

## Department of Electrical & Electronics Engineering

### Lesson Plan & Work-done Diary for AY:2025-26, Even Semester

| Course with Code: Arduino & Raspberry Pi based Projects |                      |                                                                                                                                                                                                                                                                                                       |                      | Faculty: Mr. Shreeshayana R |                            |                | Semester & Section: IV |                          |
|---------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------|----------------------------|----------------|------------------------|--------------------------|
| Class No.                                               | Date planned (DD/MM) | Topics to be covered                                                                                                                                                                                                                                                                                  | TLP Planned          | Class No.                   | Date of Conduction (DD/MM) | Topics Covered | TLP Executed           | Remarks if any deviation |
| 1                                                       | Session-1            | Orientation Session                                                                                                                                                                                                                                                                                   | ICT                  | 1                           |                            |                |                        |                          |
| 2                                                       | Session-2            | i) To interface LED/Buzzer with Arduino/Raspberry Pi and write a program to 'turn ON' LED for 1 sec after every 2 seconds.<br>ii) To interface Push button/Digital sensor (IR/LDR) with Arduino/Raspberry Pi and write a program to 'turn ON' LED when push button is pressed or at sensor detection. | Chalk and Talk + ICT | 2                           |                            |                |                        |                          |
| 3                                                       | Session-3            | i) To interface DHT11 sensor with Arduino/Raspberry Pi and write a program to print temperature and humidity readings.<br>ii) To interface OLED with Arduino/Raspberry Pi and write a program to print temperature and humidity readings on it.                                                       | Chalk and Talk + ICT | 3                           |                            |                |                        |                          |
| 4                                                       | Session-4            | To interface Bluetooth with Arduino/Raspberry Pi and write a program to send sensor data to Smartphone using Bluetooth                                                                                                                                                                                | Chalk and Talk + ICT | 4                           |                            |                |                        |                          |

|    |            |                                                                                                                                                   |                      |    |  |  |  |  |
|----|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----|--|--|--|--|
| 5  | Session-5  | To interface Bluetooth with Arduino/Raspberry Pi and write a program to turn LED ON/OFF when '1'/'0' is received from Smartphone using Bluetooth. | Chalk and Talk + ICT | 5  |  |  |  |  |
| 6  | Session-6  | IA-1                                                                                                                                              | -                    | 6  |  |  |  |  |
| 7  | Session-7  | To interface motor using relay with Arduino/Raspberry Pi and write a program to 'turn ON' motor when push button is pressed                       | Chalk and Talk + ICT | 7  |  |  |  |  |
| 8  | Session-8  | Write a program on Arduino/Raspberry Pi to upload temperature and humidity data to thing speak cloud                                              | Chalk and Talk + ICT | 8  |  |  |  |  |
| 9  | Session-9  | Write a program on Arduino/Raspberry Pi to retrieve temperature data to MQTT broker                                                               | Chalk and Talk + ICT | 9  |  |  |  |  |
| 10 | Session-10 | Write a program on Arduino/Raspberry Pi to publish temperature data to MQTT broker                                                                | Chalk and Talk + ICT | 10 |  |  |  |  |
| 11 | Session-11 | Write a program to create UDP server on Arduino/Raspberry Pi and respond with humidity data to UDP client when requested                          | Chalk and Talk + ICT | 11 |  |  |  |  |
| 12 | Session-12 | Write a program to create TCP server on Arduino/Raspberry Pi and respond with humidity data to TCP client when requested.                         | Chalk and Talk + ICT | 12 |  |  |  |  |
| 13 | Session-13 | Write a program on Arduino/Raspberry Pi to subscribe to MQTT broker for temperature data and print it.                                            | Chalk and Talk + ICT | 13 |  |  |  |  |
| 14 | Session-14 | IA-II                                                                                                                                             | -                    | 14 |  |  |  |  |

|                           | <b>Activity</b>                                  | <b>Planned</b> | <b>Actual</b>             | <b>Remarks</b> |
|---------------------------|--------------------------------------------------|----------------|---------------------------|----------------|
| <b>1</b>                  | Theory Classes                                   | 14             |                           |                |
| <b>2</b>                  | Assignments/Quizzes/ Self study                  | -              |                           |                |
| <b>3</b>                  | Tutorials/ Extra classes                         | -              |                           |                |
| <b>4</b>                  | Internal Assessments                             | 2              |                           |                |
| <b>5</b>                  | ICT based Teaching<br>(% of usage in Curriculum) | 11/14= 78.57%  |                           |                |
| <b>Planning</b>           |                                                  |                | <b>Execution</b>          |                |
| <b>Faculty Signature:</b> |                                                  |                | <b>Faculty Signature:</b> |                |
| <b>HoD Signature:</b>     |                                                  |                | <b>HoD Signature:</b>     |                |