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SRI VASAVI ENGINEERING COLLEGE (AUTONOMOUS)

(Sponsored by Sri Vasavi Educational Society)
(Approved by **AICTE**, New Delhi & Recognized by **UGC** under section **2(f) & 12(B)**)
(Permanently affiliated to JNTUK, Kakinada, Accredited by **NBA** and **NAAC** with '**A**' Grade)
Pedatadepalli, **TADEPALLIGUDEM – 534 101.**W.G.Dist**. (A.P)**

Department of Electronics and Communication Engineering

Academic Year: 2021-22

Skill Oriented Course-I

S. No.	SEM & Section	Title	Date (From-to)
1.	III SEM ECE-T	Arduino with scratch	24/01/2022 to 29/01/2022
2.	III SEM ECE-A		07/02/2022 to 12/02/2022
3.	III SEM ECE-C		18/01/2022 to 22/01/2022
4.	III SEM ECE-B		15/02/2022 to 19/02/2022

Skill Oriented Course-II

S. No.	SEM & Section	Title	Date (From-to)
1.	IV SEM ECE –A,B&C -ECT	IoT and Applications.	13th to 18th JUNE

Vision

- To develop the department into a centre of excellence and produce high quality, technically competent and responsible Electronics and communication engineers

Mission

- To create a learner centric environment that promotes the intellectual growth of the students.
- To develop linkages with R & D organizations and educational institutions for excellence in teaching, learning and consultancy practices.
- To build the student community with high ethical standards.

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Arduino with Scratch

Topics Covered:

1. **Introduction to Arduino with Scratch.**
   - Example Programming on Scratch programming
   - a. Led Based
   - b. Button
   - c. Servo Motor Based
2. **Introduction to Integrated Development Environment**
   - Arduino IDE
3. **I/O of Arduino**
   - a. Digital Input
   - b. Digital Output
   - c. Analog Input
   - d. Analog Output
4. **Serial Communication with Arduino**
5. **Motor interfacing with Arduino**
   - a. Simple DC Motor Interfacing
   - b. Servo Motor Interfacing
6. **IR sensor interfacing with Arduino**
7. **LDR sensor interfacing with Arduino**
8. **LDR with IR interfacing with Arduino**
9. **RGB interfacing with Arduino**

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IoT and Applications

Topics Covered:

Day-1

- Introduction to Embedded systems
- Advantages
- Day to day applications
- Introduction to IoT
- Applications of Iot
- Demo Project 1-Iot Data
- IoT Protocols-Classification and end applications
- Communication Technologies in IoT- Lora, Zigbee, Blue tooth etc.,

Day-2

- ESP32 board layout and architecture
- Introduction to Arduino IDE
- Arduino Language Reference
- Introduction to blynk cloud platform
- Working with basic codes on dev platform
- Developing code for analog and digital sensor interfacing
- Rain drop sensor principle and operation
- Interfacing rain drop sensor with ESP32 and data uploading to cloud

Day-3

- Soil moisture sensor principle and operation
- Interfacing soil drop sensor with ESP32 and data uploading to cloud
- Project 2- Agri monitoring system using IoT
- DHT11 (temperature and humidity) sensor principle and operation

- Interfacing DHT11 with ESP32 and data uploading
- MQ135 sensor principle and operation
- Interfacing AirQualitySensor with Esp32 board
- Project 3- Implementing a Weather station using IoT

Day- 4

- Introduction to thingspeak cloud platform
- Untra sonic sensor principle and operation
- Interfacing ultrasonic sensor with ESP32 board and data uploading to ThingSpeak
- Project-4 Smart Garbage management system
- Introduction to actuators and classification
- Relay principle and operation
- Interfacing Relay with ESP32
- Interfacing water pump with ESP32
- Project-5 Smart Home Automation

Day-5

- Project-6 Ok Google
- Project-7 Controlling AC applications form computer
- Demo Projects
- Project8- Implementation of water quality monitoring system using IoT
- Project9- Husky the smart speaker
- Project10- Implementation of IoT Based health monitoring system
- Project11-Controlling a linear actuator for wide applications
- Project12-Smart Electricity monitoring using IoT

Day6

- Interactive Activity1 Automation Challenges
- Interactive Acitivity2 Guess the Buzz-Quiz Show on IoT and Applications
- Program Feedback
- Valedictory
- Certificate & Prize Distribution, Vote of thanks.