Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER-1 (NEW) EXAMINATION – WINTER 2016

Subject Code: 3715202 **Date:03/01/2017**

Subject Name: Network Programming

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)**	Differentiate between	
		i. Wait() and Waitpid()	**03**
		ii. TCP and UDP	**04**
	(b)	Explain three way handshake with TCP state transition during handshake.	**07**
Q.2	**(a)**	i. Explain significance of SIGCLD/SIGCHLD and SIGPIPE signals.	**04**
		ii. Differentiate between fork() and vfork()	**03**
	(b)	Demonstrate a client server program using PIPE, Client will send a string to the server and server will reply with number of vowels in the string.(parent will have server call)	**07**
		OR	
	(b)	i. Discuss limitations of PIPE and FIFO.	**03**
		ii. Explain Parent and Child communication with Diagram using PIPE.	**04**
Q.3	**(a)**	What is Zombie process? How to handle zombie process? Explain with suitable example.	**07**
	(b)	Write a short note on signals with suitable example.	**07**
		OR	
Q.3	**(a)**	List out and explain byte manipulation functions.	**07**
	(b)	Write a short note on Generic socket address structure.	**07**
Q.4	**(a)**	Explain all system calls or elementary functions used in TCP communication.	**07**
	(b)	i. Differentiate between Unicasting and Broadcasting.	**03**
		ii. Explain use of gethostbyname and net_ntoa	**04**
		OR	
Q.4	**(a)**	Explain system calls or elementary functions used in UDP communication.	**07**
	(b)	What is data link access? Explain Promiscuous mode in detail.	**07**
Q.5	**(a)**	Write a short note on RPC.	**07**
	(b)	Write code for TCP daytime server and client. (On successful connection, server will write the local time, day and date on socket. Client will read the time and display on console)	**07**
		OR	
Q.5	**(a)**	i. What are the different domains (protocol family) and type values available for creating a socket.	**05**
		ii. Explain purpose of exec() function in Linux.	**02**
	(b)	Write code for UDP echo server and client. (Client will send the message to server. Server will echo the client and will also display client host name, ip address and port number on console)	**07**

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