Sample Course Project Themes: (Innovative themes are welcome)

1) Logic gate using Transistor
2) Speed Control of motor using potentiometer.
3) light activated switch using Transistor as Switch.
4) Automatic Street light using LDR- Needs no manual operation for switching ON and OFF. When there is a need of light it automatically switches ON. When darkness rises to a certain level then sensor circuit gets activated and switches ON and when there is other source of light i.e. daytime, the street light gets OFF. The sensitiveness of the street light can also be adjusted.

5) Robotic arm(controlling using Bluetooth/Android App)
6) Toy E-Bike
7) Temperature Controlled Room
8) Sequencing of Motors – When the Main Switch is made ON, Motor 1 will start. After a delay 1, Motor 2 will start and Motor 1 will stop. After another delay d2, Motor 3 will become ON and Motor 2 will stop. When Main Switch is made OFF, everything will stop. (Many combinations can be made in this project)
9) Interlocking of Lamps – When main supply is made ON, Lamp 1 starts. After some delay 1, Lamp 2 starts and Lamp1 continues to run. When a switch is operated manually, both the lamps 1 and 2 become OFF and at the same time Lamp 3 becomes ON. All Lamps are being fed from a common supply.

10)Staircase lighting – One lamp is controlled from two switches. One switch is on the ground floor and other on the first floor

11) Water tank level control –There are 2 water tanks, tank 1 on ground floor and tank 2 on first floor. Whenthe main supply is made ON, a pump starts and water starts filling in the tank 2if the level of water in the tank 1 is at least 30% reached. When the water levelin tank 2 is reached to 100%, the pump becomes OFF automatically. When leveldrops due to usage of water, pump starts automatically only when the leveldrops at 70% of the full capacity.

12) Traffic signal system.

13) Password generation using number of switches.

14) Cascading of delay circuits using IC 555 and logic gates.

15) Railway Signal Using 555 Timer IC

16) Servo Motor Control Using 555 Timer IC

17) Tea coffee vending machine using 555 Timer - You can press the push button in order to get tea or coffee. When you press the button the pump is in action and starts filling your cup with the liquid.

Important instructions:

1) Groups would be same as EDI 1 groups.
2) Course project execution should need at least 3 Lab sessions i.e. 6 hours.
3) Concepts studied in the previous Lab sessions can be extended and converted to course project themes.
4) Hardware, should be promoted for project
5) Simulation software's can be used as per availability
6) Course project should have an aim, title, execution process, necessary theory, circuit diagram with working, details of components used, limitations and future scope of the project etc.