

$$A + B = 0 \quad \dots \text{---} \text{---}$$

$$3A + 2B = 0.1 \quad \text{---}$$

$$2A + 2B = 0$$

$$3A + 2B = 0.1$$

$$-A = -0.1$$

$$A = 0.1$$

$$\text{to find } B$$

$$0.1 + B = 0$$

$$B = -\frac{1}{10} \text{ or } -0.1$$

$$G.S = \frac{-1}{10} e^{-3t} + \frac{1}{10} e^{-2t} + \frac{1}{10} \cos t + \frac{1}{10} \sin t$$

$$G.S = \frac{1}{10} e^{-2t} - \frac{1}{10} e^{-3t} + \frac{1}{10} \cos t + \frac{1}{10} \sin t$$

$$= \frac{1}{10} (e^{-2t} - e^{-3t} + \cos t + \sin t)$$

iii) MATLAB \rightarrow file

command window

clear

clc

close all

syms t

t = 0:0.01:10;

x = 0.1 * [exp(-2*t) - exp(-3*t) + cos(t) + sin(t)]

xa = subs(x)

plot(t, xa)

axis tight

grid on

grid minor