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Question Paper Code: BES210



INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)

M.Tech II Semester End Examinations (Regular) - July, 2018

Regulation: IARE-R16

EMBEDDED WIRELESS SENSOR NETWORKS

Time: 3 Hours

(ES)

Max Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

UNIT – I

1. (a) Discuss about scalability, robustness, fault tolerance and network life time. [7M]
(b) Explain the sensor network architecture with a neat sketch. [7M]
2. (a) Explain the operating states with different power consumptions [7M]
(b) Illustrate in detail about the various hardware components and their composition into functioning node of WSN. [7M]

UNIT – II

3. (a) Write short notes on centric paradigm and address centric paradigm. [7M]
(b) Explain Internet to WSN communication and optimization goals and figure of merit of WSN. [7M]
4. (a) Explain dynamic energy, power management and concept of gate way in different WSN scenarios. [7M]
(b) Write the expressibility requirements for WSN service interfaces. [7M]

UNIT – III

5. (a) What is an event driven programming and why is it critical for sensor network programming. [7M]
(b) Write short notes on alternating-bit-based ARQ Protocols. [7M]
6. (a) Explain content based addressing and TDMA mechanism. [7M]
(b) Explain the structural characteristics of sensor nodes. [7M]

UNIT – IV

7. (a) Write short notes on cooperating objects and embedded WiSeNts. [7M]
(b) Explain data management middleware and programming models requirement [7M]
8. (a) Explain role based abstractions and grouped based approach. [7M]
(b) Describe the overview of architectures and functionalities. [7M]

UNIT – V

9. (a) Write short notes on peculiarities of WSNs and how lifetime of a sensor network can be enhanced. [7M]
(b) Explain data aggregation technique in WSN. [7M]
10. (a) Write short notes on paradigms for coordination and cooperation. [7M]
(b) Describe multicast networking in the context of wireless inter-vehicle and road network. [7M]

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