QUESTIONS ON TCP/IP

1. Explain range of TCP/IP classes

Answer :
        CLASS A = 1 to 126
        CLASS B = 128 to 191
        CLASS C = 192 to 223
        CLASS D = 224 to 239 (Multicasting)
        CLASS E = 240 to 255 (Research)

2. What are Pvt. IP address ?

Answer : Pvt. IP are IPs which are not used in Internet or which are not routable in Internet. They are also called as non-routable IP's.

3. What are the range of Pvt. IP. ?

Answer :
        Class A = 10.0.0.0 to 10.255.255.255
        Class B = 172.16.0.0 to 172.31.255.255
        Class C = 192.168.0.0. to 192.168.255.255

4. What is function of Router ?

Answer : Router is a device or PC which is used to connect two or more IP networks.

5. What is Default Gateway :

Answer : Default gateway is the address of router.

6. What is Subnet Mask ?

Answer : Subnet mask is used to differentiate Network ID and Host ID from a given IP address. The default subnet mask are as under

Class A = 255.0.0.0
Class B = 255.255.0.0
Class C = 255.255.255.0

7. What is Loopback address ?

Answer : The loopback address is 127.0.0.1. This address is used to check local TCP/IP suite or local machine.

8. What protocol is used by PING ?

Answer : Ping uses ICMP(Internet Control Management Protocol)

9. What is used of Tracert ?

Answer : Tracert is a to find path information between source and desitnation. It show no. of hops between source and desitination. Tracert also uses ICMP protocol.

10. Difference between NetBEUI and TCP/IP

Answer :

TCP/IP	NetBEUI
a. industry standard	Microsoft propertiery
b. IP address	NO addressing
c. supports routing	Non routable
d. Large network	small network
e. more confiugration	no configuration

11. What is full form of PING ?

Answer : Packet Internet Network Gopher

BASICS OF NETWORKING

1. Difference between Switch and Hub

Switch	HUB
a. Works at layer 2	works at layer 1
b. Uses MAC address for packet forwarding	uses broadcast for packet forwarding
c. Does not required CSMA/CD	requires CSMA/CD
d. Faster than HUB	Slower than Switch
e. Full-duplex	Half-duplex
f. high throughput	low throughput

2. Explain AT&T color code for straight cable and cross cable

Answer :

Orange/white
orange
green/white
blue
blue/white
green
brown/white
brown

3. what is bandwidth of of CAT5 cable

Answer : 100 Mbps

4. What is the recommanded CAT5 cable length between switch and PC ?

Answer : 100 meters

5. When to use cross cable and straight cable

Answer :

Similar device = cross cable
eg.   switch to switch
        PC to PC
        Hub to HUB
        Switch to HUB
        PC to router
        router to router

Unsimilar device = straight cable
eg.   PC to switch
        PC to HUB
        Router to Switch

6. Which pins are used in CAT5 cables

Answer : pin no. 1,2,3,6

pin 1 = tx +
pin 2 = tx -
pin 3 = rx +
pin 6 = rx -

7. difference between domain and workgroup

Answer :

Domain	Workgroup
a. centralized network model	decentralized network
b. Domain is controlled by DC	No centrailzed control
c. Centralised login	Local login
d. centrailsed user database	local user databased
e. Easy and centrailsed management	NA
f. good for large network	good for small network

8. Different types of LAN topologies

Answer :

a. Bus topology   = 10base2 (Thinnet)
                         = 10base5 (Thicknet)

b. Star topology   = 10baseT (ethernet, 10 mbps)
                         = 100baseTx (fastethernet, 100 mbps)
                         = 100baseFX (fastethernet with Fibre)
                         = 1000baseTX (gigabit ethernet, 1000 mbps)
                         = 1000basefx (gigabit ethernet with fibre)

c. WAN toplogies   = PSTN (Public switched telephone network)
                         = ISDN (Integrated switched digital network)
                         = Frame Relay
                         = Leased Line
                         = DSL (Digital subscriber line)
                         = ATM (Async Transfer Mode)

9. Explain in short about all 7 layers of OSI

Answer :

Application layer   =   user interface and application

Presentation layer   =   Data conversion and transformation

session layer   =   keep data of diff. application seperately

transport layer   =   end to end connectivity using port numbers.

network layer   =   logical addressing like IP address.

Data link layer   =   Physical addressing like MAC address.

Physical layer   =   Physical transmission of data using 0's and 1's.

BASICS OF ACTIVE DIRECTORY

1. Define Active directory service

Answer : ADS is a new logical network model of windows 2000 and 2003 which includes forest, trees, domain, etc.

2. What if forest. ?

Answer : forest is collection of single or multiple trees.

3. What is trees ?

Answer : Trees are collection of single or multiple domain arrange in hierarchy using child-parent relationship.

4. Which authentication protocol are supported by ADS ?

Answer : NTLM and Kerberos

5. What is Global Catalog ?

Answer : GC is a DC which maintains full copy of local domain partion and partial copy of entire forest.

6. What is function of LDAP ?

Answer : LDAP is a protocol used to query or access active directory database. It uses port 389.

7. What are the requirements for ADS >

Answer :   a) Windows 2000/2003 Server Operating System
                     b) TCP/IP protocol and IP address
                     c) Network Card with Active state
                     d) NTFS partition

8. What is Sysvol ?

Answer : Sysvol(System Volume) a special folder located on NTFS partition of DC for storing domain public files like logon script, GPO templates, etc. The contents of sysvol folder are replicated to all DC in a domain.

FILESYSTEMS AND DISK MANAGEMENT

1) Difference between FAT32 and NTFS

Answer :

FAT32	**NTFS**
a. Supported by win9x,2000,2003,XP	supported by NT,2000,2003,XP
b. Remote security	Local security
c. NA	compression and encryption
d. NA	Hot Fixing
e. NA	Shadow copy and Disk quota

2) Difference between Basic disk and dynamic disk

Answer :

Basic Disk	**Dynamic disk**
a. partition are created	volumes are created
b. can be converted to dynamic	cannot be converted to basic
c. grouping of disk not allowed	grouping of disk are allowed
d. No data redandancy	data redandancy uising RAID 1/5
e. partition table is at start	partition table is at end

3. Explain about RAID-1

Answer :

a. Min. and max. 2 hard disk
b. If any one disk fails data can be recovered from other disk.
c. 50% space wastage.
d. no read/write performance improvement.

e. good for storing Operating system.

4. Explain about RAID-5

Answer :

a. data is stored in distributed format across all the disk
b. min 3 max. 32
c. if any one disk fails data can be recovered using parity.
d. parity space wastage eg. parity = total space \ no of disk.
e. good for storing data.

5. Can we convert FAT32 to NTFS? how ?

Answer : you can convert FAT32 partition to NTFS using convert.exe command.

Eg . convert <drive:> /fs:ntfs

6. What is mounting ?

Answer : mounting is a process of assigning or mapping of the folder to a drive.

7. What is RAID ?

Answer : RAID is a technology of grouping disk inorder to provide more space and redandancy. There are total 54 RAID method. Windows 2003 support RAID 0, 1 and 5.

8. What is difference between mirroring and duplexing ?

Answer : Mirroring requires single controller and duplexing requires two controllers.

DHCP, DNS and WINS

1. What is DNS ?

Answer : It is used to resolve FQDN to IP address.

2. Types of Zone in DNS ?

Answer : Forward Lookup - it is used to resolve FQDN to IP
            Reverse lookup - it is used to resolve IP to FQDN

3. Types of DNS Zone ?

Answer :

Primary Zone :

Secondary Zone :

AD integrated Zone :

Stub Zone :

4. what is NSlookup ?

Answer : it is a tool used troubleshoot DNS related issues.

5 What is DHCP ?

Answer: DHCP is used to automatically provide IP address to client computers.

6. Explain DHCP 4 packets.

Answer :

Discover = client sends request for IP.

Offer = DHCP server send and Offer with IP address.

Request = if clients accepts the IP it sends a request to DHCP.

Ack = DHCP server sends ack for the same.

7. What is client reservation in DHCP ?

Answer : to reserve a specific IP for a specific machine or host.

8. What is WINS ?

Answer : It is used to resolve NetBIOS Computer name to IP address.

9. Which port number DHCP uses?

Answer : DHCP uses UDP port number 67 and 68.

Windows operating system differences

1. Difference between Windows NT and 2000

Answer :

Windows NT	Windows 2000
a) Directory Service	Active Directory Service
b) FAT16 and NTFS 4.0	FAT16, FAT32 and NTFS 5.0
c) Compression	Compression, Encryption and Disk Quota
d) System Policy	Group Policy
e) Local and Global Group	Local, Global and Universal Group
f) No IPsec	IPsec builtin
g) 40000 user limit	100000 user limit
h) NTLM authentication	NTLM and Kerberos authentication
i) Basic disk	Basic and Dynamic Disk

2. Difference between Windows NT and 2003

Answer :

Windows NT	**Windows 2003**
a) Directory Service	Active Directory Service
b) FAT16 and NTFS 4.0	FAT16, FAT32 and NTFS 5.0
c) Compression	Compression, Encryption and Disk Quota
d) System Policy	Group Policy
e) Local and Global Group	Local, Global and Universal Group
f) No IPsec	IPsec builtin
g) 40000 user limit	100000 user limit
h) NTLM authentication	NTLM and Kerberos authentication
i) Basic disk	Basic and Dynamic Disk
j) No Shadow Copy	Shadow copy
k) ERD	ASR

2. Difference between Windows 2000 Server and 2003 Server

Answer :

Windows 2000	Windows 2003
a) No Shadow copy	Shadow Copy feature
b) No RPC over HTTP	RPC over HTTP
c) 32 bit	32 bit and 64 bit
d) no Domain rename features	domain rename feature
e) Terminal Service	Remote desktop and assistance
f) ERD	ASR
g) less command line tool	more command line tools
h) No Stub DNS	Stub DNS

i) IIS 5   IIS 6

3. Difference between Windows 2000 Prof and Windows XP prof

Answer :

Windows 2000 Prof   Windows XP prof

a) ERD   ASR

b) Terminal Service   Remote Desktop and assistance

c) IE 5   IE 6

d) No Firewall   Basic firewall

e) NO   Alternate IP configuration

f) NO   System restore

g) NO   Driver rollback feature

4. Difference between Windows XP home and Windows XP prof

Answer :

Windows XP home   **Windows XP prof**

a) no Remote desktop   Yes

b) NO   Offline folders

c) 1 processor   2 processor

d) workgroup member   Workgroup and domain member

e) NO   Encryption

f) NO GPO   GPO

g) NO   Roaming profile

h) no ASR   ASR

5. Difference between Windows XP and Windows 98

Answer :

Windows XP	Windows 98
a) Remote desktop	NO
b) GPO	NO
c) 2 processor	1 processor
d) NTLM & Kerberos	NTLM authentication
e) Encryption	NO
f) Disk Quota	NO
g) FAT, FAT32 and NTFS	FAT and FAT32
h) IE 5	IE 4

6. Difference between Windows 95 and Windows 98

Answer :

Windows 95	Windows 98
a) NO USB support	YES
b) FAT 16 and FAT32 for R2	fAT16 and FAT32
c) Single monitor	multiple monitor
d) NO	Direct X
e) IE3	IE 4
f) NO	APM (Adv. Power Management)

USERS AND GROUPS

1. Explain types of user ?

Answer : Users are of two types

a) **Local User** : Local users are used in workgroup environment and can logon to local machine.

b) **Global Users** : Global users are used in domain environment and can be created on DC and can login from any machine in a domain.

2. Explain types of group ?

Answer : Groups are divided into two categories

a) **Security group** : groups to which rights and permission can be assigned

b) **Distribution group** : groups used for assigning common properties like email address, etc. They are used by mailing software like exchange server.

3. Explain scope of group

Answer : the scope of groups are divided into 3 categories

Local Group : Local groups are used in workgroup environment

Domain Local Group : groups which cannot cross domain boundary are called as local group. they can access resources of local domain only.

Global group : groups which can cross domain boundary and can access resources of local as well of other domains. Global groups can contain gobal users and global groups from same domain only.

Universal Group : groups which can cross domain boundary and can access resources of local as well of other domains. Universal group can contains global users, universal groups from same and other domain too.

4. Can we convert domain local group to global group

Answer :

5. Can we convert Universal group to Global group

Answer :

6. Can we convert global group to universal group

Answer :

Backup and disaster recovery

1) Which tool is used to backup data or system state ?

Answer : NTBACKUP or any other third party software like veritas, etc.

2) what does system state backup includes ?

Answer : Sysvol, ADS database file, COM+ components, Registry and boot files.

3) Explain types of backup

Answer :

Full backup or normal backup : complete data is backup with archive bit is clear

Incremental backup : only new data is backup for which archive bit is set and after backup archive bit is clear.

Differential backup :only new data is backup for which archive bit is set and after backup archive bit is not set.

Copy backup : complete data is backup with archive bit not cleared.

Daily backup : data is backup based on modified dates.

4) Which are the various method or media used for backup ?

Answer : Hard drive, Tape(DAT), DLT, LTO, etc.

5) Difference between Incremental backup and Differential backup ?

Answer : refer to question 3

6) Difference between Normal and Incremental Backup ?

Answer : Refer to question 3

BASIC NETWORKING CONCEPTS

1) What is Web Server ?

Answer : Web server is a server or application server which host or stores websites. Every web site should have a name like www.vision.com and IP address. Eg. IIS, Apache server, etc.

2) What is mail server ?

Answer : Mail server is a software which maintains user mailboxes. eg : Exchange server , Lotus domino, etc.

3) What is mail client ?

Answer : A sofware used by client to access to mails stores on mail server. using mail client software you can send mail and receive mail. Eg : Microsoft Outlook, Outlook Express, Lotus notes, etc.

4) What is Proxy server ?

Answer : It is a software used for sharing of internet connection. Eg. Wingate, Winproxy, Analog proxy, etc.

5) Port numbers for various application and services

Answer :

There are total 65536 ports available. Below are the list of some well-known ports.

LDAP   :   389
Global catalog :
Kerberos   :   88
DNS   :   53
SMTP   :   25
POP3   :   110
Telnet   :   23
NNTP   :   119
IMAP   :   143
RPC   :   135
HTTP   :   80
HTTPS / SSL   :   443
FTP   :   21

6) What is firewall ?

Answer : It is a software used to provide security to your network by not allowing unauthorized access to your Internal network from External users. Eg : PIX firewall, Checkpoint firewall, etc.

USER MANAGEMENT

1) What is Logon script ?

Answer : Logon script is a bat file or script file which runs when a user logs on.

2) Where are logon script stored ?

Answer : They are stored in Sysvol folder of DC

3) What are the supported extensions for logon script ?

Answer : The common supported format for logon script .exe, .bat, .com, .vbs, etc.

4) Why logon script are used ?

Answer : Logon script are generally used to to automate task like mapping of drivers, home directory, printers, etc.

5) What are user profile ?

Answer : User profile are user common environment which contents settings like desktop, my docs, temp, outlook settings, IE settings, start menu, etc.

6) What are the different types of profile ?

Answer :

a) **Local Profile** : stored on local machine where the user log on. User get different profile when he logs on to different machine.

b) **Roaming Profile** : Stored in shared folder of server. User get same profile when he logs on to different machine. User can modify his profile.

c) **Mandatory profile** : Stored in shared folder of server. User get same profile when he logs on to different machine. User cannot modify his profile.

7) Difference between Roaming and Mandatory profile ?

Answer :

Roaming Profile : User can modify his profile

Mandatory Profile :User cannot modify his profile

8) Difference between Roaming and Local profile ?

Answer :

Local Profile   **Roaming Profile**

a) stored on local machine   stored on shared folder of server

b) user get different profile   user get same profile on different
   for different machine   machine.

c) stored in C:\docs and settings   Stored on shared folder of a server

d) These profile are automatically These profile is required to be
   created when a user logs on to a configured as per requirement.
   machine.

9) How to configure a user profile as mandatory ?

Answer : To configure a profile as mandatory we need to configure a profile as roaming and then rename the ntuser.dat to ntuser.man from the shared folder.

10) What are home directory ?

Answer : Home directory are user personal folder for storing personal data and automatically mounted as network drive when a user logs on to any machine in a domain. Home directory setting are configured using Active directory users and computer snap-in.

USING NET COMMANDS

1) How to map a remote shared folder using command prompt ?

Answer : use NET USE command

Eg NET USE x: \\10.0.0.1\data1

2) How to stop and start server using command line

Answer : use NET START to start a service and NET STOP to stop the service

Eg :   NET STOP spooler

         NET START spooler

3) How to configure sync. time using command line ?

Answer : use NET TIME command

Eg :   NET TIME \\10.0.0.1 /set

4) How to send message to remote user, computer, etc. using command line ?

Answer : use NET SEND command

Eg :   NET SEND 10.0.0.1 "how are u"

5) How to view shared folder or share a folder using command line

Answer : use NET SHARE command

Eg :   NET SHARE - to view shared folder on local machine
          NET SHARE temp=c:\data1 - to shared a folder with name temp

6) How to create/delete user using command line ?

Answer : use NET USER command

Eg :   NET USER tommy 123 /add - created a user tommy with password 123
          NET USER tommy /delete

7) How to create/delete grup using command line ?

Answer : use NET GROUP command (This command is used only on DC)

Eg :   NET GROUP admins /add

8) How to create/delete local group using command line ?

Answer : use NET LOCALGROUP command

Eg :   NET LOCALGROUP admins /add

MIXTURE QUESTION ON Windows

1) Which protocol is used by ADS for time sync. between PC's?

Answer : SNTP (Simple network time protocol)

2) What is RPC protocol ?

Answer : RPC stands for Remote Procedure Call. It uses port number 135. RPC is an inter-process communication technique that allows client and server software to communicate.

3) What is COM ?

Answer : Component Object Model (COM) is Microsoft's object-oriented programming model that defines how objects interact within a single application or between applications.

4) What is SNMP ?

Answer : SNMP stands for Simple Network Management Protocol). This protocol is used to monitor and manage network devices like Switches, Routers, Servers, etc. SNMP uses port UDP port number 161 and 162.

5) What is Network Monitor Agent ?

Answer : Network Monitor Agent is a packet capturing software. It is also called as sniffer.

6) What are the default share in Windows 2003 Server ?

Answer : The default share in Windows 2003 are

a) Admin$
b) All drives i.e. C$. D$ .etc
c) IPC$
d) Netlogon (Only on DC)
e) Sysvol (Only on DC)

7) How to create a hidden share in Windows ?

Answer : In share name of a folder Specify $ after the share name i.e. data$