



**T.E. (Information Technology) (Semester – I) Examination, 2010**  
**COMPUTER NETWORK TECHNOLOGY (New)**  
**(2008 Course)**

Time : 3 Hours

Marks : 100

- Instructions :** 1) Answers to the **two** Sections should be written in **separate** books.  
2) **Neat** diagrams must be drawn **wherever** necessary.  
3) Black figures to the **right** indicate **full** marks.  
4) Your answers will be valued as a **whole**.  
5) **Use** of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is **allowed**.  
6) Assume suitable data, if **necessary**.

**SECTION – I**

1. a) Differentiate among circuit switching, packet switching and message switching with one example. **8**  
b) Explain Hub, Switch and Bridge with the help of suitable block diagram. **8**

**OR**

2. a) Discuss the design issues of the network layer. **8**  
b) What are the different addresses used in an Internet using TCP/IP protocols ? Explain each in brief with example. **8**  
3. a) Define Subnetting. **2**  
b) For a given class C network 195.188.65.0 design the equal subnets in such a way that each subnet has at least 50 nodes. **8**  
c) Explain connection oriented and connectionless services. **8**

**OR**



4. a) Define Supernetting. 2
- b) Explain flow control and congestion control in connection oriented service. 8
- c) Consider any class - C network with default subnet mask. How many actual hosts can be connected in that network ? Divide that network into 4 equal subnets. What is the new subnet mask ? How many hosts can be connected in each subnet ? (Give all details). 8
5. a) Explain three way hand shake algorithm for TCP connection establishment. 8
- b) State and explain similarities and differences between data link layer and transport layer. 8
- OR
6. a) What is silly window syndrome ? How to overcome it ? 8
- b) Explain dynamic buffer allocation at transport layer with suitable example. 8

### SECTION – II

7. Write **any 3** short notes on : 18
- 1) MIME
  - 2) Cookies
  - 3) RSV P
  - 4) Dynamic and Active pages.
- OR
8. a) What is FTP ? Where and when it is used ? Why does it require 02 ports ? Explain at least 05 commands used in FTP. 10
- b) Explain MIB along with its structure. 8



9. a) What is the need of RTCP protocol along with RTP protocol in multimedia communication ? 8

b) Explain H. 323 architectural model and its protocol stack. 8

OR

10. a) What is meant by interactivity of real time interactive audio/video ? 8

b) Compare between SIP and H. 323. 8

11. a) What is caching ? Who should do the caching ? How long should pages be cached ? 8

b) Explain email architecture and its services. 8

OR

12. a) Explain Bluetooth architecture with diagram. 8

b) Discuss various layers used in ATM architecture. 8