ANURAG GROUP OF INSTITUTIONS
AUTONOMOUS
VENKATAPUR, GHATKESAR, HYDERABAD – 500 088, TELANGANA STATE

II Year B.Tech
Mathematics-III
II-Assignment Questions

(Common to Civil Chemical and Mech II year)

1) Evaluate $\int_0^1 \frac{1}{1+x^2}dx$ using Simpsons 1/3 and 3/8 rules with n=6

2) Evaluate $\int_0^2 e^{-x^2}dx$ using Trapezoidal Rule with h=0.25

3) Determine the constants a and b by the method of least squares such that $y=a\,e^{bx}$

X	2	4	6	8	10
Y	4.07 7	11.084	30.12 8	81.897	222.6 2

4) Fit a Parabola to the following data

x	0	1	2
Y	1	6	17

5) Solve $\frac{dy}{dx} = x - y^2$ subject to the condition y(0)=1 ,using Taylor series method and also find y(0.1), y(0.2)

6) Solve $y'(x) = y + e^x$ subject to the condition y(1)=1 by Euler's Method to find y(1.6) with h=0.2

7) Find y(0.4) using Picard's method if $\frac{dy}{dx} = x^2 + y^2$ subject to the condition y(0)=0

8) Evaluate $\int_0^2 e^{-x^2}dx$ using Trapezoidal Rule with h=0.25