**Assignment no.1**

**Sub-FD BE/ELX/SH-2013**

**Date-**

1) Design an analog high pass filter for following specifications

αp=3dB , αs=15db,Ωp=1000r/s,Ωs=500r/s

2) Design a buterworth bandstop filter with 2dB passband edges of 30Hz and 40dB Stopband

edges of 50Hz and 70Hz.

3) Design an analog bandpass filter for following specifications

Passband:-200r/s-800r/s

Stopband: 0-100r/s and 1600r/s-onwards

αp=3dB

αs=10dB

4) Design a butterworth filter for following specifications

0.75<|H(e^jw)|<1 for 0<w<π/2

|H(e^jw)|<=2 for 3π/4<w<π

5):Design a butterworth digital LPF for following specifications:

a)Passband=0 - 1KHz

b)Stopband=3KHz – onwards

c) αp=2.3 dB

d) αs=18dB

e) Fs=12KHz

f)plot pole-zero plot of analog filter