

2016**(6th Semester)****COMMERCE**

Paper No. : BC-603

(Business Statistics)*Full Marks : 70**Pass Marks : 45%**Time : 3 hours***(PART : B—DESCRIPTIVE)****(Marks : 45)***The questions are of equal value*

1. (a) Explain the functions of Statistics.

Or

- (b) Explain the various methods of collecting primary data.

2. (a) Calculate the median from the following frequency distribution :

Marks	No. of Students
5-10	7
10-15	15
15-20	24
20-25	31
25-30	42
30-35	26
35-40	30
40-45	15
45-50	10

Or

- (b) A random sample of 5 college students is selected and their grades in Mathematics and Statistics are found to be :

	1	2	3	4	5
Mathematics	85	60	72	40	90
Statistics	93	75	65	50	80

Calculate Spearman's rank correlation coefficient.

3. (a) Explain the various weighted aggregative index numbers.

Or

- (b) Calculate the price index for rice by taking
(i) 2009 and (ii) 2012 as base year :

Year	Price of rice per kg in ₹
2009	40
2010	36
2011	48
2012	50
2013	44
2014	52
2015	46

4. (a) Explain the various methods of business forecasting.

Or

- (b) Fit a straight-line trend by the method of least squares to the following data and calculate trend values.

Year	2011	2012	2013	2014	2015
Sales of TV sets (in thousands)	4	6	7	8	10

Estimate the sales for the year 2016.

5. (a) Explain the theory of sampling.

Or

- (b) A bag contains 5 white and 3 black balls. Two balls are drawn at random one after the other without replacement. Find the probability that both balls drawn are black.

2016

(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) Statistics is the study of quantitative facts.

True () *False* ()

(b) In case of cartogram, statistical facts are presented through maps.

True () *False* ()

(c) Median and Mode are called positional averages.

True () False ()

(d) When only two variables are studied to get an idea of the correlation, then the relationship is multiple correlation.

True () False ()

(e) Regression analysis is a method, introduced by Francis Galton.

True () False ()

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

1×5=5

(a) Factor reversal test satisfies if $P_{01} \times Q_{01} =$

(i) $\frac{\Sigma p_0 q_0}{\Sigma p_1 q_1}$ ()

(ii) $\frac{\Sigma p_1 q_0}{\Sigma p_0 q_0}$ ()

(iii) $\frac{\Sigma p_0 q_1}{\Sigma p_1 q_1}$ ()

(iv) $\frac{\Sigma p_1 q_1}{\Sigma p_0 q_0}$ ()

(b) The sum of seasonal indices (using additive model) is equal to

- (i) zero ()
- (ii) less than zero ()
- (iii) more than zero ()
- (iv) one ()

(c) 5 articles can be drawn from a bag containing 8 articles in

- (i) 56 ways ()
- (ii) 85 ways ()
- (iii) 58 ways ()
- (iv) None of the above ()

(d) In case of mutually exclusive events, $P(A \cup B) =$

- (i) $P(A) + P(B) - P(A \cap B)$ ()
- (ii) $P(A) + P(B)$ ()
- (iii) $P(A \cap B) - P(A) + P(B)$ ()
- (iv) None of the above ()

(e) Data collected on literacy from the census report is

- (i) primary data ()
- (ii) secondary data ()
- (iii) sample data ()
- (iv) Both (i) and (ii) ()

3. Fill in the blanks .

1×5=5

(a) Statistics are
statements of facts.

(b) is the ideal measure
of dispersion.

(c) The cost of living index number is also known as
.....

(d) A business cycle is an example of
..... variation.

(e) Classical probability is also called
..... probability.

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

(a) Pie Diagrams

(b) Rank Correlation

(c) Base Shifting

(d) Short-term Forecasting

(e) Mutually Exclusive Events
