BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)

00562

Term-End Practical Examination

December, 2017

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 for viva-voce.

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

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1. Write a program to calculate the value of e^x using the formula

$$e^x = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \ldots, \frac{x^n}{n!} + \ldots$$

where n is ≤ 10 and $0 < x \leq 1$.

Please note that $n! = n \times (n-1) \times (n-2) \ldots \times 3 \times 2 \times 1$. *20*

2. Write a program to implement Simpson's $\left(\frac{1}{3}\right)$ formula to approximate the value of a definite integral given below : *20*

$$I = \int_0^{0.8} \frac{dx}{\sqrt{1+x}}, \text{ using } h = 0{\cdot}2.$$
