

ABDULRAZZEQ ZUBEIDAN

CIVIL ENGINEERING

(1710003/50)

a)

Command window

clc

close all

Syms n(t)

D = diff(n)

ode = [diff(n, t, 2) - (diff(n, t)) - (12*n)] == 144*t^3 + 12.5;

Cond 1 = D(n) == -0.5;

Cond 2 = n(0) == 5;

Conds = [Cond 1 + Cond 2] + (12*144*t^3 + 12.5) == 0;

dSoln(t) = dsolve(ode, conds);

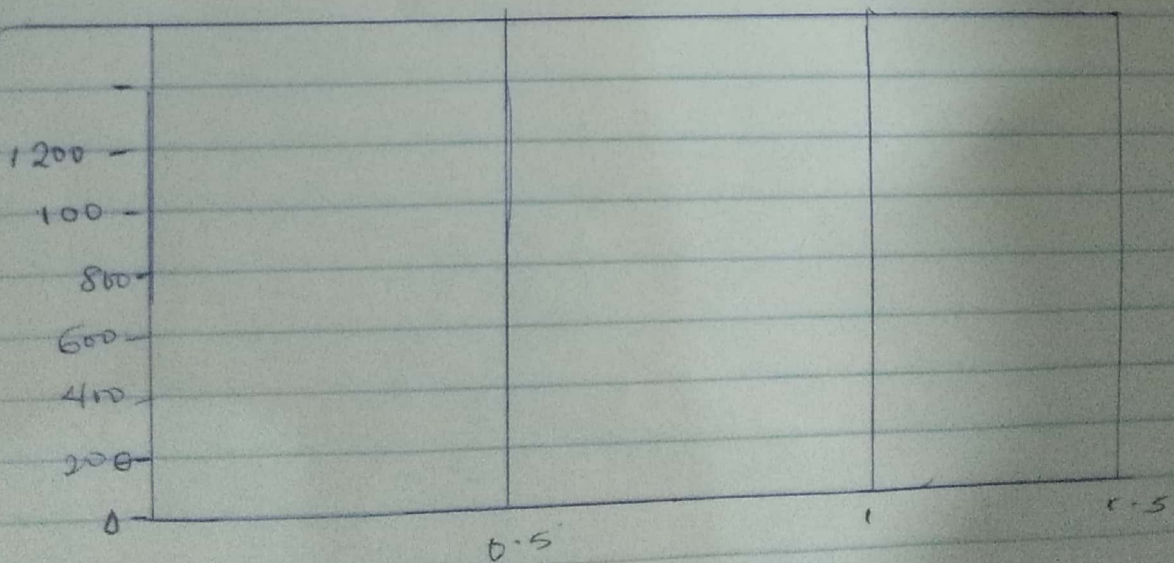
dSoln = simplify(dSoln(t))

t_n = [0; 0.1; 1.5]

Zubi = subs(dSoln, t, t_n)

Plot(t_n, Zubi)

grid on



(6)

Command window

clear

clc

Syms t CS S

$$u = (3.142) (CS^2) + 15 \times 3.142 * s + 24 * (3.142^3)$$

Laplace (u)

(6)

Command window

clear

clc

Syms K K1 t S f(t) f(s)

$$Z = K * \exp(-a * t) * \sin(S * K1 * t) * \cos(3 * K1 * t)$$

Laplace (Z)