(i) **Printed Pages: 2** **Roll No. .....**

(ii) **Questions : 9** **Sub. Code :** 0 9 3 1

Exam. Code : 0 0 2 9

Bachelor of Computer Applications 3rd Semester

(1129)

COMPUTER ORIENTED NUMERICAL METHODS

Paper—BCA-16-304

Time Allowed : Three Hours] **[Maximum Marks : 65**

Note :— Attempt ***one*** question each from Sections (A to D). Question **9** (Section E) is compulsory. All questions carry equal marks.

SECTION—A

1. What is floating point number ? Describe the storage of floating point numbers. 13

2. What do you mean by error ? Explain different types of errors in detail. 13

SECTION—B

3. What is the difference between direct method and iterative method to find solution of non-linear equations ? Explain with suitable examples. 13

4. What do you mean by Newton Raphson method ? Explain with a suitable example. 13

SECTION—C

5. What is interpolation ? Explain Newton's forward difference interpolation formula. 13

6. Broadly, explain the use of Newton's divided difference interpolation formula. 13

SECTION—D

7. Define approximation. Explain Chebyshev polynomials in detail. 13

8. How can you solve differential equations using Runga-Kutta method ? 13

SECTION—E

(Compulsory Question)

9. Write short notes on the following :

   (a) Euler's method 3

   (b) Lagrange interpolation 2

   (c) Gauss-Seidal method 2

   (d) Birge-Vieta method 2

   (e) Absolute error 2

   (f) Transcendental equations. 2