Seat
No.

B.Com. (Part - II) (Semester - IV) Examination, April - 2019
BUSINESS STATISTICS (Paper - II)
Sub. Code : 63124

Day and Date : Tuesday, 16 - 04 - 2019   **Total Marks : 50**
Time : 03.00 p.m. to 05.00 p.m.

Instructions : 1) Attempt any FIVE questions.

2) Use of simple calculator is allowed.

3) Figures to the right indicate full marks.

4) Each question carries 10 marks.

Q1) a) Explain the terms with examples.   [5]

i) Sample Space and

ii) Mutually Exclusive Events.

b) Tickets numbered from 1 to 50 are well shuffled and a ticket is drawn at a random from it. What is the probability that the number on the ticket is

[5]

i) 5 or multiple of 5,

ii) a number which is a perfect square?

Q2) Define Normal distribution. State any two important properties of Normal Curve. If the weights of 1000 students are distributed normally with mean 40 kgs. and S.D. of 4 kgs. then find the number of students with weights. **[10]**

a) Less than 36 kgs. and

b) More than 45 kgs. (Given: for S.N.V. Z area between 0 and 1 is 0.3413, and between 0 and 1.25 is 0.3944).

P.T.O

Q3) Define 'Time Series'. Explain with example secular trend. Also Calculate 4 - Yearly centered Moving Averages for following data: **[10]**

Year	1	2	3	4	5	6	7	8	9	10
Sales	22	30	25	27	29	36	32	34	35	40

Q4) Define Laspeyre's and Paasche's Price index number. From the data given below calculate Fishers Ideal Price Index number with taking 2014 as a base year: **[10]**

Commodity	Price		Quantity	
	2014	2018	2014	2018
A	9.3	4.5	100	90
B	6.4	3.7	11	10
C	5.1	2.7	5	3

Q5) What is Statistical Quality Control (S.Q.C.)? Give advantages of S.Q.C. If in an examination of 10 new model computers the following number of defects per computer were observed: 8, 5, 6, 4, 3, 8, 8, 10, 9, 9. Then find calculate control limits for most suitable control chart for this data. **[10]**

Q6) For $n = 5$, $A_2 = 0.58$, $D_3 = 0$ and $D_4 = 2.11$, obtain control limits for Mean and Range Chart for the following data. Draw control charts on same graph paper. **[10]**

Sample No.	1	2	3	4	5	6	7	8	9	10
Mean	15	17	15	18	17	14	18	15	17	16
Range	7	7	4	9	8	7	12	4	11	5

State whether the process is under control or not.

Q7) a) Paasche's and Fisher's quantity indices respectively are 124 and 124.8. Obtain Laspeyre's quantity index. **[5]**

b) For a time series data, if

$y = 110.83 + 11.07x$; where $x = 2t - 4001$,

is the equation of best fitted trend then estimate the value of y for $t = 2020$.

[5]

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