Technology Based Learning Activity (TBL)

Communication Engineering Domain

Date- 04/08/2017

Activity – Guest Lecture on "Test & measurement Instruments", by: Mr. Pradeep Kumar

Faculty involved- Ms. Megha Gupta, Ms. Rupali Mane , Mr. Yogesh Kumar

Students- 73 students from TE-EXTC

The topic for TE students was "**Transmitting and Receiving system at Doordarshan**" conducted by Mr. Pradeepkumar Sharma, Doordarshan. There were a total of 73 students who took benefit of this seminar. Mr. Sharma began the seminar by giving the introduction to broadcasting and the necessary equipment. The functioning of a camera was discussed in brief. The use of RF signals and their transmission from a TV station was also explained. Further he emphasized on the use of satellites - they are used as reflectors/repeaters which broadcast the signals on larger surface. The benefit of a satellite being in Geostationary orbit is that the satellite revolves at the same speed as the earth revolves in a day and hence there is no improper reception at the receiver. At the end, Mr. Sharma gave an insight into the 7 days Internship programme being offered at Doordarshan for the students in order to bridge the gap between industry and academics.

Date- 18/08/2017

Activity – OMNET++ training

Faculty involved- Ms. Megha Gupta, Dr. Sangeeta Mishra

Students- 22 Students from BE-EXTC A

OMNeT++ is an extensible, modular, component-based C++ simulation library and framework, primarily for building network simulators. "Network" is meant in a broader sense that includes wired and wireless communication networks, on-chip networks, queueing networks, and so on. Domain-specific functionality such as support for sensor networks, wireless ad-hoc networks, Internet protocols, performance modeling, photonic networks, etc., is provided by model frameworks, developed as independent projects. OMNeT++ offers an Eclipse-based IDE, a graphical runtime environment, and a host of other tools. There are extensions for real-time simulation, network emulation, database integration, SystemC integration, and several other functions.

Students can use this tool for their communication based projects, so they have been trained for the same.

Date- 1/09/2017

Activity – Networking and troubleshooting

Faculty involved- Ms. Megha Gupta, Dr. Lochan Jolly

Students- 33 Students from BE, TE & SE EXTC

Speaker- Mr. Deepak Singh, Orange Consultants

In collaboration with IEEE a seminar on Networking and troubleshooting was arranged for students of second year, third year and final year. The speaker gave an insight of all the networking related issues and how can they be rectified. The router and switch configuration was explained in detail. The job prospects in Networking area and the certification courses required were also clearly explained.

Technology Based Learning Activity (TBL)

Date- 04/08/2017

Venue- Lab no.105

Domain- Electronics Devices & Modelling

Activity – Project Planning in EDM domain

Faculty involved- Ms. Anvita Birje

Students- 18 students from TE-EXTC (13) & BE-EXTC(05)

On Friday students interested in EDM domain were called from SE,TE & BE for various projects
1) Equal load sharing between two motors:
The objective is to regulate the turning on and off of the two motors of the sewage treatment plant, such that the load is shared between them equally. At any given point only one motor runs and the other is idle. The line diagrams of the existing motor controller will be shared, so a suitable control circuitry needs to be designed accordingly.
2) Flexible Logic Design using CPLD :-Use of CPLD to design flexible logic circuits. CPLD is Complex Programmable Logic Device which contains AND and OR gate arrays. The objective of the project is to allow students to implement various design using software in a single CPLD device .CPLD board is Altera board.

Technology Based Learning Activity (TBL)

Date- 18/08/2017

Venue- Lab no.105

Domain- Electronics Devices & Modelling

Activity – Project solution Presentation in EDM domain

Faculty involved- Ms. Anvita Birje

Students- 15 students from TE-EXTC (09) & BE-EXTC (06)

1) Equal load sharing between two motors:
The objective is to regulate the turning on and off of the two motors of the sewage treatment plant, such that the load is shared between them equally. At any given point only one motor runs and the other is idle. The line diagrams of the existing motor controller will be shared, so a suitable control circuitry needs to be designed accordingly.

1. Check whether the Time left is Zero or not. If not Zero, then JUMP to step-5. If Zero, then Continue.

2. Switch to other motor.

3. Set a Timer of 30 minutes.

4. Start the Motor.

5. Check whether the time left is zero or not. If not Zero, STAY here. If Zero, REPEAT process from   Step-3.
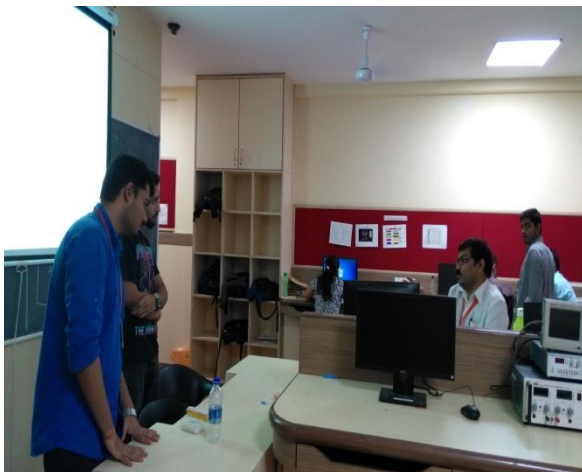
2) Flexible Logic Design using CPLD :-Use of CPLD to design flexible logic circuits. CPLD is Complex Programmable Logic Device which contains AND and OR gate arrays. The objective of the project is to allow students to implement various design using software in a single CPLD device .CPLD board is Altera board.
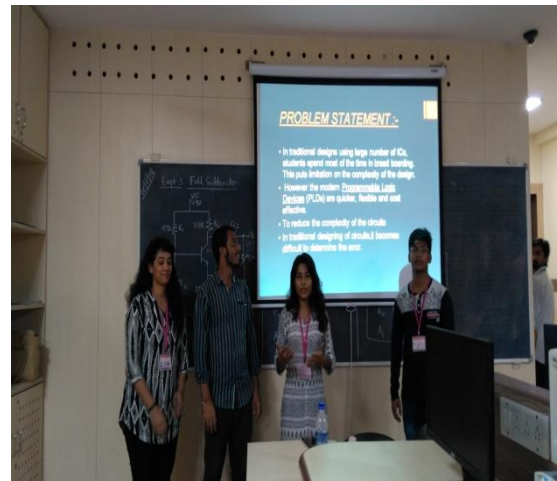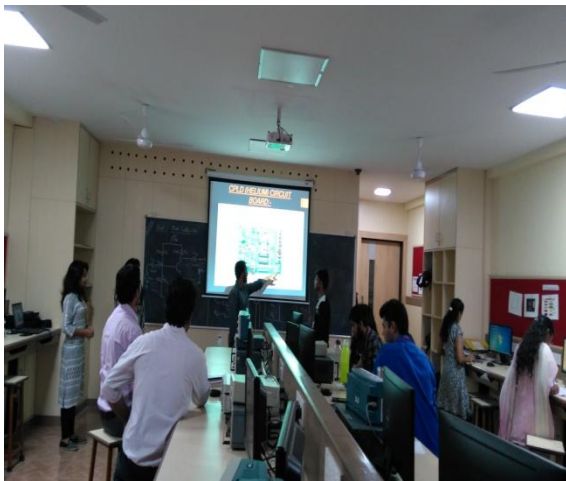SOLUTION: CPLD

STEP 1: To study CPLD board(HELIUM BOARD) and its specifications.

STEP 2: Design the logic block of the ALU using K-Map.

STEP 3:By using ALTERA QUARTUS II software we will able to burn the user defined programs on CPLD board.

STEP 4:To control CPLD board from different servers.

Embedded Domain Activity

As a part of Engineers Day Exhibition, two students from final year had undergone one day (13th September) training on "Mixed Domain Oscilloscope (MDO)" by Tektronix.

Objective of the training:
1. Students will be able to explain the product in the exhibition.
2. Students will learn the product and be able to use it in project is required
3. Students will get a hands-on on new product
4. Students will get an experience to speak in a technical exhibition.

Outcomes:
1. Students learned the working of MDO.
2. Students got a good hands-on practice about the MDO
3. Students gave presentation and explained the product on Engineers Day.

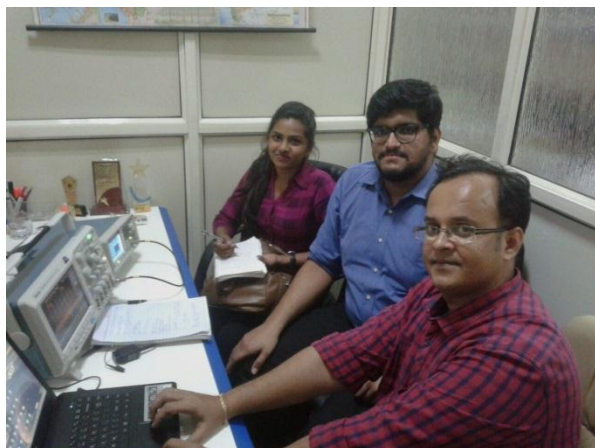**Faculty Involved:**
Ms. Rutvi Thakar - AP EXTC

Industry Person:
Mr. Subir Banik, Manager – Sales, San Instruments, Tektronix Calibration Lab.

Students:
Ms. Shweta Nair (BE A)
Mr. Swayam Bhosale (BE A)

Training at Tektronix, Thane

TCET students explaining Tektronix products to the Chief Guest

TCET students with Tektronix products

Sd/-   **Sd/-**

Ms. Rutvi Thakar   Dr. Vinitkumar Dongre

(Embedded Domain Faculty)   **(HOD)**