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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 and write the correct answer from the options provided : 1×10=10

(a) The scope of survey depends on

   (i) the objectives

   (ii) resources

   (iii) availability of time

   (iv) All of the above

(b) The graphic method of studying dispersion is called

   (i) cartogram

   (ii) pictogram

   (iii) Lorenz curve

   (iv) scatter diagram

(c) The coefficient of correlation

    (i) varies between 0 and 1

    (ii) varies between −1 and +1

    (iii) varies between $-\infty$ and ∞

    (iv) varies between 0 and 100

(d) Fisher's ideal index is

    (i) AM of Laspeyres' and Paasche's index

    (ii) GM of Laspeyres' and Paasche's index

    (iii) average of base and current years' quantities

    (iv) median of Laspeyres' and Paasche's index

(e) The most important factors causing seasonal variations are

    (i) growth in population

    (ii) technological improvements

    (iii) weather and social customs

    (iv) change in fashions

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

    (i) equally likely

    (ii) independent

    (iii) mutually exclusive

    (iv) mutually exclusive and equally likely

(g) If two events *A* and *B* are dependent, the conditional probability of *A* given *B* is

  (i) $P(B / A)$

  (ii) $P(A) / P(B)$

  (iii) $P(A \cap B) / P(A)$

  (iv) $P(A \cap B) / P(B)$

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

  (i) arithmetic mean

  (ii) geometric mean

  (iii) harmonic mean

  (iv) median

(i) If one of the regression coefficients is greater than unity, then the other must be

  (i) equal to unity

  (ii) less than unity

  (iii) greater than unity

  (iv) zero

(j) Diagrams and graphs are tools of

  (i) collection of data

  (ii) presentation of data

  (iii) summarization of data

  (iv) analysis of data

2. State whether the following statements are True *or* False : 1×5=5

   (a) The value of mode and median can be determined graphically.

   (b) Quartile deviation is more suitable in case of open end distribution.

   (c) Correlation always signifies a cause and effect relationship between the variables.

   (d) Judgement sampling is a type of probability sampling method.

   (e) If coefficient of correlation is zero, then two regression lines will be identical.

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

   (a) Lorenz curve

   (b) Chain index number

   (c) Mutually exclusive events

   (d) Business cycle

   (e) Two properties of coefficient of correlation

   (f) What is Statistics?

   (g) Graphic method

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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)* Explain the importance of statistics in trade and commerce.   9

Or

(b) What is secondary data? Discuss the advantages and disadvantages of secondary data.   2+7=9

2. *(a)* Consider the following distribution :

x :   0–10   10–20   20–30   30–40   40–50
f :   12   18   20   25   23

Calculate mean and mode.   5+4=9

Or

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

X : 48   35   17   23   47
Y : 45   20   40   25   45

3. *(a)* What do you mean by consumer price index number? Discuss the uses and limitations of consumer price index number.   3+3+3=9

Or

(b) Calculate Fisher's ideal index from the following data and prove that it satisfies both the time reversal and factor reversal tests :   9

Commodity	2010		2011	
	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

4. *(a)* Fit a straight line trend by the method of least squares to the following data : 9

Year : 2001 2002 2003 2004 2005 2006 2007 2008

Earning
(₹ lakh) : 38 40 65 72 69 60 87 95

Or

(b) What is time series? Discuss the various components of time series. 2+7=9

5. *(a)* Give a distinction between census method and sample method. 9

Or

(b) Find the probability of drawing a queen, a king and an ace in that order from a pack of cards in three consecutive draws, the cards drawn not being replaced. 9

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