

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER-I EXAMINATION – WINTER 2015

Subject Code:3715202**Date:31/12/ 2015****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) What is topology in networking? Explain bus and star topology in detail. **07**
(b) List out 7 layers of OSI. Differentiate between OSI reference model and TCP/IP model. **07**
- Q.2** (a) What is the difference between NULL pointer and void pointer? Explain in detail. **07**
(b) Explain TCP connection establishment and termination process in detail. **07**
- OR**
- (b) What is Ethernet? Draw and explain all fields of Ethernet header. **07**
- Q.3** (a) Which socket APIs are needed in order to develop TCP server application? What is the important of listen () and accept () in those API? **07**
(b) List out byte manipulation functions and explain any two in detail. **07**
- OR**
- Q.3** (a) Why do one get "connection refused" when the server isn't running? **07**
(b) How can your socket application listen on more than one port at a time? **07**
- Q.4** (a) How can you be sure that a UDP message is received by recipient? **07**
(b) Explain libpcap and libnet libraries in detail. **07**
- OR**
- Q.4** (a) What is multicasting? How does socket multicasting work? **07**
(b) Explain in detail:
a. DNS **04**
b. DHCP **03**
- Q.5** (a) Write a C program to develop chat server. Server has to be concurrent, meaning it should be capable enough to handle multiple client at a time. **07**
(b) Explain fork() system call with suitable example. **07**
- OR**
- Q.5** (a) Develop C program to handle SIGINT signal. **07**
(b) Explain sockaddr_in socket address structure. **07**
