

CS/SEC/P/ 251 (A): Practical based on CS/SEC/T/ 250 (Introduction to IoT)

Total Credits : 01

Total Contact Hours : 30 Hrs

Maximum Marks : 50

**List of experiments**

1	<p>Create CASE STUDY on Smart Home: IoT-based Automatic Light Control</p> <ul style="list-style-type: none"> <li>• Objective: Turn lights on/off based on room occupancy.</li> <li>• IoT Components: PIR motion sensor, microcontroller, relay, Blynk app.</li> <li>• Outcome: Energy savings and automation of household utilities.</li> </ul>
2	<p>Create CASE STUDY on Health Monitoring System</p> <ul style="list-style-type: none"> <li>• Objective: Real-time tracking of heart rate and temperature.</li> <li>• IoT Components: Pulse sensor, temperature sensor, ESP8266, cloud dashboard.</li> <li>• Outcome: Remote health monitoring for elderly or patients.</li> </ul>
3	<p>Create CASE STUDY on Smart City: Air Quality Monitoring</p> <ul style="list-style-type: none"> <li>• Objective: Monitor air quality in urban areas.</li> <li>• IoT Components: MQ135 gas sensor, NodeMCU, cloud platform (ThingSpeak).</li> <li>• Outcome: Detect pollution levels and support environment-related decisions.</li> </ul>
4	<p>Create CASE STUDY on Home Security System</p> <ul style="list-style-type: none"> <li>• Objective: Alert the user about unauthorized entry or door movement.</li> <li>• IoT Components: Door sensor, buzzer, Wi-Fi module, mobile alert via Blynk.</li> <li>• Outcome: Affordable and effective home security.</li> </ul>
5	<p>Create CASE STUDY on Smart Waste Management</p> <ul style="list-style-type: none"> <li>• Objective: Detect the fill level of waste bins and notify for collection.</li> <li>• IoT Components: Ultrasonic sensor, GSM/Wi-Fi module, cloud system.</li> <li>• Outcome: Cleaner environment and efficient waste management.</li> </ul>
6	<p>Create CASE STUDY on Smart Water Quality System</p> <ul style="list-style-type: none"> <li>• Objective: Measure pH and turbidity of water for safety.</li> <li>• IoT Components: pH sensor, turbidity sensor, ESP8266, cloud data logging.</li> <li>• Outcome: Real-time monitoring of water quality for health.</li> </ul>

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