21. Evaluate $I = \int_0^1 \frac{dx}{1+x^2}$ by Trapezoidal rule with $h_1 = 0.5$ and $h_2 = 0.25$ and then use Romberg procedure for a better estimate of I. Compare the result with exact value.

22. Calculate mean deviation from the following data :

x :	10	11	12	13	14
f :	3	12	18	12	3

23. Explain about Poisson Distribution.

24. From the following data, state which series is more consistent :

Variable :	10-20	20-30	30-40	40-50	50-60	60-70
Series A :	20	18	32	40	22	18
Series B :	13	22	40	32	18	10

NOVEMBER 2009 **51303/SAZ3C**

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer any TEN questions.

All questions carry equal marks.

Each answer should not exceed 30 words.

1. Define Truncation Error.
2. Write the formula for Regular-Falsi method.
3. Write a note on Matrix inversion method.
4. What is Numerical differentiation?
5. Write the formula for Trapezoidal Rule for Numerical Integration.
6. Write the formula for fourth order Runge-Kutta method.
7. Define Frequency Distribution.
8. What is meant by Median?
9. Define Standard Deviation.
10. Write a note on Binomial Distribution.
11. What is correlation coefficient?
12. Write a note on Chi-square Test.