CBCS SCHEME

USN | | | | | | | | | | |

18ECS241

Second Semester M.Tech. Degree Examination, June/July 2019
Wireless Sensor Networks

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Explain low-end and high-end platforms in sensor mote. **(10 Marks)**

b. Explain briefly the various main category of WSN applications and discuss the Industrial application. **(10 Marks)**

OR

2 a. Explain the WSN architecture and Protocol Stack. **(10 Marks)**

b. Explain the military and health applications in WSN. **(10 Marks)**

Module-2

3 a. Explain the general hardware architecture of a sensor node. **(10 Marks)**

b. Explain correlation model and architecture for Joint Source-Channel coding. **(10 Marks)**

Module-2

OR

4 a. Explain the concept of fault tolerance and WSN topology in the design of WSN. **(10 Marks)**

b. Explain the overview of RF wireless communication blocks. **(10 Marks)**

Module-3

5 a. Explain the challenges of MAC with respect to energy consumption. **(10 Marks)**

b. Explain data centric and flat architecture protocols with necessary diagrams. **(10 Marks)**

OR

6 a. Explain B – MAC for contention based medium access with necessary diagrams. **(10 Marks)**

b. Explain LEACH and PEGASIS hierarchical protocols in WSN. **(10 Marks)**

Module-4

7 a. Explain the various challenges for transport layer in WSN. **(10 Marks)**

b. Explain source coding in application layer. **(10 Marks)**

OR

8 a. Explain Congestion Detection and Avoidance (CODA) protocol in WSN. **(10 Marks)**

b. Explain Tiny Aggregation (TAG) service in Query processing. **(10 Marks)**

Module-5

9 a. Explain Timing – Sync Protocol for Sensor Networks (TPSN) with suitable example. **(10 Marks)**

b. Explain the various challenges in localization in WSN. **(10 Marks)**

OR

10 a. Explain Reference Broadcast Synchronization (RBS) with example. **(10 Marks)**

b. Explain time of arrival and time difference of arrival in ranging techniques in WSN. **(10 Marks)**

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