UNIT 1

1. What is network protocol? With a neat block diagram explain the network application for client and server.
2. List out the various approaches used to handle multiple clients at the same time.
3. With a neat block diagram, explain the client and server communication on Local Area Network using TCP.
4. With a neat block diagram, explain the client and server communication over Wide Area Network using TCP.
5. List and explain the steps involved in simple daytime client.
6. Develop the ‘C’ program to implement simple daytime client.
7. Comment on the Protocol Independence. Modify the day time client program for IPv6.
8. What are wrapper functions? Develop the wrapper function for the following:
   1. Socket function
   2. Pthread\_mutex\_lock
9. List and explain the steps involved in simple daytime server.
10. Develop the ‘C’ program to implement simple daytime server.
11. Write a note on Unix errno value.
12. Explain with a neat block diagram the layers of OSI model and Internet protocol suite.
13. Write a note on 64- bit architectures.
14. Explain the features of the following protocols:
    1. IPv4
    2. IPv6
    3. TCP
    4. UDP
    5. SCTP
    6. ICMP
    7. IGMP
    8. ARP
    9. RARP
    10. ICMPv6
    11. BPF
    12. DLPI
15. List and explain the features of UDP Protocol in detail.
16. List and explain the features of TCP Protocol in detail.
17. Explain with a neat diagrams the following:
    1. TCP connection establishment
    2. TCP data transfer
    3. TCP connection termination
18. Explain the TCP State Transition diagram with a neat diagram.

Unit 2: (Sockets Introduction)

1. With a standard POSIX definition explain socket address porotype for IPv4 *(sockaddr\_in)* and IPv6 *(sockaddr\_in6)*
2. With a standard POSIX definition explain socket address structure porotype: *sockaddr*
3. Show the prototype for storage socket address structure: *sockaddr\_storage*
4. Compare the various socket address structures: *sockaddr\_in (), sockaddr\_in6.*
5. What are Value- Result Arguments? Explain the scenario with a neat block diagram.
6. Explain the functions which passes socket address structure from the process to the kernel with a neat block diagram.
7. Explain with a neat diagram the various byte ordering functions.
8. Write a note on the Byte Manipulation Functions.