

3/H-76 (vii) (Syllabus-2015)

2 0 1 6

(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, in brief, the relationship of statistics with other disciplines. 10
- (b) State the limitations of statistics. 5

Or

- (a) Mention the role of tabulation in presenting business data. Is tabulation related to classification in any way? 6+2=8

(2)

- (b) In a sample study about the smoking habits in two towns, the following data were derived :

	Town A	Town B
Males in total population	52%	54%
Smokers	26%	28%
Male smokers	18%	20%

Tabulate the above data.

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2. (a) What are the characteristics of a good measure of central tendency? 5
- (b) From the following data, calculate the median and quartile deviation : $4+6=10$

Class	Frequency
50-60	4
40-50	8
30-40	15
20-30	10
10-20	7

Or

- (a) Distinguish between skewness and kurtosis. 5

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(Continued)

(3)

- (b) From the following data, calculate the coefficient of variation and variance : $8+2=10$

Profit (₹ in crores)	No. of companies
Less than 10	8
" " 20	20
" " 30	40
" " 40	70
" " 50	90
" " 60	100

3. (a) What is meant by association of attributes? How does it differ from correlation? $3+2=5$

- (b) Ten competitors in a beauty contest are ranked by three judges in the following order :

1st Judge : 1 6 5 10 3 2 4 9 7 8
2nd Judge : 3 5 8 4 7 10 2 1 6 9
3rd Judge : 6 4 9 8 1 2 3 10 5 7

Use the rank correlation coefficient to determine the pair of judges having the highest order of agreement. 10

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(Turn Over)

(4)

Or

(a) What are the uses of index number? 5

(b) From the data given below, calculate Fisher's ideal index and show that it satisfies time-reversal and factor reversal tests : 10

Commodity	2014		2015	
	Price	Quantity	Price	Quantity
A	12	20	14	30
B	14	13	20	15
C	10	12	15	20
D	6	8	4	10
E	8	5	6	5

4. (a) Explain with examples the rules of addition and multiplication in probability. 10

(b) The odds that Mr. A speaks the truth is 3 : 2 and the odds that Mr. B speaks the truth is 5 : 3. In what percentage of cases are they likely to contradict each other? 5

Or

(a) What is sampling? Explain any two random sampling methods. 2+8=10

(b) What are sampling errors? 5

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(Continued)

(5)

5. (a) Why is time series analysis considered to be an effective tool of business forecasting? 5

(b) Apply the method of least squares to obtain the trend values from the following data :

Year	Sales (in lakh tonnes)
2011	100
2012	120
2013	110
2014	140
2015	80

Also predict the sales for the year 2016.
8+2=10

Or

(a) What are the assumptions on which methods of interpolation are based? 5

(b) The following table gives the sales of a concern in different years :

Year	Sales (in lakh metres)
1990	125
1995	—
2000	204
2005	238
2010	282
2015	300

Assuming the conditions to be the same, estimate the sales for the year 1995. 10

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