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Reg. No. : | | | | | | | | | | |

Question Paper Code: 59276

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Open elective

Civil Engineering

15UCS976 - INTERNET OF THINGS

(Common to ECE, EEE, EIE, Mechanical, IT, Chemical)

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5x 1 = 5 Marks)

1. The Bluetooth supports CO1- R

   (a) point-to-point connections (b) point-to-multipoint connection

   (c) both (A) and (B) (d) None

2. The USB device follows _____ structure CO2- R

   (a) List (b) Huffmann (c) Hash (d) Tree

3. Arduino shields are also called as_____ CO3- R

   (a) Extra peripherals (b) Add on modules

   (c) Connectivity modules (d) Another Arduinos

4. _____ can be used to retrieve the operations allowed on a resource. CO4- R

   (a) GET (b) PUT. (c) OPTIONS (d) DELETE

5. Which of the following clustering requires merging approach?. CO5- R

   (a) Partitional (b) Hierarchical. (c) Naive Bayes (d) None of the Mentioned.

PART – B (5 x 3= 15 Marks)

6. What is a control unit in IoT? CO1-U

7. Design an Arduino sketch to display your name in the serial monitor. CO2- Ana

8. Define open source development. CO3- R

9. Why is a REST ful web service essential in IoT? CO4- R

10. Define data synchronization. CO5- U

PART – C (5 x 16= 80Marks)

11. (a) Discuss about the Research challenges and societal challenges in IoT CO1- U (16)

Or

(b) Assume that you are engaged in an agricultural project spanning 1000 acres, which requires periodic capture of soil parameters, which should be available for onsite and remote processing. Identify the technology appropriate for your project by analyzing pros and cons of various IoT communication technologies. CO1- U (16)

12. (a) Assume that you are deploying a medical IoT. Develop an Arduino sketch to implement a Ethernet client and server to transfer clinical data captured with sensors. Illustrate the communication with a neat schematic diagram. CO2- Ana (16)

Or

(b) Write an Arduino sketch for configure your Bluetooth serial modem. CO2- U (16)

13. (a) Design a circuit to automatic control for streets lights in smart city using suitable IoT toolkit and explain it. CO3- Ana (16)

Or

(b) Design a circuit to determine weather condition using suitable IoT toolkit and explain it. CO3- Ana (16)

14. (a) Explain the basic concept of designing RESTFUL Smart Things. CO4- U (16)

Or

(b) Explain the basic concept of Finding and Describing Smart Things in IoT. CO4- U (16)

15. (a) Briefly explain about the Requirement challenges in data synchronization. CO5- U (16)

Or

(b) Explain in detail about the clustering principal in Internet of Things. CO5-U (16)