

PERTEMUAN 14 (FILTER DIGITAL)

Praktikum ke 1 :

```
fc = 150;  
Wn = (2/Fs)*fc;  
b = fir1(20,Wn,"low",kaiser(21,3));  
  
[h,f] = freqz(b,1,[],Fs);  
plot(f,mag2db(abs(h)))  
xlabel("Frequency (Hz)")  
ylabel("Magnitude (dB)")  
grid
```

Praktikum ke 2 :

```
y = filter(b,1,x);  
  
plot(t,x,t,y)  
xlim([0 0.1])  
  
xlabel("Time (s)")  
ylabel("Amplitude")  
legend("Original Signal", "Filtered Data")
```

Praktikum ke 3 :

```
Fs = 1;  
n = 1:365;  
  
x = cos(2*pi*(1/7)*n) + cos(2*pi*(1/30)*n-pi/4);  
trend = 3*sin(2*pi*(1/1480)*n);  
  
y = x + trend + 0.5*randn(size(n));  
  
[pxx,f] = periodogram(y,[],[],Fs);  
  
subplot(2,1,1)  
plot(n,y)  
xlim([1 365])  
xlabel("Days")  
grid on  
  
subplot(2,1,2)  
plot(f,10*log10(pxx))  
xlabel("Cycles/day")  
ylabel("dB")  
grid on
```