ARDUINO

MODULE 1
Unit 1
Introduction to Microprocessor, Micro controller, Arduino, Led in source mode and LED in sink mode.

Unit 2
Interfacing LED to arduino
1. LED ON & OFF
2. TWO LED interfacing (Alternate LED ON & OFF)
3. 1234 and 4321 LED pattern

MODULE 2:

Unit 1
1. Introduction to LCD 16x2, LCD Pin diagram Interfacing LCD to arduino. Interfacing LED and LCD

Unit 2
Interfacing LCD to Arduino
1. Displaying name on LCD
2. Setting cursor position in LCD
3. Display and NO display in LCD
4. Scrolling Display towards left and right
5. LCD display with LED status

Projects:
1. Interfacing 2 switches and 2 leds
2. Interfacing 4 switches and 4 led’s with different pattern
3. Interfacing 4 switches and leds and pattern displayed on LCD

MODULE 3:

Unit 1
1. L293D Pin diagram, Introduction to L293D Motor driver

Unit 2
Interfacing DC motors to arduino, Designing robot

Project 1: Robot assemble and robot competition (Basic Robot) (controlling robot front, back, left, right direction)
MODULE 4
Unit 7
Introduction to soil moister sensor, Introduction to gas sensor, Introduction to Ultra Sonic sensor and its pin configuration, Interfacing to Bluetooth and its pin configuration

Unit 8
1. Interfacing gas sensor to arduino
2. Interfacing LED, LCD and gas sensor
3. Interfacing Ultrasonic sensor to arduino and displaying distance on screen
4. Interfacing Ultrasonic sensor to LED
5. Interfacing Ultrasonic sensor to LCD
6. Interfacing Ultrasonic sensor to arduino and displaying distance on screen
7. Interfacing Ultrasonic sensor to LED
8. Interfacing Soil moister sensor to arduino

Project 2: Smart City(Gas Leakage Detection-Gas sensor Interfacing and Fire accident alert-Temp sensor Interfacing)
Project 3: Smart Stick for Blind person
Project 4: Smart garbage box using ultrasonic sensor

MODULE 5:

Unit 9
Bluetooth pin configuration, Introduction to metal detector, Introduction to LDR, Introduction to PIR sensor, Introduction to RFID

Unit 10
Project: Designing Automatic street Light
Project: Voice control based Home automation system
Project: Led tower