

MODEL TEST PAPER
BUSINESS STATISTICS
BC-204

Time: Three Hours

Maximum marks 80

Note: Attempt five questions in all, selecting at least one question but not more than two questions from each unit. All questions carry equal marks.

UNIT-I

1 Define Statistics and explain its characteristics and scope. **16**

2 Calculate the value of mode from the following data

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Number of students	4	6	20	32	33	17	8	2

16

3 What is meant by Skewness? Explain various measures of Skewness

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4 (a) Explain the properties of Karl Pearson's Coefficient of correlation

(b) Obtain two regression equations from the following data

X	25	26	39	31	36	21	30	39
Y	45	48	45	42	31	39	38	32

6+10

Unit –II

5 Calculate Fisher's Ideal Index Number from the given data and show that it satisfies the Time reversal and Factor reversal test

Commodity	Base Year		Current Year	
	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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6 Explain the meaning and significance of consumer price index. What are the steps involved in the construction of consumer price index?

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7 Following data relates to production of a factory in ('000) tones

Year	2001	2002	2003	2004	2005	2006	2007
Production	76	88	94	85	92	96	90

- (i) Fit a straight line trend by method of least square and show the trend values
- (ii) Estimates the production for the year 2010
- (iii) What is the monthly increase in production?
- (iv) Convert annual trend equation into monthly trend equation
- (v) Eliminate Trend

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Unit-III

8 Define various approaches to probability and explain the importance of this concept in statistics

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9 (a) The probability that a student will graduate is 0.4. Determine the probability that out of five students (i) none (ii) one (iii) at least one, and (iv) all will be graduate

(b) The probability that a particular injection will cause reaction to a patient is .003. Find the probability that out of 1000 patients, (i) at least one patient, and (ii) not more than four patients will have the reaction from injection

8+8

10 (a) Explain the properties of normal distribution.

(b) The average height of students of a college is 65 inches with a variance of 16 inches. How many students out of total strength of 2000 would be expecting to be over 6 feet tall.

8+8