

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – I • EXAMINATION – WINTER • 2014****Subject code: 3715202****Date: 07-01-2015****Subject Name: Network Programming****Time: 02:30 pm - 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 (a)** In case of UDP client i server communication, if UDP server is not running, then what kind of error message client is going to receive? Justify your answer. What solution you would propose to handle rserver not running issue? **07**
- (b)** What is system call? How it is differing from normal library function? Explain waitpid() system call. **07**
- Q.2 (a)** Write a short note on signals with suitable example. **07**
- (b)** What is socket? Explain socket interface in detail. **07**
- OR**
- (b)** Explain in detail:
- i. DHCP **04**
 - ii. DNS **03**
- Q.3 (a)** Write a short note on Generic socket address structure. **07**
- (b)** List out and explain byte manipulation functions. **07**
- OR**
- Q.3 (a)** Differentiate between:
- i. Unicasting & Broadcasting **03**
 - ii. TCP & UDP **04**
- (b)** Explain multicast MAC address structure. What will be the destination MAC address if multicasting IP is 228.0.0.1? Explain in detail. **07**
- Q.4 (a)** What is Zombie process? How to handle zombie process? Explain with suitable example. **07**
- (b)** What is Inter Process Communication? List out various methods of IPC. Differentiate between socket and IPC? **07**
- OR**
- Q.4 (a)** When to use UDP instead of TCP? How can you be sure that a UDP message is received by recipient? **07**
- (b)** Explain libpcap and libnet libraries in detail **07**
- Q.5 (a)** Develop UDP server program to simulate the functionality of DNS server. (Here, 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**
- (b)** While working on socket programming, why do we need to use byte ordering functions? Explain with suitable example. **07**
- OR**
- Q.5 (a)** What is data link access? Explain Promiscuous mode in detail. **07**
- (b)** Explain serialization and deserialization in detail. **07**
