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Seat No.

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) b)	List and explain the parameters for quality of service. How jitter and delay can affect the quality of service ? Explain any two routing algorithm. OR	10 8
2.	a) b)	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 ? What is count-to-infinity problem ? Explain with suitable example.	10 8
3.	a) b)	Discuss the advantages and disadvantages of OSPF and BGP routing algorithm. 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. OR	8 8
4.	a) b)	Why NAT is needed ? How does it operate ? Explain it properly with appropriate diagram. Explain TCP with its header format.	8 8
5.	a) b)	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. 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 ? OR	8 8
6.	a) b)	Explain the flow control mechanism used in TCP. Compare and contrast between RPC and UDP.	8 8

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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.	W	rite short notes on :	18
	•	Bluetooth	
	•	Fast ethernet	
	•	• Frame relay.	

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