B.E. Instrumentation Engineering (Model Curriculum) Semester - VII
IN704M-1 - Elective - Wireless Sensor Network

P. Pages : 1

Time : Three Hours

Max. Marks : 80

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Notes : 1. All questions carry marks as indicated.
2. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Draw figure and explain why multi-hop data transmission is used in wireless sensor networks. **8**

b) Describe following terminology used in wireless sensor networks. **8**
1) Taxonomy 2) Routing
3) Distributed network 4) Dynamic network.

OR

2. a) Illustrate any WSN in called as low frequency, low duty cycle network. **8**

b) Describe how wireless sensor network can be used for habitat monitoring. **8**

3. a) Illustrate the basic differences between Bluetooth and Wi Max communication technologies. **8**

b) Draw block diagram of Hardware model of sensor node and describe its functionality. **8**

OR

4. a) Describe the generic protocol stack for WSN and describe functionality of all layers. **8**

b) Illustrate location based routing protocol for WSN. **8**

5. a) Draw block diagram for Zigbee protocol stack used for WSN and explain its functionality. **8**

b) Describe following modulation techniques. **8**
1) ASK 2) PSK.

OR

6. a) Describe Bluetooth communication protocol and how it is adapted for use in WSN. **8**

b) Illustrate the RFID technology and its applications. **8**

7. a) Describe the functioning of (CDMA) code division multiple access protocol. **8**

b) Describe the performance parameters of MAC protocol. **8**

OR

8. a) Describe in brief sensor MAC protocol. **6**

b) Draw block diagram for open system inter connection reference model and data link layer architecture and explain its functionality. **10**

9. a) Illustrate middleware service for monitoring (MSM) is useful in WSN. **8**

b) Describe the basic middleware functions for WSN. **8**

OR

10. a) Draw general middleware architecture for WSN and explain its function. **10**

b) How data dissemination in WSN is carried out. **6**

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