

Seat No.	
----------	--

B. B. A. (Part - II) (Semester - IV) Examination, April - 2014
STATISTICAL TECHNIQUES FOR BUSINESS (Paper - II)

Sub. Code : 43947

Day and Date : Thursday, 10-04-2014

Total Marks : 40

Time : 12.00 noon to 2.00 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 calculator is allowed.

Q1) Attempt any Two:

[14]

- a) What is S.Q.C.? Explain construction of Range chart.
- b) Define the terms: Event and probability of an event.

If $P(A) = 0.2$, $P(B) = 0.6$, find $P(A \cup B)$, when (i) A and B are independent
(ii) A and B are exclusive.

- c) Define Index number. State the problems involved in the construction of index numbers.

Q2) Attempt any Two:

[16]

- a) Define Time series. State the components of time series. Calculate 4- yearly centered moving averages from the following data.

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Production	82	73	75	74	73	72	76	76	80	75

- b) Define Fisher's quantity index number. Find Fisher's price index number from the following data and comment.

Commodities	Price		Quantity	
	Base year	Current year	Base year	Current year
A	2	10	4	5
B	4	20	10	12
C	10	25	12	15

E-147

- c) Explain the construction of control chart for number of defectives. In a certain sampling inspection, the number of defectives found in 10 samples of 100 units each are given below.

16, 18, 11, 18, 21, 10, 0, 18, 17, 21

Construct a np-chart and comment.

- d) Define sample space. State multiplication law of probability for two events. If a coin and a die are tossed together then write sample space and find the probability of appearing head on coin and even number on die.

Q3) Attempt any Two:

[10]

- a) Explain the method of moving averages related to time series.
- b) Define unweighted price index number by simple aggregate method. If Laspeyre's and Fisher's price indices respectively are 125 and 125.6, then find Paasche's price index number.
- c) What is the probability of getting exactly 53 sundays in a leap year?



Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Production	82	73	75	74	73	72	76	76	80	75

Commodities	Price		Quantity	
	Base year	Current year	Base year	Current year
A	2	10	4	3
B	4	20	10	12
C	10	25	12	15