

**Lab-7: Solution of ODE of first order and first degree by Taylor's series and Modified Euler's method**

1. Write a Python program to solve  $\frac{dy}{dx} - 2y = 3e^x$  with  $y(0) = 0$  using Taylor's series method at  $x(0.1), x(0.3)$  and  $h = 0.1$ .
2. Write a Python program to solve  $y' = -ky$  with  $y(0) = 100$  using Modified Euler's method at  $x = 100$  and taking  $h = 25$ .