Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–V • EXAMINATION – SUMMER 2013

Subject Code: 650010 **Date: 20-05-2013**

Subject Name: Advance Networking

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** State whether following statements are true or false with reason **07**

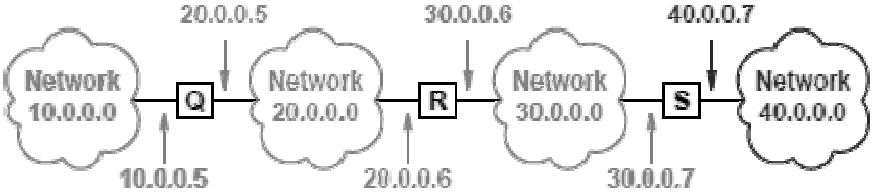
1. The IP address specifies network connection and not an individual computer.
2. Out of band data in TCP queue forces TCP to send the data immediately
3. Source quench message is sent to request sender to stop transmission in case of congestion.
4. FTP needs two TCP connections because if one fails, on the other data transfer may continue
5. Identification field is very important for a fragmented packet.
6. Next hop routing is not efficient.
7. ICMP is error correcting protocol/mechanism embedded in the network layer of TCP/IP protocol suite.

(b) What is the importance of dynamic binding of addresses? How does ARP help in achieving the goal of dynamic binding? **07**

Q.2 **(a)** Explain the importance of following terms w.r.t IPv4: **07**

1. Service Type
2. Time to Live
3. Fragment Offset
4. Datagram Size
5. Network MTU
6. Header Checksum
7. Protocol

(b) For a given scenario generate the routing table for router Q, R and S? Also explain the concept of next-hop forwarding. **07**



OR

(b) Write a note on the following: **07**

1. Table driven forwarding.
2. Next hop forwarding.

Q.3 **(a)** What is the purpose of ping command? Draw and explain the message format of the ICMP message type that helps us execute ping. **07**

	(b)	Explain the significance of subnet addressing giving suitable example.	**07**
		OR	
Q.3	**(a)**	Why do routers issue a route change request? Draw and explain the message format of the ICMP redirect message.	**07**
	(b)	Write a note on classless addressing and super-netting.	**07**
Q.4	**(a)**	What is the significance of UDP? Explain why the UDP pseudo header is appended to UDP datagram.	**07**
	(b)	List and explain the properties of reliable delivery service.	**07**
		OR	
Q.4	**(a)**	Explain the following terms w.r.t. TCP: 1. Passive Open 2. Segments 3. Streams 4. Sliding Window 5. Window Advertisement 6. Connections 7. Out of band data	**07**
Q.4	**(b)**	Explain the working of TELNET protocol using figure.	**07**
Q.5	**(a)**	Write a note on characteristics of HTTP.	**07**
	(b)	Explain the working of FTP process model.	**07**
		OR	
Q.5	**(a)**	Write a note on firewall. How important are firewalls in stopping unauthorized access to data.	**07**
	(b)	Explain using figure how alias expansion and mail forwarding is carried out in electronic mailing systems.	**07**

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