

Code No: **R204104I**

R20

SET - 1

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM

IV B. Tech I Semester Advanced Supplementary Examinations March 2025

INTERNET OF THINGS

(Electronics & Communication Engineering)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**

All Questions Carry Equal Marks

UNIT-I

1. a) Draw the architectural overview of IoT and **discuss** its key components and their roles in enabling IoT applications. [7M]
b) Compare and contrast M2M (Machine-to-Machine) communication with IoT technology. [7M]

(OR)

2. a) How does cloud computing support IoT applications in terms of scalability, storage, and processing? [7M]
b) Identify and explain major security challenges in IoT, along with possible solutions [7M]

UNIT-II

3. a) Compare Arduino, Raspberry Pi, and ARM Cortex-A class processors [7M]
b) Explain the architecture of the ARM Cortex-M0 processor. [7M]

(OR)

4. a) Differentiate between ARM Cortex-M and ARM Cortex-A class processors. [7M]
b) How do ARM and Thumb instruction sets impact the performance and efficiency of IoT devices? [7M]

UNIT-III

5. a) List various communication protocols in IoT applications. Explain how do they enable efficient data exchange [7M]
b) How does Bluetooth Low Energy (BLE) differ from classic Bluetooth, and why is it important for IoT applications? [7M]

(OR)

6. a) How do programming APIs facilitate communication in IoT systems? [7M]
b) Explain the PSoC4 BLE architecture and its key components. [7M]

UNIT-IV

7. a) Compare unstructured data storage on cloud and local servers. [7M]
b) Describe the importance of authentication and authorization in IoT [7M]

(OR)

8. a) Explain the process of device integration in IoT applications [7M]
b) Discuss data acquisition and integration in IoT. [7M]

UNIT-V

9. a) Describe the challenges in integrating IoT with cloud storage. [7M]
b) How does fog computing enhance IoT applications compared to traditional cloud computing? [7M]

(OR)

10. a) Discuss the key steps and challenges involved in cloud integration? [7M]
b) Explain the process of connecting IoT devices to the cloud. [7M]
