

School of Computing Science and Engineering

B.Tech CSE
ETE - Jun 2023

Time : 3 Hours

Marks : 100

Sem IV - E2UC404B / BTCS9211

Internet of Things

Your answer should be specific to the question asked

Draw neat labeled diagrams wherever necessary

1. Explain the role and importance of M2M communication in enabling efficient data exchange and coordination between IoT devices. K2 CO2 (5)
2. Explain the way to increase and decrease the delay of LED glow in the code with suitable example K3 CO2 (5)
3. Express the differences between Microprocessor and Microcontrollers K1 CO1 (5)
4. Discuss the various communication protocols used in IoT, also discuss their advantages and disadvantages. K2 CO2 (10)
5. Provide a comprehensive explanation of the Arduino board, including its features and functionalities, as well as the step-by-step process for installing the board? K4 CO3 (10)
6. What is the role of an actuator in IoT, and how does it contribute to enabling physical control and automation in connected systems? K1 CO2 (10)
7. What is a relay, illustrate its working concept, and what are the key aspects to consider when using a relay in IoT based system? K4 CO4 (10)

OR

- Select a sensor that could be used with an Arduino and discuss the hardware and software requirements needed to interface the device with the Arduino for thermal sensing application. K4 CO4 (10)
8. Design a prototype system that utilizes IoT-based technologies for home automation and classify the different components used in the system. K3 CO3 (15)
 9. Design a circuit to interface a sensor that can detect LPG Leakage using Arduino and explain its working ,CO4 K4 CO5 (15)

OR

- Explain the architecture and Pin description of 8051 Microcontroller K4 CO4 (15)
,CO5
10. Show how IoT-based systems can be utilized in transportation and logistics to optimize routes, reduce transportation costs and improve delivery times. K3 CO3 (15)