

**Code No: C4004****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD  
M.TECH I - SEMESTER EXAMINATIONS, APRIL/MAY-2012****HIGH SPEED NETWORKS  
(INFORMATION TECHNOLOGY)****Time: 3hours****Max. Marks: 60****Answer any five questions  
All questions carry equal marks**

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- 1.a) Compare OSI-ISO and TCP/IP reference models.
- b) Compare circuit switched, datagram and virtual circuit networks.
  
- 2.a) Describe encoding and decoding procedure in cyclic codes with a suitable example.
- b) What are the functions of data link layer? Explain error and flow control data link protocols.
  
- 3.a) How do you classify multiple access protocols? Discuss the performance of various random access protocols.
- b) What is a bridge? Explain its operation.
  
- 4.a) Discuss ATM protocol architecture what are the fields of ATM cell header
- b) Describe connection establishment, Release and congestion control procedure in Frame relay networks.
  
- 5.a) Compare the features of IPv4 and IPv6.
- b) List out the services and applications of TCP, UDP SCTP protocols.
  
6. What is congestion? Explain various techniques to improve quality of service.
  
- 7.a) Briefly discuss the needs and goals for network design.
- b) Give the quality of service requirements.
  
- 8.a) Explain the design aspects of hierarchical and campus network topologies.
- b) Write a brief note on selection of switching and routing protocols.

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