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

**Topic: User Management**

* Assignment Level Basic

1. What is user management?

* User management (UM) is defined as 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.

1. Why is user management needed?

* User management enables admins to control user access and on-board and off-board users to and from IT resources. Subsequently a directory service will then authenticate, authorize, and audit user access to IT resources based on what the IT admin had dictated.
* Assignment level intermediate:

1. Where can we access the user management?

* User Access Management (UAM), also known as identity and access management (IAM), is the administration of giving individual users within a system access to the tools they need at the right time. For businesses, this usually includes access to external applications, permissions, and security requirements.

1. What are the features of user management?

* User Management

1. Overview of the User Management Module.
2. WebLogic Integration Users, Groups, and Roles.
3. Security Provider Requirements for User Management.
4. Listing and Locating Users.
5. Adding a User.
6. Viewing and Changing User Properties.

* Assignment level Advance:

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

* Done

1. 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?

* When you set permissions, you specify what users are allowed to do within that folder, such as save and delete files or create a new folder. You are not limited to choosing one of the standard permissions settings (Full Control, Modify, Read & Execute, List Folder Contents, Read, or Write).

1. What is the use of file and folder permission?

* File Permissions. File permissions control what user is permitted to perform which actions on a file. File permissions form a crucial part of a resistance strategy. On public systems, only part of the system is public.
* Assignment level Intermediate:

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

* Steps to set folder at read only mode.

1. Open the folder's property menu.
2. Select read-only.
3. Copy as path.
4. Open your command prompt.
5. Change folder attributes via command line.
6. Remember your settings.
7. Communicate with other users.
8. Don't change system folders or files.
9. Write a step to give a file only admin permission.

* Setting Permissions

1. Access the Properties dialog box.
2. Select the Security tab. ...
3. Click Edit.
4. In the Group or user name section, select the (Admin) you wish to set permissions for.
5. In the Permissions section, use the checkboxes to select the appropriate permission level.
6. Click Apply.
7. Click Okay.

* Assignment level Advance:

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

* Done

1. 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 program that, after being initially loaded into the computer by a boot program, manages all of the other application programs in a computer. The application programs make use of the operating system by making requests for services through a defined application program interface (API).

1. What are the types of OS?

* Types of os

1. Batch operating systems. The batch operating system does not have a direct link with the computer.
2. Time-sharing or multitasking operating systems.
3. Distributed operating systems.
4. Network operating systems.
5. Real-time operating systems.
6. Mobile operating systems.
7. Microsoft Windows.
8. Apple iOS.

* Assignment Level Intermediate

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

* Done

1. Do a practical to create a bootable pendrive for windows 7?

* Done

1. Do practical for creating a pendrive for mac os Mojave with unibeast.?

* Done
* Assignment level Advance:

1. Do a practical to install Kali Linux

* Done

1. Do a practical to install windows 10

* Done

1. 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 software installation in which any previous version is eradicated. The alternative to a clean install is an upgrade, in which elements of a previous version remain. The terms are often heard in reference to operating systems (OSes) and software applications.
* Assignment Level Intermediate

1. What is the process for clean install?

* The steps involved in performing a clean install for Windows 10 by this method include: Navigate to Settings from the start menu. Click on Updates & Security and navigate to Recovery from the left menu. Under More recovery options, click on Learn how to start fresh with a clean installation of Windows.

1. what are the benefits of clean install?

* Benefits are as follow

1. Fixes most performance-related problems.
2. Clears spyware and registry file.
3. Faster startup due to lack of startup programs and applications.

* Assignment level Advance:

1. Do a clean installation of windows XP

* Done

1. Do a clean installation of windows 8

* Done

**Topic: Upgrade installation**

* Assignment level basic

1. What is upgrade installation?

* What is an in-place upgrade install? An in-place upgrade install involves using the Windows OS installer to replace all the operating system files for Windows 10 on a PC. Basically, you're using the setup.exe program to reinstall the same OS back over itself.

1. What is the benefit of upgrade installation?

* Latest Security Patch. New software tackles/prevents the latest security vulnerabilities of operation.
* Improve Stability. ...
* Being trustworthy. ...
* Well Structured. ...
* Enjoy new features. ...
* Benefits of pricing. ...
* Keep hardware healthy. ...
* Enhanced user interface.
* Assignment level intermediate:

1.Write down the steps of upgrade installation.

* How do I run Windows Updates?
* Go to the start button.
* Search for the application called Software Center.
* Click on the Updates tab.
* Install the updates using the Install All button or click on each one individually and install them separately.
* 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 allows the use of different filesystems to be installed for different kinds of files. Separating user data from system data can prevent the system partition from becoming full and rendering the system unusable. Partitioning can also make backing up easier.

1. What is partition?

* A partition is a logical division of a hard disk that is treated as a separate unit by operating systems (OSes) and file systems. The OSes and file systems can manage information on each partition as if it were a distinct hard drive.

1. What is format?

A format (noun, pronounced FOHR-mat) is a preestablished layout for data. A computer program accepts data as input in a certain format, processes it, and provides it as output in the same or another format.

* Assignment level Intermediate:

1. Do a Practical of mbr partition.

* Done

1. Do a Practical of gpt partition

* Done
* Assignment level Advance:

1. Do a practical using cmd.

Done

1. covert a partition to gpt by cmd.

* Done

1. Format a partition using cmd.

* Done

**Topic: Transferring Files**

* Assignment level Basic

1. What is transferring Files?

* File transfer refers to the exchange of data files between computer systems. According to Techopedia: “File transfer is the process of copying or moving a file from one computer to another over a network or internet connection.

1. What are the ways of transferring files?

5 Ways to Transfer Files From One Computer to Another

* Use an External Storage Media. Obviously, this is the way most people do it.
* Share Over LAN or Wi-Fi.
* Use a Transfer Cable.
* Connect the HDD or SSD Manually.
* Use Cloud Storage or Web Transfers.
* Assignment level Intermediate:

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

* Share Over LAN or Wi-Fi.
* Use a Transfer Cable.
* Connect the HDD or SSD Manually.
* Use Cloud Storage or Web Transfers.

1. Types of file transferring media.

* FTP. The original file transfer protocol, FTP, is a popular file transfer method that has been around for decades.
* FTPS.
* SFTP.
* SCP.
* HTTP & HTTPS.
* AS2, AS3, & AS4.
* Assignment level Advanced:

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

* Done

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

* Done

**Topic: Administrative tools**

* Assignment Level Basic

1. What are administrative tools?

* Administrative Tools is a folder in the Windows 10 Control Panel. These folders contain tools for system administrators and advanced users.

1. What is the use of administrative tools?

* 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.
* Assignment level Intermediate:

1. List out the administrative tools.

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

1. What is disk management tools.

* Disk management tools are utility software that is used to manage data on disk by performing various functions on it. Moreover, they perform functions like partitioning devices, manage drives, disk checking, disk formatting, etc.
* Assignment Level Advanced

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

* Done

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

* Done

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

* Done

**Topic: Windows Feature.**

* Assignment Level Base
  1. What is windows features?
* Microsoft Windows Features on Demand is a feature that allows system administrators to add or remove roles and features in Windows 8 and Windows Server 2012, and later versions of the client and server operating system to alter the file size of those operating systems.
* Assignment level Intermediate

1. List out the windows features.

* Best Features of Windows Operating System
* Speed.
* Compatibility.
* Lower Hardware Requirements.
* Search and Organization.
* Safety and Security.
* Interface and Desktop.
* Taskbar/Start menu.

1. What is the use of IIS?

* Internet Information Services (IIS) is a flexible, general-purpose web server from Microsoft that runs on Windows systems to serve requested HTML pages or files. An IIS web server accepts requests from remote client computers and returns the appropriate response.
* Assignment level Advance:

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

* Done

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

* Done

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

* Done

**Topic: Disk Management**

* Assignment level Basic:

1. What is Disk management?

* Disk Management is a system utility in Windows that enables you to perform advanced storage tasks.

1. What is the use of disk management?

* Here are some of the things Disk Management is good for: To setup a new drive, see Initializing a new drive. To extend a volume into space that's not already part of a volume on the same drive, see Extend a basic volume.

1. What are the merits of Disk management tool?

* The tool lets users of Microsoft's desktop OS see and manage the disk drives installed on their devices. That includes hard disk drives, optical disk drives and flash drives, and it also allows for advanced storage tasks. It can be used to create, extend and delete drive partitions.
* Assignment level Intermediate:

1. Where can we find the disk management tool?

* To start Disk Management:

1. Log on as administrator or as a member of the Administrators group.
2. Click Start -> Run -> type compmgmt. msc -> click OK. Alternatively, right-click on the My Computer icon and select 'Manage'.
3. In the console tree, click Disk Management. The Disk Management window appears.
4. List out the operations we can do with disk management tool

* Operation can be done on disk management are .

1. See information about your drives and partitions.
2. Create partitions on your drives.
3. Format partitions found on your drives.
4. Resize the partitions found on your drives.
5. Delete partitions from your drives.
6. Change the drive letters of your partitions.

* Assignment level Advance:

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

* Done

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

* Done

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

* Done

**Topic: Device Management**

* Assignment level Basic:

1. What is Device Management?

* Device management is the process of managing the implementation, operation and maintenance of a physical and/or virtual device.

1. What is the need of device management?

* It is a broad term that includes various administrative tools and processes for the maintenance and upkeep of a computing, network, mobile and/or virtual device.

1. What are the benefits of Device management?

* Benefits of Device Manager
* Helps manage all hardware devices installed on a system; this includes keyboards, hard disk drives, US devices, etc. Helps change hardware configuration options, manage drivers, enable or disable hardware, identify conflicts between hardware devices, etc.
* Assignment level Intermediate:

1. Where can we access device management?

* How to access the Device Manager (Windows 10)
* 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.

1. List out the devices connected to the device management.

* Device like below connect with device management.

1. Ports
2. Bluetooth
3. Camera
4. Monitor
5. Audio
6. Network

* Assignment level Advance:

1. Do a practical to add a device with device management tool.

* Done

1. 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's main objective is to protect the assets and facilities of the organization. So the foremost responsibility of physical security is to safeguard employees since they are an important asset to the company. Their safety is the first priority followed by securing the facilities.

1. what is physical security?

* 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. This includes protection from fire, flood, natural disasters, burglary, theft, vandalism and terrorism.
* Assignment Level Intermediate

1. list out the ways of physical security.

* #1: Lock up the server room.
* #2: Set up surveillance.
* #3: Make sure the most vulnerable devices are in that locked room. ...
* #4: Use rack mount servers.
* #5: Don't forget the workstations.
* #6: Keep intruders from opening the case.
* #7: Protect the portables.
* #8: Pack up the backups.

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

* #1: Verify electricity levels.
* #2: Confirm that supply circuits are grounded properly.
* #3: Don't overload circuits.
* #4: Use a UPS/surge protector.
* #5: Properly calculate UPS/surge protector capacity.

#6: Replace damaged or faulty UPS/surge protector