

Module 2 (Installation and Maintenance of Hardware and Its Components)

Topic : User Management

- 1) The effective management of users and their accounts, giving them access to various IT resources like devices, applications, systems, networks, SaaS services, storage systems, and more.
- 2) Powerful user management capabilities that can allow them to group users and define flexible access policies.
- 3) A software business sells a software product to their customers and they want to make sure only those who have

paid for it can access and use the software application.

- 4) user registration, login and authentication, single sign-on (SSO), and permissions management.

Topic : File and Folder Permission

- 1) The file and folder permissions you specify what users are allowed to do within that folder.
- 2) The users are allowed to do within that folder, such as save and delete files or create a new folder.
- 3) Write a steps
 - Open the folder's property menu.
 - Select read-only.
 - Copy as path.
 - Open your command prompt.

- Change folder attributes via command line.
- Remember your settings.
- Communicate with other users.
- Don't change system folders or files.

4) Write a step

- Access the Properties dialog box.
- Select the Security tab.
- Click Edit.
- In the Group or user name section, select the user(s) you wish to set permissions for.
- In the Permissions section, use the checkboxes to select the appropriate permission level.
- Click Apply.
- Click Okay.

Topic : Install OS

1) operating system (OS) is the program that, after being initially loaded into the computer by a boot program, manages all of the other application programs in a computer.

2) The types of OS

- Real time operating system
- Distributed Operating System.
- Network Operating System.
- Multi-processor Operating System.
- Mobile Operating System.
- Time sharing Operating System.
- Windows 7
- Windows 8
- Windows 10
- Windows 11

Topic : Clean Install

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

2) The process for clean install

- Open Settings.
- Click on Update & Security.
- Click on Recovery.
- Under the “Reset this PC” section, click the Get started button.
- Click the “Remove everything” option.
- Click the “Cloud Download” option.
- (Optional) Click the Change settings option.

3) A clean install enables users to regain control over the system by eliminating programs and files that have not been used for a long time, if ever.

Topic : Upgrade Installation

1) An upgrade installation is a process of installing a newer version of the Windows operating system to replace the existing version.

2) The benefit of upgrade installation.

- Improved security. All software is prone to bugs, and operating systems are no exceptions.
- Access latest features.
- Better compatibility.
- Boosted device performance.
- Reduced costs.
- Vendor support.
- Increased productivity and efficiency.

3) The steps of upgrade installation

- Identify And Engage Your Stakeholders
- Undertake Change Control Planning
- Perform A Site Review

- Establish Upgrade Requirements
- Make An Upgrade Plan
- Make A Roll-Out Plan
- Backup Everything
- Run A Trial Upgrade
- Upgrade A Staging Site
- Perform Testing
- Undertake Configuration
- Prepare Documentation
- Prepare Your Infrastructure
- Provide Training
- Prepare Your Infrastructure
- Go Live
- Offer Support
- Perform An Upgrade Review

Topic : Partition & Formatting

- 1) The partitioning is a section of the hard drive that is separated from other segments.
- 2) A partition is a logical division of a hard disk that is treated as a separate unit by operating systems (OSes) and file systems.
- 3) A file format is a standard way that information is encoded for storage in a computer file.
- 4) To gpt by cmd
 - Type CMD in the Search box.
 - Open Command Prompt, type DiskPart, and press Enter.
 - Type list disk and press Enter.
 - Type select disk X.
 - Now type clean and press Enter.
 - Type convert gpt and press Enter.

5) Format a partition using cmd.

- Open Command Prompt As Administrator. Opening the command prompt.
- Use Diskpart. Using diskpart.
- Type List Disk.
- Select the Drive to Format.
- Clean the Disk.
- Create Partition Primary.
- Format the Drive.
- Assign a Drive Letter.

Topic : Transferring Files

1) File transfer refers to the exchange of data files between computer systems.

2) The ways of transferring files

- 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 storage device or flash drives.

3) Common method for file transfer from one system to another.

- 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 storage device or flash drives.

4) Types of file transferring media

- FTP (File Transfer Protocol)
- HTTP (Hypertext Transfer Protocol) ...
- FTPS (FTP over SSL) ...
- HTTPS (HTTP over SSL) ...

- SFTP (SSH File Transfer Protocol) ...
- SCP (Secure Copy) ...
- WebDAV (Web Distributed Authoring and Versioning) ...
- WebDAVS.
- TFTP (Trivial File Transfer Protocol)
- AS2 (Applicability Statement 2)
- OFTP (Odette File Transfer Protocol)
- AFTP (Accelerated File Transfer Protocol)

Topic : Administrative Tools

- 1) Administrative Tools is a folder in the Windows 10 Control Panel.
- 2) The programs can be used to schedule a test of your computer's memory, manage advanced aspects of users and groups, format hard drives,

configure Windows services, change how the operating system starts, and much, much more.

3) Administrative tools

- Component Services.
- Computer Management.
- Defragment and Optimize Drives.
- Disk Cleanup.
- Event Viewer.
- iSCSI Initiator.
- Local Security Policy.
- ODBC Data Sources.

4) Disk management tools are utility software that is used to manage data on disk by performing various functions on it.

Topic : Windows Feature.

1) The windows features are the start menu, task manager, taskbar, Cortana, file explorer, MS Paint, Browser, control panel.

2) The windows features list

- Provides an efficient speed.
- Allows disk access as well as file systems.
- Program execution is done in a smooth way.
- Protected and supervisor mode is always there.
- Memory Management is supported to allow multiprogramming.
- Provides regular updates to ease the usage.

3) To exchange static and dynamic web content with internet users. IIS can be

used to host, deploy, and manage web applications using technologies such as ASP.NET and PHP.

Topic : Backup & Restore

- 1) The copying of physical or virtual files or databases to a secondary location for preservation in case of equipment failure or catastrophe.
- 2) System Restore is a feature in Microsoft Windows that allows the user to revert their computer's state (including system files, installed applications, Windows Registry, and system settings) to that of a previous point in time, which can be used to recover from system malfunctions or other problems.

3) Backups protect against human errors, hardware failure, virus attacks, power failure, and natural disasters.

4) Backup tools

- Backblaze
- Acronis True image
- Carbonite
- Bacula
- Cobian Backup
- Acronis
- Veeam
- EaseUS Todo Backup
- Dropbox
- Iperius Backup
- Rsync
- FBackup
- Comodo
- Areca
- Clonezilla
- Cloudberry

- Backup Exec
- IDrive
- Macrium Reflect
- Backup Maker
- Microsoft Azure
- Free File Sync

5) Search Control Panel for Recovery, and select Recovery > Open System Restore > Next. Choose the restore point related to the problematic app, driver, or update, and then select Next > Finish.

6) In the search box on the taskbar, type Create a restore point, and select it from 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 > OK.

Topic : Disk Management

- 1) Disk management is the process of organizing and maintaining the storage on a computer's hard disk.
- 2) It involves dividing the hard disk into partitions, formatting these partitions to different file systems, and regularly maintaining and optimizing disk performance.
- 3) Improved organization and management of data.
 - Efficient use of available storage space.
 - Improved data integrity and security.
 - Improved performance through techniques such as defragmentation.
- 4) To open Disk Management, right-click (or long-press) the Start button and select Disk Management.
- 5) Disk management tools

- Partitioning of the disk.
- Formatting the disk.
- Changing the disk's name.
- Shrinking a disk partition.
- Extending a disk partition.
- Deleting a disk partition.
- Changing the file system of a driver.

Topic : Device Management

- 1) Device management is a critical component of any organization's security strategy.
- 2) Device management enables organizations to administer and maintain devices, including virtual machines, physical computers, mobile devices, and IoT devices.

3) Benefits of device management

- Enhanced security. Using an MDM platform, you can protect the business data accessed by company devices.
- Decreased downtime and deployment times.
- Improved productivity.
- Application control.
- Optimized data collection.
- Risk management.
- Cost saving.
- Leading MDM vendors.

4) Click the. (Start) button.

- In the Start Menu, click Settings.
- In the SETTINGS window, click Devices.
- In the DEVICES screen, click Printers & scanners or Connected devices, and under the Related Settings category, click Device manager.

- 5) Device management enables organizations to administer and maintain devices, including virtual machines, physical computers, mobile devices, and IoT devices.

Topic : Physical Security

- 1) Physical security aims to protect people, property, and physical assets from any action or event that could lead to loss or damage.
- 2) Physical security is the protection of personnel, hardware, software, networks and data from physical actions and events that could cause serious loss or damage to an enterprise, agency or institution.

- 3) CCTV cameras, motion sensors, intruder alarms and smart alerting technology like AI analytics.
- 4) Use power strips or surge-protected protectors.

Topic : Firewall Settings

- 1) A firewall is a network security device that monitors incoming and outgoing network traffic and decides whether to allow or block specific traffic based on a defined set of security rules.
- 2) A firewall is a security system designed to prevent unauthorized access into or out of a computer network.
- 3) Features of firewall
 - Unified Security Management.

- Organizations must cope with rapidly increasing network security complexity.
- Threat Prevention.
- Application and Identity-Based Inspection.
- Hybrid Cloud Support.
- Scalable Performance.

4) 5 Types of firewall

- packet filtering firewall.
- circuit-level gateway.
- application-level gateway (aka proxy firewall).
- stateful inspection firewall.
- next-generation firewall (NGFW).

