Code No: N0521 **R07** Set No. 1

IV B.Tech. I Semester Supplementary Examinations, March - 2013
NETWORK PROGRAMMING
(Common to Computer Science & Engineering and Information Technology)

Time: 3 Hours   Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
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1. a) Writethe differences between TCP & UDP.
   b) Explain use of TIME_WAIT State.

2. a) Write a server program using TCP protocol which returns Client IP address and
   Port number.
   b) Discuss the generic socket address structure,IPV4 socket address structure,IPV6
   socket address structure.

3. a) Explain difference between wait() and waitpid().
   b) Write a "C" program for TCP echo server.

4. a) Explain any five socket option for Generic socket.
   b) Explain the five I/O model with suitable diagrams.

5. a) Explain about Lack of flow control with UDP.
   b) Describe the important functions of UDP echo server.

6. a) Explain the use of uname function with an example?
   b) Discuss the use of gethostbyname function with an example?

7. a) What are the advantages of message queues? Explain the APIs for system V
   message queues.
   b) Write a program to lock a file and record using semaphore.

8. Explain in detail the various issues needed to be considered to make the use of RPC
   transparent to the application.

1 of 1

Code No: N0521 **R07** Set No. 2

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Time: 3 Hours Max Marks: 80

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1. a) Draw neat sketch diagram for TCP state transition diagram.
   b) Differentiate between iterative and concurrent server.

2. Explain about various elementary TCP Socket Functions. With near diagram.

3. a) Explain briefly the byte order conversion functions.
   b) Write a "C" program for TCP echo client.

4. a) With suitable diagrams differentiate the five I/O models.
   b) When is socket said to be ready for reading and writing data. Identify and discuss theconditions.

5. a) Discuss the effect of UDP not having any flow control.
   b) Explain with a sample code how a connected UDP socket can be used to determine the outgoing interface.

6. Explain the following functions
   a) gethostbyname
   b) uname

7. a) What is semaphore ? Explain how locking can be achieved with semaphores?
   b) What is pipe? How are Pipes are different from FIFO's?

8. Describe the Transparency issues of RPC with example

1 of 1

Code No: N0521 **R07** Set No. 3

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Time: 3 Hours **Max Marks: 80**

Answer any FIVE Questions
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****

1. a) Write use of port number & Explain different types of port number.
   b) Explain about buffer sizes and limitations of TCP & UDP Protocols.

2. a) If TCP client doesn't call bind, how will the address be bound to the client socket?
   b) Explain value-result parameter passing mechanism with diagram.

3. a) How does server handle Zombie child process?
   b) Write a "C" program for TCP server to convert a string received from client into uppercase.

4. a) Explain SO_LINGER SOCKET option.
   b) Explain nagle's algorithm.

5. Write a program to echo message using UDP.

6. Explain about
   a) DNS   b) uname function

7. a) What is file locking? Explain different types of file locking?
   b) Briefly explain various methods of Inter process communication?

8. Write about the following
   a) Terminal line discipline
   b) r login

1 of 1

Code No: N0521   **R07**   Set No. 4

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Time: 3 Hours   **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks
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1. a) Explain TCP connection establishment (three way handshake) and TCP connection termination (four way handshake).
    b) Explain client server example for concurrent server.

2. a) Justify the need for the functions getsocketname and getsockpeername.
    b) Explain byte manipulation functions. Give the syntax of each.

3. a) Write a "C" program for TCP server to reverse string received from client.
    b) Write steps performed when server is crashing and rebooting.

4. a) What is the difference between select () and poll ()? Explain the functionsgetsockopt and setsockopt with arguments.
    b) Write "C" program to implement TCP echo server using select().

5. a)Write the function to echo lines on a datagram socket and explain.
    b) Write briefly about lost data gram.

6. What are the four types of network-related information that an application might want to look up? Also mention the keyed lookup functions provided by them.

7. a) Explain about File and Record Locking?
    b) Explain how semaphores are used to synchronize the access to the shared memory segments?

8. Discuss about terminal modes and control terminals?

1 of 1