CBCS SCHEME

USN | | | | | | | | | | |

17EC752

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022
IOT and Wireless Sensor Networks

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Explain the IBM IOT conceptual Framework. Describing the function of each level. **(08 Marks)**
b. What are the major components of IOT system? **(08 Marks)**
c. Differential between software and Firmware. **(04 Marks)**

OR

2 a. What are the functions of gateway at data adaptation layer? **(08 Marks)**
b. Explain the various wireless communication technologies. **(08 Marks)**
c. State the 3 domains of M2M architecture. **(04 Marks)**

Module-2

3 a. Explain 6LoWPAN protocols. **(08 Marks)**
b. State and explain any 2 application layer protocols. **(08 Marks)**
c. Differentiate cloud, grid and web computing. **(04 Marks)**

OR

4 a. Explain and compare the features of IPV4 and IPV6. **(08 Marks)**
b. Explain IOT cloud service using Nimbits **(08 Marks)**
c. State the function and DHCP protocol. **(04 Marks)**

Module-3

5 a. Explain how temperature can be measured using Arduino UNO. **(10 Marks)**
b. Explain the security homography and layer attack models. **(10 Marks)**

OR

6 a. Explain the steps involved in programming MQTT client and Server. **(10 Marks)**
b. Explain the following: i) Use Miscues cases ii) IOT privacy and security. **(10 Marks)**

Module-4

7 a. Explain about transceivers – structures, tasks and characteristics. **(10 Marks)**
b. Explain about energy consumption and requirements of batteries for WSNs. **(10 Marks)**

OR

8 a. Explain the programming Paradigms and programming models. **(10 Marks)**
b. Explain node mobility, sink mobility and event mobility. **(10 Marks)**

Module-5

9 a. Explain SMACS protocol. Also explain the 4 cases of link setup. **(10 Marks)**
b. Explain about multipath unicast routing. **(10 Marks)**

OR

10 a. Explain about hierarchical network of clustering. **(10 Marks)**
b. Explain PAMAS and TRAMA. **(10 Marks)**

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