

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

### Topic: User Management

- **Assignment Level Basic**

1. What is user management?

**It is a management to manage different users.**

2. Why is user management needed?

**To manage a different users in a pc/laptop.**

- **Assignment level intermediate:**

1. Where can we access the user management?

Control panel-> user account.

2. What are the features of user management?

User creation, user authentication, user permission, user profile management, password management, user groups, access control, user deactivation/deletion, auditing and login.

- **Assignment level Advance:**

1. Do a practical to create a user from user management.

Done

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

Done

### Topic: File and Folder Permission

- **Assignment Level Basic:**

1. What is file folder permission?

File and folder permissions refer to the access rights granted to users or groups of users for files and directories in a file system.

## 2. What is the use of file and folder permission?

Use of file and folder permission to give a permission to the particular file and folder for a particular user.

### • Assignment level Intermediate:

#### 1. Write down the steps to give a folder read only permission.

- I. Navigate to the folder
- II. Right- click to folder
- III. Select properties
- IV. Go to the security tab
- V. Click edit
- VI. Select the user or group
- VII. Modify permissions
- VIII. Apply changes
- IX. Close the dialog boxes

#### 2. Write a step to give a file only admin permission.

- I. Locate the file
- II. Open file properties
- III. Access security tab
- IV. Edit permissions
- V. Remove existing permissions
- VI. Add administrator groups
- VII. Grant full control to administrator
- VIII. Confirm and close

### • Assignment level Advance:

#### 1. Do a practical to give the folder permission of read only in network.

Done

#### 2. Do a practical to change the ownership of the folder and the sub folders in it.

Done

## Topic: Install OS

- **Assignment Level Basic**

1. What is OS?

An **Operating System (OS)** is the foundational software that manages computer hardware and software resources, and provides common services for computer programs. The OS acts as an intermediary between users and the computer hardware

2. What are the types of OS?

Winows

Mac os

Ubuntu

Linux

- **Assignment Level Intermediate**

1. Do a practical to create bootable pendrive for kali Linux

Done

2. Do a practical to create a bootable pendrive for windows 7

Done

3. Do pendrive for creating a pendrive for mac os Mojave with unibeast.

Done

- **Assignment level Advance:**

1. Do a practical to install Kali Linux

Done

2. Do a practical to install windows 10

Done

3. Do a practical to install Mac os X

Done

## Topic: Clean Install

- **Assignment Level Basic**

1. What is clean install?

A **clean install** is a type of software installation process where the operating system or software is installed on a computer from scratch, erasing all previous data, settings, and configurations on the storage drive

- **Assignment Level Intermediate**

1. What is the process for clean install?

- I. Backup important data
- II. Create installation media
- III. Configure bios/uefi setting
- IV. Boot from installation media
- V. Begin installation process
- VI. Delete existing partition
- VII. Install the operating system
- VIII. Complete initial setup
- IX. Install drivers and updates
- X. Reinstall applications and restore data

2. what are the benefits of clean install?

- I. Performance improvement
- II. Resolved issues
- III. Security
- IV. Fresh start

- **Assignment level Advance:**

1. Do a clean installation of windows XP

Done

2. Do a clean installation of windows 8

Done

## **Topic: Upgrade installation** □ Assignment level basic

1. What is upgrade installation?

It is process of installing a new version of an operating system or a software over existing version, preserving user data, settings, and installed applications.

2. What is the benefit of upgrade installation?

Time-saving

User friendly

Continuity

- **Assignment level intermediate:**

1. Write down the steps of upgrade installation.

- I. Backup important data
- II. Check system requirements
- III. Download the upgrade
- IV. Run the upgrade installer
- V. Chose upgrade installer
- VI. Follow the prompt
- VII. Complete the installation
- VIII. Check for updates

- **Assignment level advance.**

1. Do a practical to upgrade from windows 8 to windows 10.

Done

## **Topic: Partition & Formatting** □ Assignment level Basic

1. What is partitioning?

Partitioning is the process of dividing a computer's hard drive into separate, distinct sections, known as partitioning.

2. What is partition?

A logical division of a physical storage device that appears to the operating system as a separate pen drive

3. What is format?

Format is the process to clear system and removal of all the data of system.

- **Assignment level Intermediate:**

1. Do a Practical of mbr partition.

Done

2. Do a Practical of gpt partition

Done

- **Assignment level Advance:**

1. Do a practical using cmd.

Done

2. covert a partition to gpt by cmd.

Done

3. Format a partition using cmd.

Done

## **Topic: Transferring Files** □ **Assignment level Basic**

1. What is transferring Files?

File transferring is the process of transferring files form one location to the another location

2. What are the ways of transferring files?

Drag and drops

Copy and paste

Command line tools

File transfer protocol

Cloud storage services

- **Assignment level Intermediate:**

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

We can transfer files from one system to another by file sharing, drive mapping, mailing, by pen drive

2. Types of file transferring media.

Local file transferring

External storage transfer

Network file transfer

Internet file transfer

- **Assignment level Advanced:**

1. Do a practical to transfer files from one system to another via network.

Done

2. DO a practical to transfer data from one hard disk to another.

Done

## **Topic:Administrativetools**

- **Assignment Level Basic**

1. WWhat are administrative tools?

Administrative tools are specialized utilities provided by an operating system to help users manage and configure system settings, monitor performance, troubleshoot issues, and perform maintenance tasks.

2. What is the use of administrative tools?

Use of administrative tools:

Administrative tools are crucial for managing, configuring, and maintaining computer systems, networks, and applications.

- **Assignment level Intermediate:**

1. List out the administrative tools.

- Control panel/settings
- Computer management
- Local security policy
- Group policy editor
- Command prompt

1. What is disk management tools.

It is the management tool which is available in the computer system to create a partition of disk (storage device).

- **Assignment Level Advanced**

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

Done

2. Do a practical to delete a partition and again create it with administrative tool

Done

3. Do a practical to create user with administrative tool.

Done

## **Topic: Windows Feature.**

- **Assignment Level Base**

1. What is windows features?

Windows features" refers to additional functionalities and components that can be installed or enabled on your computer beyond the core operating system.

- **Assignment level Intermediate**

1. List out the windows features.

Media feature

Internet information services

Hyper- v

Talent client

Windows subsystem for linux

.NET framework



2. What is the use of IIS?

IIS is use for hosting websites and web application

- **Assignment level Advance:**

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

Done

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

Done

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

Done

## Topic: Backup & Restore

- **Assignment level Basic:**

1. What is backup?

A backup is a duplicate copy of important data or files kept separately from the original to protect against data loss. It serves as a safeguard in case the original data is lost, corrupted, or accidentally deleted, allowing for recovery of the information from the backup copy.

2. What is Restore?

Restore refereeing to the process of recovering of data which was deleted

3. What is the need of backup

To safe from data lost.

- **Assignment level Intermediate.**

1. What are the tools of backup?

- **Acronis True Image**
- **EaseUS Todo Backup**
- **NovaBACKUP**
- **Backup Exec (by Veritas)**
- **Veeam Backup & Replication**

1. How do we restore?

Using a backup software :

Open the Backup Software

Navigate to Restore Option

Select Backup Source

Choose Files/Folders

Restore Settings

Initiate Restore

Verify Restored Data

2. How to create a restore point?

Open system properties

Access system protection

Create a restore point

Completion

- **Assignment level Advance:**

1. Do a practical to create restore point.

Done

2. Do a practical to restore from restore point.

Done

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

Done

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

Done

## **Topic: Disk Management**

- **Assignment level Basic:**

1. What is Disk management?

Disk management is the administrative tool to the manage of hard disk

2. What is the use of disk management?

By using of disk management we can create a new partition in the disk, we can repair a disk if it is not working properly, we can provide storage a particular user from disk management.

3. What are the merits of Disk management tool?

Partition management  
Disk initialization  
Volume managements  
Disk conversion  
Disk maintenance  
Storage resilience  
Accessibility

- **Assignment level Intermediate:**

1. Where can we find the disk management tool?  
Control panel-> administrative tool-> computer management -> storage-> disk management
2. List out the operations we can do with disk management tool
  - I. Create new volume
  - II. Delete volume
  - III. Formates volumes
  - IV. Change drive letters and paths
  - V. Extend volumes
  - VI. Shrink volumes
  - VII. Converts disk
  - VIII. Initialize disk
  - IX. View disk properties
  - X. Create and manage mirrored volumes
  - XI. Create and managed stripe volumes

- **Assignment level Advance:**

1. Do a practical to create a new partition with disk management tool.  
Done
2. Do a practical to convert from MBR to gpt from disk management tool  
Done
3. Do a practical to create new partition from existing partition.

Done

## **Topic: Device Management** □ **Assignment level Basic:**

### 1. What is Device Management?

In computer systems, device management refers to the process of controlling and coordinating the use of hardware devices by software.

### 2. What is the need of device management?

Device anagement need for:

Resource optimization

Compatibility and integration

User access control

Fault detection and handling

Enhanced user experience

Performance monitoring and user experience

Compliance and auditing

### 3. What are the benefits of Device management?

I. Security

II. Access control

III. Efficiency

IV. Auditing and accountability

V. User experience

VI. Resource optimization

VII. Compliance

## • **Assignment level Intermediate:**

### 1. Where can we access device management?

Open control panel-> administrative tools-> computer management

### 2. List out the devices connected to the device management.

I. System tools

II. Storage

III. Services and applications

- **Assignment level Advance:**

1. Do a practical to add a device with device management tool.  
Done
2. Do a practical to delete a driver from the device management tool.  
Done

## **Topic: Physical security**

- **Assignment Level Basic**

1. Why physical security needed?  
Physical security is needed for :
  - I. Preventing unauthorized access
  - II. Protecting against thefts
  - III. Ensuring data integrity
  - IV. Mitigating physical damage
  - V. Compliance requirements

2. what is physical security?

Physical security in computer systems refers to measures taken to protect the physical components of information technology infrastructure from unauthorized access, damage, theft, or other malicious activities.

- **Assignment Level Intermediate**

1. list out the ways of physical security.
  - I. Access control system
  - II. Permitter security
  - III. Surveillance system

- IV. Security lighting
  - V. Alarms and sensors
  - VI. Physical barriers and physical hardening
  - VII. Environmental controls
  - VIII. Personal security
2. How to protect system from malfunctioning due to electrical fluctuation?
- I. UPS
  - II. Surge protector
  - III. Voltage regulators
  - IV. Isolation transformer
  - V. Regular maintenance and inspections

## Topic: Firewall settings

- **Assignment level basic:**

1. What is firewall?

A firewall is a network security device or software application that monitors and controls incoming and outgoing network traffic based on predetermined security rules. It acts as a barrier between a trusted internal network and untrusted external networks, such as the internet or other potentially malicious networks.

2. Why is firewall needed?

- I. For enhancing security
- II. Traffic control
- III. Regulatory compliance

- **Assignment level Intermediate:**

1. What are the features of firewall?

- I. Packet filtering
- II. Stateful inspection
- III. Application layer filtering
- IV. Proxying and network address translation
- V. VPN support
- VI. Logging and monitoring
- VII. Intrusion prevention system integration

2. Describe types of firewall
  - I. Network base firewall
  - II. Host based firewall
  - III. Applications firewalls

- **Assignment level advance:**

1. Do a practical to allow anydesk through firewall.  
Done
2. do a practical to turn off the services of firewall.  
Done
3. Do a practical to block ip messenger to access the network.  
Done