B.E Sem - VII / Rev. / Comp / IT 31/10/08.

Con. 5666-07. **(REVISED COURSE)** **CD-7134**

(3 Hours) **[Total Marks : 100**

Elective I: Advance Computer Networks.

N. B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from the remaining.
(3) Figures to the **right** indicate **full** marks.
(4) Any assumptions should be **clearly** stated.

1. (a) What is Network Design ? Explain Network design steps citing examples of Network design. **10**
   (b) Explain generic standardization and specification process. Explain different key players and their role in the process. **10**

2. (a) Compare and contrast different WAN protocols. (IP, FR, ATM, X·25) **10**
   (b) Explain SONET architecture. Explain different SONET Hardwares used in Networking. **10**

3. (a) Explain different physical layer protocols and accessing technologies in computer Networks. **10**
   (b) Compare FR and ATM w.r.t. QOS support to applications on Networks. **10**

4. (a) Explain different mechanisms of congestion control in an ATM Network. **10**
   (b) Explain different parameters used for Routing. Compare Distance Vector and Link state routing approaches. **10**

5. (a) Explain the following protocols used in Networking : ICMP, IGMP, ARP, UDP. **10**
   (b) Explain the following IP Address design issues : subnetting, supernetting, CIDR and NAT. **10**

6. (a) Given a class C address of 198·62·193·0–255, design a network which has four routers (subnets), and each site (subnet) requires upto 10 hosts per subnet. Choose a appropriate subnet mask and design and list all the IP addresses of Routers, subnets and hosts on all the subnets. **10**
   (b) Explain the relevance of traffic Engg. and Capacity planning to Network design process. **10**

7. Write notes on (any **four**) :— **20**
   (a) SMDS and its formats
   (b) Access layer design
   (c) IPV4 v/s IPV6
   (d) Backbone Network design
   (e) X·25
   (f) Socket primitives for transport layer protocol.