Module 2 {Installation and Maintenance of Hardware and Its components}

Topic: User Management

- **Assignment Level Basic**

    1. What is user management?

ANS: user management is system to handle activities related to individual's access to devices, software and services.

    2. Why is user management needed?

ANS: user management allows administrators to manage resources and organize user according to their needs and roles while maintaining the security of the system. Administrators need powerful use management capabilities that can allow them to group user and define flexible access policies.

- **Assignment level intermediate:**

    1. Where can we access the user management?

ANS: Control panel

    2. What are the features of user management?

ANS:

- **Assignment level Advance:**

1. Do a practical to create a user from user management.
    - ANS:click on the settings button to open up the settings panel
    - Click on users
    - Sel the by users view and then –create new user.

- Fill in the user details
- Click ok

2. Do a practical to change the password of the administrator from the user management Tool.

- ANS: click the control panel
- Click change account types under user accounts
- Sel the user profile you would like to reset the password for
- Click change password
- Enter the user's new password twice.
- Click apply

Topic: File and Folder Permission

- Assignment Level Basic:
    1. What is file folder permission?
ANS: you set permission; you specify the level of access for users and groups
    2. What is the use of file and folder permission?
ANS: you specify what users are allowed to do within that folder.
- Assignment level Intermediate:
    1.write down the steps to give a folder read only permission.
    - ANS: open cmd
    - Type chmode a=r foldername

- enter

2.Write a step to give a file only admin permission.
- ANS:Right click on program files
- Select properties
- Click the security tab
- Click Advanced
- Click change permissions.
- Select Administrators
- Assignment level Advance:
1. Do a practical to give the folder permission of read only in network.
- ANS: open cmd
- Type chmode a=r foldername
- enter

2. Do a practical to change the ownership of the folder and the sub folders in it.
- ANS: Open command prompt
- Type in this command: takeown/F"C:/PROGRAM files\windowsApps”
- Press the enter

.**Topic: Install OS**
- Assignment Level Basic
1. What is OS?

ANS: Operating system manages all of the software and hardware on the compute

2. What are the types of OS?

1. ANS:Distributed Operating system
2. Real time Operating system
3. Network Operating system
4. Time sharing Operating system
5. Mobile Operating system

- **Assignment Level Intermediate**

1. Do a practical to create bootable pen drive for kali Linux

2.Do a practical to create a bootable pen drive for windows 7

1. ANS: Start poweriso
2. Insert the USB drives you intends to boot from
3. Choose the menu Tools >create bootable usb drives
4. In create bootable usb drives dialog, click button to open the iso fille of windows operating system
5. Sel correct USB drives
6. Choose USB –HDD
7. Click "start"
8. PowerISO will Alert you that all data on drives will be destroyed click ok continue.

3. Do pen drive for creating a pen drive for Mac os Mojave with unibeast.

- Assignment level Advance:
    1. Do a practical to install Kali Linux
        - ANS: Download the iso file
        - Create a bootable drives
        - Access the kali installer Menu
        - Begin the installation
        - Set up storage
        - Choose software and a desktop look
        - Install the GRUB bootloader.

2. Do a practical to install windows 10

ANS: check your device meets the windows 10 system requirements

Crate USB installation media

Run the installer tool

Use your Installation medial

Change your computer boot order

Restart your devices

Computer the installation

    2. Do a practical to install Mac os

ANS: use this link to find maces in apple store

Click the get button in the app store to start download.

Software update may open and ask you download from there

After downloading to your application folder the installer will open automatically. Follow the onscreen installation instruction

Topic: Clean Install

- Assignment Level Basic
    1. What is clean install?

ANS: clean install is an installation of an operating system on a computer where the hard drive is formatted and completely erased.

- Assignment Level Intermediate
    1. What is the process for clean install?
        - ANS: insert the windows install media (DVD or flash drives)
        - Confirm your language preferences and click next
        - Click install now
        - Click accept license term and then click Next
        - Click custom install windows only
    2. What are the benefits of clean install?

ANS: clean install of help declutter the computer, frees up space and eliminated performance and speeds issues.

- Assignment level Advance:
    1. Do a clean installation of windows XP

I.   ANS: Boot from the windows XP CD

II.   Press F6 to install a third party Drive

III. Press enter to set up windows XP

IV.   Read and accept the windows XP licensing agreement

V.   Pres ESC install a fresh copy of windows XP

VI.   Delete the Existing windows XP partition

VII.   Confirm knowledge of the system partitions

VIII.   Confirm partition deletion request

IX.   Create a partition

X.   Choose a partition size

XI.   Choose a partition on install windows XP on

XII.   Choose a file system to formats the partition

XIII.   Wait for the new partition to format

XIV.   Wait for the windows XP installation files to copy

XV.   windows XP installation begins

XVI.   choose Regions and language options

XVII.   enter your name and organization

XVIII.   enter a computer Name and Admin password

XIX.   set the date and time

XX.   choose the networking setting

XXI.   enter a workgroup or domain Name

XXII.   wait for the windows XP installation

XXIII.   Accept automatic display setting Adjustement

XXIV.   Set up of windows XP select next

XXV.   Check connectivity

XXVI.   Choose an internet connection method

XXVII.   Optionally register windows XP with Microsoft

XXVIII.   Create initial user Accounts

2. Do a clean installation of windows 8
- ANS: : insert the windows install media (DVD or flash drives)
- Confirm your language preferences and click next

- Click install now
- Click accept license term and then click Next

Click custom install windows only

Topic: Upgrade installation

- Assignment level basic

1. What is upgrade installation?

ANS: upgrade installation is a process of installing a newer version of the windows os to replace the existing version.

3. What is the benefit of upgrade installation?

ANS: Improved security

Assignment level intermediate:

1. Write down the steps of upgrade installation.

ANS: to check whether your already running the windows update: select start>setting>update & security>windows update, then selects check for updates.

- Assignment level advance.

1. Do a practical to upgrade from windows8towindows10

i.   ANS: open Microsoft website

ii. Under the "create windows 10 installation media" section click the download now button

iii. Click accepts to the licensing agreement.

iv. Select the "upgrade this pc now" option

v.   Click the next button

vi.   Select the keep personal files and app option

vii.   Click the installation button

Topic: Partition & Formatting

- Assignment level Basic

    1. What is partitioning?

ANS: partitioning is a logical division of a hard disk that is treated as a separate unit by os and files systems.

    2. What is partition?

ANS: partition is a logical division of a hard disk that is treated as a separate unit by os and files systems

    3. What is format?

ANS: The general organization or arrangement of something

- Assignment level Intermediate:

    1. Do a Practical of mbr partition.
    - ANS: open disk management
    - Under storage select disk management
    - Right click on a volume and select delete volume
    - Right click on the disk and select convert to mbr disk
    2. Do a Practical of gpt partitionat

ANS: press the windows +r keys at the same time

In the cmd types disk parts and press enter

Types list disk press enter

Type's select disk #replaces with the number of your disk and presses enter

Types clean and press enter

Type's converts gpt and press enter

   1. Do a practical using cmd.

ANS: open cmd as admin and type disk part

Type list disk and press enter

Type select disk

Types clean and press enter

Types convert Mbr and press enter

Type exit

2. Covert a partition to gpt by cmd.

ANS: press the windows +r keys at the same time

In the cmd types disk parts and press enter

Types list disk press enter

Type's select disk #replaces with the number of your disk and presses enter

Types clean and press enter

Type's converts gpt and press enter

   2. Format a partition using cmd.

ANS: open cmd

Type's diskpart

Type list volume

Select volume n

Type "format fs=fat32 quick label =test"

Topic: Transferring Files

1. What is transferring Files?

ANS: transferring Files refers to the exchange of data files between computer systems.

2. What are the ways of transferring files?

ANS: cloud storage or web data transfers

SSD and HDD drives via sata cables

Basic cable transfer

Use software to speed up your data transfer

Transfer your data over wifi or LAN

Using an external storing devices or flash drives.

- **Assignment level Intermediate:**

1. How do we transfer files from one system to another?

ANS: connect your device to one pc.find the device in your file explorer, then drag the files you want to transfer onto the folder in the hard drive. Safely eject the hard drive, and then connect it to new pc

2. Types of file transferring media.

- ANS: tapes
- Floppy disk
- Paper
- Networks
- Dedicated circuits
- Flash menory

- **Assignment level Advanced:**
  1. Do a practical to transfer files from one system to another via network.
  1. ANS: right-click a file and then select show more options>give access to >specific people.
  2. Select a user on the network to share the file with or select everyone to give all network user access to the file
  3. DO a practical to transfer data from one hard disk to another.

ANS: connect old and new hard drives to your computer. Open file explore and view the drive select the file you want to transfer from the old hard drive and copy them .past the file onto the new hard drive

Topic: Administrative tools

- **Assignment Level Basic**
  1. What are administrative tools?

ANS: administrative tools are a folder in the windows 10 control panel. These folders contain tools for system administrator and advance users.

  2. What is the use of administrative tools?

ANS: The programs can be used to schedule a test of your computer memory, manage advanced aspects of user and group format hard drives configure windows services change how the os starts and much much more

- **Assignment level Intermediate:**

1. List out the administrative tools.
- ANS: System information
- Computer management
- Windows memory diagnostic
- Defragment and optimize drives
- Disk cleanup
- Event viewer
- Performance monitor
- Services
- Task scheduler
- Local security policy
- Gmail
- Microsoft office
- Command prompt
- Notepad
- Process explorer

2. What is disk management tools.

- Assignment Level Advanced

1. Do a practical to delete a driver and reinstall it from administrative tools.

ANS: to wipe your drive in windows go to setting>update security>recovery. And then click the get started button. When prompted, choose the option for remove everything .you should then choose the local reinstall option to reinstall windows from your computer

2. Do a practical to delete a partition and again create it with administrative too
   o ANS: delete a partition
   o Click computer management
   o In the left pane under storage select disk management
   o Click new simple volume
   o Enter the size then select next
   o Choose a different drives letter to identify and next
   o In the format partition dialog box
   o To format the volume with the default setting select next
   o Select finish

3. Do a practical to create user with administrative tool.
   ➢ ANS: settings>accounts
   ➢ Under family other user, select the account owner name(you should see local account below the name) then select change account type
   ➢ Under account type select administrator and then select ok
   ➢ Sing in with the new administrator account

Topic: Windows Feature.
- Assignment Level Base
   1. What is a windows feature?

ANS: start menu, task manger, taskbar, cortana,file,explorer,Ms paint ,browser, control panel

- Assignment level Intermediate

1. List out the windows features.

ANS: start menu, task manger, taskbar, cortana, file explorer, Ms paint ,browser, control panel

2. What is the use of IIS?

ANS: The function of the internet information server is to provide redesigned www architecture to help user architecture to help user achieve better performance, reliability scalability and security toward our website

- Assignment level Advance:

1. Do a practical to re install IIS with windows feature.

ANS: Open the start menu .type "feature" and select turn windows feature on or off. Tick the internet information server checkbox and select ok. Wait for the installation to complete and select close.

2. Do a practical to install dot net framework 3.5 with Windows feature.

1. ANS: press the windows key windows. On your keyboard. Type "windows feature "and press enter. The turn windows feature on or off dialog box appear.

2. Select the .net framework 3.5 check box select ok and root your pc if prompted

3. Do a practical to disable internet explorer in windows feature.

ANS:select windows logo key+r

In the run enter optional features.exe and then select ok

In the windows features dialog box clear the checkbox for the installed version of internet explore

Select ok

Restart the computer

Topic: Backup & Restore • Assignment level Basic:

  1. What is backup?

  ANS: data backup is the process of making a copy of your digital data and other business information in case your data is damaged, deleted or lost

  2. What is Restore?

ANS: system restore take a "snapshot" of the some system files and the windows registry and saves them as restored point

  3. What is the need of backup?

ANS: The main reason for data backup is to save important files if a system crash or hard drive failure occur

• Assignment level Intermediate.

  1. What are the tools of backup?

ANS: rsync, tar, zip, dd, bacul, duplicity time machine, windows backup and restore

  2. How do we restore?

ANS: sign in to your goggle account and agree to the terms of service. Select what you want to restore to your device, and then restore

3. How to create a restore point?

ANS: in the search box on the taskbar, type create a restore point and select if form the list of results. On the system protection tab in system properties select create. Type a description for the restore point and then select create

- Assignment level Advance:

1. Do a practical to create restore point.

ANS: in the search box on the taskbar, type creates a restore point and select if form the list of results. On the system protection tab in system properties select create. Type a description for the restore point and then select create

2. Do a practical to restore from restore point.

ANS: selecting control panel

Sleeting system and maintenance

Then selecting backup and restore

3. Do a practical to take backup from another system.

ANS: manual transfer with external hard drive

Data transfer cable

Transfer locally over wifi or LAN

Transfer via cloud storage

Specialist pc migration software

Use drop box backup to transfer file to a new pc

4. Do a practical to take backup backup with a recuva backup tool.

ANS:chose the data you wish to repair
Choose a location to scan
Let the application scan the location
Restore your lost data
Launch recovered
Scan the location
Preview and recover

Topic: Disk Management

• Assignment level Basic:

   1. What is Disk management?

ANS: A function within computer manger that provide details an all of the hard drive connected to the sever

   2. What is the use of disk management?

ANS: disk management show the details each drives on your pc and all partition for each drive

   3. What are the merits of Disk management tool?

ANS: free up disk space for more information see free up drive space in windows
Defragment or optimize your drives
Pool multiple hard drives together similar to RAID

• Assignment level Intermediate:

   1. Where can we find the disk management tool?

ANS:TO open disk management right click the start button and select disk management.

   2. List out the operations we can do with disk
      management tool

   ANS:paretition

Deleting partition
Extend partition
Disk defragmenter
Disk format
Assign drive letter
List disk
Mark as active
Unix file system
Convert NTFS to FAT 32

- **Assignment level Advance:**

  1. Do a practical to create a new partition with disk management tool.

ANS:open disk management
Right click the unpartitoned space in buttom pane
Select new simple volume
Enter size and click next

2. Do a practical to convert from MBR to gpt from disk management tool

ANS: click start typoe disskmgmt.msc in the start search box
Right click run as administrator
Verify that the disk status is onlion
Right click the label on the left and click convert GPT DISK
Once the disk been initialized right click the bunallocated space and click new simple volume

2. Do a practical to create new partition from existing partition.

ANS:It the disk part prompt type create partition primary size=1000and enter

Topic: Device Management

- Assignment level Basic:1. What is Device Management?

ANS: Device Management is the act and skill of overseeing the installation operation and upkeep of a computer or network

    3. What is the need of device management?

ANS: Device Management enables organization to administer and maintain devise

    4. What are the benefits of Device management?

    ANS: Application control

    Risk management

    Cost saving

    Improved productivity

    Optimized data collection

- Assignment level Intermediate:

    1. Where can we access device management?

    ANSopen file explore from the taskbar press the windows key+e

    Select this pc from the left pane

    In the drive list select a drives letter

    In the folder box type the path the folder or find folder computer

    Select finish

2. List out the devices connected to the device management.
   ANS: virtual machines
   Physical computer
   Mobile devices
   Lot devices

   - Assignment level Advance:
1. Do a practical to add a device with device management tool.

ANS: select start> settings>devices>Bluetooth& other devices

Select add Bluetooth or other devices and follow the instruction

2. Do a practical to delete a driver from the device management tool.

ANS: open start

Search for disk management

Select the drives with the partition you want to remove.

Right click the partition you want to remove and select the delete volume option

Topic: Physical security

- Assignment Level Basic
1. Why physical security needed?

ANS: physical security keeps your employees, facilities and assets safe from real world threats

2. What is physical security?

ANS: Physical security is the protection of personal, hardware, software, networks and data from physical actions and events that cloud cause serious loss or damage to enterprise ,agency or institutions

- Assignment Leveile l Intermediate

    1. list out the ways of physical security.

ANS:Access control
Backup regularly
Exterior lights
Alarm system
Secure assets
Monitoring
Protect the protables
Video surveillance
Disable the ports
Educting your employees
Locks
Infrastructure protection

    2. How to protect system from malfunctioning due to electrical fluctuation?

ANS: Use surge protector

Topic: Firewall settings

- Assignment level basic:

    1. What is firewall?

ANS: A firewall is a network security device that monitors and filter incoming and outgoing network traffic

based on an organization previously established security polices

2. Why is firewall needed?

ANS: Firewall provide protection against outside cyber attacker by shielding your computer or network from malicious or unnecessary network traffic

• Assignment level Intermediate:

1. What are the features of firewall?

ANS: Thread prevenation

Scalable performance

Application control

Firewall catalog

Encrypted traffic

Sandboxing

Mobile security

Endpoint security

Malware filtering

Defined networks

2. Describe types of firewall

ANS: circuit level gateway

Proxy firewall

Application layer firewall

Stateful gateway

Software firewall

Packet filtering firewall

Hardware firewall

• Assignment level advance:

1. Do a practical to allow any desk through firewall.
ANS: open setting go to privacy& security and visit windows security. Here you will find firewall &network protection. Now tap on allow an app trough the firewall and go to change setting and select allow another app. Now located any desk and check the private and public box

2. Do a practical to turn off the services of firewall.
ANS: open settings
Select a network profile: domain network private network or public network
Under Microsoft defender firewall, switch the setting to on
To turn it off switch the setting to off

3. Do a practical to block ip messenger to access the network

ANS:Open windows firewall with advanced security in your control panel

Click on inbound rule in the inbound rule wizard click on new rule

Under rule type select custom and click next

Under program select all programs and click next

Under protocol and ports select any and click next

In the dialogue box under "which remote ip address does this rule apply to?" these ip address or a range and click next

Select block the connection and click next

Tick the check box domain private and public and click next

Enter a name for your rule and finish