

## *EEE-321L.3*

### Assignment - 02

**Note: Write your Name & ID. Example: Student\_Name\_ID:1234567890 in all figure's titles**

1. Write MATLAB code for Phase modulation and demodulation using phase deviation. Here message signal is  $M(t)=1+\text{square}(2*\pi*f_m*t)$ , and Carrier Signal is  $C(t)=\cos(2*\pi*f_c*t)$ . Phase Deviation  $k_p=\pi$ .  $F_m = 4$  and  $F_c = 15$ ,  $f_s=1500$ .
2. Write MATLAB code for PCM. Here message signal is  $m(t)=2*\sin(2*\pi*f_m*t)$ , where  $f_m = 3$  and make 16 Quantize levels and codebook= -2: .2: 2
3. Write MATLAB code for ASK modulation. Take digital message signal bit stream like  $b = [0\ 1\ 1\ 0\ 1\ 1\ 0\ 1\ 1\ 0\ 1]$  from user, and Carrier Signal is  $C(t)=\sin(2*\pi*f_c*t)$  and  $F_c = 1$ .
4. Write MATLAB code for FSK modulation. Take digital message signal bit stream like  $b = [0\ 1\ 1\ 0\ 1\ 1\ 0\ 1\ 1\ 0\ 1]$  from user, and Carrier Signal is  $C(t)=\sin(2*\pi*f_c*t)$  and  $F_c = 3$ .
5. Write MATLAB code for PSK modulation. Take digital message signal bit stream like  $b = [0\ 1\ 1\ 0\ 1\ 0\ 1\ 0\ 1\ 1\ 0\ 1]$  from user, and Carrier Signal is  $C(t)=\sin(2*\pi*f_c*t)$  and  $F_c = 3$ . And phase deviation  $k_p=\pi/4$ .