MADANAPALLE INSTITUTE OF TECHMOLOGY & SCIENCE
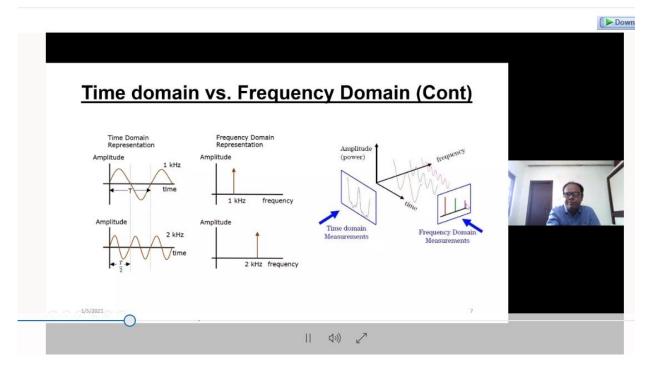## (UCG-AUTONOMOUS)
Affiliated to JNTUA, Ananthapuramu & Approved by AICTE, New Delhi

Recognised Research Center, Accredited by NBA, NAAC for CSE, ECE, EEE, ME & MBA

World Bank Funded Institute, Recognised by UGC under the sections 2(f) and 12(B) of the UGC act 1956

Recognised as Scientific & Industrial Research Organization by DSIR of DST

Department of Electronics & Communication Engineering

Report on

Guest Lecture on
Signals in Frequency Domain: Representation, Analysis and Applications
05.01.2021

Report Submitted by: Submitted by: Dr. Ravi Tiwari/ Dr. Sourabh Paul, Sr. Assistant Professor, Dept. of ECE, Department of Electronics and Communication Engineering

No. of Students Participated – 105 (ECE Students)

The resource person was: **Dr Mohiul Islam (**Assistant Professor**)** from CMR College of Engineering & Technology, Hyderabad, in the Dept. of Electronics and Communication Engineering

The department of Electronics and Communication Engineering, MITS Madanapallle organized a Guest Lecture on the topic "**Signals in Frequency Domain: Representation, Analysis and Applications**". **Dr Mohiul Islam (**Assistant Professor**)** from CMR College of Engineering & Technology, Hyderabad, in the Dept. of Electronics and Communication Engineering presented this Guest Lecture on 05/01/2021 (10 am to 11 am). He received PhD from NIT Silchar, and M. Tech. from NIT Agartala, in the domain of Communication and Signal Processing. Dr Sourabh Paul and Dr Ravi Tiwari, Sr. Assistant Professor in the Department of ECE, MITS Madanapalle

coordinate this event. The Convener/ Chief Guest for the event was Dr S. Rajasekaran, HOD, Dept. of ECE, MITS, Madanapalle.

This lecture provides a basic knowledge of Signals and Systems and wavelet domain analysis of signals. It explains the need for frequency domain representation of signals. The second half of the lecture starts with the operations in discrete-time signals and systems and ends with detailed discussion on different transformations like DTFS, DTFT, DFT, FFT, ZT and DWT. Then it describes the application of DFT, FFT and DWT. It also explains the Image Watermarking Systems. From the lecture we understand that "**Watermarking**" is the **process** of hiding digital information in a carrier signal; the hidden information should, but does not need to, contain a relation to the carrier signal.