Program Details

Program Name : Arduino for Beginners
Program Code : TRA0008
Duration : 2.0 hrs per Lesson (approx. 4 months to complete the course)
Learning Material : Inclusive

Program Outline

Lesson 1: Introduction to Arduino, Analogue & Digital (input/output) & Serial Communication
Lesson 2: Sensor its application
Lesson 3: Motor controlling
Lesson 4: Understanding of communication peripherals (UART, I2C & SPI)
Lesson 5: Bluetooth interfacing I
Lesson 6: Bluetooth interfacing II
Lesson 7: Build a mobile application with MIT App Inventor I
Lesson 8: Build a mobile application with MIT App Inventor II
Lesson 9: Build a mobile application with MIT App Inventor III
Lesson 10: Introduction to NodeMCU ESP8266
Lesson 11: Interfacing NodeMCU ESP8266 with Blynk I
Lesson 12: Interfacing NodeMCU ESP8266 with Blynk II
Lesson 13: Interfacing NodeMCU ESP8266 with Firebase
Lesson 14: Interfacing NodeMCU ESP8266 with Firebase and MIT App Inventor
Lesson 15: Introduction to WebApp I
Lesson 16: Introduction to WebApp II

Learning Outcomes

At the end of this course, students will be able to:

1. Understand concept of Arduino hardware and its IDE (Integrated Development Environment) in order to build simple projects.
2. Understand the use of terminology and potential of the Arduino and its application.
3. Learn about Arduino from ground-up into hands-on programming.
4. Identify basic electronic components and generate simple circuits for basic Arduino projects.
5. Create a simple sensor-driven physical computing system.
6. Assemble project materials and working on a prototype like motor and remote-control mobile.
7. Enhance creativity skill and build simple innovative projects by implementing electronic devices in Arduino development platform.
8. Improve analytical thinking and problem-solving ability by making complicated things easy to understand.
9. Explore to different IoT technologies and combine them to build simple IoT projects like mobile application development, Bluetooth/wireless technology, and other latest technology.