****

**Department of Computer Science & Engineering**

**Network Programming Lab Viva questions**

1. What is socket?

It is endpoint of interface between transport layer process and application layer process.

1. Name the seven layers of the OSI model?

Application layer

Presentation layer

Session layer

Transport layer

Network layer

Data link layer

Physical layer

1. What is the difference between TCP and UDP?

Parameter TCP UDP

Type of Service- Connection oriented Connectionless

Reliability- More less

Acknowledgement- Yes No

Delivery- Inorder not guaranteed

Retransmission- yes for lost segments no

Handshaking- Yes no

Stream type- Bytes message

1. What does socket consists of?

A socket has three parts: protocol, local-address, local-port.

1. What is firewall?

A Firewall is a network security device that monitors and filters incoming and outgoing network traffic.

1. How do I monitor the activity of sockets?

The socket is bind to specific port and IP address, helps for monitoring the activities over socket.

1. What is the role of TCP protocol and IP protocol?

Transmission Control Protocol/Internet Protocol is a suite of communication protocols used to interconnect network devices on the internet.

1. How should I choose a port number for my server?

Any port no can be chosen but the no must be above 1023 , as (0-1023) are system reserved port that can’t be used.

1. What is routing?

Routing is the process of selecting a path for traffic in a network or between or across multiple networks.

1. What is VPN?

A virtual private network, or VPN, is an encrypted connection over the Internet from a device to a network.

1. How do I open a socket?

The socket command may be used to open either the client or server side of a connection,

1. How do I create an input stream?

getInputStream() method is used to initialize the inputstream for the socket.

1. How do I close a socket?

Close() method is used to close the socket.

1. What is echo server?

An EchoServer is an application that allows a client and a server to connect so a client can send a message to the server and the server can receive the message and send, or echo, it back to the client.

1. What this function bind() does?

bind() assigns the address specified by addr to the socket referred to by the file descriptor sockfd. Addrlen.

1. What this function socket() does?

socket() creats the new socket and returns a socket descriptor for use in later system calls or -1 on error.

1. What is IP address?

A unique number assigned to machine or host for network connection.

1. What are network host names?

Hostname is an alias given to a computer on a TCP/IP network to identify it on the network. Hostnames are a friendlier way of identifying TCP/IP hosts than IP address.

1. How to find a machine address?

Open cmd and type command: ipconfig/all in windows, open terminal and type command: ifconfig in Linux.

1. What is MAC address?

It is a unique 48 bit address given the NIC vendor for creation of network.

1. What is multicasting?

One sender and few recievers- group communication.

1. What is DNS?

It makes translation of Domain name to equivalent IP address to lacate the host on the network.

1. How does TCP handshaking works?

It is three phase:

Phase1- connection request

Phase2- data transfer

Phase3- connection termination

1. What is Wireshark?

It is protocol and packet analyzer tool.

1. Which wireshark filter can be used to check all incoming requests to a HTTP web server?

TCP port 80

1. How to capture packets using Wireshark in a switched Ethernet network?

Choose the interface as etho or any relevant interface and click start it will capture the packets.

1. Explain the following features of NS3: i) Tracing ii) NetAnim

Tracing: ASCII and pcap tracing- network traffic analysis

NetAnim: animation interface for NS3

1. Explain about the following : a. Pcap file b. gnuplot
2. Pcap file: a file that contains captured packtes information from wireshark.
3. Gnuplot: tool used for ploting graph against network traffic captured.
4. How does IPv6 solve the problem of IPv4 exhaustion?

Larger address space over IPv4, no NAT, increased security, true sense of Type Of Service(TOS) etc features.

1. What is RPL protocol? Explain its significance in IoT.

The protocol suitable for routing of packets in Low Power lossy network applications like IoT. Since IoT needs a protocol with less utilization of battery power and more performance , then RPL becomes choice for usage in IoT deployment.