GUJARAT TECHNOLOGICAL UNIVERSITY ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Subject Code: 3715101 Dat Subject Name: Network Programming(Core-II)			e:03/01/2017	
Til Ins	me: 2	2:30 pm to 5:00 pm Total Marks:	70	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a) (b)	Draw and explain TCP state transition diagram Write a program to implement UDP echo server.	07 07	
Q.2	(a)	What is socket? Explain its role over client and server programming. Describe the APIs for UDP communication.	07	
	(b)	Explain in brief UNIX domain socket address structure OR	07	
	(b)	Explain the following socket option a.) SO_DONTROUTE b.) SO_KEEPALIVE	07	
Q.3	(a)	What is the difference between unconnected UDP socket and connected UDP socket?	07	
	(b)	What happens if a UNIX domain server calls unlink after calling bind? What happens if a UNIX domain server does not unlink its well known pathname when it terminates, and a client tries to connect to the server sometimes after the server terminates?	07	
		OR		
Q.3	(a) (b)	Explain in detail about pipe IPC with suitable C program When to use UDP instead of TCP? How can you be sure that a UDP message is received by recipient?	07 07	
Q.4	(a)	 (i) Before starting the client, how state of server's listening socket can be verified? (ii) Explain the following functions a) gethostbyname b) gethostbyaddr 	04 03	
	(b)	Explain functionality of OSI layers in Brief OR	07	
Q.4	(a)	(i) How a socket address structure is passed to any socket function? Explain how connect function pass a socket address structure.	04	
	(b)	(11) After forking children, how they can be prevented from becoming zombies? Explain libpcap and libnet libraries in detail	03 07	
Q.5	(a) (b)	Write a short note on "External Data Representation" Explain the steps that take place when a UDP datagram is sent to a unicast address and UDP datagram is sent to a broadcast address.	07 07	
Q.5	(a)	Explain the resource records in the DNS.	07	
	(b)	How multicasting is beneficial in WANs?	07	
