CBCS SCHEME

USN | | | | | | | | | | | 15CS81

Eighth Semester B.E. Degree Examination, November 2020
Internet of Things

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions irrespective of modules.

Module-1

1 a. Define IoT. Explain the different evolutionary phases of internet. **(06 Marks)**
b. Explain the concept of Intersection Movement Assist (IMA) with graphical representation. **(05 Marks)**
c. What are the different challenges of IoT? **(05 Marks)**

2 a. Explain with diagram the one M2M IoT standardized architecture. **(08 Marks)**
b. Explain IoT Data Management and compute stack. **(08 Marks)**

Module-2

3 a. Define sensors and actuators. Explain how they interact with the physical world. **(05 Marks)**
b. Define smart objects. Explain its characteristics. **(05 Marks)**
c. Explain briefly the Wireless Sensor Networks (WSN). **(06 Marks)**

4 a. What are Constrained Devices and constrained node networks? Classify them. **(06 Marks)**
b. Explain Zigbee protocol stack using IEEE 802.15.4. **(10 Marks)**

Module-3

5 a. Explain in detail the 6LOWPAN. **(10 Marks)**
b. Explain the different schedule management and packet forwarding models of 6TiSCH. **(06 Marks)**

6 a. Explain the raw socket tunneling of SCADA using different scenarios. **(06 Marks)**
b. What is COAP? Draw COAP Message Format. Explain its fields. **(06 Marks)**
c. Compare between COAP and MQTT. **(04 Marks)**

Module-4

7 a. Explain in detail the core functions of edge analytics with necessary diagrams. **(08 Marks)**
b. Explain the different components of Flexible Net flow Architecture (FNF). **(08 Marks)**

8 a. Explain the different steps and phases of OCTAVE Allegro methodology. **(08 Marks)**
b. Explain Secured Network Infrastructure by using process control hierarchy model. **(08 Marks)**

Module-5

9 a. Explain the different pins/parts of Arduino Uno Board. **(08 Marks)**
b. Write a program to record the current room temperature using Raspberry pi. **(08 Marks)**

10 a. Explain the different layers of IoT Smart city layered architecture. **(08 Marks)**
b. Explain Smart parking architecture with advantages and disadvantages. **(08 Marks)**

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