Total No. of Printed Pages: 3

SUBJECT CODE NO:- C-3048
FACULTY OF COMMERCE AND MANAGEMENT
B.Com F.Y (Sem-II)
Examination November/December- 2022
Business Mathematics & Statistics-II

[Time: 03:00 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 of log table and calculator is allowed.

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

i) $a^x = M$ is said to be in the _____ Form
a) log form b) exponential form c) square form d) none of these

ii) When the values of given two variables increase or decrease in the same direction the correlation is said as.....
a) positive b) Negative c) No relationship d) none of these

iii) The objective of regression analysis is to study the nature of relationship and -----
a) Estimation b) degree of relationship c) Comparative study d) none of these

iv) The degree of uncertainty can be measured numerically called as ------
a) Science of uncertainty b) logic c) Probability d) none of these.

v) A device to measure change is called as _____
a) Index Number b) correlation c) Regression d) none of these

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

i) Define common Logarithms.
ii) Define simple correlation.
iii) Write down the two regression equations -
iv) What is an event?
v) What is base year? 05

(C) Fill in the blanks and rewrite the sentences (one mark each):-

i) If the base is 10 the logarithms is called as _____
ii) The value of Co-efficient of Correlation lies between ___
iii) There are _____ regression lines.

iv) Index Numbers is a ____ type of average
v) The result of a random experiment is called an ____ 05

(D) state whether the following statements are True or False (one mark each):-

i) if the base is 'e' or 2-71828 then it is called as natural logarithms
ii) If two variables are independent then they are Called correlated.
iii) $(y - \bar{y}) = b_{yx}\,(x - \bar{x})$ is regression equation of y on x
iv) Index Numbers are called barometers of economic Change
v) Mutually exclusive events are independent also

Q.2 Simplify by using Log Table. 15

$$\frac{(62.52)^2 \times \sqrt{30.47}}{3.57 \times 4.37}$$

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

x	y
28	18
27	20
28	22
28	27
29	21
30	29
31	27
33	29
35	28
36	29

(Use 30 & 29 as assumed mean for x & y series respectively)

Q.4 From the following data obtain the two regression equation by taking deviation from the actual means of 'x' and 'y' Series 15

'x' Series	'y' Series
2	5
4	7
6	9
8	8
10	11

Q.5 Find the Laspeyre's and Paasche's Price Index Numbers from the following data. 15

Commodity	Base year		Current year	
	Price	Qty	Price	Qty
A	12	21	18	21
B	06	15	09	12
C	09	12	15	15
D	18	06	24	09

Q.6 From a bag containing 5 Black and 4 Red balls, a draw of 3 balls is made. What is the probability that is 15

i) All the balls drawn are Black.
ii) All the balls drown are Red.

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

1. Procedure to Find out log values.
2. Rank correlation.
3. Simple and multiple Regression.
4. Types of Index number.
5. Law of Probability.