

Seat No.	
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**B.B.A (Part - II) (Semester - IV) Examination, November - 2015**  
**STATISTICAL TECHNIQUES FOR BUSINESS (Paper - II)**  
**Sub. Code : 43947**

**Day and Date : Monday, 23 - 11 - 2015**

**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) Use of nonprogrammable calculator is allowed.
  - 4) Graph paper will be supplied on request.

**Q1) Attempt any Two.**

**[14]**

- a) What is statistical Quality control (S.Q.C.)? Give its advantages.
- b) Define the terms
  - i) Index number
  - ii) Value index number Find the value index number for the following data.

Commodity	2010		2014	
	price	Quantity	Price	Quantity
A	2	5	3	4
B	1	2	2	3
C	4	1	4	1

- c) Define
- i) Event
  - ii) Mutually Exclusive Events. Two dice are thrown simultaneously. Write down the sample space and find the probability that sum of two numbers on upper most surfaces of dice will be (i) seven (ii) more than ten.

**Q2) Attempt any Two. [16]**

- a) Define Time series and state its uses. Compute the trend values in the following Time series by moving average method (Assume 5-yearly cycle).

year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
production	42	45	50	51	41	38	45	48	50	40

- b) State multiplication law of probability for any two events. A bag contains 12 white and 8 black balls. Two balls are drawn one by one without replacement. Find the probability that
- i) both are white
  - ii) one of each colour.
- c) Define the terms: price index number and quantity index number. Compute price index number by Fisher's ideal method.

Commodity	Quantity in kg		Price in Rs	
	Base year	Current year	Base year	Current year
A	8	6	20	40
B	10	5	50	60
C	15	10	40	50
D	20	15	20	20

- d) Explain in brief the construction of mean chart. Construct mean chart for the following data and state whether the process is under control or not. Given, for  $n = 5$ ,  $A_2 = 0.58$

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

**Q3) Attempt any Two.**

**[10]**

- What is the probability of getting exactly 53 sundays in a leap year?
- Write note on cyclical variations in time series.
- State the problems involved in construction of index numbers. If Laspeyre's and Fisher's price indices are 125 and 125.6 respectively then find Paasche's price index number.

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