```
>> %% ********** Q3 y(t) *********
syms t s;
p_t = 20*(heaviside(t) - heaviside(t-40)) - 10*(heaviside(t-40)-heaviside(t-60));
P = 1.1*abs(min(p_t))
x_t = (p_t + P)*cos(2*pi*t)
y_t = abs(x_t)
fplot(y_t,[0,100],'r',"LineWidth",2); % Plot x(t) as a function plot
xlabel('Time (sec)');
ylabel("y(t)");
title("y(t) for 0<=t<=100");
ylim([-1,45]) % assign limits to y axis

P =

(11*abs(10*heaviside(t - 60) - 30*heaviside(t - 40) + 20*heaviside(t)))/10


x_t =

cos(2*pi*t)*((11*abs(10*heaviside(t - 60) - 30*heaviside(t - 40) + 20*heaviside(t))) ↙
/10 - 30*heaviside(t - 40) + 10*heaviside(t - 60) + 20*heaviside(t))

y_t =

abs(cos(2*pi*t))*((11*abs(10*heaviside(t - 60) - 30*heaviside(t - 40) + 20*heaviside ↙
(t)))/10 - 30*heaviside(t - 40) + 10*heaviside(t - 60) + 20*heaviside(t))

>>
```