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SUBJECT CODE NO:- CC-3360
FACULTY OF COMMERCE AND MANAGEMENT
B.Com F.Y (Sem-II) (CBCGS) Examination Oct/Nov 2019
Business Mathematics & Statistics-II

[Time: Three Hours]**[Max. Marks: 80]**

Please check whether you have got the right question paper.

N.B

- 1) Question No. 1 is compulsory.
- 2) Solve any 4 questions from question No. 2 to 7.
- 3) Use of log table and calculator is allowed.

Q.1 A) Select the most appropriate answer from the alternatives given below:- 05

- 1) If $\log_a b \times \log_b a = \text{-----}$
 a) 0 b) 1 c) 2 d) none of these
- 2) If $r=0$, it means there is ----- relationship between given variables.
 a) High b) low c) no d) none of these
- 3) The regression analysis measures ----- between two variables.
 a) Independence b) dependence c) degree d) none of these
- 4) Price Index Numbers for current year based on base year is denoted by -----
 a) Q_{01} b) P_{01} c) P_{10} d) none of these
- 5) A coin is tossed three times in succession, the number of sample points in the sample space is -----
 a) 6 b) 8 c) 3 d) none of these

05

B) Answer the following questions in one sentence each.

- 1) What is Mantissa?
- 2) What is negative correlation?
- 3) What is simple regression?
- 4) Give the formula for Price Index Number suggested by Paasche's.
- 5) Define sample space.

C) Fill in the blanks and rewrite the sentences. 05

- 1) Characteristics of number 0.02345 is -----.
- 2) When change of values in two variables are in constant ratio, correlation is called as -----
- 3) The purpose of regression is to study ----- between variables.
- 4) The base period should always be -----

5) Two events A and B are mutually exclusive if $P(A \cup B) = \dots\dots\dots$

D) State whether the following statements are true or false. 05

- 1) If $\log_a(M \times N) = \log_a M + \log_a N$
- 2) If $r = -0.505$, it is called as Perfect negative correlation.
- 3) If both the regression co-efficients are negative the value of r is also taken as positive.
- 4) Fisher's Ideal Index Number is based on Laspeyre's and Paasche's method.
- 5) Mutually exclusive events are independent.

Q.2 Attempt with the help of log table.

15

$$\frac{(2.38)^2 \times \sqrt{25.64}}{1.234 \times 0.0213}$$

Q.3 Calculate the Karl Pearson's Co-efficient of Correlation from the following data.

15

x	y
70	50
50	40
40	60
60	70
25	30
50	45
35	55
80	65
85	80

(Use 55 as assumed mean for both series)

Q.4 Obtain the two regression equations by taking the deviations of items from the means of 'x' and 'y' series. [Direct Mean Method] 15

'x' series	'y' series
1	9
2	8
3	10
4	12
5	11
6	13
7	14
8	16
9	15

Q.5 Find the Laspeyre’s and Paasche’s Price Index Numbers from the following Data. 15

Commodity	Base year 2008		Current year 2018	
	Price	Qty.	Price	Qty.
A	20	10	30	8
B	30	20	40	10
C	20	30	30	10
D	10	14	20	06

Q.6 A bag contains 8 Red & 3 white balls. If two balls are drawn at random. Find the probability that 15

- i) Both are white
- ii) Both are Red.

Q.7 Write a short notes (any three) 15

- 1) Principle of Logarithms.
- 2) What is Correlation?
- 3) Types of Regression
- 4) Write the concept of Index Number.
- 5) Applications of Probability