

## NBA-010-001407 Seat No. \_\_\_\_

## B. B. A. (Sem. IV) (CBCS) Examination March / April - 2017

407 : Business Statistics-II

(New Course)

Faculty Code : 010 Subject Code : 001407

Time:  $2\frac{1}{2}$  Hours] [Total Marks: 70]

1 (A) Explain variation due to assignable causes.

(B) Write difference between variable charts and attribute charts.

OR

1 Samples were taken for 10 days during production in a factory and number of defectives were observed as under:

Day	:	1	2	3	4	5	6	7	8	9	10
Samplesize	:	50	50	50	50	50	50	50	50	50	50
Defectives	:	3	2	7	4	0	2	2	3	2	1

Draw P-chart and np-chart and state your comment.

2 (A) Explain any two methods for forecasting.

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(B) Fit a straight line by least square method:

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Year	:	1993	1994	1995	1996	1997	1998	1999
Production	:	12.7	10.1	13	13.2	12.6	14.2	13.7

OR

2 Fit a second degree parabola & estimate profit for 2003: 14

Year	:	1995	1996	1997	1998	1999	2000
Profit	:	10	12	18	15	13	16

3 (A) The following results were obtain from 100 students,

$$\sum x = 510$$
,  $\sum x^2 = 2610$ 

Test the hypothesis that population mean is 5.

(B) A cadila drug company develops a new drug, to prevent cold, they choose a random sample of 100 women and 200 men from population, at the end of study 38% women and 51% men caught cold, test the hypothesis that effect of drug is equal for men and women [use 5% level].

OR

- A result of 880 students of BBA is given below: 440 students 14 fail, 200 secured pass class, 200 had second class and 40 got first class, The university result proportion is 8:5:5:2 respectively, do you agree with these proportion [use  $\chi^2$  test].
- 4 (A) Explain F-test.

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(B) A training is given to 10 officers and the improvement 7 in their performance were recorded in terms of score as:

$$-4, 6, -4, -20, 0, 4, -10, -16, -2, 6$$

OR

4 Set up two way ANOVA table:

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[Contd...

	Machine					
	A	В	C	D		
	40	34	43	42		
	42	36	48	39		
Worker	30	32	40	28		
	39	34	42	49		
	34	38	43 48 40 42 45	35		

5 (A) Explain Game theory.

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- (B) (i) Write rules to determine saddle point.
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(ii) Write steps for dominance principle.

OR

5 Find the optimal strategies for player A & B in the following Game, use algebraic method: