



Title:- GNU-Radio Basics Modeling

By : - Er. OveekChatterjee , Founder of Elentrika Technologies.

Date: - January 4th , 2020

- a. **Session – I** (GNU-Radio basics modeling in GNU Radio Software – 1:30pm to 3:30pm)
- b. **Session – II** (Hands on session on GNU Radio – 3:45pm to 5:45pm)

Preamble: -

As a Day long activity, GNU-Radio Basics Modeling Workshop had been conducted on January 4th, 2020, at Government College of Engineering, Nagpur in order to spread GNU-radio related knowledge/literacy among the participants/attendees of the workshop.

Participant's Profile:-

A total of 5 faculty members from the department itself, along with 3rd Year and 4th year students from E&TC department.

Description about the Program: -

A workshop was organized in E&TC Department of GCOEN 4th January, 2020. The session started off as the guest lecturer, Er. Oveek Chatterjee, Founder of Elentrika Technologies was welcomed by Head Of Department, Dr. P.R. Deshmukh Sir with a token of love.



Dr. P.R. DeshmukhSir welcoming Er. Oveek Chatterjee

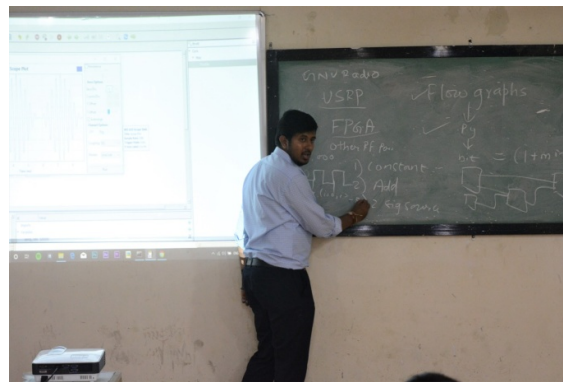
The workshop took off as Er. Oveek addressed the attendees about GNU-Radio software and its importance along with the related applications. The workshop was divided into two effective stages. First, the basics of GNU-Radio modeling with examples on real life applications and second, the Hands-on session on GNU software.

What is GNU?

The answer to it is, GNU Radio software provides the framework and tools to build and run software radio or just general signal- processing applications. Instead of using different radios designed for specific but disparate purposes, a single, general-purpose, radio can be used as the radio front-end, and the signal- processing software (here, GNU Radio), handles the processing specific to the radio application.

GNU-Radio software is written in Python and C++ languages and its type is Radio.

In the first stage, Er. OveekChattarjee covered various real life examples and successfully converted this stage into an interactive session, which was the most interesting part of this session. He introduced the modulation, demodulation, spectrum analysis techniques and many more which are the most important technical terms and are the requirements of wireless communication.



Snap from session venue – Stage – I

In the second stage, he covered the Hands-on session in which he taught and guided the participants to use GNU-radio software from the very initial stage. He taught how to install, identify tools, how to use and how to simulate. In this stage, the attendees enjoyed learning the software and simulating it. He taught to identify the efficiency, to reduce frequency, to analyze spectrums, techniques for modulation and demodulations e.g. PAM,PPM,BPSK,PWMetc.



Snap from session venue – Stage – II

Hands on session

The entire session was an interactive session and the Expert answered many queries raised by the attendees.

According to the participants, they learned many new things related to GNU-Radio and got to know different perspective in wireless communication with regard to GNU-Radio. They thanked the lecturer and the institute for conducting such interesting workshop.

The session came to an end and Dr.RajeshreeRaut (Dean SA) extended the vote of thanks to Er. Oveek Chatterjee for taking out time for this fruitful and interesting session by presenting Sir with the token of gratitude "Shrimad BhagvadGeeta".



Dr. RajeshreeRaut presenting Er. Oveek Chatterjee with the holy "Shrimad BhagvadGeeta" as a token of gratitude

The entire programme was co-ordinated with the support of the Principal, faculty and students of the Department of Electronics and Telecommunication, GCOEN.

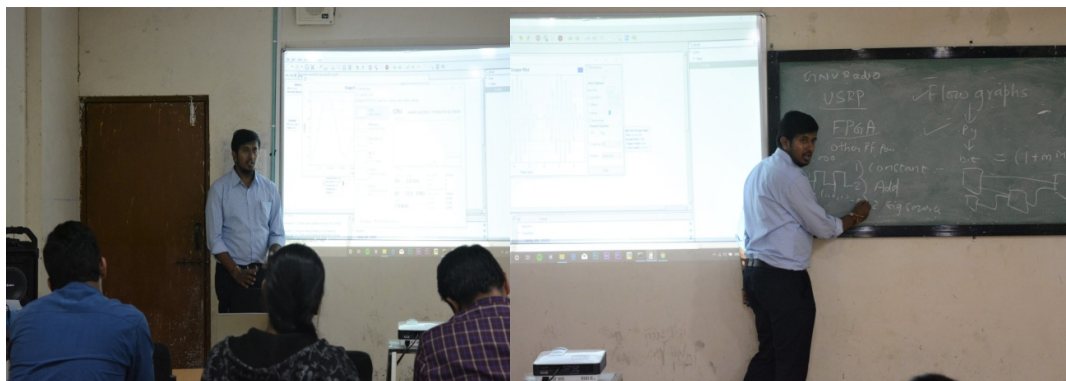
Report Submitted by : - Dr. Rajeshree Raut

Designation : -Associate Professor &Dean SA

Department : - Electronics and Telecommunication Engineering, GCOEN.

Glimpses of Workshop :-

STAGE - I INTRODUCTION TO GNU-RADIO



STAGE – II
HANDS ON SESSION

