

YASUBU HEKMAT OJUNING  
 17/ENGA 02/080  
 COMPUTER ENGINEERING  
 ENG 331

4. Command window

clc

clear

close all

syms n(t)

$$n_0 = \text{diff}(n, t, 2) - 12 * n(t) - 12 * n = 144 * (t^2 * 3) + 12 * 5;$$

$$\text{cond} = n(0) == 5, \text{diff}(n, t, 2) == -0.5;$$

$$y(n) = \text{dsolve}(n_0, \text{cond})$$

$$t = 0 : 0.1 : 1.5$$

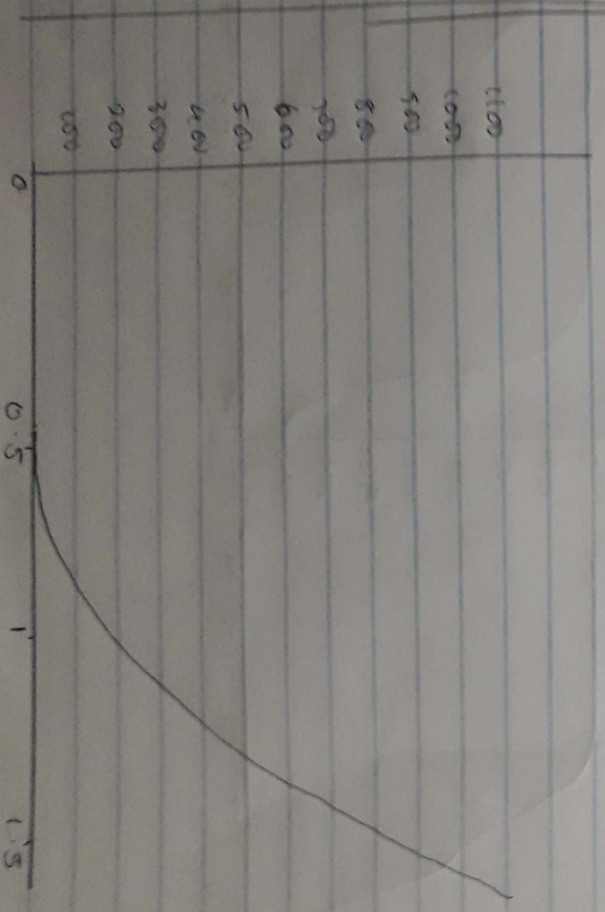
hold on = subs(y, t)

plot (t, hold on)

axis tight

grid on

grid minor



4b command window

clc

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syms x(t) y(t)

$$eqn1 = diff(y,t) - 2*x = 2*exp(-2*t);$$

$$eqn2 = diff(x,t) + y - exp(-t);$$

$$conds = [eqn1, eqn2];$$

$$conds = x(0) = 0, y(0) = 0;$$

ans = dsolve(conds, conds)

figure(1)

plot(y0)

grid on

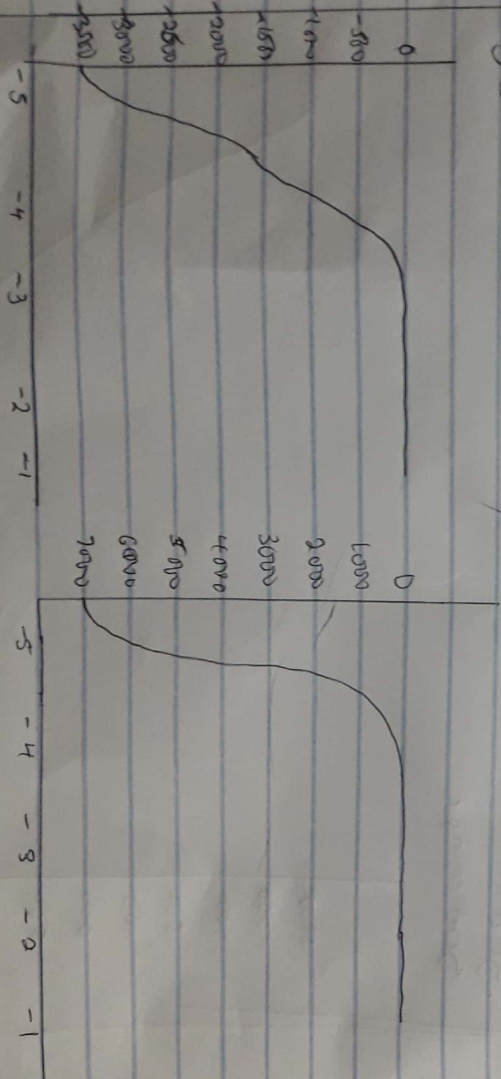
grid minor

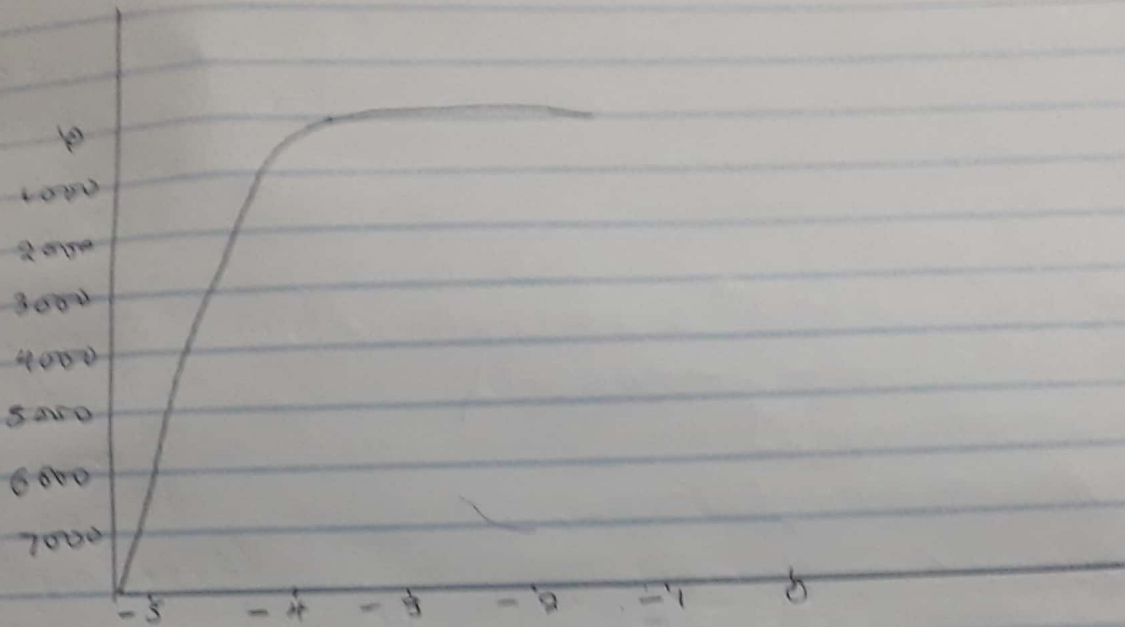
figure(2)

plot(x0)

grid on

grid minor





4c Command window

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syms t k a b w

$$PE = k * \exp(-a * t) * \sin(5 * w * t) * \cos(3 * w * t)$$

$$fs = \text{laplace}(PE)$$