CBCS SCHEME

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15EC752

Seventh Semester B.E. Degree Examination, Jan./Feb. 2021
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. Draw the oracle reference architecture of IoT and mention its features. **(08 Marks)**

b. Describe adaption layer gate way, data enrichment, data consolidation and device management functions. **(08 Marks)**

OR

2 a. Explain the modified OSI model for IoT/M2M systems. Explain COAP – SMS in brief. **(08 Marks)**

b. Explain the features of XMPP with neat block diagram. **(08 Marks)**

Module-2

3 a. Compare the features in IPV_4 and IPV_6. **(08 Marks)**

b. List the features of 6LOWPAN with neat diagram. **(08 Marks)**

OR

4 a. What are deployment models for cloud services for IoT applications? **(08 Marks)**

b. Explain IoT cloud based data collection, storage and computing services using Nimbits. **(08 Marks)**

Module-3

5 a. List the additional features in Intel Galileo device plat form over Arduino, Tabulate for comparing the usages and features of IDE's for Raspberry P_i. **(08 Marks)**

b. List five levels of software which need to be developed for applications and services for IoT and M2M. Write the features of Eclipse IoT stack. **(08 Marks)**

OR

6 a. What do you mean by trust? Define message privacy list the main vulnerabilities for attack? **(08 Marks)**

b. Draw layered attacker model and explain the solutions for mitigating the attacks on the layer. **(08 Marks)**

Module-4

7 a. What are the challenges for wireless sensor networks, mention required mechanisms. **(08 Marks)**

b. Explain hardware components of single node architecture of WSN with neat diagram. **(08 Marks)**

OR

8 a. Explain the transceiver structure with neat diagram and explain briefly the enabling technologies for wireless sensor networks. **(08 Marks)**

b. Explain event based programming model for WSN, what is the need for gate way? Explain how WSN is connected to internet. **(08 Marks)**

Module-5

9 a. Explain the design considerations for physical layer and transceiver in brief. Mention how the mediation device protocol is helpful for achieving low duty cycle. **(08 Marks)**

b. Explain SMACS and LEACH protocol with neat diagram. **(08 Marks)**

OR

10 a. What are the features to be considered for energy efficient routing explain in brief. **(08 Marks)**

b. Explain geographic routing in brief. **(08 Marks)**

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