

ii) Visualizing the solution on graph separately continue with

f plot (xsol)

f plot (ysol)

grid on

legend ('xsol', 'location', 'bed')

legend ('ysol', 'location', 'bed')

iii) Visualizing the solution on graph together continue

f plot (xsol)

hold on

f plot (ysol)

grid on

legend ('xsol', 'ysol', 'location', 'bed')

4c)

i) command window

clc

clear

close all

S = inst + S * cos(x * ka)

x = -k + exp(-k * t) + sin(s * t + 2 * k * z) + cos(3 * t)

F = laplace(x, t, 's')

pretty(F)

pretty(Caus)

ii) Symv + S

$$F = P_1 + \frac{1}{(s^2 + 13s + 24)} * P_2 * S + 24 * P_3 * S$$

1 Laplace (F)

Simplify (Caus)

Pretty (Caus)

Q 4

4a) Command window

clc

clear

close all

Syms n(t)

eqn = diff('n(t,2) - diff(n,t) - 10n = 144t (t^3) + 10.5

cond = n(0) = 0; diff('n(t,2) = 0.5^2

y Sol = dsolve('eqn, cond')

t = 0:0.1:15

y_sols = subs('ySol', t)

plot(t, y_sols)

grid on

legend('y_sols', 'n(t,2)', 'n(t)')

4b)

Command window

clc

clear

close windows

Syms n(t) y(t)

eqn 1 = diff('y(t)') - x^t * x = exp(-2*t);

eqn 2 = diff('n(t)') + y - exp(t);

eqn 3 = [eqn 1; eqn 2]

cond = x(0) = 0; y(0) = 0;

Ans = dsolve('eqns, cond')

x_sols(t) = Ans + x

y_sols(t) = Ans + y