



**ST JOSEPH'S UNIVERSITY, BENGALURU -27**  
**M.Sc. (STATISTICS) – I SEMESTER**  
**SEMESTER EXAMINATION: OCTOBER 2023**  
(Examination conducted in November /December 2023)  
**ST 7521 – STATISTICAL COMPUTING**  
**(For current batch students only)**

Reg. Number :  
Date & Session :

Time: 1 Hour

Max Marks: 25

This paper contains ONE printed page and ONE part

**PART-A**

- I. Answer any **FIVE** of the following. Each carries 5 marks.
1. What is pseudo random number? Also outline the Inverse Transform method with example.
  2. Explain Box muller method and polar form of generating random observation for normal distribution.
  3. Find the root of the equation  $x^3 - x - 1$  using Bisection method, precise up to 3 decimals.
  4. What is interpolation? Derive Newtons forward and backward interpolation formula.
  5. a) Brief about the construction of Q-Q plot with its applications.  
b) Define Quantile function.
  6. Explain about Quadrature rules for numerical integration.
  7. Brief Monte Carlo integration and its advantages.