No. of Printed Pages : 2 **BCSL–058(Set-IV)**

BACHELOR OF COMPUTER APPLICATIONS
(BCA) (REVISED)
Term-End Practical Examination
June, 2025

BCSL–058(Set-IV) : COMPUTER ORIENTED NUMERICAL TECHNIQUES LAB

Time : 1 Hour *Maximum Marks : 50*

***Note** : (i) There are **two** questions in this paper and both are compulsory.*

(ii) Each question carries 20 marks.

(iii) 10 marks are reserved for viva-voce.

(iv) The programs may be implemented in any one of the programming languages out of C, C++, MS-Excel or any other spreadsheet software.

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1. Write a program to implement Simpson's 1/3rd formula to approximate the value of definite integral (I) given below : 20

$$I = \int_1^2 e^x dx$$

Take $h = 0.2$.

2. Write program to calculate the value of cosine of an angle in radians using the formula : 20

$$\cos x = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \frac{x^6}{6!} + ...$$

You must use the terms upto x^{12}, and it is given that :

$$n! = n \times (n-1) \times (n-2) \times .... \times 3 \times 2 \times 1$$

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