

CBCS SCHEME



15EC752

Seventh Semester B.E. Degree Examination, Aug./Sept. 2020 IOT and Wireless Sensor Networks

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define IOT and explain vision of IoT? (04 Marks)
- b. With neat sketch describe IoT architecture by IBM. (06 Marks)
- c. Explain different development tools and open source implementation of IOT. (06 Marks)

OR

- 2 a. Explain 4 layered architecture frame work for a smart application developed by CISCO. (06 Marks)
- b. Give JAVA Script Object (JSON) example in JAVA. (06 Marks)
- c. Explain the features of ThingSpeak and Nimbits. (04 Marks)

Module-2

- 3 a. With neat sketch, explain the internet connectivity protocols where source and end network layer connected through set of IP routers. (06 Marks)
- b. Explain the main features of IPV6 protocol. (06 Marks)
- c. Explain with neat sketch UDP datagram format for transmission or header fields. (04 Marks)

OR

- 4 a. Explain the main characteristics of cloud computing. (06 Marks)
- b. Explain in detail different types of cloud. (04 Marks)
- c. With neat sketch explain the different cloud computing service models. (06 Marks)

Module-3

- 5 a. Explain the programming embedded device Arduinoplatform using IDE. (08 Marks)
- b. Write the sample programming code for the arduino controlled traffic light at the road junction without any intervals by considering suitable inputs. (08 Marks)

OR

- 6 a. Explain with neat sketch five levels for software development for applications and services for IOT or M2M. (06 Marks)
- b. Explain the security requirements in an IOT reference architecture and usage of 5 functions components in the security group of functions. (05 Marks)
- c. With neat sketch explain the layered attacker model and possible attacks as the layers. (05 Marks)

Module-4

- 7 a. Explain the major challenges of wireless network. (08 Marks)
- b. Explain the characteristics of the following : (08 Marks)
 - i) MANETS (Mobile Ad-hoc Networks)
 - ii) Field Buses and WSN.

OR

- 8 a. Explain single Hop network, Multihop network. (06 Marks)
b. Explain the design principles for WSN^s. (08 Marks)
c. Explain WNS Tunnelling. (02 Marks)

Module-5

- 9 a. Explain in detail S-MAC protocol. (06 Marks)
b. Explain LEACH protocol. (05 Marks)
c. Explain TRAMA protocol. (05 Marks)

OR

- 10 a. Explain in detail the address management in WSN^s. (08 Marks)
b. Explain the address assignment algorithm. (04 Marks)
c. Explain the properties required for various clustering in WSN^s. (04 Marks)
