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(October)

COMMERCE

(Honours)

(Business Statistics)

(BC–301)

Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer **all** questions

1. *(a)* Discuss the importance of statistics as an aid to business and commerce. 10

   (b) Distinguish between descriptive statistics and inferential statistics. 5

   Or

   (a) Discuss different diagrammatic methods of presenting statistical data. 8

(*Turn Over*)

(2)

(b) Draw a histogram and frequency polygon from the following data : 7

Marks	No. of Students
0–10	4
10–20	6
20–40	14
40–50	16
50–60	14
60–70	8
70–90	16
90–100	5

2. (a) What are the properties of median? 3

(b) Calculate mean, median and mode from the following wage distribution : 12

Wages (₹)	Frequencies
0–10	4
10–20	16
20–30	28
30–40	48
40–50	44
50–60	6
60–70	4
Total	150

(3)

Or

(a) Explain the term 'variation'. What purpose does a measure of variation serve? 2+4=6

(b) Find the missing information from the following : 9

	Group I	Group II	Group III	Combined
Number	50	?	90	200
Standard Deviation	6	7	?	7·746
Mean	113	?	115	116

3. (a) Distinguish between correlation and regression analysis. 5

(b) From the following data, obtain the two regression equations : 10

X	:	6	2	10	4	8
Y	:	9	11	5	8	7

Or.

(a) Examine the various problems involved in the construction of an index number. 6

(b) Given the data :

Commodities	p_0	q_0	p_1	q_1
A	1	10	2	5
B	1	5	x	2

Where p and q respectively stand for price and quantity and subscript for time period. Find x, if the ratio between Laspeyre's (L) and Paasche's (P) index number is $L : P = 28 : 27$. 9

4. (a) State the classical definition of probability. 5

(b) If from a pack of cards a single card is randomly drawn, what is the probability that it is either a spade or a king? 5

(c) A bag contains 5 red and 8 black balls. Two draws of three balls each are made, the ball being replaced after the first draw. What is the chance that in the first draw the balls are red and in the second black? 5

Or

(a) What is meant by principle of 'statistical regularity'? 5

(b) Explain any two non-random sampling methods. 10

(Continued)

5. (a) Explain briefly the components of time series. 5

(b) Calculate seasonal index for the following data using the average method : 10

Year	1st quarter	2nd quarter	3rd quarter	4th quarter
2012	72	68	80	70
2013	76	70	82	74
2014	74	66	84	80
2015	76	74	84	78
2016	78	74	86	82

Or

(a) Discuss the utility of interpolation for a businessman. 5

(b) Interpolate the value of y when $x = 23$: 10

| x | : | 10 | 15 | 20 | 25 | 30 | 35 |
| y | : | 100 | 110 | 125 | 142 | 160 | 180 |

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