



# SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

**AN AUTONOMOUS INSTITUTION**



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

## Topic: 5.4 –Tutorial 13

1. Given  $\frac{dy}{dx} = 1 + y^2$ , where  $y=0$  when  $x=0$ , find  $y(0.2)$ ,  $y(0.4)$  and  $y(0.6)$ , using Taylor series method.
2. Using Taylor's series method find  $y$  at  $x=0.1$ ,  $0.2$  if  $\frac{dy}{dx} = x^2 y - 1$ ,  $y(0) = 1$ .
3. By Taylor series method, find  $y(0.1)$ ,  $y(0.2)$  if  $\frac{dy}{dx} = x + y$ ,  $y(0) = 1$ .