BACHELOR OF COMPUTER APPLICATIONS (Revised)
(BCA)

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Term-End Practical Examination

June, 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) 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 cosine of an angle given in radians, accurate up to four places of decimal, using the formula

$$\cos x = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} + \ldots,$$

where n! = 1.2.3 ... n. *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

$$\int_{1.4}^{1.9} e^x \, dx, \text{ using } h = 0.2.$$ *20*