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Question Paper Code: U5310

M.E. DEGREE EXAMINATION, NOV 2024

Professional Elective

Computer Science and Engineering

21PCS510 – WIRELESS SENSOR NETWORKS

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List the standards of Wireless Sensor Networks. CO1- U
2. State the important characteristics of WSN. CO1-U
3. List various modes of a Sensor node. CO1- U
4. Differentiate Semantic and Temporal mining. CO1- U
5. List the requirements of a MAC protocol. CO1- U
6. What are Contention free Protocols? CO1- U
7. List various services offered by localization. CO1- U
8. What are the advantages of clustering? CO1- U
9. What is Sensor node hardware? CO1- U
10. What do you mean by node level simulation? CO1 - U

PART B - (5 x 16 = 80 Marks)

11. (a) Elaborate Case studies of WSN-CPS applications. CO2 - App (16)
Or
(b) Discuss the WSN Architectures for Environmental Monitoring Applications. CO2 - App (16)

12. (a) Explain the node deployment in Wireless Sensor Networks and necessary measures to reduce security hacks and threats. CO2 -App (16)
- Or
- (b) Discuss the recent techniques used in Radio Interference detection in Wireless Sensor Networks. CO2 - App (16)
13. (a) Explain the performance evaluation of beacon enabled IEEE 802.15.4 protocol. CO2 - App (16)
- Or
- (b) Discuss the Application for Monitoring the Elderly at Home with an IEEE 802.15.4 Based Adaptive Communication Protocol in Wireless Sensor Network. CO2 - App (16)
14. (a) Compare and analyze Energy Efficient Hierarchical Routing Protocols for Wireless Sensor Networks for various applications. CO2 - App (16)
- Or
- (b) Briefly discuss the Target Tracking in Wireless Sensor Network for a roaming object. CO2 - App (16)
15. (a) Explain the implementation of Hardware and Software System-Level Simulator for Wireless Sensor Networks. CO2 - App (16)
- Or
- (b) Analyze the Environmental Monitoring system based on Sensor Node platforms of a Wireless Networks. CO2 - App (16)