



[4658] – 162

Seat No.	
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T.E. (Info. Tech.) (Semester – I) Examination, 2014
COMPUTER NETWORK TECHNOLOGY
(2008 Course)

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answers to the **two** Sections should be written in **separate** answer books.
2) **Neat** diagrams must be drawn **wherever** necessary.
3) Figures to the **right** side indicate **full** marks.
4) Use of calculator is **allowed**.
5) Assume suitable data if **necessary**.

SECTION – I

1. a) List and explain the parameters for quality of service. How jitter and delay can affect the quality of service ? 10
b) Explain any two routing algorithm. 8

OR

2. a) How packet switching makes the more use of bandwidth over circuit switching ? Explain with suitable example. Also explain what do you mean by message switching ? 10
b) What is count-to-infinity problem ? Explain with suitable example. 8
3. a) Discuss the advantages and disadvantages of OSPF and BGP routing algorithm. 8
b) For a given class – C network, design subnets in such a way that each subnet will have at least 50 hosts. If necessary assume suitable data. Also write network and broadcast address of each subnetwork. 8

OR

4. a) Why NAT is needed ? How does it operate ? Explain it properly with appropriate diagram. 8
b) Explain TCP with its header format. 8
5. a) If the round trip time is 30 msec. and following acknowledgment come in after 26, 32 and 24 ms, respectively, what is new RTT estimate using the Jacobson algorithm ? Assume suitable value for alpha. 8
b) What is the purpose of ARP and RARP protocols ? What is the size of Ethernet frame carrying an ARP packet as well as RARP packet ? 8

OR

6. a) Explain the flow control mechanism used in TCP. 8
b) Compare and contrast between RPC and UDP. 8

P.T.O.



SECTION – II

7. a) What are the basic functions of E-mail systems ? Explain the importance of MIME in e-mail system. 8
b) Explain two look up methods used by the DNS to resolve the remote names. 8

OR

8. a) Explain the SNMP model. What is the role of SMI in the management ? 8
b) List the similarities and differences between POP3 and IMAP. From ISP point of view which protocol would be better and why ? 8
9. a) Bandwidth scaling is required for streaming stored audio/video. Which protocol is used for this purpose and why ? 8
b) Explain at least 2 protocols used in the real time interactive application. 8

OR

10. a) What is RSVP ? Why it is required ? 8
b) What do you the integrated services ? Explain with suitable examples. 8
11. a) Explain the basic architecture of WLAN and discuss various components in it. 9
b) Describe the architecture of broadband ISDN. 9

OR

12. Write short notes on : 18
• Bluetooth
• Fast ethernet
• Frame relay.
