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P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Seventh Semester, B.E. - Electronics and Communication 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.	Describe all the characteristics and requirements in WSN.	10
b.	Explain the following terms of WSN: i) Sensor ii) Network topology iii) Geographic rating iv) Task v) Node service	10
2 a.	Discuss the various mechanism required for the operations of a WSN.	10
b.	Discuss the various sensor network applications.	10

UNIT - II

3 a.	With a block diagram, explain overview of a main sensor node hardware component.	10
b.	Explain the transceiver task and characteristics.	10
4 a.	Explain modeling energy consumption during transmission and receiver in radio transceiver.	10
b.	Explain the following: i) Node mobility ii) Sink mobility iii) Event mobility iv) Internet to WSN communication	10

UNIT - III

5 a.	Explain the following physical layer and transceiver design consideration in WSNs: i) Energy Usage profile ii) Choice of modulation scheme	10
b.	Explain mediation device protocol with unconstrained mediators.	10
6 a.	Discuss assignment methods of MAC address.	10
b.	Write a short note on: i) Geocasting ii) GPSR [Greedy Perimeter Stateless Routing]	10

UNIT - IV

7 a.	Explain Tsync: synchronization in a single broadcast domain.	10
b.	Explain the following: i) Physical position versus symbolic location ii) Absolute versus Relative coordinates iii) Localized versus centralized computation iv) Accuracy and Precision	10
8 a.	Explain the requirements and design of time synchronization in WSN.	10
b.	Define clustering. Explain the process of cluster and cluster Head formation.	10

UNIT - V

9 a.	With a neat diagram explain MICA mode architecture.	10
b.	Discuss all the four sensor Node simulators.	10
10 a.	Explain all the three sensor node hardware.	10
b.	Write a note on; i) TOSSIM simulator ii) Tiny OS	10

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