KANYASHREE UNIVERSITY

M.Sc. 2nd Semester Examination-2024

Subject: Mathematics

Course- SEC (Practical)

Computer-aided Numerical Practical Using C

Full Marks-40 **Time-3.00 Hours**

GROUP - A

(Answer **any two** of the following) **(20 × 2=40)**

1. Write a C program to solve a system of linear equations by Gauss Elimination Method.
2. Write a C program to find the largest eigen values of a real matrix by power Method.
3. Write a C program to find a solution of Ordinary Differential Equations for Initial Value Problems by using Picard's Formula.
4. Using Romberg method, find the value of the integral $\int_1^2 \left(\frac{1}{x^2} + R \right) dx$, correct upto five decimal places taking the maximum number of having as 10 and R as a last three digits of university roll number. The output should contain (i) limits of integration (ii) tolerance (iii) value of integration.

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