M.Tech-Electronics & Communication Engineering (Old+CBCS) /
Computer Science Engineering (CBCS) Sem III

Wireless Sensor Networks

P. Pages : 1 **GUG/S/18/5987**

Time : Three Hours * 1 9 9 7 * Max. Marks : 70

Notes : 1. Attempt **any five** questions.
2. All questions carry equal marks.
3. Illustrate your answers wherever necessary with the help of neat sketches.

1.	a)	What are the characteristics required for a robust wireless sensor network. Discuss them.	**7**
	b)	Discuss some of the applications of wireless sensor network.	**7**
2.	a)	Draw and explain the main sensor node hardware components.	**7**
	b)	How can energy be saved in wireless sensor network. Derive expression for energy saved.	**7**
3.	a)	Discuss the design principles for WSN.	**6**
	b)	What are the different types of mobility in WSN.	**4**
	c)	Define network lifetime Explain.	**4**
4.	a)	What are the points influencing PHP design in WSNs. Discuss in detail.	**7**
	b)	Discuss the requirements and design considerations for MAC protocols.	**7**
5.	a)	What are the different Geographic energy aware routing techniques. Explain Rumor Routing.	**7**
	b)	Explain the Save Protocol. Discuss some of its characteristics.	**7**
6.	a)	Describe the time synchronization problem in WSN's.	**7**
	b)	Explain lightweight time synchronization protocol.	**7**
7.	a)	Discuss the properties of localization and positioning procedures for WSN.	**7**
	b)	Explain Information based sensor tasking.	**7**

8. Write short notes on **any two.** **14**

a) Node level software platforms.
b) State centric programming.
c) Gateway concepts.

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