

Open Course Title: Pre- requisites to Signals and Communication Systems using hands on session using MATLAB/OCTAVE.

Target Students from Branches: Diploma students of ECE/TCE/EEE

Total duration of the course: 25 Hours

No. of Lecture hours: 15hrs

No. of hands on / Practical : 8hrs

Abstract: The objective of open course is to acquire the basic knowledge of Signal Processing and Communication System. Students will acquire skills of MATLAB/ OCTAVE

in a better way for using Signal Processing and Communication tool Box. Diploma Students can build confidence in Signals & Communication Systems.

Contents:

- Introduction to Signals
- Classification of Signals.
- Operation on signals in time domain
- Need for frequency domain representation
- Introduction to Fourier Transform
- Amplitude Modulation
- Frequency Modulation
- Hands on session for the above topics

Open Course Details

CO1: Understand the concepts of signals and to simulate them.

CO2: Analyse modulated signals and to represent the signals in frequency domain using Fourier transforms.

CO3: Develop miniproject using basic modulation technique and concepts of signals in a team.

Schedule

Day	Date and time	Session	Content/Syllabus	Teaching Aids	Resource person
Day 1 (Tuesday)	12.2.2019 9.00am to 12.30am	Morning	Introduction to Signals Signal,	Black board and	Dr. A. Shobha Rani and Prof Deepa Reddy

			Classification of Signals, Basic signals .	chalk/ PPT	
	12.2.2019 1.30 pm to 4.00 pm	Afternoon	Hands on session Lab/Session on octave tool usage. Basic in built functions/plotting tools/ matrix operations.	Lab session using Octave tool/ PPT	Prof Deepa Reddy ,Dr. A. Shobha Rani and Mr Kasbe
Day2 (Wednesday)	13.2.2019 9.00am to 12.30am	Morning	Operation on signals time domain(both Continuous Time and Discrete Time domain) with some tips on solving numericals	Black board and chalk	Prof Deepa Reddy and Prof Vinutha
	13.2.2019 1.30 pm to 4.00 pm	Afternoon	Generation of CT and DT using octave in built functions and hands on session on operation on signals(Amplitude scaling, shifting, addition)	Lab session using Octave tool/ PPT	Prof Ravindra , Prof Deepa Reddy and Mr Kasbe
Day 3(Friday)	15.2.2019 9.30am to 12.30am	Morning	Need for frequency domain representation of signals. Tools used. Introduction to Fourier transforms, Introduction to Communication , Modulation, analog modulation techniques, Applications of Fourier transforms in	Black board and chalk/ PPT	Dr. A. Shobha Rani and Prof Vinutha

			communication.		
	15.2.2019 1.30 pm to 4.00 pm	Afternoon	Mini projects using Octave tool and presentation in teams	Octave tool and PPT	Prof Deepa Reddy ,Dr. A. Shobha Rani, Prof Ravindra, Prof Vinutha, Mr Kasbe
Day 4(Saturday)	16.2.2019 9.30am to 12.30am	Morning	Expert talk on recent advancement in communication technologies. Valedictory	PPT	Industry expert Mr. K R Muralidhara Scientist E, ISRO