### 2022

(6th Semester)

#### COMMERCE

Paper: 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. Discuss the nature and importance of statistics. 2+7=9

Or

(b) Distinguish between primary and secondary data. Discuss the different methods of collecting primary data. 3+6=9

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(Turn Over)

(2)

2. (a) Calculate mean and median from the following data:

4. (a)

Wages (₹ '000) : 0-10 10-20 20-30 30-40 40-50 50-60 No. of Workers: 12 17 23 39 16 03

Or

1k

(b) Calculate Spearman's rank coefficient of correlation from the datas given below:

53 98 95 81 75 61 59 55 : 47 25 32 37 30 40 39 45

Year Product of Ster

**5.** (

3. (a) What is an index number? Discuss the problems faced construction of an index number. 2+7=9

Or

- (b) Construct price index numbers from the following datas by applying-
  - (i) Laspeyres' method;
  - (ii) Paasche's method:
  - (iii) Fisher's ideal method;
  - (iv) Bowley and Dorbish method;
  - (v) Marshall-Edgeworth method:

	1999		2000	
Commodity	Price ₹	Quantity	Price ₹	Quantity
A	2	8	4	6
В	5	l to	6	5
C	4	4	5	10
D	2	9	2	13

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(Continued)

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	(3)	**************************************
<b>4.</b> (a)	What do you understand by time series analysis? Discuss in brief the components of time series analysis. 2+7=9	
	Or	
(b)	Fit a straight line trend for the following series. Estimate the value for 2015: 9	ed in by the
Year	2008 2009 2010 2011 2012 2013 2014	
Production of Steel		om / BBA / BCA
<b>5.</b> (a)	What is sampling? Point out the merits and demerits of sampling technique.  2+7=9	r End Term
	Or	
(b)	The probability that a contractor will get a plumbing contract is $\frac{2}{3}$ and the probability that he will not get an	
	electrical contract is $\frac{5}{9}$ . If the probability	**********
	of getting at least one contract is $\frac{4}{5}$ , what is the probability that he will get both the contracts?	
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221. – <sup>Q</sup>	Bc/BS-603	re of or(s)

## 2022

(6th Semester)

### COMMERCE

Paper: BC-603

( Business Statistics )

( PART : A—OBJECTIVE )

( Marks : 25 )

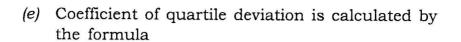
The figures in the margin indicate full marks for the questions

# Answer all questions

- 1. Choose the correct answer and place its code in the brackets provided :  $1 \times 10 = 10$ 
  - (a) Data are generally obtained from
    - (i) primary sources
    - (ii) secondary sources
    - (iii) both primary and secondary sources
    - (iv) None of the above

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(b) When population under investigation is infinite we should use
(i) the sample method
(ii) the census method
(iii) either the census method or the sample
(iv) None of the above
(c) Classification is the process of arranging data and
(i) different columns
(ii) different rows
(iii) grouping of related facts in different classes
(iv) None of the above
(d) One of the methods of determining mode is
(i) Mode = 2 Median - 3 Mean
(ii) Mode = 2 Median + 3 Mean
(iii) Mode = 3 Median – 2 Mean
(iv) Mode = 3 Median + 2 Mean
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(i) 
$$\frac{Q_2 + Q_1}{4}$$

(ii) 
$$\frac{Q_3 + Q_1}{2}$$

(iii) 
$$\frac{Q_3 - Q_1}{Q_3 + Q_1}$$

(iv) 
$$\frac{Q_2 + Q_1}{Q_3 - Q_1}$$

[ ]

(f) The measure of variation that is least affected by extreme observations is

- (i) range
- (ii) mean deviation
- (iii) standard deviation
- (iv) quartile deviation

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- (g) Time reversal test is satisfied when
  - (i)  $P_{01} \times P_{10} = 0$
  - (ii)  $P_{01} \times P_{10} = 1$
  - (iii)  $P_{01} \times P_{10} > 1$
  - (iv)  $P_{01} \times P_{10} < 1$
- (h) When three or more variables are studied, it is problem of
  - (i) either multiple or partial correlation
  - (ii) multiple correlation
  - (iii) partial correlation
  - (iv) simple correlation
- (i) Secular trend refers to the
  - (i) short-term movement
  - (ii) long-term movement
  - (iii) medium-term movement
  - (iv) None of the above

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<i>(j)</i>	Much of the development in the probability is associated with the r	e theor	y of			
	(ii) Karl Pearson					
	(iii) Bayes					
	(iv) None of the above	[	]			
2. State whether the following statements are True (T) or False (F) by putting a Tick (✓) mark: 1×5=5						
(a)	Arithmetic mean is always the best central tendency.	measur	re of			
		(T /	F )			
(b)	D) Lorenz curve was used for the first time for measuring the distribution of profits.					
		(T /	F)			
(c)	The rank correlation coefficient was of Spearman.	leveloped	d by			
		(T /	F )			
(d)	Bowley's index is the geometric Laspeyres and Paasches Index.	mean	of			
		(T /	F )			
(e)	The probability of throwing eight will dice is $\frac{1}{6}$ .	ith a sir	ngle			
		( T /	F )			
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3. Write short notes on any five of the following: 2.

(a) Census method

(b) Base shifting

(c) Secular trend

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(d) Range

(e) Positive correlation

(11)

(f) Equally likely event

(g) Splicing

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