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 Distinguish between Primary data and Secondary data. Explain various methods of collecting primary data. 16

2 (a) Explain the properties of Arithmetic Mean.

(b) Fifty students took up a test. The results of those who have passed the test are given below:

Marks	40	50	60	70	80	90
No. of students	8	10	9	6	5	2

If the average for all the 50 students was 52, find the average of those who failed 6+ 10

3 Find the Mean Deviation from mean and median and their coefficients from the following data

Size	1- 10	11-20	21-30	31-40	41-50
Frequency	5	8	12	8	7

16

4 (a) Find the correlation coefficient between age and playing habit of following students:

Age	15	16	17	18	19	20
No. of Students	250	200	150	120	100	80
Regular Players	200	150	90	48	30	12

(b) Properties of Regression Coefficients 10+6

Unit –II

5 What is an index Number? Explain the uses of index numbers. What are the problems involved in the construction of an index number? 16

6 What is time series analysis? Explain the various methods of estimating the secular trend of time series. 16

7 Calculate the seasonal indices by the ratio to moving average method from the following data: (Sale in lakhs Rs)

Year	I quarter	II Quarter	III Quarter	IV Quarter
2015	40	35	38	40
2016	42	37	39	38
2017	41	35	38	42

16

Unit-III

8 (a) State and prove the 'Addition' and 'Multiplication' theorems of probability.

(b) A speaks truth in 80% cases and B in 90% cases. In what percentage of cases are they likely to contradict each other in stating the same fact? 8+8

9 (a) Explain the properties of Binomial Distribution

(b) A doctor performs operations with 80% success. If he performs 4 operations in a day, find the probability that (i) at least 3 operations (ii) at the most 3 operations will be successful. 8+8

10 (a) Explain the assumptions and uses 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