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Seat No.	
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B.B.A. (Part - II) (Semester - IV)**Examination, November - 2016****STATISTICAL TECHNIQUES FOR BUSINESS (Paper - II)****Sub. Code : 43947****Day and Date : Thursday, 03-11-2016****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) Describe the method of progressive averages. Find the progressive averages from the following data.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Profit	213	227	212	250	270	230	175	190	200

- b) Define index number. State the problems faced in the construction of index numbers.
- c) Define the terms: Sample space and probability of an event. If $P(A) = 0.3$, $P(B) = 0.4$ and $P(A \cup B) = 0.5$ then compute
- i) $P(A \cap B)$
 - ii) $P(A/B)$

P.T.O.

Q2) Attempt any two:

- a) Define Laspeyre's and Paasche's quantity indices. Obtain Laspeyre's and Paasche's price indices and hence Fisher's price index number from the data given below:

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

- b) 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.
- c) Define Time series and state its components. Calculate 3 - yearly moving averages (without graph) from the given 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

- d) Explain in brief the construction of control chart. Construct the Range chart for the following data and state whether the process is under control or not. Given, for $n = 5$, $D_3 = 0$, $D_4 = 2.11$.

Sample No.	1	2	3	4	5	6	7	8	9	10
Range	7	7	4	9	8	7	12	4	11	5

Q3) Attempt any Two:

- a) Define price index number by average of relatives method (using A.M.) and compute it from the following data.

Commodity	Wheat	Milk	Sugar	Fish
Base year price	16	24	25	150
Current year price	20	26	40	200

- b) A bag contains 25 tickets with numbers 1 to 25. One ticket is drawn at random, find the probability that the number on ticket drawn is
- Multiple of 4 or 6.
 - Perfect square.
- c) Write not on chance causes and assignable causes.

