Independent University, Bangladesh (IUB)
School of Engineering, technology and Sciences (SETS)
Department of Electrical and Electronic Engineering
Autumn 2020 EEE 321L

***Lab* 9: *Study on* lowpass and highpass FIR filters**

Objective:

To be able to design lowpass and highpass FIR filters using MATlab.

Labwork

1. Develop a MATlab function for ideal lowpass filter impulse response
2. Design a digital FIR lowpass filter with the following specifications:

$$\omega_p=0.2\pi, \quad R_p=0.25dB$$
$$\omega_s=0.3\pi, \quad A_s=50dB$$

3. Design a digital FIR lowpass filter with the following specifications using a Kaiser Window:

$$\omega_p=0.2\pi, \quad R_p=0.25\ dB$$
$$\omega_s=0.3\pi, \quad A_s=50\ dB$$

4. Design a digital FIR highpass filter with the following specifications:

$$\omega_p=0.5\pi, \quad R_p=0.25\ \ dB$$
$$\omega_s=0.4\pi, \quad A_s=50\ \ dB$$

Lab-Assignment#9

Develop a MATlab function to design a digital FIR lowpass filter.