

**BACHELOR OF COMPUTER APPLICATIONS (Revised)  
(BCA)****Term-End Practical Examination**

00193

**June, 2015****BCSL-058(P)/S4 : COMPUTER ORIENTED NUMERICAL TECHNIQUES LAB***Time : 1 Hour**Maximum Marks : 50*

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- 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 written 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 a given value  $x$  in radians, using the following formula : 20

$$\sin(x) = x - (x^3/3!) + (x^5/5!) - (x^7/7!) + \dots$$

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

$$\int_{2.2}^{2.6} e^x dx, \text{ using } h = 0.2.$$

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