

Roll No. ....

Subject Code—845-X

**M. Com. (Part I) EXAMINATION**

MC-106

**BUSINESS STATISTICS**

*Time : 3 Hours*

*Maximum Marks : 100*

**Note :** Attempt *Five* questions. Q. No. 1 is compulsory. All questions carry equal marks.

1. Attempt all parts :

- (i) Meaning of Central Tendency
- (ii) Regression Lines
- (iii) Choice of Base Year
- (iv) Composite Index Numbers
- (v) Concept of Sample Space
- (vi) Random Number
- (vii) Point Estimation
- (viii) Census Enquiry
- (ix) Consumer Risk
- (x) Trend in a Time Series.

2. What do you mean by dispersion ? Discuss different measures of dispersion. Also discuss the merits and demerits of the measures of dispersion.

3. (a) What is meant by Correlation ? Discuss types of correlation with the help of suitable examples.

(b) Find out Spearman's coefficient of rank correlation between the marks in two subjects :

Name of Student : A B C D E F G H I

Marks in Physics : 51 63 73 46 50 60 47 36 60

Marks in Maths : 49 72 74 44 58 66 50 30 35

4. What is time series ? Discuss its components in detail. What are the commonly used models in a time series ? What precautions one should take while attempting a forecast from the time series ?

5. (a) What is probability ? Discuss different approaches of probability.

(b) If a machine is set up correctly, it produces 90 per cent good items; if it is not correctly set up, then it produces 10 per cent good items. Chances for a setting to be correct are in the ratio of 7 : 3. After a setting is made, the first two items produced are found to be good items. What is the chance that setting was correct ?

6. (a) What is Sampling ? Discuss in detail types of probability sampling methods.

(b) Explain the concept of sampling distribution and discuss the utility of central limit theorem in hypothesis testing.

7. What is statistical quality control ? What factors are responsible for variation in quality ? Explain the concept of control chart and types of control charts.



8. (a) Write a detailed note on acceptance sampling.

(b) A company has introduced a new drug B to cure common cold. It is being compared against an existing drug A. The relevant data are shown below :

	Helped	Harmed	No Effect	Total
Drug A	44	10	26	80
Drug B	52	10	18	80
Total	96	20	44	160

Is the new drug more effective in curing cold ? (Critical value of chi-square is 5.991)