

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**.

- Q1 Attempt any FOUR of the following. 20**
- Explain Hidden and exposed terminals.
 - What do you mean by QOS with respect to ad hoc networks?
 - Mention the objective of transport layer protocol. Which protocol is used for ad hoc networks.
 - Explain key management in wireless ad hoc network.
 - Explain need for energy management in ad hoc wireless networks.
 - Discuss applications of ad hoc Wireless Networks.
- Q.2**
- Discuss the issues in designing a multicast routing protocol for ad hoc wireless networks. **10**
 - What are the objectives of transport layer protocol. Which protocol is used for ad hoc networks? Explain. **10**
- Q.3**
- Explain in detail the major reasons behind throughput degradation that TCP faces when used in ad hoc wireless networks. **10**
 - Give broad classification of routing protocols for ad hoc wireless network. **10**
- Q.4**
- Discuss the various security requirements in ad hoc wireless networks. **10**
 - Describe different types of network layer attack ad hoc wireless networks. **10**
- Q.5**
- Discuss issues and challenges in providing QOS in ad-hoc wireless networks. **10**
 - Discuss classification of energy management schemes. **10**
- Q.6 Attempt any TWO of the following. 20**
- Give classification of MAC protocols with respect to mobile network. Explain any one protocol that best suited for ad hoc wireless network.
 - Explain in detail sensor network architecture.
 - Draw and explain diagram of the ad hoc wireless Internet.