APRIL 2015 **56612/MCMBA**

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer any TEN questions each in 50 words.

Define/Explain the following:

1. Qualitative variable

2. Class limit

3. Mean

4. Range

5. Linear and non-linear correlation

6. Regression

7. Dependent events

8. Point estimate

9. Level of significance

10. Gross production rate

11. Give the value of 10^5.

12. Population density.

PART B — ($5 \times 5 = 25$ marks)

Answer any FIVE questions each in 200 words.

13. Shortlist the merits and demerits of primary and secondary data.

14. Explain the meaning of tabulation, parts of table and their types.

15. Define measures of central tendency. What are the merits and demerits of mean, median and mode?

16. What is a coefficient of variation?

17. Define correlation and various types of correlation.

18. What do you understand by theoretical distribution?

19. Explain construction of histogram and an Ogive.

PART C – (4 × 10 = 40 marks)

Answer any FOUR questions each in 500 words.

20. The following data were collected from a particular reservoir to determine the weight (gm) increase in fish. Calculate the standard deviation and coefficient of variation:

    70, 50, 68, 45, 78, 60, 80, 40, 55, 62.

21. A bag contains 7 red, 12 white and 4 green balls. What is the probability that :

    (a) 3 balls drawn are all white?

    (b) 3 balls drawn are one of each colour?

22. Calculate the standard error (S.E.) of mean from the following data.

Weight of fish (gm)	39	49	59	69	79	89	99
No. of fishes	2	3	11	20	32	25	7

23. In a plant breeding experiment the following results were obtained in the F_2 generation.

    Round yellow – 922

    Round green – 75

    Wrinkled yellow – 125

    Wrinkled green – 200

Test data against the hypothesis using Chi-square test whether the obtained F_2 results follows mendelian dihybrid ratio of 9:3:3:1. (3df at 5% L.S. χ^2 table value = 7.85)

24. A random sample of size 10 had a mean $\overline{X} = 14.3$ and standard Deviation = 1.44. Test at the 5% level of significance that the mean of the population $\mu = 15$.

25. From the following data, obtain the regression equations of X and Y series. Calculate estimation of X and Y.

X	1	2	3	4	5	6	7	8	9
Y	9	8	10	12	11	13	14	16	15