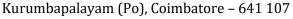
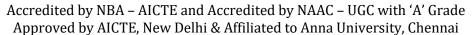


SNS COLLEGE OF ENGINEERING







19SB405 – MICROPROCESSORS AND ADVANCED MICROCONTROLLERS

QUESTION BANK

UNIT-1

- 1. Define following terms: IoT, Sensor, WSN.
- 2. Explain characteristics of the IoT.
- 3. Explain various levels of IoT.
- 4. List down components of IoT system.
- 5. Explain IoT Technology Stack.
- 6. Explain challenges of IoT.
- 7. Explain wireless virtual sensor networks.

UNIT -2

- 1. Explain CSPR in ARM.
- 2. Difference between Microcontroller and Microprocessor.
- 3. What is ARM? Explain special feature of ARM processor.
- 4. What is heartbeat sensor?
- 5. Explain specification of sensor.
- 6. Explain types of sensors used in IOT systems.

- 7. What is Actuators? And explain its usage in IOT systems.
- 8. Explain interfacing of MQ-02/05 gas sensor.
- 9. What is LDR?
- 10. Explain architecture of 8051 microcontroller.
- 11. Explain program status word (PSW).
- 12. Explain CPSR (current program status register).
- 13. Explain Data flow model of ARM core.
- 14. What is barrel shifter in ARM?

UNIT -3

- 1. What is IP addressing?
- 2. Explain with diagram IPv4 header format.
- 3. What is MQTT?
- 4. Explain CoAP. List the key features of CoAP.
- 5. Explain messaging protocols.
- 6. Explain Transport protocols.
- 7. Difference between IPV4 and IPV6 protocol.
- 8. What is URI?
- 9. Difference between MQTT and COAP.
- 10. Explain BLE and its protocol stack.
- 11. What is Li-fi?
- 12. Difference between Li-fi and Wi-fi.
- 13. Explain IPV4 packet format.
- 14. Explain IPV6 packet format.

UNIT - 4

- 1. What is fog computing? List the characteristics of fog computing.
- 2. List and explain cloud components.
- 3. Explain limitation of cloud computing.
- 4. What is cloud?
- 5. State and explain deployment model of cloud in IOT.
- 6. Explain different cloud service.
- 7. Explain IAAS, PAAS, SAAS.
- 8. What is edge computing?
- 9. Explain cloud computing challenges.
- 10. Difference between fog and edge computing

UNIT - 5

- 1. Explain in brief future factory concepts.
- 2. What is smart city? What are the features of IoT based smart city?
- 3. Explain Lavatory maintenance system.
- 4. IOT applications in healthcare.
- 5. Explain water quality monitoring using IOT.
- 6. Explain inventory management system using IOT.
- 7. Explain how smart payments are carried out using IOT.
- 8. How IOT is used in driver assistance.
- 9. Discuss in detail Smart City application of IoT.

- 10. Discuss IoT for Oil and Gas Industry.
- 11. Discuss smart health using IoT.
- 12. Explain in brief future factory concepts.
- 13. Describe: Smart products, smart equipment and smart infrastructure.
- 14. Discuss IoT with various Application Area.
- 1. What is Arduino? Explain features of Arduino architecture.
- 2. What is Raspberry Pi?
- 3. Explain architecture of Raspberry Pi.
- 4. Explain applications of Raspberry Pi.
- 5. Explain difference between model A and Model B of Raspberry PI.
- 6. List benefits of python.
- 7. What is GND and GPIO?
- 1. What are the security challenges of IoT?
- 2. Explain security architecture.
- 3. What risks do insecure IoT devices bring to privacy and security?
- 4. Explain security, privacy and trust in IoT-Data-Platforms for smart c