

Project based learning was introduced in this academic year because it will allow the student to implement theoretical knowledge. Topics from all the subjects were given to students and were asked to work on it in group of four. Project exhibition was held on 11<sup>th</sup> March 2017.

**For Second Year the List of PBL Topics were:**

1. Distance Measurement with ultrasonic sensor using Arduino.
2. Simple audio amplifier circuit.
3. Voice control elevator.
4. Laser communication.
5. Fan speed control by Arduino.
6. Bluetooth control RC car using Arduino.
7. Mosquito repellent circuit.
8. Temperature and humidity sensor using Arduino.
9. FM wireless transmitter.
10. Water Level Indicator Alarm Circuit.
11. Implement Adder and Subtractor using op-amp.
12. Implementation of High or Low pass filter.
13. Matlab program to verify sampling theorem
14. Temperature controlled DC fan.
15. Faraday's Guitar.

**For Third Year the List of PBL Topics were:**

1. Password based door lock system using 8051 microcontroller.
2. Boolean algebra calculator.
3. Cell phone detector circuit.
4. Digital timer using MOS IC LM8560.
5. 5 channel IR remote control system using microcontroller.
6. Wheelchair navigation system based on voice for physically challenged.
7. Microcontroller based automatic fan speed regulator.
8. Mini windmill power generation project.
9. DC motor speed control using GSM.
10. Ultrasonic blind walking stick.
11. Modified sine wave inverter using microcontroller.
12. AC power control with thyristor using microcontroller.

13. A Tele-medicine system for measuring heart rate, blood pressure, and drug level detection.
14. Gas leak detector with automatic air exhaust using arm cortex.
15. Radiometric correction of satellite image processing.
16. Design demodulator circuit to extract sync pulses and picture details from composite video signals.
17. Finding RGB, HIS and CMYK colour model
18. A survey study on the state of the art computer network technologies.
19. Introduction to IP Recovery Using Multiple Routing (Configurations Networking Project)
20. Implementation of Carry Look-Ahead Adder Using VHDL.
21. Implementation of 3-bit Carry save Adder Using VHDL.
22. Implementation of 4-bit Barrel shifter.