2018

(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)* State and explain the characteristics of statistics and also support your answer with the importance of statistics. 5+4=9

Or

(b) Give the meaning of tabulation. Explain the major objectives of tabulation. 2+7=9

2. *(a)* Calculate the SD from the following data : 9

Class Interval	:	5-15	15-25	25-35	35-45	45-55
Frequency	:	8	12	15	9	6

Or

(b) Calculate Karl Pearson's coefficient of correlation from the following data : 9

Price	:	22	24	26	28	30	32	34	36
Demand	:	60	58	50	50	48	48	46	42

3. *(a)* Calculate quantity index number from the following data by using Fisher's ideal method : 9

Commodity	*Unit*	*2005*		*2007*	
		Qty	*Price*	*Qty*	*Price*
Wheat	kg	3	10	4	14
Milk	lit	4	15	4	16
Rice	qtl	6	12	7	18
Fish	kg	2	20	3	25
Sugar	kg	3	10	4	12

Or

(b) State some uses of index number and also explain the problems involved in the construction of index number. 4+5=9

4. *(a)* Discuss the various types of forecasting. 9

Or

(b) The number of units of a product exported during 2000 to 2007 is given below. Fit a straight line trend to

the data and find the estimate for the year 2008 : 9

Year	2000	2001	2002	2003	2004	2005	2006	2007
No. of Units	12	13	13	16	19	23	21	23

5. *(a)* State some objectives of sampling and discuss the various methods of sampling. 3-6-9

Or

(b) The probability that a contractor will get a plumbing contract is 2/3 and the probability that he will not get an electric contract is 5/9. If the probability of getting at least one contract is 4/5, what is the probability that he will get both the contracts? 9

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2018

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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. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×10=10

(a) In the development of statistical methods, the greatest contribution is that of

(i) economists ( )

(ii) mathematicians ( )

(iii) businessmen ( )

(iv) scientists ( )

(b) Coefficient of quartile deviation is calculated by the formula

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

(c) Factor reversal test is suggested by

(i) Laspeyres ( )

(ii) Paasche ( )

(iii) Fisher ( )

(iv) Bowley ( )

(d) Base-shifting method is strictly applicable only if the index numbers satisfy

(i) circular test ( )

(ii) trend test ( )

(iii) parallel test ( )

(iv) ratio test ( )

(e) "A time series consists of statistical data which are collected, recorded, observed over successive increments." Who coined the definition?

(i) Morris Hamburg ( )

(ii) Ya-Lun Chou ( )

(iii) Patterson ( )

(iv) Levin and Rubin ( )

(f) Which is the most commonly used method for arriving at estimates of the cyclical movements of time series?

(i) Residual method ( )

(ii) Direct method ( )

(iii) Reference cycle analysis method ( )

(iv) Harmonic analysis method ( )

(g) ____ help in making quick and accurate comparison of data and bring out hidden facts.

(i) Tables ( )

(ii) Circles ( )

(iii) Graphs ( )

(iv) Diagrams ( )

(h) The classical school of thought on probability assumes that all possible outcomes of an experiment are

(i) equally likely ( )

(ii) mutually exclusive ( )

(iii) mutually exclusive and equally likely ( )

(iv) None of the above ( )

(i) Additional theorem states that if two events A and B are mutually exclusive, the probability of occurrence of A and B is given by

(i) $P(A)+P(B)$ ( )

(ii) $P(B)\times P(A)$ ( )

(iii) $P(A)-P(B)$ ( )

(iv) $P(A)\times P(B)+P(AB)$ ( )

(j) 10 students are to be selected from a class of 60, for analysing the spending habits of students. The investigator would select 10 students, who in his opinion are representative of the class. What type of sampling method is used by the investigator?

(i) Probability ( )

(ii) Convenience ( )

(iii) Quota ( )

(iv) Judgement ( )

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

(a) The notion of statistics was originally derived from the word 'state'.

True ( ) *False* ( )

(b) Regression coefficient of Y on X measures the changes in X corresponding to a unit change in Y.

True ( ) *False* ( )

(c) Secular trend refers to the long-term movement.

True ( ) *False* ( )

(d) The process of splicing is used to adjust the data for increase in price level.

True ( ) *False* ( )

(e) The probability of obtaining a 3 and a 4 in a throw of two dice is 2/30.

True ( ) *False* ( )

3. Write short notes on the following : 2×5=10

(a) Statistics

(b) Scatter diagram

(c) Deflating

(d) Link-relative method

(e) Probability

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