

**2 0 1 5**  
( 6th Semester )

COMMERCE

Paper No. : BC-603

( **Business Statistics** )

*Full Marks : 70*

*Pass Marks : 45%*

*Time : 3 hours*

( PART : B—DESCRIPTIVE )

( *Marks : 45* )

*The figures in the margin indicate full marks  
for the questions*

1. (a) Define statistics and explain its characteristics in brief. 2+7-9

*Or*

- (b) Distinguish between Primary data and Secondary data. 9

2. (a) Calculate the mean and standard deviation of the following distribution :

4+5=9

Age (in years)	No. of workers
25-30	70
30-35	51
35-40	47
40-45	31
45-50	29
50-55	22

Or

- (b) Find coefficient of correlation and PE for the data :

7+2=9

Commodity A : 64 65 66 67 68 69 70

Commodity B : 66 67 65 68 70 68 72

3. (a) Define index number. Explain any four different methods of constructing index number.

1+8=9

Or

- (b) From the following data of the wholesale prices of pulses for the ten years, construct index numbers taking (i) 2004 as base and (ii) by chain base method : 4+5=9

Year	Price per kg (in ₹)
2004	50
2005	60
2006	62

<i>Year</i>	<i>Price per kg (in ₹)</i>
2007	65
2008	70
2009	78
2010	82
2011	84
2012	88
2013	90

4. (a) Explain the components of a time series. 9

Or

- (b) The following data relate to the number of passenger cars (in million) in India sold from 2006 to 2013 :

<i>Year</i>	<i>Number</i>
2006	6.7
2007	5.3
2008	4.3
2009	6.1
2010	5.6
2011	7.9
2012	5.8
2013	6.1

- (i) Fit a straight line trend to the data through 2011 only.
- (ii) Use your result in (i) to estimate production in 2013. 9

5. (a) Define sampling. Explain the different methods of sampling in brief. 2+7=9

*Or*

- (b) A bag contains 30 balls numbered from 1 to 30. One ball is drawn at random. Find the probability that the number of the ball drawn will be a multiple of (i) 5 or 7, and (ii) 3 or 7. 9

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( 6th Semester )

**COMMERCE**

Paper No. : BC-603

**( Business Statistics )**

( PART : A—OBJECTIVE )

{ Marks : 25 }

*The figures in the margin indicate full marks for the questions*Answer **all** questions

1. Indicate whether the following statements are *True* or *False* by putting a Tick (✓) mark in the brackets provided : 1×5=5

(a) All facts numerically expressed are statistics.

*True* (     )     *False* (     )

(b) Captions refer to the row heading.

*True* (     )     *False* (     )

(c) Median is computed measure of central tendency.

True ( ) False ( )

(d) The regression lines cut each other at the point of average of X and Y.

True ( ) False ( )

(e) Marshall-Edgeworth method satisfies the time reversal test.

True ( ) False ( )

2. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

(a) A good index number is one that satisfies

(i) unit test ( )

(ii) time-reversal test ( )

(iii) factor-reversal test ( )

(iv) circular test ( )

(b) The most widely used method of measuring seasonal variations is

(i) ratio-to-moving average method ( )

(ii) ratio-to-trend method ( )

(iii) link relative method ( )

(iv) method of simple averages ( )

(c) Much of the development in the theory of probability is associated with the name of

(i) Fisher ( )

(ii) Karl Pearson ( )

(iii) Gosset ( )

(iv) Bayes ( )

(d) If an event cannot take place, the probability will be

(i) +1 ( )

(ii) -1 ( )

(iii) 0 ( )

(iv) None of the above ( )

(e) When population under investigation is infinite, we should use the

(i) census method ( )

(ii) sample method ( )

(iii) either census or sample method ( )

(iv) None of the above ( )

3. Fill in the blanks :

1×5=5

(a) Cartograms are used to give quantitative information on a .....

(b) Quartile deviation is ..... of standard deviation.

(c) Theoretically the best average in construction of index numbers is .....

(d) The line obtained by method of least squares is known as the line of .....

(e) If  $A$  and  $B$  are mutually exclusive events,  
 $P\{AB\} = \dots\dots\dots$



4. Write short notes on the following not exceeding  
3 sentences each : 2×5=10

(a) Frequency polygon

(b) Regression analysis

(c) Splicing

(d) Forecasting

(e) Conditional probability

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