

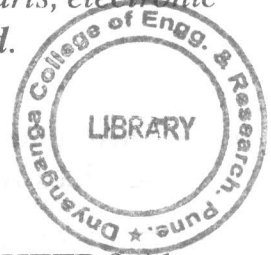


T.E. (Computer Engineering) (Semester – II) Examination, 2011
COMPUTER NETWORKS (New)
(2008 Pattern)

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answer 3 questions from Section I and 3 questions from Section II.
 2) Answers to the *two* Sections should be written in *separate* books.
 3) *Neat* diagrams must be drawn *wherever* necessary.
 4) Use of logarithmic tables slide rule, Mollier charts, *electronic* pocket calculator and steam tables is *allowed*.
 5) Assume *suitable* data, *if* necessary.



SECTION – I

1. a) What is the difference between persistent and non persistent HTTP ? Also explain HTTP message format. 8
- b) Consider you are accessing a web page. Explain what different things happen at client and server side, at each layer. Assume that both are using TCP/IP protocol stack. 8

OR

2. a) Explain connection oriented and connection-less service. Which protocols at each layer in TCP/IP protocol stack supports these services ? 8
- b) What is DNS ? Explain its various resource records with one example. 8
3. a) Write a pseudo code for client and server to setup a connectionless service between them. 8
- b) State which transport layer protocol is used by the following protocols- HTTP, FTP, DHCP, DNS, ICMP, TFTP, IP, SMTP. 4
- c) Explain pros and cons of TCP over UDP. 4

OR

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4. a) Explain TCP congestion control algorithm with respect to additive-increase, multiplicative-decrease, slow start mechanism and reaction to timeout events. 8
- b) Explain Three-way handshake in TCP. 4
- c) Explain what will happen if transport layer is removed from TCP/IP protocol stack. 4
5. a) Explain Resource Reservation Protocol in detail. 8
- b) What is QoS ? Explain various parameters for QoS in a network. 5
- c) Explain Leaky Bucket algorithm, which quality parameter is ensured by Leaky Bucket algorithm. 5

OR

6. a) Differentiate between class based and flow based QoS. Explain differentiated services for QoS. 8
- b) Explain various congestion prevention policies for maintaining the QoS in the networks. 5
- c) What is traffic shaping ? How is it used in congestion control ? 5

SECTION – II

7. a) Compare IPv6 and IPv4. Draw and explain IPv6 header format. 8
- b) Divide the network 220.125.5.192/26 into 4 sub networks. How many hosts can be connected in each network ? Show their IP range, network address and broadcast address. 8

OR

8. a) Compare IP and ICMP. Explain header format of ICMP V6 protocol. 8
- b) Identify class, subnet mask, network address and broadcast address of following IP addresses : 8
- 1) 214.25.6.3
 - 2) 191.5.8.9
 - 3) 5.6.45.4
 - 4) 230.45.89.63

