

B.Tech. Computer Science Engineering / Instrumentation Engineering / Electronics &
Telecommunication Engineering (NEP Pattern) Semester-I
STESC104 - Introduction to IoT

P. Pages : 1

Time : Three Hours



GUG/S/25/16155

Max. Marks : 80

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- Notes :
1. All questions carry equal marks.
 2. Illustrate your answers wherever necessary with the help of neat sketches.
 3. All questions are compulsory.

1. a) Define IoT and explain its key characteristics in detail. 8
b) Discuss the different IoT architectures and their components. 8

OR

2. a) Compare and contrast IoT and M2M. 8
b) Discuss the physical and logical design considerations for IoT systems. 8

3. a) Explain the role of sensor nodes in IoT systems. 8
b) Discuss the different types of sensors and actuators used in IoT. 8

OR

4. a) Discuss the role of sensor data aggregation and routing in IoT. 8
b) How do sensor networks contribute to the Internet of Things? 8

5. a) Describe the IEEE 802.15.4 standard and its applications in IoT. 8
b) Explain the concept of Zigbee and its key features. 8

OR

6. a) Discuss the Modbus protocol and its use in industrial control systems. 8
b) What is NFC and how does it work in IoT applications? 8

7. a) Explain the role of IPv6 in IoT connectivity. 8
b) Describe the 6LOWPAN protocol and its purpose. 8

OR

8. a) Explain the AMQP protocol and its use in IoT messaging. 8
b) Discuss the challenges and considerations in implementing IP-based protocols in IoT. 8

9. a) Discuss the concept of home automation and its benefits. 8
b) How does IoT contribute to energy efficiency and conservation? 8

OR

10. a) Explain the potential of IoT in healthcare and medical applications. 8
b) What are the future trends and opportunities for IoT applications? 8
