Roll No. ....

3553

B. Tech. 7th Semester (ECE)
Professional Elective-V
Examination – February, 2022
WIRELESS SENSOR NETWORKS
Paper : PEC-ECE-413-G

Time : Three Hours]　　　　[Maximum Marks : 75

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) Give advantages of sensor networks.　$1.5 \times 6 = 15$

　　(b) Give applications of sensor networks.

　　(c) What are advantages and disadvantages of microcontroller used in processor subsystem ?

　　(d) What is scheduling in operating system in wireless sensor network ?

P. T. O.

(e) Write note on gateway.

(f) What is meant by quality of sensor network ?

UNIT – I

2. Explain types of wireless sensor network.   15

3. Explain unique constraints and challenges of sensor networks.   15

UNIT – II

4. Explain 802.11 MAC protocol.   15

5. Explain classification of MAC protocols.   15

UNIT – III

6. Write note on data dissemination, data gathering and data fusion in wireless sensor networks.   15

7. Explain security protocol in wireless sensor networks.   15

UNIT – IV

8. Explain the sensors employed in wireless sensor network.   15

9. Explain Tiny OS in wireless sensor network.   15

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B. Tech. (ECE) 7th Semester, Professional Elective-V (G-Scheme) Examination, December-2022

WIRELESS SENSOR NETWORKS

Paper-PEC-ECE-413G

Time allowed : 3 hours]　　　　[Maximum marks : 75

Note: Attempt five questions in all including. Question no. one which is compulsory. Select one question from unit. All questions carry equal marks.

1. (a) List out the advantages of sensors networks.

   (b) List out the Routing protocols.

   (c) Define GEAR.

   (d) What is functions of Data dissemination protocols?

   (e) Explain the concept of energy scavenging.

   (f) List out design constraints of single note Architecture.　　　　6×2.5=15

Unit-I

2. Explain the sensor network architecture with neat and clean diagram.　　　　15

3. (a) Explain the various applications of sensor networks.　　　　8

   (b) Illustrate the issues and challenges in WSNs.　　　　7

Unit-II

4. Explain the different types of Routing protocols used in WSNs.

15

5. (a) Discuss the classification of MAC protocols. 9

   (b) Write a short note on Zig Bee.

6

Unit-III

6. Explain in detail about the properties and characteristics of data dissemination protocol.

15

7. (a) Explain the various Dissemination protocol for large sensor Network.

10

   (b) Explain the term quality of a sensor network. 5

Unit-IV

8. (a) Explain the block diagram of single node Architecture.

15

9. Write a short note on:

7, 8

   (a) Design Constraints

   (b) Tinyos