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-3

1. Write a C program to find the roots of the quadratic equation $ax^2+bx+c=0$. Hence find the roots of the equation $x^2+x+1=0$.   10

2. Write a C program to find the value of $\int_3^4 \frac{1}{1+x^2}\,dx$, by Simpson's one-third rule correct up to four decimal places.   15

3. Solve the following system of equations by Gauss-Seidel method, correct up to four decimal places:

    $7.23x + 2.10y - 0.97z + 1.56t = 0.52$
    $0.57x - 2.56y + 8.15z - 1.84t = 17.22$
    $1.31x + 11.01y - 2.13z + 0.78t = -7.44$
    $2.62x - 3.25y + 0.27z - 13.01t = -19.04.$

15

[Turn over]

4. Find a real root of $x^x + x - 4 = 0$, by Newton-Raphson method, correct up to six decimal places.

10

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