



# SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

**AN AUTONOMOUS INSTITUTION**



Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

## Topic: 5.8 – Tutorial 14

1. Use Euler method, with  $h=0.1$  to find the solution of  $y' = x^2 + y^2$  with  $y(0)=0$  in  $0 \leq x \leq 5$
2. Using Modified Euler method, find  $y(0.1)$ ,  $y(0.2)$  given  $\frac{dy}{dx} = x^2 + y^2$ ,  $y(0) = 1$
3. By Modified Euler method, find  $y(0.1)$ ,  $y(0.2)$  and  $y(0.3)$  if  $\frac{dy}{dx} = x + y$ ,  $y(0) = 1$
4. Using R.K method of fourth order find  $y(0.1)$  and  $y(0.2)$  for the initial value problem  $\frac{dy}{dx} = x + y^2$ ,  $y(0) = 1$ .