

**FINAL YEAR B.Com. DEGREE EXAMINATION  
SEPTEMBER 2007**

(New Scheme)

Commerce

Paper I – BUSINESS STATISTICS

Maximum : 80 Marks

Time : Three Hours

**Part A**

*Answer any ten of the following.  
Each question carries 1 mark.*

1. Define statistics.
2. What do you mean by a histogram ?
3. What do you mean by an array ?
4. State any two demerits of median.
5. Define a Combination.
6. What is a questionnaire ?
7. Define correlation.
8. What is Cartogram?
9. Define statistical unit.
10. What do you mean by range ?
11. State the addition theorem of probability.
12. Define "Geometric mean."

(10 × 1 = 10 marks)

**Part B**

*Answer any ten questions.  
Each question carries 4 marks.*

State the difference between mean deviation and standard deviation.

Explain irregular variation.

15. State the merits of mode.
16. Distinguish between primary and secondary data.
17. What are the objectives of tabulation of data ?
18. Explain the importance of time series analysis.
19. Prepare a blank table, showing distribution of population, according to Age, Sex and Literacy.
20. Calculate mode from the following data :

| Size  | Frequency |
|-------|-----------|
| 10-19 | 10        |
| 20-29 | 12        |
| 30-39 | 18        |
| 40-49 | 30        |
| 50-59 | 16        |
| 60-69 | 6         |
| 70-79 | 8         |

21. Draw a histogram and frequency polygon from the following data :

| 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               |

22. The arithmetic mean and standard deviation of 50 items were calculated by a student as 40 and 12 cm. respectively. But while calculating an item, 19 was misread as 49. Find the correct mean and standard deviation.
23. Karl Pearson's coefficient of skewness of a distribution is +0.32, standard deviation is 6.5 and mean is 29.6. Find the Mode and Median of the distribution.
24. Find out the trend values by the method of least squares.

|                      |   |    |    |    |    |    |
|----------------------|---|----|----|----|----|----|
| Years                | : | 1  | 2  | 3  | 4  | 5  |
| Sales (in Rs. lakhs) | : | 10 | 15 | 12 | 14 | 20 |

(10 × 4 = 40 marks)

### Part C

Answer any **two** questions.  
Each question carries 15 marks.

What is primary data? Which are the different methods employed for collecting primary data?

From the following data, find Fisher's Index number and show that Time and Factor Reversal tests are satisfied by it.

| Commodity | Base Year |      | Current Year |      |
|-----------|-----------|------|--------------|------|
|           | Price     | Qty. | Price        | Qty. |
| A ...     | 8         | 10   | 10           | 12   |
| B ...     | 10        | 12   | 12           | 8    |
| C ...     | 5         | 8    | 5            | 10   |
| D ...     | 4         | 14   | 3            | 20   |
| E ...     | 20        | 5    | 25           | 6    |

From the following data, calculate Karl Pearson's coefficient of skewness :

| Marks More than | No. of students |
|-----------------|-----------------|
| 0 ...           | 150             |
| 10 ...          | 140             |
| 20 ...          | 100             |
| 30 ...          | 80              |
| 40 ...          | 80              |
| 50 ...          | 80              |
| 60 ...          | 30              |
| 70 ...          | 14              |
| 80 ...          | 0               |

(2 × 15 = 30 marks)