

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-4

- Write a C program to calculate the area of a triangle whose sides are a, b, c. Hence find the area of a triangle whose sides are 3 cm, 4 cm and 5 cm. 10
- Write a C program to evaluate the inverse of a 3×3 matrix. Hence find the inverse of the matrix

$$\begin{pmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{pmatrix}. \quad 15$$

- Find the greatest eigen value and corresponding eigen

vector of the matrix $\begin{pmatrix} 9 & 10 & 8 \\ 10 & 5 & -1 \\ 8 & -1 & 3 \end{pmatrix}$, correct up to four

significant figures.

15

- Find a real root of $3x - \cos x - 1 = 0$, by Newton-Raphson method, correct up to five decimal places.

10

[Turn over]