DEPARTMENT OF ELECTRONICS ENGINEERING

MISSION TO INNOVATE TECHNOLOGY FOR SOCIETY

April - June 2019

NEWSLETTER

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FACULTY OUTREACH (STC/WORKSHOP/FDP):

➤ **Prof Pooja Sahoo** attended one week short term course on "Microwave Heating and Processing of Foods" during 13th to 17th May 2019 at IIT Mumbai. The course was based on the analysis of effect of microwave radiations on human body and food items.

➤ **Dr. Vandana Vikas Thakare** and **Dr. Karuna Markam** attended 5 days short term course on "Wireless Communication and Signal Processing" from 20th to 24th May 2019 at MANIT Jaipur. The course was focused on MIMO systems, deep learning and random variables.

➤ **Dr. Laxmi Shivastava**was attended one week national workshop on "Advances in Wireless and Optical Networks" from 27th May to 01st June 2019 at MNNIT Allahabad. Recent trends in machine learning, wireless networks and wireless optical networks were mainly covered by the workshop.

➤ **Dr. R. P. Narwaria** attended short term course on "Recent Trends in Biomedical Signal Processing and VLSI Design" from May 30th to June 03rd at NIT Jalandhar. The topics covered by the course were based on the emerging technologies and their applications for biomedical signal processing.

➤ **Dr. Bimal Garg** attended one week workshop on "Electromagnetic and Antenna" at IIT BHU from 10th to 15th June 2019. The course was focused on various antenna designs and fundamentals of electromagnetic fields.

➤ Around 90% of NPUI faculty attended the TEQIP sponsored faculty induction program on "Advance Pedagogy and Digital Tool" from 24th to 28th June 2019 at IIT Indore.

➤ Around 80% of the faculty registered in NPTEL online courses and among them around 60% of faculties appeared in the final exam and qualified the NPTEL online courses.

RESULT OF NPTEL COURSES EXAM (APRIL-19)

S. No	Faculty Name	Name of the Course	Score
1	PoojaSahoo	Antenna Theory	Elite
2	Deep Kishore Parsediya	Antenna Theory	Elite
		Control Engineering	Successfully completed
3	Ranbeer Tyagi	Introduction to Research	Successfully completed
4	Rahul Dubey	Principle of Signal and System	Elite
5	Santosh Sharma	Antenna Theory	Elite silver
		Software Define Radio and its Applications	Elite silver
6	Aruna Chouhan .	Microprocessors and Microcontrollers	Elite Gold
		Embedded System Design with ARM	Elite
7	Awadhesh Gupta	Signals and Systems	Elite Gold
8	Rishabh Shukla	Electronics Module for Industrial Application using Op-amp	Elite Silver
9	Akanksha Gupta	Introduction to Coding Theory	Elite

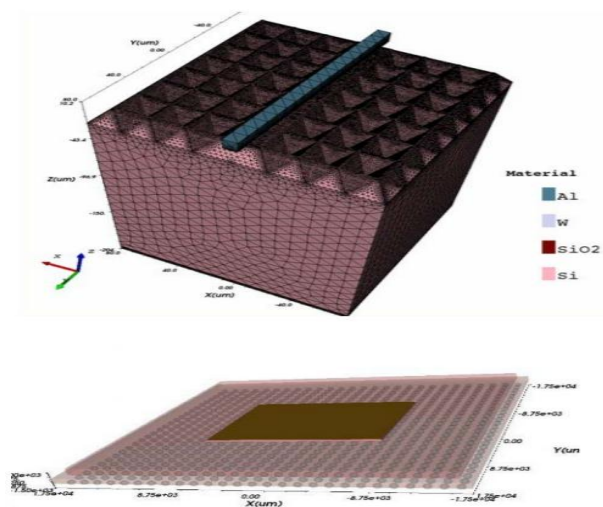|			
10	Praveen Kumar	MATLAB Programming for Numerical Computation	Elite
		Advance Power Electronics and Control	Successful completion
11	Saurabh Singh Raghuvanshi	Biomedical Signal Processing	Successful completion
12	Deepak Batham	MATLAB Programming for Numerical Computation	Successful completed

FACULTY ACHIVEMENTS:

> **Prof Awadhesh Gupta** achieved all india top 1% topper position in NPTEL online course "Principles of Signals and Systems".

PROCUREMENT FOR LAB DEVELOPMENT:

Following VLSI CAD tools have been purchased by the department under TEQIP-III:

1. SYMICA EDA tool:

SYMICA delivers a comprehensive set of EDA tools that enable companies around the world to design analog and mixed-signal integrated circuits with full flow. SYMICA has all major capabilities of modern IC development suites. Easy accommodation of different Process Development Kits (PDK) makes SYMICA an attractive solution for startups/Academic Institutes and independent researchers.

Simulation image of VLSI CAD tools

2. Visual TCAD:

Visual TCAD is the latest graphical user interface for the genius device simulator. Visual TCAD is designed to suit novice TCAD users and students, and focuses on ease of use. Beginners will be able to get started within just a few minutes. All the physical models and options are accessible with Visual TCAD. Visual TCAD is capable of device simulation of 2D and 3D, SPICE circuit simulation and mixed device/circuit simulation.

EQUITY CONFERENCE:

The Directorate of Technical Education (DTE) Maharashtra State organized two days National Conference on "Equity: Achievements and Challenges in India" on behalf of NPIU under TEQIP-III on 15th - 16th March, 2019 at College of Engineering, Pune, Maharashtra. From the Department of Electronics, Dr. Karuna Markam attended this conference. The success story of MITS was presented by the Director Sir in the program.

National Conference on "Equity: Achievements and Challenges in India"

More than 150 colleges attended the conference and out of them only 7 success stories were selected from Andaman and Nicobar, Mysore, Aurangabad, Madurai, ICT Mumbai, SATI

Vidisha and MITS Gwalior. The success story was based upon the following points:

1. What are the challenges faced by the institute to establish equity environment? (2-5 challenges)
2. What were the steps (initiatives) takes to address the above mentioned challenges?
3. What are the outcomes of the initiatives taken by the institute?

SUMMER INTERNSHIP 2019

The 15 days (15×4=60 Hours) Summer Internship Program for B.E./B.Tech. Istyear students was conducted by the department from 30th May to 14th June, 2019. The internship included four different modules. The modules were open to all engineering branch students whether they belong from the same Institute or others. All modules were designed including theory and hands on practical sessions four hours per day. A total of 146 inter-disciplinary branch students were registered in the internship. All the requirements and facilities were provided under the Head of Department and Institution. To analyze the impact of internship, the courses were made of 2 credits with a total mark of 25 which is divided in three parameters attendance, continuous evaluation based on assignment/tutorial problems, and skill test (Viva-Voice) each having different weights such as 20%, 40%, and 40%, respectively. Prof. Deepak Batham and Prof. Aruna Chouhan were the faculty coordinator of the departmental internship program. The details of all modules are as follows:

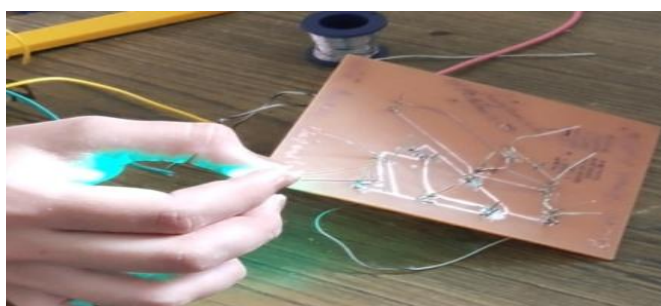| S. No.	Module Name	Module Coordinator
1	Training on PCB Designing & Circuit Wizard	Dr. VikasMahor Prof. RakeshNaik
2	Training on MATLAB	Dr. Ashish Gupta Prof. Deepak Batham
3	Training on Digital Circuit Design	Prof. ArunaChauhan Prof. Santosh Sharma
4	Python for Engineers	Prof. Saurabh Singh Raghuvanshi

Training on MATLAB

Training on Digital Circuit Design

Python for Engineers

Group photograph of students of MATLAB

Training on PCB Designing & Circuit Wizard

Group Photograph of students of PCB Module

PAPER PRESENTATION BY M.E. STUDENTS:

Three students of M.E./M.Tech. attended the ICSC 2019 conference organised by THDC- IHET Tehri, Uttrakhand. Following papers were presented by the students:

1. "DWT Based Compression Algorithm on Acne Face Images" presented by Garima Nain.
2. "Design of compact two element MIMO F –antenna" presented by Anamika Gupta.
3. "Autonomous vehicle power scavenging analysis for vehicular ad hoc network" presented by Garima Sharma.
4. "Design of Rectangular Patch Antenna and Array for Broadband Applications" presented by Anamika Gupta.

OTHER ACTIVITY

Election awareness and VVPAT demonstration for Lokshabha Election were organized by Prof. D. K. Parsediya, Election Nodal officer, M.I.T.S, Gwalior on 15th April 2019. Dr. V. G. Telang delivered the motivational and awareness lecture. The VVPAT demonstration was also conducted after the awareness speech followed by mock polling. Around 100 students participated in the mock polling.

VVPAT Demonstration

Motivation speech by Dr. V. G. Telang

Mock polling by students

PUBLICATIONS (APRIL-JULY 2019):

➢ Sweety Jain, Pankajn K. Mishra, Vandana Vikas Thakare, "Design of Microstrip moisture sensor for determination of moisture content in rice with improved mean relative error", Microwave and Optical Technology Letters, WILEY , ISSN 1098-2760 vol. 61, issue 7, pp 1764-1768, July 2019.

➢ Priyanka Jain, Raghavendra Sharma, Vandana Vikas Thakre, "A review study on comparison of genetic algorithm and brain storm algorithm", Journal of Emerging Technologies and Innovative Research (JETIR), ISSN No.2349-5162, vol 6, issue No.5, pp 393-399, May 2019.

➢ G. Nain, A. Gupta and R. Gupta, "DWT Based Compression Algorithm on Acne Face Images", Intelligent Computing and Smart Communication (Springer ICSC 2019), 2019 International Conference on, Tehri, India, April 2019. (Accepted)

➢ Garima Sharma, Praveen Kumar, Laxmi Shrivastava, "Improvement in K-Medoids using Shortest Path in Wireless Sensor Network", International Journal of Innovative Technology and Exploring Engineering (IJITEE), Volume No. 8, Issue No. 8, July 2019.

➢ Vivek Kumar, D. K. Parsediya, Anamika Gupta, "Design of Rectangular Microstrip Patch Antenna and Array for Broadband Applications", Intelligent Computing and Smart Communication (Springer ICSC 2019), 2019 International Conference on, Tehri, India, April 2019. (Accepted)