"Robotics using Arduino Programming"
(26.02.2021 to 02.03.2021)

SESSION PLAN

DAY 1 - 26.02.2021	
Time	**TOPICS TO BE COVERED**
9:00AM to 09:30AM	Inauguration
9:30AM to 10:30AM	✓ Introduction to embedded system ✓ Overview of basic electronics and digital electronics. ✓ Microcontroller vs. Microprocessor ✓ Different types of microcontrollers & its uses
10:30AM to 11:00AM	Break
11:00AM to 12:30PM	✓ Introduction to Arduino ✓ Pin configuration and architecture. ✓ Concept of digital and analog ports. ✓ Software installation & Interfacing Arduino Board
12:30PM to 01:30PM	Lunch break
01:30PM to 03:00PM	✓ LED Blinking ✓ Flashing of LED ✓ RGB LED Blinking ✓ **Project: Traffic Light Interfacing (Red – Yellow – Green)**
03:00PM to 03:30PM	Break
03:30PM to 05:00PM	✓ Seven Segment Display Interfacing ✓ IR Sensor Interfacing ✓ **Project: Number Counter using seven segment(0 -9)**
DAY 2 - 27.02.2021	
9:00AM to 10:30AM	✓ Flame Sensor Module ✓ Buzzer Interfacing & Control ✓ **Project: Fire Alarm**
10:30AM to 11:00AM	Break
11:00AM to 12:30PM	✓ LDR Sensor Interfacing ✓ Relay Interfacing ✓ **Project: Automatic street light control**
12:30PM to 01:30PM	Lunch break
01:30PM to 03:00PM	✓ Rain Drop Sensor Module ✓ Soil Moisture Sensor Module ✓ **Project: Irrigation Management System Using Soil Moisture Sensor**
03:00PM to 03:30PM	Break
03:30PM to 05:00PM	✓ Button Interfacing ✓ Matrix keypad Module ✓ **Project: Control Devices using Switch**

DAY 3 - 01.03.2021	
9:00AM to 10:30AM	✓ PIR Sensor Module ✓ Ultrasonic Sensor Module ✓ **Project: Anti Theft alarm system**
10:30AM to 11:00AM	Break
11:00AM to 12:30PM	✓ LCD Interfacing ✓ Creating custom characters ✓ **Project: Create Indian rupee symbol in LCD**
12:30PM to 01:30PM	Lunch break
01:30PM to 03:00PM	✓ Dot Matrix Display Module ✓ IR remote with reader ✓ **Project: Control LED using IR Remote**
03:00PM to 03:30PM	Break
03:30PM to 05:00PM	✓ Joystick Interfacing ✓ Serial Communication ✓ **Project: Control your Room Lights using your Computer**
DAY 4 - 02.03.2021	
9:00AM to 10:30AM	✓ Servo Motor Module ✓ DC Motor Interfacing ✓ **Project: Control your dc motor in forward and backward direction**
10:30AM to 11:00AM	Break
11:00AM to 12:30PM	✓ Basics of 2 wheeled robot ✓ Assemble your robot ✓ **Project: Make your robot move in a square direction for 3 sec on each side**
12:30PM to 01:30PM	Lunch break
01:30PM to 03:00PM	✓ Bluetooth Interfacing ✓ Android mobile based device control ✓ **Project: Control devices using your phone Bluetooth**
03:00PM to 03:30PM	Break
03:30PM to 04:30PM	**Concept Discussion** ✓ Home automation ✓ Intelligent water level management system ✓ Line follower robot ✓ Automatic Irrigation System ✓ Automated Washroom Light Using IR Sensors ✓ Obstacle avoidance for blind people
04:30PM to 05:00PM	Valedictory Function