

APRIL 2012

56612/MCMB

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer any TEN questions.

All questions carry equal marks.

Each answer should not exceed 50 words.

Define/Explain the following :

1. Quantitative variable.
2. Class frequency.
3. Median.
4. Negative skewness.
5. Independent association.
6. Addition theorem.
7. Interval estimate.
8. Critical region.
9. General death rate.

10. Confidence limits.
11. Positive correlation.
12. Regression.

PART B — ($5 \times 5 = 25$ marks)

Answer any FIVE questions.

All questions carry equal marks.

Each answer should not exceed 200 words.

13. Briefly explain the various methods in random sampling.
14. Describe any two methods of graphical representation of statistical data.
15. Explain any two types of averages.
16. Explain what is meant by dispersion and any one method of dispersion.
17. Write short account on the differences between correlation and regression.
18. Write on :
 - (a) Null hypothesis
 - (b) Standard error.
19. Distinguish between primary and secondary data.

PART C — (4 × 10 = 40 marks)

Answer any FOUR questions.

All questions carry equal marks.

Each answer should not exceed 500 words.

20. Draw a histogram and less than and more than Ogive for the following data :

Marks :	0-6	6-12	12-18	18-24	24-30	30-36
No. of students :	8	12	15	20	18	14

21. Calculate Arithmetic mean for the following data :

7.5-10.5	10.5-13.5	13.5-16.5	16.5-19.5
5	9	19	23
19.5-22.5	22.5-25.5	25.5-28.5	
7	4	1	

22. Calculate standard deviation for the following data :

0-10	10-20	20-30	30-40
5	15	25	35
40-50	50-60	60-70	70-80
45	55	65	75

23. Calculate the quartile deviation (Q_1, Q_3) and coefficient of Q.D. for the following data.

CI:	0-5	5-10	10-15	15-20	20-25	25-30
Frequency :	5	8	10	15	6	4

24. From the following data obtain regression equation by taking deviations from the actual mean of X and Y.

X: 2 4 6 8 10

Y: 5 7 9 8 11

25. A new vaccine was administered to 456 males, out of a total 720 in a town, to test its efficacy against typhoid. The incidence of typhoid is shown below. Find out the effectiveness of vaccine against the disease. (1 df. At 5% L.S. $\chi^2 = 3.84$)

	Infection	No infection	Total
Drug administered	144	312	456
Drug not administered	192	72	264
Total	336	384	720