

Code No. 3546/CBCS

**FACULTY OF COMMERCE**

B.Com. (CBCS) (IV – Semester) Examination, May/June, 2018

(Common Paper for General/ Computers and Computer Applications/Advertising/  
Foreign Trade and Tax Procedures Courses)**BUSINESS STATISTICS – II**  
Paper Code – BC – 406

Time: 3 Hours

Max. Marks: 80

**PART – A (5X4=20 Marks)****Note: Answer any FIVE of the following questions not exceeding 20 lines each.**

- 1 If  $\gamma=0.6$ ,  $\sigma_x=1.5$  and  $\sigma_y=2$ , Find the  $b_{xy}$  and  $b_{yx}$ .
- 2 Importance of Index Numbers
- 3 From the following data calculate a price Index based on price Relatives Method using Arithmetic Mean

Commodity	A	B	C	D	E	F
Price 2015 (Rs.)	45	60	20	50	85	120
Price 2016 (Rs.)	55	70	30	75	90	130

- 4 What are the uses of Time series.
- 5 Explain (i) Mutually Exclusive Events and (ii) Not-Mutually Exclusive Events
- 6 When two dice are thrown, find the probability that the sum of the numbers is either 10 or 11.
- 7 6 coins are tossed at a time, what is the probability of obtaining 4 or more Heads.
- 8 Properties of Normal Distribution.

**PART – B (5X12=60 Marks)****Note: Answer all the questions in not exceeding 4 pages each.**

- 9 a) Define Regression and what are the differences between correlation and Regression.

**OR**

b) Given:

$$\sum x = 56, \sum y = 40, \sum x^2 = 524, \sum y^2 = 256, \sum xy = 364, N = 8$$

- (i) Find the two Regression equations and
- (ii) The Correlation Coefficient.

10 a) The following are the indices (2007. Base)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Indices	100	120	122	116	120	120	137	136	149	156	137

Shift the base to 2012 and recast the index numbers.

Contd..2..



Code No. 3546/CBCS

-2-

OR

- b) From the following data calculate price Index Number by using (i) Paasche's Method and (ii) Marshal Edgeworth Method.

Item	Base year		Current year	
	Price(Rs.)	Expenditure(Rs.)	Price(Rs.)	Expenditure(Rs.)
P	6	300	10	560
Q	2	200	2	240
R	4	240	6	360
S	10	300	12	288
T	3	120	8	240

- 11 a) Find the 4 yearly moving averages from the following data:

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Production (in Tonnes)	150	170	196	180	190	216	248	280	300	320

OR

- b) Production figure of a Textile Industry are as follows.

Year	2011	2012	2013	2014	2015	2016	2017
Production (in '000 units)	12	10	14	11	13	15	16

For the above data:

- (i) Determine the straight line equation under the Least Square Method.  
(ii) Find the Trend Values and show the trend line on a graph paper.

- 12 a) From 30 tickets marked with first 30 numerals, 1 ticket is drawn at random. It is then replaced and a second draw is made. Find the probability that in the first draw it is multiple of 5 or 7 and in second draw it is a multiple of 3 or 7.

OR

- b) In a bolt factory, the Machines P, Q and R manufacture respectively 25%, 35% and 40% of the total of their outputs 5, 4, 2 percents respectively are defective bolts. A bolt is drawn at random from the product, and is known to be defective, What are the probabilities that it was manufactured by the machines P, Q and R.

Contd...3..

Code No. 3546/CBCS

-3-

13. a) Five coins are tossed 3,200 times, find the frequencies of the distribution of heads and tails; and tabulate the results and also calculate Mean and standard Deviation of fitted distribution.

OR

- b) A study of past participants indicates that the mean length of time spent on the programme is 500 hours; and that, this normal distribution random variable has a standard deviation of 100 hours. What is the probability that a participant selected at random will required to complete the programme in following cases.
- (i) 'More' than 500 hrs
  - (ii) Between 500 and 650 hours
  - (iii) Between 550 and 650 hours.
  - (iv) Less than 580 hours.
  - (v) Between 420 and 570 hours.

\*\*\*\*\*