

Subject Code : Bc/Bs-603

Booklet No. **A** **459**

Date Stamp

Bc/Bs-603

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(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. Mention the various functions of statistics. 2+7=9

Or

- (b) Highlight the importance and limitation of diagrammatic representation of statistical data. 4½+4½=9

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2. (a) Calculate standard deviation from the following data :

Item	:	60	70	80	90	100	110	120
Frequency	:	3	6	9	13	38	5	4

Or

- (b) The ages of husbands and wives are given for 8 pairs. Calculate the coefficient of correlation between the two variables :

Age of Husbands	:	62	64	65	65	66	67	68	70
Age of Wives	:	65	66	63	66	70	70	67	69

3. (a) What is an index number? Analyze the use of index numbers. 2+7=9

Or

- (b) Calculate Fisher's ideal index from the following data and prove that it satisfies the time reversal test : 5+4=9

Commodity	1983		1984	
	Price ₹	Expenditure	Price ₹	Expenditure
A	8	80	10	120
B	10	120	12	96
C	5	40	5	50
D	4	56	3	60
E	20	100	25	150

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4. (a) What is time series? What are the needs to analyze the time series? 2+7=9

Or

- (b) Fit a straight line trend for the following series. Estimate the value for 1987 : 9

Year	:	1980	1981	1982	1983	1984	1985	1986
Production of Steel (in tonnes)	:	60	72	75	65	80	85	95

5. (a) Discuss the difference between census and a sample enquiry. 9

Or

- (b) A can solve 90 percent of the problems given in a book and B can solve 70 percent. What is the probability that at least one will solve the problem selected at random?

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(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 : 1×10=10

(a) Data collected on literacy from the census report is a/an

(i) primary data

(ii) secondary data

(iii) sample data

(iv) external source data

[]

(b) Statistics are

- (i) aggregate of facts
- (ii) numerically expressed
- (iii) collected for a pre-determined purpose
- (iv) All of the above []

(c) Population characteristics are called

- (i) parameter
- (ii) statistic
- (iii) variable
- (iv) attribute []

(d) Which one is restricted random sampling?

- (i) Stratified random sampling
- (ii) Systematic random sampling
- (iii) Cluster sampling
- (iv) All of the above []

(3)

(e) Sum of squared deviation of a set of values is minimum when deviations are taken from the

(i) median

(ii) mode

(iii) mean

(iv) None of the above []

(f) The coefficient of correlation

(i) is a pure number

(ii) is a symmetrical function

(iii) varies between ± 1

(iv) All of the above []

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

(i) zero

(ii) 400

(iii) 600

(iv) 1200 []

(h) Cyclical fluctuations are caused by

- (i) wars, earthquakes, floods, strikes, etc.
- (ii) festival, social customs, weather, etc.
- (iii) increase or decrease of population, industrial and agricultural production, etc.
- (iv) good and bad times of business and economic activities over a short period of time

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(i) Base-shifting method is strictly applicable only if the index number satisfies

- (i) factor reversal test
- (ii) time reversal test
- (iii) unit test

(iv) circular test

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(j) In case of mutually exclusive events, $P(A \cup B)$ is

- (i) $P(A) + P(B)$
- (ii) $P(A) + P(B) - P(A \cap B)$
- (iii) $P(A)P(B / A)$

(iv) $P(A)P(B)$

[]

(5)

2. State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark : 1×5=5

(a) Standard deviation can be less than mean deviation from mean.

(T / F)

(b) Laspeyres' index gives upward bias.

(T / F)

(c) Circular test is an extension of time reversal test.

(T / F)

(d) The titles of rows are named as captions.

(T / F)

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

(T / F)

(6)

3. Answer/Write short notes on any *five* of the following : 2×5=10

(a) Why is sample preferred over census?

(7)

(b) Properties of regression coefficient

(8)

- (c) State some important points to be considered in drafting a questionnaire.

(9)

- (d) What considerations are taken into account while selecting the base year for the preparation of an index number?

(10)

(e) Probability

(f) Multiplication law of probability

(12)

(g) Uses of time series

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