

APRIL 2014

**56612/MCMB**

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer any TEN questions.

All questions carry equal marks.

Define/Explain the following :

1. Qualitative variable.
2. Give the rounded off to two digit value 6.8532.
3. What is the value of  $10^{-3}$ ?
4. Cartogram.
5. Median.
6. Quartile Deviation.
7. Independent event.
8. Null hypothesis.
9. Linear correlation.
10. Natality.
11. Population density.
12. Continuous frequency distribution.

PART B — ( $5 \times 5 = 25$  marks)

Answer any FIVE questions.

All questions carry equal marks.

13. Write the common units of measurements and their abbreviations.
14. Illustrate Pie diagram construction with an assumed data.
15. What is a scatter diagram, illustrate and explain its uses?
16. Explain addition rule of probability.
17. Define Geometric mean and harmonic mean.
18. What is a range and mean deviation?
19. Describe any one method of population estimation of birds.

PART C — ( $4 \times 10 = 40$  marks)

Answer any FOUR questions.

All questions carry equal marks.

20. Illustrate and explain any five diagrammatic or graphical representation of data.

21. Calculate Arithmetic mean for the given data.

Marks ( $x$ ) :            10-20 20-30 30-40 40-50 50-60 60-70 70-80

No. of students ( $f$ ) :    10    18    20    26    30    28    18

22. Find out the Standard Deviation for the following data :

$x$ : 10 20 30 40 50 60

$f$ : 8 12 20 10 7 3

23. Calculate Pearson's correlation coefficient for the data given below :

$x$ : 12 18 16 15 12 10 20 17

$y$ : 6 10 9 8 9 8 12 10

24. From the following data, obtain the regression equations X and Y series.

$x$ : 1 2 3 4 5 6 7 8 9

$y$ : 9 8 10 12 11 13 14 16 15

25. A cross involving different genes rise to F<sub>2</sub> generation of tall and dwarf in the ratio of 110 : 90. Test by means of chi-square whether this value is deviated from Mendel's monohybrid ratio of

3 : 1 ( $\chi^2_{0.05} = 3.84$ ).