Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 3715101 **Date: 31/12/2015**

Subject Name: Network Programming (Core-II)

Time:2:30 pm to 5:00 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)**	What is IPC? List out various methods of IPC and explain any one in detail.	**07**
	(b)	Define protocol. List out any six protocols of application layer, and explain any two in detail.	**07**
Q.2	**(a)**	Explain Multicast MAC addresses structure. What will be the destination MAC address if multicasting IP is 224.0.0.1? Explain in detail.	**07**
	(b)	Explain Datalink Provider Interface (DLPI).	**07**
		OR	
	(b)	Explain BSD packet filter.	**07**
Q.3	**(a)**	Write a short note on External Data Representation.	**07**
	(b)	List out byte ordering functions and explain any two in detail.	**07**
		OR	
Q.3	**(a)**	What is Zombie process? Which Linux command is useful to list out zombie process/es of the system? Write a demo program to create zombie.	**07**
	(b)	What is signal? Develop a C program to handle SIGINT signal.	**07**
Q.4	**(a)**	How to get client's address / host-name from server socket application? Explain with suitable APIs	**07**
	(b)	Explain libpcap and libnet libraries in detail.	**07**
		OR	
Q.4	**(a)**	Explain data transfer over connected sockets ï send() and recv().	**07**
	(b)	Explain TCP states with diagram.	**07**
Q.5	**(a)**	Write a C program to Create 5 processes but not from the common parent. (Meaning, each child creates a new process).	**07**
	(b)	How do you test your socket client server application if your computer is not connected in network? Give explanation on /etc/hosts file. What is the significance of loopback address?	**07**
		OR	
Q.5	**(a)**	Write a C program to Create five children processes from a common parent and ensure that the parent terminates after cleaning all the terminated children using waitpid().	**07**
	(b)	Develop UDP server program to simulate the functionality of DNS server. (Scenario: client will send URL to the server, server contains list of URLs and associated IPs, server would respond to the client with appropriate IP address)	**07**

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