

**GUJARAT TECHNOLOGICAL UNIVERSITY****M. E. - SEMESTER – II • EXAMINATION – WINTER 2012****Subject code: 1722702****Date: 04-01-2013****Subject Name: Ad Hoc Networks****Time: 10.30 am – 01.00 pm****Total Marks: 70****Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

- Q.1** (a) Determine the transfer time of a 22 KB file with a mobile data network **07**  
 (a) with a transmission rate of 10 kbps and (b) repeat the same for 802.11 WLAN operating at 2 Mbps. (c) What is the length of the file that WLAN can carry in the time that mobile data service carried a 20 KB file?  
 (b) Explain IEEE 802.11 standard in detail. **07**
- Q.2** (a) Discuss the differences in the maintenance of topology information in various protocols such as CGSR, HSR, SSA, ABR, PLBR, OLSR and CEDAR. **07**  
 (b) Identify some of the key issues involved in QoS routing in ad hoc networks. **07**
- OR**
- (b) Compare tree-based multicast routing protocols with mesh based multicast routing protocols. **07**
- Q.3** (a) List the issues related with ad hoc wireless networks and explain any two in detail. **07**  
 (b) List table driven routing protocols and explain any one with its advantages and disadvantages. **07**
- OR**
- Q.3** (a) What are the two basic approaches for maintenance of the multicast tree in bandwidth efficient multicast protocol (BEMRP)? Which of the two performs better? Why? **07**  
 (b) List on demand routing protocols and explain any one with its advantages and disadvantages. **07**
- Q.4** (a) Explain the issues in designing a transport layer protocol for ad hoc wireless networks. **07**  
 (b) Explain how security provisioning in ad hoc wireless networks differs from that in infrastructure based networks. **07**
- OR**
- Q.4** (a) Explain WARM (Wireless Ad hoc Real-Time Multicasting Protocol) with its TDMA frame structure. **07**  
 (b) Compare various TCP solutions for ad hoc wireless networks. **07**
- Q.5** (a) Explain QoS enabled Ad hoc On demand Distance Vector (AODV) Protocol. **07**  
 (b) Explain clustered sensor network architecture. **07**
- OR**
- Q.5** (a) Compare and contrast the IEEE 802.11e MAC protocol with DBASE protocol. **07**  
 (b) Explain battery scheduling techniques to improve battery lifetime. **07**

\*\*\*\*\*