BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)

02348

Term-End Practical Examination

June, 2016

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) 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 Spreadsheet.*

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1. Write a program to calculate the value of sine of an angle given in radians, or in degrees, accurate up to four places of decimals, using the formula

$$\sin(x) = x - x^3/(3!) + x^5/(5!) - \ldots$$

and then find the values of $\sin(\pi/2)$, $\sin(\pi/4)$ (or $\sin 90°$ and $\sin 45°$). *20*

2. Write a program to implement Simpson's 1/3 formula to approximate the value of a definite integral. Further, use your program to approximate the value of

$$\int_{1\cdot3}^{1\cdot9} e^x \, dx \quad \text{with} \quad h = 0\cdot2.$$ *20*
