Total No. of Printed Pages: 3

SUBJECT CODE NO:- 3046
FACULTY OF COMMERCE AND MANAGEMENT
B.Com F.Y Sem. II
EXAMINATION JUNE/JULY 2022
Business Mathematics & Statistics-II

[Time: 3:45 Hours] **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B.
i) Question No.1 is compulsory.
ii) Solve any 4 questions from question no. 2 to 7.
iii) Use log table and calculator is allowed.

Q.1 A) Select the most appropriate answer from the alternatives given below (one mark each) 05

1) The change or movement of variables in the same direction or increase or decrease of the same variables in the same direction is called _____ correlation.
a) Positive.
b) Negative.
c) Simple
d) Partial.

2) The term "Regression is the measure of average relationship between two or more variables in terms of original unit of data"
a) Karl Pearson's
b) M. M. Blair.
c) Morris M. C.
d) L. R. Cannor

3) Index number are expressed in _____
a) Rations
b) Combinations
c) Squares
d) Percentages

4) A discrete probability distribution may be represented by
a) Table
b) Graph
c) mathematical equation
d) All of the above

5) Find Log of (3668 × 6012) = _____
a) 3.5645
b) 3.7790
c) 7.3435
d) 9.680

B) Answer the following questions in one sentence each. (one mark each) 05

1) Define correlation. ?
2) What is regression equation?
3) Write full form of CPI?
4) Write two important theorems of Probability
5) Define Index number.

C) Fill in the blanks and rewrite the sentence (one mark each) 05

1) The change in one variable with other variable is in fixed ratio, it is known as _____ regression.
2) Every index number is associated with a _____ period.
3) _____ may be defined as the ratio of the number of favourable cases to the total number of equally likely cases.
4) The _____ software package was created For the management and statical analysis of social science data.
5) In _____ correlation there or more variables are studied simultaneously.

D) State whether the following statement are true or False. (one mark each) 05

1) With the help of correlation analysis sampling error can be calculated.
2) If r = -1, then we can conclude that there is a perfect relationship between x & y
3) A probability which is calculated on the basis of personal experience or opinion is called objective probability
4) All index number do not serve the same purpose.
5) All data manipulation commands are listed under the data pull-down menu.

Q.2 Solve the following with the help of Log table. 15

$$\frac{42.22\times (8.44)^2}{50.88}$$

Q.3 Find out Karl Pearson's co-efficient of correlation from the following data. 15

X	5	6	7	9	12	15	14	16	17	19
Y	16	20	22	25	24	26	28	29	31	39

(Use 12 and 26 as working mean for x & y series respectively.)

Q.4 From the following data. Find the two regression equations taken deviations of item the mean of x & y by series. 15

X	6	2	10	4	8
Y	9	11	5	8	7

Q.5 Construct the Fisher Ideal Index number of price from the following data. 15

Commodity	2015		2016	
	Price	Quantity	Price	Quantity
A	2	20	5	15
B	4	4	8	5
C	1	10	2	12
D	5	5	10	6

Q.6 An urn contains 8 white and 3 red balls. If Two balls are drawn at random. Find the probability that 15

i) Both are white.
ii) Both are red.
iii) One is of each colour.

Q.7 Write Short Notes (any three) 15

1) Significance of correlation
2) Types of Regression.
3) Antilogarithm.
4) Laspeyre's method
5) Conditional Probability.