

School of University Polytechnic

**Diploma in Computer Science and Engineering
Summer Term Examination – July - August 2024**

**Duration : 180 Minutes
Max Marks : 100**

Sem IV - N1DF406B - Internet of Things IOT*General Instructions*

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Define the importance of end-to-end encryption in securing IoT devices and data transmission K1(2)
- 2) Explain the function of the control unit in a microprocessor. K2(4)
- 3) Explain the concept of botnets and their role in orchestrating large-scale IoT-based attacks, such as Distributed Denial of Service (DDoS) attacks. K2(6)
- 4) Illustrate the applications and use cases of Wi-Fi technology in wireless communication. K3(9)
- 5) Illustrate the security vulnerabilities associated with IoT device firmware, software, and communication protocols. K3(9)
- 6) Examine the function of sensors and actuators in the context of IoT gateway architecture. K5(10)
- 7) Analyze and Describe the RS-232 (Recommended Standard 232) protocol and its applications in serial communication between devices. K4(12)
- 8) Examine and describe the role of Wi-Fi in IoT connectivity and its advantages over other wireless technologies. K5(15)
- 9) Examine the Radio Frequency Identification (RFID), and how does it differ from traditional barcode systems in terms of data capture and identification? K5(15)
- 10) Discuss the challenges and best practices for implementing end-to-end encryption, authentication, and access control mechanisms in IoT ecosystems. K6(18)