

Mawlana Bhashani Science and Technology University

Department of Information and Communication Technology

Course Title: Data Communication lab

Course Code: ICT-3102

1. Write a MATLAB code to present the signal $S(t) = A \sin(2\pi ft)$ in the time domain.
2. Write a MATLAB code to present the signal $S(t) = A \cos(2\pi ft + \varphi)$ in the time domain.
3. Write a MATLAB code to present the signal $S(t) = A \cos(2\pi ft)$ in the frequency domain.
4. Write a MATLAB code to present the signal $S(t) = A \cdot e^{-\alpha t} \cdot \sin(2\pi ft)$ in the time domain.
5. Write a MATLAB code to generate the square wave using sinusoidal signal.
6. Write a MATLAB code to generate the Sawtooth wave.
7. Write a MATLAB code to perform the Manchester line coding operation on the data stream 10110010.
8. Write a MATLAB code to perform the Bipolar AMI line coding operation on the data stream 10101001.
9. Write a MATLAB code to perform the Amplitude modulation of a cosine message signal.
10. Write a MATLAB code to perform the pulse code modulation (PCM) of a sinusoidal signal.