National University of Computer and Emerging Sciences

Homework 05

Q.1 Evaluate the integral

$$\int \frac{x^2 dx}{(x-1)(x^2+2x+1)}$$

Q.2 Evaluate the integral

$$\int \frac{16x^3 dx}{4x^2 - 4x + 1}$$

Q.3 Solve the initial value problem

$$(3t^4 + 4t^2 + 1)\frac{dx}{dt} = 2\sqrt{3}\,; x(1) = -\frac{\pi\sqrt{3}}{4}$$