

INSTITUTE OF AERONAUTICAL ENGINEERING
(AUTONOMOUS)

Code No: **BES210**

MODEL QUESTION PAPER - II

M-Tech I Semester Regular Examinations, February 2017

EMBEDDED WIRELESS SENSOR NETWORK

(Embedded Systems)

Time: 3 hours

Max. Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

UNIT I

1. (a) Write about operational states of sensor node. [7M]
(b) Show various mechanisms which form a typical part of WSN. [7M]
2. (a) Explain the various challenges and potential applications of wireless sensor networks. [7M]
(b) Illustrate in detail about the various hardware components and their composition into functioning node of WSN. [7M]

UNIT II

3. (a) What is WSN tunneling? [7M]
(b) Explain the concept of gateway with different scenarios in WSN. [7M]
4. (a) Discuss about the power source of a sensor node. [7M]
(b) Explain steps in detail to develop a wireless sensor network. [7M]

UNIT III

5. (a) What role does the Split Control interface play in Tiny OS? [7M]
(b) Write a simple application to continually increment a counter value and send to another mote where the process is repeated. [7M]
6. (a) What is an event-driven programming, and why is it critical for sensor network programming? [7M]
(b) What issues arise when atomic blocks are improperly used? [7M]

UNIT IV

7. (a) Discuss about group based approach. [7M]
(b) Explain embedded WiSeNts. [7M]
8. (a) Briefly explain system architecture. [7M]
(b) Explain programming models requirements and its state of art. [7M]

UNIT V

9. (a) How do you create and maintain a list of active devices that are connected to WSN. [7M]
(b) Write a case study for environmental monitoring in WSN. [7M]
10. (a) Describe data aggregation and the concept of tree data structures. [7M]
(b) Write a case study for inter vehicle communication. [7M]