Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV (New) • EXAMINATION – WINTER 2016

Subject Code: 2140709 **Date: 19/11/2016**

Subject Name: Computer Networks

Time:02:30 PM to 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		**Answer in short.**	**14**
	1	What is end-to-end delay?	
	2	What is Internet?	
	3	Briefly explain the working of SMTP.	
	4	How DNS is useful in Internet?	
	5	What is Multiplexing in computer networks.	
	6	What is subnet address?	
	7	What is Protocol?	
	8	What is the functionality of Switch device?	
	9	What is an Access Link?	
	10	Major difference between LAN and WAN.	
	11	Define Throughput for computer networks	
	12	Define the significance of traffic flooding in networks.	
	13	Give an example of URL and explain its components.	
	14	What is network topology?	
Q.2	**(a)**	Explain the working of Packet switched networks.	**03**
	(b)	What is DoS attack? Explain with categories.	**04**
	(c)	Differentiate IP stack and OSI reference model.	**07**
		OR	
	(c)	How encapsulation is helpful in data transmission? Explain with example on layered architecture of computer networks.	**07**
Q.3	**(a)**	What is client-server architecture? Discuss its merits and demerits.	**03**
	(b)	Explain the movement of files between local and remote systems using FTP.	**04**
	(c)	What is HTTP? Explain with respect to persistent and non-persistent connections.	**07**
		OR	
Q.3	**(a)**	What is congestion? List the approaches congestion control.	**03**
	(b)	Draw the reliable data transfer service model.	**04**
	(c)	Discuss the DNS services in detail.	**07**
Q.4	**(a)**	What is a routing algorithm? List major types of it.	**03**
	(b)	Draw the IPV4 datagram format.	**04**
	(c)	What is connection oriented and connectionless service? Explain each with example.	**07**
		OR	
Q.4	**(a)**	Draw Router device architecture.	**03**
	(b)	Explain the working of ICMP. List its message types.	**04**
	(c)	What is a virtual circuit network? How it differs from circuit switching network. Discuss with example.	**07**
Q.5	**(a)**	Discuss the parity checks for error detection in data transfer.	**03**
	(b)	Differentiate broadcast and multicast with their functionalities.	**04**
	(c)	List and explain the services provided by the link layer.	**07**
		OR	
Q.5	**(a)**	Explain CRC with example.	**03**
	(b)	How TDM and FDM are useful in channel partitioning?	**04**
	(c)	Explain slotted ALOHA protocol.	**07**

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