

**[5155]-24**  
**M.E. (Computer Engineering)**  
**NETWORK PROGRAMMING**  
**(2008 Pattern) (Elective -III)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *Answer any three questions from each section.*
- 2) *Answer to the two sections should be written in separate books.*
- 3) *Neat diagrams must be drawn wherever necessary.*

**SECTION -I**

- Q1)** a) Explain the TCP state transition diagram in details with connection establishment and termination, explain Role of Listen function. [10]  
b) Explain with diagram interconnection between various protocols in TCP/IP Protocol Suit. [6]
- Q2)** a) Explain IPV4/IPV6 socket address structure, write byte ordering function with the help of suitable program. [8]  
b) Explain various TCP socket options. [8]
- Q3)** a) Explain in details operation perform using routing socket. [10]  
b) Explain the following terms with the help of function and parameter Descriptor.  
i) IPV4 socket address structure  
ii) Listen function  
ii) Recv from function [6]
- Q4)** a) Explain the fetching and printing a routing table entry process, write program to issue RTM-GET command on routing socket. [8]  
b) Draw the argument of client resolver and name server in DNS, Explain the day time client program using gethost by name () and get server by name () function using suitable code. [10]

## SECTION -II

- Q5)** a) What is resource discovery? Explain the internet application that used broad casting with example? [8]  
b) Compare and explain unicast and broadcast packet and frame format. [8]
- Q6)** a) Explain in details Multicasting on WAN and also explain multicast socket options. [10]  
b) Explain network time protocol in details with explain [6]
- Q7)** a) Explain basic tread functions for TCP echo server example in details.[10]  
b) explain simultaneous connection using thread for web client. [6]
- Q8)** Write short note on (any three) [18]  
a) Simple Network Time Protocol  
b) TCP Pre-threaded server  
c) TCP concurrent server  
d) IPV6 address testing MACROS

