

Roll No .....

**MEDC - 203**  
**M.E./M.Tech., II Semester**  
 Examination, July 2015  
**Network Design Technology**

Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions.  
 ii) All questions carry equal marks.

1. a) What is binary exponential backoff algorithm in CSMA/CD? 7  
 b) In token ring network reserving tokens which station has the responsibility of lowering the tokens priority? Why is priority lowered? 7
2. a) Derive the expression for throughpul of slotted ALOHA. 7  
 b) A large FDDI ring has 100 stations and a token rotation time of 50 m sec. The token holding time is 15 m sec. What is the maximum achievable efficiency of the ring? 7
3. a) Describe the FDDI in terms of its access method, signalling and data rate. 7  
 b) Why is one bit delay introduced in token ring interface? 7
4. a) How does TCP/IP decide the size of an IP fragment? Explain. 7  
 b) Explain the BGP protocol. 7

5. a) Describe the working of Open Shortest Path First (OSPF) protocol. 7  
 b) Explain the way an IP datagram travels from a source to destination host over an ATM network. 7
6. a) Differentiate between Narrow band ISDN and Broad band ISDN. 7  
 b) Compare the delay in sending an X-bit message over a K-hop path in a circuit switched network and in a lightly loaded packet switched network. The circuit setup time is t-seconds, the propagation delay is d-seconds per hop, the packet size is p-bits and the data rate is b-bps. 7
7. a) What are the basic ISDN services. 7  
 b) Differentiate between interior and exterior gateway protocols. 7
8. a) What is virtual path and virtual channel in ATM networks? Describe the process of call establishment. 7  
 b) Explain the basic function of ATM adaptation layer. 7

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