

**MANIPAL UNIVERSITY****FIRST SEMESTER ME (MEDICAL SOFTWARE) DEGREE EXAMINATION – NOVEMBER 2015****SUBJECT: MMS 609 – COMPUTER NETWORKS**

Wednesday, November 18, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 100

1. Explain any five applications of computer networks. (10 marks)
2. What is modem? Write the various modulation techniques used in modem. Explain modem fallback? (10 marks)
3. What is masking? Explain mask in classful and classless addressing. (10 marks)
4. **Write a short note on the following special addresses with suitable diagrams:**
  - 4A. Direct Broadcast Address
  - 4B. Loopback Address(5+5 = 10 marks)
5. Describe ARP packet format and operations with neat diagram. (10 marks)
6. What is flooding? Explain the methods used to reduce duplicate packets? (2+8 = 10 marks)
7. What is congestion? Explain any four causes of congestion in a network. (2+8 = 10 marks)
8. How does TCP keep track of the segments transmitted and received at the host? Explain the numbering system used in TCP segments. (10 marks)
9. **Explain the uses of following fields of TCP header:**
  - 9A. Sequence number
  - 9B. Acknowledgement number
  - 9C. Window size
  - 9D. Urgent pointer(2½ marks × 4 = 10 marks)
10. What is silly window syndrome? What are the syndromes created by the sender and receiver? Give appropriate solutions. (2+8 = 10 marks)

