Hands-on Training on Internet of Things (IoT)

for

Students, Research Scholars and Faculty

Guru Gobind Singh Indraprastha University has been sanctioned to establish AICTE funded IDEA lab at university campus. AICTE wishes to impart training to students of Under Graduate programme in line with NEP.

In this regard, **Two day Hands-on Training is proposed to be held on May 25-26, 2023 (Friday-Saturday)** at AICTE IDEA Lab, GGSIPU, Dwarka, Delhi.

Training Agenda:

Day 1

1. Introduction to IoT & Electronics
2. Types of micro-controllers.
3. Introduction to IoT components like actuators, sensors, boards etc.
4. Introduction to open source IoT / electronics software platforms for education & training.
5. Introduction to Robotics, its working & applications
6. Introduction to block based coding platforms like Scratch, Pictoblox etc.
7. How to build your own code for microcontrollers with sample experiments / projects.
8. Introduction & hands-on working on Arduino starter kit based on Arduino Uno board R3, Understand both digital and analog signals and create a sample project based on Arduino.
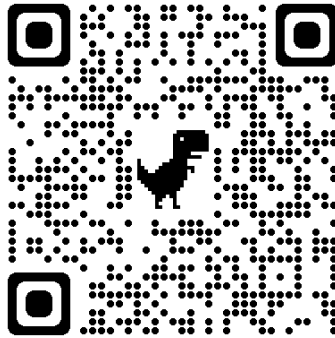9. Introduction to ESP 8266. How to create IoT project based on ESP 8266.

DAY 2

1. Introduction to Arduino MKR IoT Carrier & Arduino MKR Wifi 1010 Board.
2. Perform hands-on working on Arduino IoT Opla Kit based on Arduino MKR board.
3. Understand applications such as a smart thermostat, motion sensor, smart gardening, and remote control for lights and other home appliances. This IoT Kit allows you to add connectivity to devices around the home or workplace that can be controlled with your mobile phone.
4. Introduction to AI featured Quarky board – A programmable microbit based platform to learn AI, robotics, self driving technology, coding skills and many more.
5. How to create various projects using quarky board.

6. Introduction to IoT House and how to build your own IoT based smart home automation project.
7. Introduction to Arduino Mega based Evive Board
8. How to integrate sensor and other external electronics components with Evive like LED, Motors, Bluetooth, Ultrasonic Sensor, IR sensor etc.
9. How to program Evive platform and create a four wheel robot.
10. Questions & Answers (Q&A Session)

Interested students, scholar and faculty submit their registration through following link/QR code:

https://forms.gle/Nx8sFDDXgjDXkmCa8

Only 30 participants shall be selected for this training. Priority shall be given to USS students. Based on feedback, another training with project shall be schedule during summer vacation (July 2023).

(Prof. Amit Prakash Singh)
Chief Mentor, AICTE IDEA Lab

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