

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** **20**
- a Illustrate piggy-backing and table update mechanism in Distributed Priority scheduling
- b Discuss the challenges that a design engineer faces while designing a routing protocol for an ad hoc wireless network.
- c What are the Different types of network layer attack? Explain.
- d Short notes on Hidden and Exposed terminal problem.
- Q.2**
- a Discuss the issues in designing a transport layer protocol for ad hoc wireless networks. **10**
- b Differentiate between cellular networks and ad hoc wireless network. **10**
- Q.3**
- a Draw and explain diagram of the ad hoc wireless Internet. **10**
- b Give classification of MAC protocols with respect to mobile network. Explain any one protocol that best suited for ad hoc wireless network. **10**
- Q.4**
- a Explain in detail the major reasons behind throughput degradation that TCP faces when used in ad hoc wireless networks. **10**
- b Discuss the various security requirements in ad hoc wireless networks, the different types of attacks possible in such networks, and some of the solutions proposed for ensuring network security. **10**
- Q.5**
- a With a neat diagram give the working of source initiated and receiver initiated Multicast Routing. **10**
- b With a neat diagram give the components of sensor network architecture. **10**
- Q.6 Write short notes on any FOUR** **20**
- a UMTS Security.
- b Energy Management issues in Adhoc wireless network.
- c Five-Phase Reservation Protocol
- d HyperLan
- e Data Dissemination Wireless Sensor Network
- f Battery Management Schemes
