

4. The Probability of an event lies between _____ and _____

(4×½=2)

PART – B

Answer **any four** questions. **Each** question carries **1** mark.

5. What is positive and negative correlation ?
6. What is moving average ?
7. Define Probability.
8. What is Poisson distribution ?
9. What is regression lines ?
10. What is addition theorem in probability ?

(4×1=4)

P.T.O.

PART – C

Answer **any six** questions (**Not** exceeding **one** page). **Each** question carries **3** marks.

11. What is Bayes theorem ?

12. Explain :

    a) Permutation

    b) Combination

    c) Mutually exclusive events.

13. Two judges in a dance competition rank the 12 entries as follows :

    X : 1 2 3 4 5 6 7 8 9 10 11 12

    Y : 12 9 6 10 3 5 4 7 8 2 11 1

    What degree of agreement is there between the judgments of the two judges ?

14. A bag contains 6 white, 4 red and 10 black balls. Two balls are drawn at random. Find the probability that they will both be black.

15. Calculate the coefficient of correlation for the following data :

    X : 9 18 18 20 20 23

    Y : 23 33 23 42 29 32

16. A bag contains 5 white and 3 black balls. Two balls are drawn at random one after the other without replacement. Find the probability that both balls drawn are black.

17. Calculate trend values taking a 3 yearly period of moving average from the following data :

Year :	2003	2004	2005	2006	2007	2008	2009	2010
Sales (in hundred units) :	5	7	9	12	11	10	8	12

Year :	2011	2012	2013	2014	2015	2016	2017
Sales (in hundred units) :	13	17	19	14	13	12	15

18. How many permutations and combinations can be obtained from 6 objects taken 3 at a times ? **(6×3=18)**

PART – D

Answer **any two** questions. **Each** question carries **8** marks.

19. What is correlation ? Discuss the methods used for calculating correlation.

20. Find the two regression equations from the following data :

Age of Husband :	18	19	20	21	22	21	24	25	26	27
Age of Wife :	17	17	18	18	19	19	19	20	21	22

21. a) A coin is tossed six times. What is the probability of obtaining four or more heads ?

    b) A life insurance salesman sells on the average 3 life insurance policies per week. Use Poisson's law to calculate the probability that in a given week he will sell 2 or more policies but less than 5 policies. **(2×8=16)**

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