

Time: 3 hours

Max. Marks: 80

**N.B.:** 1) Question No.1 is compulsory.

2) Attempt any **THREE** questions out of remaining **FIVE** questions.

3) **Figures** to the **right** indicates **full** marks.

4) Assume suitable data if **necessary**.

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|------------|---|-----------|
| <b>Q1</b>  |   | <b>20</b> |
| a          | What are applications of Ad Hoc Wireless Networks? Explain.   |           |
| b          | Discuss the challenges that a design engineer faces while designing a routing protocol for an ad hoc wireless network.                      |           |
| c          | What are the objectives of transport layer protocol. Which protocol is used for ad hoc networks?  |           |
| d          | Differentiate between different kind of sensor network architectures.   |           |
| <b>Q.2</b> |   |           |
| a          | List and explain different issues in ad hoc wireless network.   | <b>10</b> |
| b          | Differentiate between cellular networks and ad hoc wireless network.  | <b>10</b> |
| <b>Q.3</b> |   |           |
| a          | Draw and explain diagram of the ad hoc wireless Internet.   | <b>10</b> |
| b          | Give classification of MAC protocols with respect to mobile network. Explain any one protocol that best suited for ad hoc wireless network. | <b>10</b> |
| <b>Q.4</b> |   |           |
| a          | Explain in detail the major reasons behind throughput degradation that TCP faces when used in ad hoc wireless networks.                     | <b>10</b> |
| b          | Discuss issues and challenges in security provisioning in an ad hoc wireless network.   | <b>10</b> |
| <b>Q.5</b> |   |           |
| a          | What is the need for energy management in ad hoc wireless networks? Explain.  | <b>10</b> |
| b          | Explain in detail sensor network architecture.  | <b>10</b> |
| <b>Q.6</b> | <b>Write short notes on any FOUR</b>  | <b>20</b> |
| a          | Classification of routing protocols based on routing information update mechanism.  |           |
| b          | Hidden and exposed terminals  |           |
| c          | Network layer attack in wireless network  |           |
| d          | HyperLan  |           |
| e          | Data Dissemination Wireless Sensor Network  |           |
| f          | Battery Management Schemes  |           |

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