ST. JOSEPH'S UNIVERSITY, BENGALURU -27

M. Sc (STATISTICS) – I SEMESTER

SEMESTER EXAMINATION: OCTOBER 2022

(Examination conducted in December 2022)

ST 7521 – STATISTICAL COMPUTING

Time: 1 Hours   **Max Marks: 25**

This paper contains ONE printed page and ONE part

I   Answer any FIVE of the following   5 X 5 = 25

1. Explain the different ways of generating random numbers.

2. Let X be a random variable with range [0,1] and pdf f(x) = Cx^2. What is the value of C? Generate

    3 random observations from the above distribution if the random numbers are 0.09, 0.525, 0.9.

3. What is Box – Muller transform? Explain.

4. Find a root of an equation $f(x) = 3x^3 - 16x^2 + 23x - 6$ using Newton Raphson method.

5. Illustrate bisection method with algorithm.

6. Explain Monte Carlo Techniques.

7. Briefly explain any two methods to evaluate the integrals.

****