



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

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 CSPP 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