UNIT-1

2 Mark Questions

1. What are the time values maintained by the UNIX systems?

2. What are the differences between System calls and library functions?

3. What is POSIX?

4. What is SVR4?

5. What are file descriptors?

6. How can you achieve atomicity in appending and creating a file?

7. What are dup () and dup2 () functions ?

8. What is the use of fcntl() function ?

9. State the prototype and the use of ioctl() function.

10. How will you retrieve the properties of a file ?

11. Give the use of access function.

12. State the need for umask function.

13. Why do we nee chmod and fchmod functions?

14. What is sticky bit?

15. How will you change the user Id of a file?

16. What is meant by hole in a file?

17. How can you truncate the contents of a file?

18. What are symbolic links? How is it different from hard links?

19. How will you create and remove links using C functions

20. What are the times fields maintained for a any file

21. What is the use of utime function?

22. What is the use of sync () and fsync() functions ?

23. What are streams and FILE objects?

24. What are the contents of password file?

16 Mark Questions

1. Write briefly about file I/O Operations

2. What are the data structures used for File sharing in UNIX? Explain with a neat diagram

3. Briefly write notes on the various types of files in UNIX.

4. Write short notes on file access permission and its effect on files and directories.

5. With neat diagram explain the file system of UNIX.

6. What the function used to create, modify and red directories?

7. Briefly explain the Standard I/O Library functions.

8. How is data protected in UNIX? Illustrate chmod and chown with examples

                                               UNIT-2

2 Mark Questions

1. Draw Internet Protocol suit.

2. List the characteristics of UDP

3. List the characteristics of TCP

4. What do understand by Three Way Handshake in a TCP Connection?

5. List the packets that exchanged while TCP connection terminates.

6. Briefly describe Port numbers and its categories.

7. Define IPv4 Socket Address Structure

8. Define IPv6 Socket Address Structure

9. What is generic socket address structure?

10. What is Byte Order Function?

11. What are Byte Manipulation Functions?

12. What are Address Conversion functions?

13. Differentiate between IPv4 and IPv6 address system

16 Mark Questions

1. What do you understand by system calls used with sockets? Briefly describe any six of

them (16).

2. Draw and briefly explain the state transition diagram of TCP.(16)

3. Briefly describe concurrent servers. (16)

                           UNIT-3

2 Mark Questions

1. Explain TCP Echo server and client.

2. Define signal.

3. Explain signal function.

4. What is wait and Waitpid function?

5. What is the difference between wait and Waitpid function?

6. Explain crashing of server host.

7. Explain Shutdown of server host.

8. Explain the syntax of signal function.

9. Explain I/O multiplexing.

10. What are the scenarios used in I/O multiplexing applications?

11. What are the 5 basic I/O models available in UNIX?

12. State where POSIX function is used.

13. Define the two terms used in POSIX.

14. What are the possibilities of select function?

15. What are the three select descriptor arguments?

16. Difference between close function and shutdown function.

17. Difference between select function and pselect function.

18. Define poll function.

19. Difference between poll function and select function.

20. What are the three conditions handled with the socket?

21. What are the three classes of data identified by poll?

16 Mark Questions

1. Write a TCP socket program to implement an Echo server/Echo client. (16)

2. Explain the following concept with suitable example. (16)

a) Shutdown function b) Server host crashes

c) Input output models d) Posix signal

3. Discuss the following scenario of server operations.

a) Crashing of server host (06)

b) Crashing and rebooting of server host (06)

c) Shutdown of server host (04)

4. Explain in detail about the various I/O models in Unix operating system. (16)

5. Explain in detail about

a) POSIX signal handling (08)

b) Boundary condition (08)

                                         UNIT-4

2 Mark Questions

1. What are various ways to get and set the options that affect a socket?

2. Explain Elementary UDP sockets.

3. Explain UDP server and UDP client.

4. What are the two functions used in Elementary UDP?

5. Difference between main function and dg\_echo function.

6. What are the four steps used in client processing loop?

7. Difference between server function dg\_echo and client function dg\_cli.

8. Define DNS.

9. Define Resource Records.

10. What are the types which affect the RRS?

11. Define Resolvers and Name servers.

12. Explain Gethostbyname function

13. State the role of pointer queries in DNS.

14. What are the three ways to set RES\_USE\_INET6?

15. Explain gethostbyaddr function.

16. What are unamed functions?

17. Explain gethostname function.

18. Explain getservbyname and getservbyport functions.

19. Explain IPv4 socket option.

20. Explain ICMPv4 socket option.

21. Explain IPv6 socket option.

16 Mark Questions

1.a) Assume both a client and server set the SO\_KEEPALIVE socket option and the connectivity

is maintained between the peers but them is no exchange of data. When the keep alive timer

expires every 2 hours, how many TCP segments are exchanged across the connection? Justify

your answer with an illustration. (06)

b) Write a program that checks all the socket option of a socket and sets the value for receiver

buffer size to 520 bytes. (10)

2.a) Write notes on RES\_USE\_INET6 resolver option in gethostbyname and gethostbyname2

functions. (08)

b) Discuss any four TCP socket option in detail. (08)

3.a) Discuss about IP socket option and ICMP socket options in detail with Suitable example.

(08)

b) Write the similarities between UDP socket, TCP socket and raw socket. (08)

4.a) Explain the purpose and usage of UDP sockets and their different functions. (10)

b) Brief the way in which a TCP client server different from UDP client server. (06)

5. Briefly discuss about DNS with an example. (16)

6. Briefly discuss about TCP Echo server and client. (16)

7. Briefly discuss about UDP Echo server and client. (16)

                                                      UNIT-5

2 Mark Questions

1. Explain IPv4 and IPv6 server.

2. What are Address Testing macros?

3. Explain the implementations of threads.

4. What are the advantages and disadvantages of threads?

5. What are the basic function of thread creation and termination?

6. Define thread.

7. List out the unique values maintained by a thread.

8. What are the common thread interfaces?

9. Explain thread function.

10. Define multithreading.

11. Mention the purpose of ping program.

12. Explain trace route program.

13. Define mutexes.

14. Explain basic thread functions.

15. Explain raw sockets.

16. Define proto structure.

17. Differentiate ping and trace route program

16 Marks Questions

1. a) Compare Fork and Thread. (04)

b) Compare Wait and Waitpid. (04)

c) Write a C program that can generate an IC Process the received ICMPv4 echo reply.

(08)

2. a) Write notes on raw socket creation (04)

b) Write notes on raw socket output (06)

c) Write notes on raw socket input (06)

3. a) Explain how a TCP echo server using thread created and also give their advantages. (10)

b) Write short notes on mutexes and condition variables. (06)

4. a) Compare IPv4 and IPv6. (08)

b) Explain about thread creation and thread termination with suitable example. (08)

5. Explain the trace route program with sample code and example. (16)

6. Explain in detail IPv4 and IPv6 interoperability. (16)