

2020

MATHEMATICS

[HONOURS]

Paper : VIII

Group-'C/3'

[PRACTICAL]

Full Marks : 50

Time : 4 Hours

The figures in the right-hand margin indicate marks.

Answer all the questions.

SET-1

1. Write a C program to find the sum of the series
 $1+(1+2)+(1+2+3)+ \dots + (1+2+3+\dots+n)$.

10

2. Write a C program to find y at x=0.6 by Runge-Kutta method from the differential equation

$$\frac{dy}{dx} = \frac{0.5 - x + y^2}{1 + y + x^2} \text{ with } y(0)=0, \text{ taking } h=0.1 \text{ correct}$$

up to 4 decimal places.

15

3. From the following table compute the value of f(51.3)

51	52	53	54
1.6652912	1.6820277	1.6989323	1.7160069

55	56	57
1.7332531	1.7506725	1.7682671

15

4. Solve the equation $x^3 - 9x + 1 = 0$ for the root lying between 2 and 3, correct up to three-significant figures.

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