

Reg. No.

Question Paper Code

11975

M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL/MAY 2023

Second Semester

M.E. - Embedded System Technologies

20PESPC202 – PERVASIVE DEVICES AND TECHNOLOGY

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. What factors influence PHY design in WSN? | 2,K1,CO1 |
| 2. How are WSNs different from ad hoc networks? | 2,K1,CO1 |
| 3. What are the main sensor node hardware components? | 2,K1,CO2 |
| 4. Define receiver sensitivity. | 2,K1,CO2 |
| 5. What is Gossiping? | 2,K1,CO3 |
| 6. Give the four main optimization goals in WSN. | 2,K1,CO3 |
| 7. Draw the structure of the super frame of IEEE 802.15.4. | 2,K2,CO5 |
| 8. List the important classes of MAC protocols. | 2,K2,CO5 |
| 9. Mention any two applications of Bluetooth. | 2,K1,CO6 |
| 10. Give a brief note on piconet. | 2,K1,CO6 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Discuss the applications where WSN can be deployed. 13,K2,CO1
- OR**
- b) Justify any six essential transceiver tasks and characteristics of a WSN when implemented in a real time world. 13,K2,CO1
12. a) Explain the hardware components of sensor network in detail. 13,K2,CO2
- OR**
- b) Explain the Energy consumption of sensor nodes in detail. 13,K2,CO2
13. a) Describe the Design Principles for WSN in detail. 13,K2,CO3
- OR**
- b) Briefly describe about Data Dissemination and Flooding. 13,K2,CO3

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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14. a) Discuss briefly about the contention based protocols. 13,K2.CO5

OR

b) Explain the low duty cycle protocols and wakeup concepts in detail. 13,K2.CO5

15. a) Give a detailed note on classification of Wireless Networking of Devices. 13,K2.CO6

OR

b) With a neat architectural sketch, explain the Bluetooth Protocol stack. 13,K2.CO6

PART - C (1 × 15 = 15 Marks)

16. a) Describe the IEEE 802.11 System Architecture and protocol Architecture in detail with neat sketches. 15,K2.CO4

OR

b) Discuss in detail about wireless PAN and MAN. 15,K2.CO4