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B.E. (Computer Science & Engineering) Eighth Semester (C.B.S.)

Elective-IV : Advance Wireless Sensor Network

P. Pages : 2 **NRJ/KW/17/4752**

Time : Three Hours * 0 2 7 1 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Describe the various types of application of WSN according to interaction pattern between source and sink. **7**

b) What are challenges for WSN? Explain with characteristics requirement and requirement mechanism. **6**

OR

2. a) Explain the difference between mobile Ad-hoc network and WSN. **6**

b) Explain sensor node architecture used in wireless sensor network. **7**

3. a) Explain in details transceiver structure and it's different operation state. **7**

b) What is energy scavenging? Explain in details. **6**

OR

4. a) What is concurrency? Explain how concurrency is achieved by operating system used for WSN. **7**

b) Explain in detail the various types of mobility in WSN. **6**

5. a) Explain in detail various design principal of WSN. **7**

b) Explain the various optimization goal of WSN. **7**

OR

6. a) Explain the need of gateway in WSN and it's various approaches of interface. **7**

b) Describe low duty cycle protocol and wake up concept. **7**

7.	a)	What is cluster in WSN? Explain the basic algorithm to construct independent set.	**7**
	b)	How geographic addressing is done in WSN.	**6**

OR

8.	a)	Explain Geographic Adaptive Fidelity (GAF) in detail.	**7**
	b)	Write short note on assignment of MAC Addresses.	**6**
9.	a)	Describe the specific requirement and design consideration for MAC protocol in WSN.	**7**
	b)	Write short note on :	**6**
		i) Content based addressing	
		ii) Schedule based addressing	

OR

10.	a)	Explain the Broad - casting using minimal cost spanning tree (prism's Algorithm) in WSN.	**7**
	b)	Write short note on "Data Centric Routing".	**6**
11.	a)	Explain the various denial service attacks in sensor network.	**8**
	b)	Explain the different security goals used for WSN.	**6**

OR

12.		Write short note on **any three**.	**14**
		i) Target detection & Tracking	
		ii) Syndrome coding	
		iii) Contour determination	
		iv) Localized Edge detection.	

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The best time to plant a tree was 20 years ago. The second best time is now.

~ Chinese Proverb