BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)

Term-End Practical Examination

02185

June, 2018

BCSL-058(P)/S1 : 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) Rest 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 calculate the value of y using the formula

$$y = \left(1 - x + \frac{x^2}{2!} + \frac{x^3}{3!} - \frac{x^4}{4!} + \frac{x^5}{5!} - \frac{x^6}{6!} + \frac{x^7}{7!}\right)$$

where $0 < x \leq 1$

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

for example $7! = 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$ *20*

2. Write a program to implement Trapezoidal rule for approximating the value of definite integral given below :

$$I = \int_{0 \cdot 2}^{1} \frac{dx}{\sqrt{5 + x}}, \text{ using } h = 0 \cdot 2.$$ *20*
