Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

SEVENTH SEMESTER B.Tech. (E & C) DEGREE END SEMESTER EXAMINATION
NOV 2017
SUBJECT: WIRELESS SENSOR NETWORKS (ECE - 4037)

TIME: 3 HOURS **MAX. MARKS: 50**

Instructions to candidates

- Answer **ALL** questions.
- Missing data may be suitably assumed.

1A. Explain the major issues that affect the design, deployment, and performance of an Ad hoc wireless system.

1B. What are the issues and challenges in designing a WSN?

1C. Compare the features of MANETs and WSNs. Mention the similarities and differences.

(5+3+2)

2A. What are the types of WSN architectures? Explain the functioning of any one protocol under each type.

2B. What is Data Dissemination and Data Gathering in WSN? Explain any two techniques under each.

2C. Draw the WSN device schematic. Mention the features of each component.

(5+3+2)

3A. Explain the S-MAC protocol in WSN.

3B. Draw the IEEE 802.15.4 Protocol architecture and write about its features. Also mention the device classes.

3C. What are the techniques to achieve reliable data delivery at Transport layer level in WSN? Explain them.

(5+3+2)

4A. Draw the classification of routing protocols in Ad hoc wireless networks based on the routing updates mechanism. Explain the working of one protocol under each class.

4B. Mention the characteristics of an ideal routing protocol for Ad hoc wireless networks.

4C. What are the issues in Designing a Routing Protocol for Ad hoc Wireless Networks

(5+3+2)

5A. Draw the classification Energy management schemes in Mobile Ad hoc Wireless Networks. Explain in detail.

5B. Explain any three QoS framework models.

5C. Write about any two MAC layer solutions for providing QoS.

(5+3+2)