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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Computer Science and Engineering

Semester End Examination; Dec. - 2019

Wireless Sensor Network

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1 a. Explain the major challengers for wireless sensor networks. 10

b. Explain transceiver tasks and characteristics in detail. 10

2 a. Explain Sensor network scenarios in detail. 12

b. Explain the following : 8

i) WSN to internet communication ii) Internet to WSN communication

UNIT - II

3 a. Explain sparse topology and energy management in detail. 8

b. Explain physical layer and transceivers design consideration in WSNs. 12

4 a. Explain the wave propagation phenomena in detail. 9

b. Explain Low-Energy adoptive clustering hierarchy in detail. 11

UNIT - III

5 a. Explain the several desirable properties for an estimator and also with passive and active estimators. 8

b. Explain ARQ techniques in detail. 12

6 a. Explain the following: 8

i) Adaptive scheme ii) Intermediate checksum scheme

b. Explain distributed assignment of locally unique addresses in detail. 12

UNIT - IV

7 a. Explain Single hop localization in detail. 10

b. Explain gossiping and agent-based unicast forwarding in detail. 10

8 a. Explain trilateration and triangulation in detail. 10

b. Explain the following: 6

i) Mobile Sinks ii) Mobile data collectors iii) Mobile regions

c. Briefly explain connectivity in a multihop network. 4

UNIT - V

9 a. Explain the following: 12

i) Publish / subscribe interaction paradigm ii) Addressing data

iii) Distribution versus gathering of data-In-Network processing

b. Explain data-centric storage in detail. 8

10 a. Explain Information-directed routing and aggregation in detail. 10

b. Explain the categories of aggregation opertaions in detail. 10

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