Seat No.:	Enrolment No.

Subject Code: 150702

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-V • EXAMINATION - WINTER • 2014** 

Date: 28-11-2014

	Time	ect Name: Computer Network : 10.30 am - 01.00 pm Total Marks: 70	
	Instruc	<ol> <li>Attempt all questions.</li> <li>Make suitable assumptions wherever necessary.</li> <li>Figures to the right indicate full marks.</li> </ol>	
Q.1	(a)	Draw diagram of OSI reference model? What are the benefits of layering approach in OSI model?	07
	(b)	Give differences between  1. Connection oriented versus Connection less services  2. Flow Control versus Congestion control	07
Q.2	(a) (b)	Write a note on guided and un-guided transmission medium Enlist various framing techniques used in data link layer. Explain any one in detail with suitable example.  OR	07 07
	(b)	Explain the usage of following devices. Also discuss the OSI layer at which they are used.  1. Bridge 2. Repeater 3. Hub and Switch 4. Router 5. Gateway	07
Q.3	(a) (b)	What is ALOHA? Explain variants of ALOHA protocol.  What is the difference between error detection and correction? Explain any one error correction technique with suitable example.  OR	07 07
Q.3	(a)	Explain CSMA and CSMA/CD protocols.	07
	<b>(b)</b>	<ol> <li>Write and explain statement of Optimality Principle with example.</li> <li>Explain the word jitter control with suitable example.</li> </ol>	07
Q.4	(a)	Explain following with respect to IP address. Also give proper examples of each.  1. Structure of IPv4 address  2. Subnet mask  3. Default gateway	07
	<b>(b)</b>	Explain shortest path routing protocol with suitable example. <b>OR</b>	07
Q.4	(a)	What is subnet? Explain various classes of IPv4 address with respect to bits reserved for host_id and net_id. Give example and ranges of each class of IPv4 address.	07
	(b)	What is congestion? What are the reasons behind congestion? Explain choke packet mechanism for congestion control.	07

Q.5	(a)	Enlist services provided by transport layer. What is socket? Explain its importance	07
		at transport layer protocols.	
	<b>(b)</b>	What is the role of Domain Name Server (DNS) in Internet? Explain the hierarchy	07
	` ,	of various domain names.	
		OR	
Q.5	(a)	1. Give differences between TCP and UDP.	07
		2. Frame = 1 1 0 1 0 1 1 1 1 1 1, Generator = 1 0 0 1 1 Calculate CRC.	
	<b>(b)</b>	Write notes on following: 1. HTTP 2. MIME	07
	` /	*****	