Seat No.

B.B.A.(Part-II) (Semester-IV) Examination, 2013
STATISTICAL TECHNIQUES FOR BUSINESS (Paper-II)
Sub. Code : 43947

Day and Date : Thursday 25-04-2013

Total Marks :40

Time : 3.00 p.m. to 5.00 p.m.

Instructions : 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Graph paper will be supplied on request.
4) Use of non programmable calculator is allowed.

Q1) Attempt any Two: [14]

a) Explain the method of Moving Averages. Find the progressive averages from the following:

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
Profit	213	227	212	250	270	230	175	190	200

b) Explain the terms (i) product control (ii) process control, in S.Q.C.

Find the control limits for np - chart from the following data.

Sample No. (each of 100 items)	1	2	3	4	5	6	7	8	9	10
No. of defectives	10	14	7	7	9	10	8	18	9	14

c) Define Index Number. What are uses of index number? State the problems involved in the construction of index numbers.

Q2) Attempt any Two: [16]

a) Define Time series and state its components.

Calculate 3 yearly moving averages from the following data.

Year	1	2	3	4	5	6	7	8	9	10
Sales in lakhs	4	7	10	12	10	15	20	22	23	22

b) Explain how to construct a control chart for variables.

The ranges of 10 samples of size 5 are given below. Draw a range chart and comment.

Sample No.	1	2	3	4	5	6	7	8	9	10
Sample range	0.1	0.4	0.9	0.7	0.6	0.5	0.2	0.3	0.2	0.6

For $n = 5$, $D_3 = 0$, $D_4 = 2.11$.

c) State Multiplication law of probability for any two events. A problem is given to two students A and B. Probability that A solves it is 2/3 and B solves it is 3/4. Find the probability that the problem will be solved.

d) Define Laspeyre's and Paasche's price indices. Find Laspeyre's and Paasche's price indices and hence find Fisher's price index number from the following data.

Article	Base Year		Current Year	
	Price in Rs.	Total Value in Rs.	Price in Rs.	Total value in Rs.
A	5	50	4	48
B	8	48	7	49
C	6	18	5	20

Q3) Attempt any Two: [10]

a) Define mutually exclusive events.

A box contains 20 tickets marked with 1 to 20. One ticket is drawn at random. Find the probability that the number on ticket drawn is (i) multiple of 5 (ii) perfect square.

b) What is S.Q.C.? Distinguish between defects and defectives.

c) Define value index number.

Find the value index number for the following data.

Commodity	2006		2010	
	Price	Quantity	Price	Quantity
A	2	5	3	4
B	1	2	2	3
C	4	1	4	1

❆❆❆