

Code No: D0504, D5804**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****M.TECH II SEMESTER EXAMINATIONS, APRIL/MAY-2012****ADVANCED COMPUTER NETWORKS****(COMMON TO COMPUTER SCIENCE, COMPUTER SCIENCE AND
ENGINEERING)****Time: 3hours****Max.Marks:60****Answer any five questions****All questions carry equal marks****- - -**

- 1.a) What are the reasons for using layered protocols?
b) List the five key differences between OSI reference model and TCP/IP reference model.
- 2.a) Briefly explain the coaxial cable, optical fiber, twisted pair and their applications.
b) A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is x^3+1 show the actual bit string transmitted. Suppose the third bit from left is inverted during transmission show that this error is detected at receiver's end.
- 3.a) Give the HDLC frame format and explain bit stuffing scheme. Also give and explain the control field format of different types of frames used.
b) Explain in detail about the access method and frame format used in Ethernet.
- 4.a) Explain least cost path algorithms with examples.
b) What is routing? Compare intra domain and inter domain routing protocols.
- 5.a) What is IPv4 Protocol? In IPv4, fragmentation reassembly is done at the endpoints, rather than at intermediary routers. Does IPv4 permit routers to reassemble packets? What is an important reason why reassembly be done at the end points?
b) Give features of IPv6 in the context of advanced communication networks.
- 6.a) Discuss the strategies TCP uses to avoid congestion.
b) SMTP, FTP and HTTP are protocols to transfer messages from one point to another. Compare and contrast their use.
- 7.a) Explain the function of basic optical networking devices.
b) Explain MAC layer of IEEE 802.11 wireless LAN standard.
8. Write Short note on the following
 - i) Multiprotocol Label Switching
 - ii) VoIP signaling Protocols.
