Two day workshop on
"ANTENNA DESIGNING AND MEASUREMENTS"

WORKSHOP DETAILS

TITLE	Antenna Designing and Measurements
DATE	Friday, March 1st and Saturday, March 2nd, 2019
PARTICIPANTS	Faculty members, Students of MSIT and other institutes
ORGANIZERS	Department of ECE 2nd Shift, MSIT
VENUE	#406, MSIT

OBJECTIVE

The objectives of the workshop were to:

1. Introduce the concept of antenna and latest trends in antenna designing.
2. Provide hands on experience on VNA and Ansoft HFSS tool.
3. Application, fabrication and measurement techniques of antenna.
4. Inform about ADS, its capabilities and need of anechoic chamber.

FIRST DAY, 01.03.2019

Session 1

Dr. Khandelwal, Associate Professor, ECE Department, BPIT, started with the basic introduction of antenna and its different types along with the properties such as radiation pattern, polarization, return loss, etc.He also discussed about the objectives of research in antennaand the current research areas in UWB Antenna, 5-G Antennas and many more.Furthermore, Microstrip Patch Antenna was discussed in detail including its fabrication and the factors influencing its working condition.

Session 2

The participants learnt about Ansoft HFSS tool, used for antenna designing. The speaker made the participants familiar with some new concepts such as shielding assembly, leakage testing, control room, Anechoic Chamber etc.

Session 3

This session dealt with various fabrication and measurement techniques. Emphasis was laid upon the material and its electrical properties used as a substrate in fabrication. Also the analysisof radiation pattern was observed.

SECOND DAY, 02.03.2019

Session 1

Mr. Rohit Kumar, Application Engineer, Agmatel, briefed the participants about the basics of RF including spectrum monitoring and analysis.

Session 2

Vector Network Analyzer was thoroughly described and demonstrated by the speaker using different DUTs i.e. Device under Test. Few antennas were tested and parameters like radiation pattern, s- parameters were observed.

Session 3

Introduction of different types of RF Absorbers used in Anaechoic Chambers with their applications, advantages and limitations were demonstrated by the speaker.
Mr. Rohit practically showed the working parameters of dipole antenna placed inside the chamber and outside it. He explained how the radiation pattern gets changed when placed at two different locations.

CONCLUSION

An informative, practical workshop that aroused interest in participants to do research in the field of antenna designing.

Vote of Thanks was given by Dr. K.P. Chaudhary (Director, MSIT). Mementos were given to the speakers and certificates of participation were handed over to all the participants.

Annexure: Speakers' profile

ANNEXURE 1

Dr.MukeshKhandelwal is working as an Associate Professor in department of electronic & communication engineering of BhagwanParshuram Institute of Technology. He completed his doctor of philosophy from IIT Dhanbad in 2015 in the field of electromagnetics and antennas. His broad research area also includes metamaterials, metasurfaces, microwave components (filter, coupler, power divider), multiband antennas, wideband antennas, millimeter wave antennas, MIMO antennas, wearable antennas, DRA, adaptive beam antennas, smart antennas, rectennas and many more.

He has published 40 SCI papers in different journals of repute. Citation of his papers has been reached to the value of 215 and his h-index and i10 index are 9 and 7 respectively.

Dr.Khandelwal is also working as paid Editor in Cambridge publishing house UK and he is also working as paid reviewer and editor in EnagoCrimpson Pvt. Ltd. which is an US based multinational company.

Dr.Khandelwal is also serving as reviewer in various non-profit international journals including IEEE transactions on antennas and propagation, IEEE transactions on MTT, IEEE access, IEEE MTT letters mwcl, IEEEawpl, and many journals of elsevier, springer, wiley, taylor and fransics, Cambridge, frequenz and few more.

Rohit Kumaris serving as an Application Engineer and Agmatel India Pvt Ltd. He has 5 years of experience in RF, Microwave, Antenna Designing. His area of interest is in testing and measurement application EM simulation, RF device characterization. He has worked 3 years as Research Scientist in Society of applied microwave electronic engineering and research(SAMEER) Mumbai.