**Code:**

% RX sensitivity=-42 db/m TX power=50um

%Ploss=2\*lc+alpha\*L+SM(6db); lc(end connector loss = 1 db)

%attenuation constant of fiber(alpha)=3.5 db/km

Pt=ceil(20\*log(0.5))

Pr=(-42)

Pl=(Pt-Pr)

lc= 1;

Sm=6;

alphaf=3.5;

L=(Pl-2\*lc-Sm)/alphaf

L=[0 1 2 3 4 5 6]

for i=1:length(L)

p\_level(i)=-14-(3.5\*L(i));

end

plot(L,p\_level)

grid on

title('Power Level V/s Distance');

xlabel('Distance');

ylabel('Power Level');

**Output:**

Pt = -13

Pr = -42

Pl = 29

L = 6

L = 0 1 2 3 4 5 6