

```
>> %% ***** Q5 *****
syms t s;
%for input x(t) = u(t)
Y_s = (1/s + s + 0.5)/(s^2 + 0.5*s + 0.15);
y_t = ilaplace(Y_s)

%for input x(t) = 2u(t)
Y_s1 = (1/s + s + 0.5)/(s^2 + 0.5*s + 0.15);
y_t1 = ilaplace(Y_s1)

y_t =

20/3 - (17*exp(-t/4)*(cos((5^(1/2)*7^(1/2)*t)/20) + (5^(1/2)*7^(1/2)*sin((5^(1/2)*7^(1/2)*t)/20))/7)/3

y_t1 =

20/3 - (17*exp(-t/4)*(cos((5^(1/2)*7^(1/2)*t)/20) + (5^(1/2)*7^(1/2)*sin((5^(1/2)*7^(1/2)*t)/20))/7)/3

>>
```