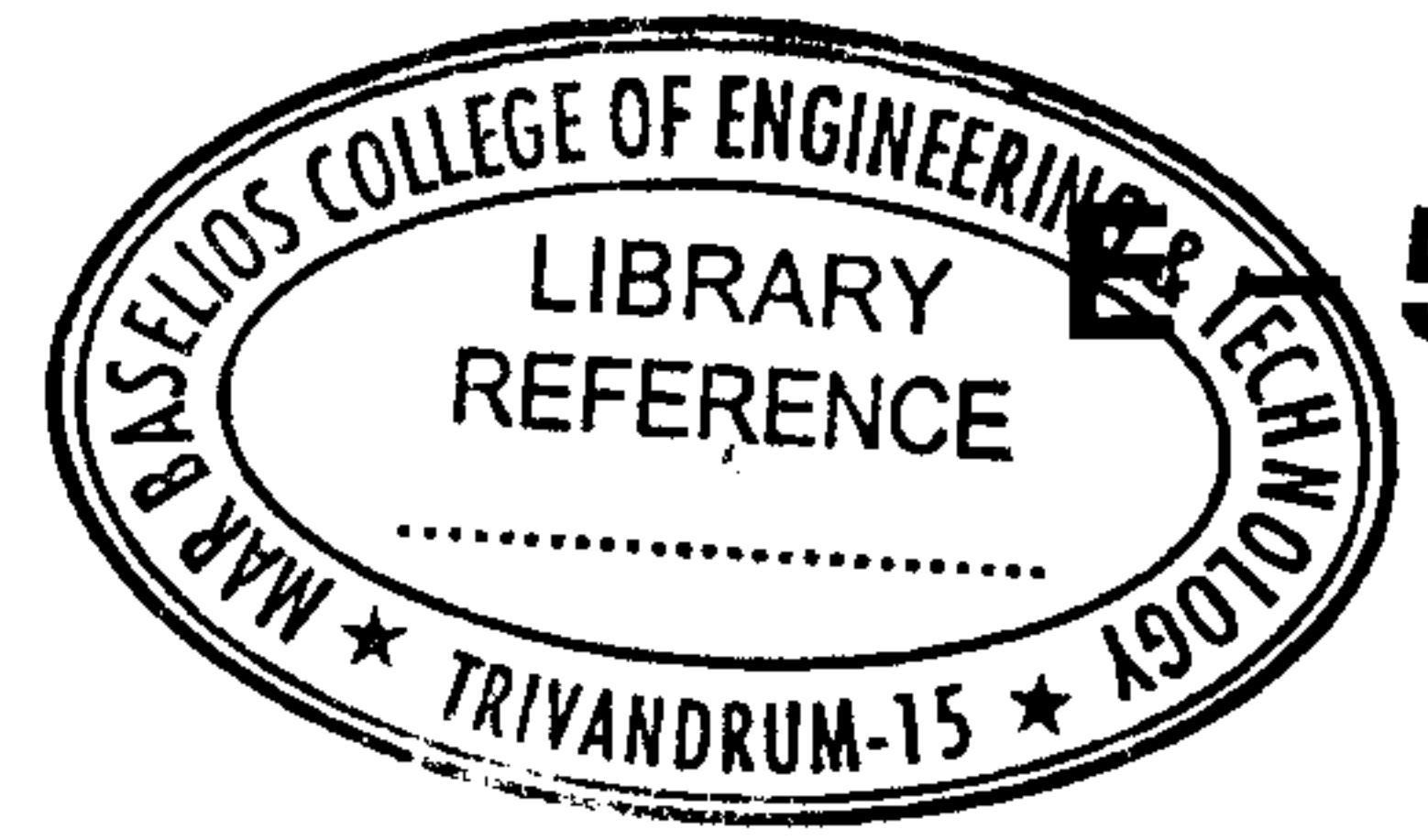




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Reg. No. : .....

Name : .....

**Seventh Semester B.Tech. Degree Examination, October 2018  
(2013 Scheme)**

**13.705.8 : ADVANCED COMPUTATIONAL METHODS (C) (Elective – II)**

Time : 3 Hours

Max. Marks : 100

**Instructions :** Answer *all* questions from Part – A and *one* from *each* Module in Part – B.

**PART – A**

1. Explain power method for finding largest eigen value.
2. Discuss different types of errors encountered with numerical methods.
3. Explain Hermitian interpolation.
4. Write short note on Milne's predictor-corrector method.
5. Why Crank Nicholson's scheme is called an implicit scheme ? (5×4=20 Marks)

**PART – B**

**Module – I**

6. Solve by Newton Raphson method. 20

$$x^3 - 3xy^2 + 3 = 100$$

$$3x^2y - y^3 = 0$$

$$\text{Given } (x_0, y_0) = (1, 1)$$

OR

7. Solve the following system of equation by Gauss-Elimination method. 20

$$x_1 + 2x_2 + 5x_3 + x_4 = -8$$

$$-x_1 + 7x_2 + 2x_3 + 4x_4 = 15$$

$$x_1 + x_4 = 3$$

$$4x_1 + x_2 - x_3 + x_4 = 11$$

P.T.O.

