



**SEVENTH SEMESTER B.TECH. (E & C) DEGREE END SEMESTER EXAMINATION**  
**DECEMBER 2018/ JANUARY 2019**  
**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. Discuss the major requirements of a routing protocol for Ad hoc wireless networks.
- 1B. Draw the schematic diagram of an Ad hoc wireless Internet. Mention the functions of Gateway nodes.
- 1C. Mention the possible deployment scenarios of WMNs. Also the advantages of WMNs.  
(4+3+3)
- 2A. Write about any SIX applications of Ad hoc wireless networks. Also mention the QoS parameter for each application.
- 2B. Explain the major security threats that exist in ad hoc wireless networks.
- 2C. Mention any SIX differences between MANETs and WSNs.  
(4+3+3)
- 3A. Mention the classification of WSN architectures. Explain the functioning of any one protocol under each class.
- 3B. Write about any two MAC protocols that provide QoS support in Ad hoc wireless networks.
- 3C. Discuss any two protocols for WSNs that support Real-time communications.  
(4+3+3)
- 4A. Mention any EIGHT Characteristics of an Ideal Routing Protocol for Ad Hoc Wireless Networks.
- 4B. Give the reasons for importance of energy management in Ad hoc wireless networks.
- 4C. Write about ant TWO QoS Models for Ad hoc wireless networks.  
(4+3+3)
- 5A. Explain the working of ZRP with suitable examples. Also mention Query control mechanisms, advantages and disadvantages.
- 5B. Discuss the challenges in programming Wireless sensor nodes.
- 5C. Write a short note on components of a node-level simulator.  
(4+3+3)