**U.G. 3rd Semester Examination - 2020**

# MATHEMATICS

**[HONOURS]**

**Course Code : MATH(H)-CC-P-07**

**[PRACTICAL]**

**SET-16**

Full Marks : 20                     Time : 2 Hours

*The figures in the right-hand margin indicate marks.*

*Symbols and notations have their usual meanings.*

1.  Answer any **one**:                     $10 \times 1 = 10$

    i)   Construct an algorithm for the method of false position. Using this algorithm write a C program to determine the third approximate root of the equation $x^3 + 2x^2 - 3x - 1 = 0$ on the interval (1, 2).

    ii)  Write a C program for solving the following system of linear equations by Gauss-Seidel iterative method:

         $3x - 2y + 8z = 9$, $-2x + 2y + z = 3$, $x + 2y - 3z = 8$.

    iii) Write a C program to find the value of

         $\int_{0}^{10} \log(1+x)^{\frac{1}{2}} \, dx$ by Trapezoidal rule with 10 sub-intervals.

2.  Answer any **one**:                     $10 \times 1 = 10$

    i)   Write a C program to find the roots of the equation $3x^2 + 2x - 1 = 0$ correct upto 4 significant figures.

    ii)  Write a C program to find the maximum of three numbers.

    iii) Write a C program to multiply two $5 \times 5$ matrices.

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