CompTIA A+ Assignment Module

1[Hardware components]

Topic: Fundamentals of computer hardware

1 .What is hardware?

Ans: Hardware is physical components of computer. Hardware relers to the physical parts of components of a computer such as monitor, keyboard, computer data storage, hard drive disk, mouse, CPU, graphic cards, sound cards.memory, motherboards and chips.

2. What is the purpose of hardware.

Ans:

3.list out two types of hardware..

Ans: Monitor

CPU

Mouse

Keyboard

Printer

* RAM. RAM (Random Access Memory) is a type of computer hardware that is used to store the information and then process that information. ...
* Hard disk. The hard disk is another type of computer hardware that is used to store the data

4. What are core hardware

Ans: A core is the "brain" of a [CPU](https://www.computerhope.com/jargon/c/cpu.htm). It receives [instructions](https://www.computerhope.com/jargon/c/compinst.htm), and performs calculations, or operations, to satisfy those instructions. A CPU can have multiple cores.

5. Do a practical of identifying hardware

Ans:

Topic: Category of components

1. What are the category of components in hardware

Ans: Haedware cpmponents are often categorised are being either input, output, storage ot processing components,.devices which are not an part of the CPU are referned to as being peripherals.

2.Why category is needed?

Ans:

3.Do a practical to identify the components in which category they come.

Topic: Input Device

1 .What is input device?

Ans: it is an electromecganical device that can be used to enter data and instructions to the computer. An input device is a piece of hardware.

2 .Why input device needed?

Ans: Today, input devices are important because they are what allows you to interact with and add new information to a computer.

3.List out the input device.

Ans: Keyboard

Mouse

Touchpad

Scanner

Digital Camera

Microphone

Joystick

Graphic Tablet

Touch Screen

Webcam

4.. Do a practical to identify input device and describe how it works.

Ans:

Topic: Output Device

1.What are output device?

Ans: an output device is an electromechanical device that accepts data from a computer and translates from the user. It can be text, audio, video, graphics.

2. how does output device work?

Ans: An output device works by receiving a signal from the computer and using that signal to perform a task to display the output.

3.List out the output device.

Ans: Monitor (LED, LCD, CRT etc)

Printers (all types)

Plotters

Projector

LCD P

rojection Panels

Computer Output Microfilm (COM)

Speaker(s)

Head Phone

Visual Display Unit

Film Recorder

Microfiche

4.Do a practical to identify the output device and describe its working process.

Ans:

Topic: Motherboard

1..What is motherboard?

Ans:a motherboard is the central or primary printed circuit board making up a complex electronic system, such as a modem computers. It is also known as a main board, base board, system board, planar board.

2.Why it is called motherboard?

Ans: It's called a motherboard because it is the main circuit board in the computer, and it can be extended by plugging other circuit boards into it. These extensions are calleddaughter boards.

:3..What it is called if we remove all components from the motherboard?

Ans:

4.Describe types of motherboard.

### Ans: AT Motherboards

### (Advanced Technology motherboard) AT Motherboards in two types AT Motherboards and big AT MotherboardsThe oldest of the main boards, these motherboards were used in earlier 286/386 or 486 computers. The AT means the board consists of advanced technology( AT) power connectors. There are two power connectors of 6 pin each mounted on the AT motherboards. The AT motherboards were available in the early 80’s.

### ATX Motherboards

### ATX in two types ATX and micro ATX extended The ATX motherboards started in 90’s and are still available. The ATX connector on the motherboard consists of a single connector. These boards are used for P2/P3 or P/4 processors.

### IXT Motherboards

### (Information Technology EXtended) IXT Motherboards in three types mini,micro,pico, Mobile-ITX

### 5.Do a practical by identifying parts of motherboard.

Ans:

6.Do a practical by describing the data flow in motherboard

Ans:

7.Do a practical by removing all removable parts from the motherboard.

Ans:

Module 2[Maintenance procedure]

Topic: CPU

1.What is CPU.

Ans: The Central processing unit is simply the Central processor or the processor where most calculation takes places.the brain of the computer.

2.Write the full form of cpu.

Ans: The Central processing unit

3.What are the types of CPU.

Ans: There are three types of cpu

Single Core CPUs

Dual Core CPUs

Quad Core CPUs

4.What do we need to keep the CPU Healthy.

Ans: Buy Uninterruptible Power Supply (UPS) A UPS is, in essence, a battery

Buy high-quality power supply

Buy two motherboards

Keep dust away by using lots of fans

Redundancy

Temperature control

Monthly maintenance.

5.Do a practical To remove processor and apply thermal paste in it and install it again.

Ans:

6.Do a practical to Identify cpu and its Sockets.

Ans:

Topic:Monitor

1.What is Monitor?

Ans: Monitor is an out put device of the computer. It is like a TV, that display text and

graphics on the screen.video adapters are responsible delivering the images in the moniter.

2.List out the types of monitor

Ans:.There are three types of moniter

Cathode ray tube

Liquit crystal display

Thin film transistor

3.Do a practical to identify monitor Technology

Ams:.

4.What are the Technologies used in monitor

Ans: Cathode ray tube,Liquid crystal display,Organic light-emitting diode,Size,Aspect ratio,Resolution,Gamut,Power saving.

5.Describe how does the crt monitor works.

Ans:the cathode ray tube is a vacuum tube containing on electrongun and a fluorescent screen, with internal or external means to occelerate and deflect electron beam, use to create image in the form of light emitted from the fluorescent screen. The image may represent pictures, which is used in yelevision, computer monitar.

Topic: system bus

1.What is system bus

Ans:connects CPU with main memory and peripheral devices.set of data lines,control lines,status lines.

2.List out the types of system bus.

Ans:there are three types of buses.

Address bus.

Control bus.

Data bus.

3.Describe the working of system bus.

Ans:the system bus connects the CPU, memory, and the input/output devices. It carries data, address, and control information. The speed of the system bus is an important part of the performance of a computer system. Just like the speed of the CPU and the sixe of the memory.

4.Do a practical to identify the system bus.

Topic: Chipset

1.What is chipset?

Ans:a chipset is a group of ics that are designed to work together and are usually marketed as a single product. It refers to a set of specialized chips o the motherboard or an expansion caed.

2.What are the types of chipset?

Ans:

3.Which chipset does have direct contact with the cpu.

4.Do a practical to identify the chipset.

5.Describe how does theNorthbridge chipset work.

Topic:Memory

1.What is memory?

Ans: A memory is just like a human brain. It is used to store data and instructions. Computer memory is the storage space in the computer, where data is to be processed and instructions required for processing are stored.

2.What are the types of memory?

Ans: Memory is primarily of three types –

Cache Memory

Primary Memory/Main Memory

Secondary Memory

3. Describe memory in detail.

Ans: Computer memory is any physical device capable storing information temporarily, like [RAM](https://www.computerhope.com/jargon/r/ram.htm) (random access memory), or permanently, like [ROM](https://www.computerhope.com/jargon/r/rom.htm) (read-only memory). Memory devices utilize [integrated circuits](https://www.computerhope.com/jargon/i/ic.htm) and are used by [operating systems](https://www.computerhope.com/jargon/o/os.htm), [software](https://www.computerhope.com/jargon/s/software.htm), and [hardware](https://www.computerhope.com/jargon/h/hardware.htm).

4. What are memory types.

Ans:  there are three types of memory:

Sensory memory,

short-term memory,

long-term memory.

5.Do a practical to identify memory types.

6.Do a practical to install memories in system

7.Do a practical to identify main memory frequencies.

Topic:System Unit

1What is System Unit?

Ans:it contains electronic components of the computers used to process data.

2.How does system unit work?

3.What are the components and system unity?

Ans:processor

Memory

Adapter cards

Sound card

Modem card

Parts

Drive bays

Power sopply

4.Do a practical to identify system unit. 2

. 5.Do a practical to assemble and disassemble system unit.

Module3[BIOS,CMOS and BOOT PROCESS]

Topic:BIOS

1.What is bios.

Ans: BIOS (basic input/output system) is the program a personal computer's microprocessor uses to get the computer system started after you turn it on. It also manages data flow between the computer's operating system and attached devices such as the hard disk, video adapter, keyboard, mouse and printer.

2.What is the full form of bios

Ans: BIOS is basic input/output system.

3.Describe working process of BIOS.

4.Do a practical to reset bios when system is on.

5.Do a practical of Hard resetting the BIOS.

6.Do a practical of identifying BIOS chip from the motherboard.

Topic:CMOS

1.What is CMOS?

Ans: Complementary metal-oxide semiconductor, or CMOS, typically refers to a battery-powered emory chip in your computer that stores startup information. Your computer's basic input/output system BIOS) uses this information when starting your computer.Real-Time Clock (RTC), Non-Volatile RAM (NVRAM) or CMOS RAM, CMOS is short for Complementary Metal-Oxide Semiconductor. CMOS is an on-board, battery powered semiconductor chip inside computers that stores information. This information ranges from the system time and date to system hardware settings for your computer. The picture shows an example of the most common CMOS coin cell battery used to power the CMOS memory

2.What is the full form of CMOS?

Ans: CMOS is Complementary metal-oxide semiconductor.

3.Describe the working process of CMOS.

4.Do a practical of identifying cmos.

5.Do a practical of installing cmos 3.How do we know that cmos is not working.

Topic:Boot process

1.What is Boot Process?

Ans: Booting is a process or set of operations that loads and hence starts the operating system, tarting from the point when user switches on the power button.

2.What is the first process of boot?

Ans:

3.What is the final stage in the boot process?

4.Describe the boot process in linux.

5.Describe about working with the grub bootloader.

6.Describe working process of boot loader.

Topic:SMPS

1.What is SMPS?

Ans: Switched-Mode Power Supply (SMPS) is an electronic circuit which converts the power using switching devices that are turned on and off at high frequencies, and storage components such as indicators or capacitors to supply power when the switching device is in its non-conduction state. It can be abbreviated as SMPS.  
The switched-mode power supply is also called switch-mode power supply or switching-mode power supply. Its efficiency is high. That’s why we use it in the variety of electronic types of equipment which require a stable and efficient power supply.

2.What is the process of SMPS?

3.DO a practical to install SMPS.

4.How many sata connectors are there in normal smps?

5.Do a practical to troubleshoot a smps without plugging it to the system.

6.How many pins does atx power connector have?

Topic:RAM

1.What is RAM?

Ans: A memory is just like a human brain. It is used to store data and instructions. Computer memory is the storage space in computer where data is to be processed and instructions required for processing are stored. The memory is divided into large number of small parts called cells. Each location or cell has a unique address which varies from zero to memory size minus one.

2.WHat is the full form of RAM?

Ans: RAM is Random-access memory

3.What are the types of ram?

Ans: Memory is primarily of three types

Cache Memory

0 Primary Memory/Main Memory

Secondary Memory

4.Do a practical to identify RAM.

5.Do a Practical to identify ram and install it in a proper system.

Module4 [[I/O Devices, Expansion cards ,cables and connections]

Topic:Device and cable

1.What are the types of devices?

Ans: Input devices, such as a mouse and a keyboard

Output devices, such as a monitor and a printer

Storage devices, such as a hard drive or flash drive

2.What are the types of cable?

Ans: Ribbon Electric Cables.

Shielded Cables. ...

Twisted Pair Cables. ...

Coaxial Cables. ...

Fibre Optics Cable.

3.What cables are used to connect printer?

4.What was the first cable founded by Apple for data transfer?

5.Do a practical to identify the sata cables.

6Do a practical to identify and install the cables in the system.

Topic:Expansion card and slots

1.Why expansion card needed?

Ans: The needed of adding an expansion card or board to a computer's motherboard is to add or expand some sort of functionality to the computer that it did not have before.Expansion cards are a way to upgrade a computer As of June 2013, current production computers include PCI Express and PCI expansion slots.

2.Why expansion slots needed?

Ans: An expansion slot is a socket on the motherboard that is used to insert an expansion card (or circuit board), which provides additional features to a computer such as video, sound, advanced graphics, Ethernet or memory.

3.What are the types of expansion card?

Ans: Interface card ([ATA](https://www.computerhope.com/jargon/a/ata.htm), [Bluetooth](https://www.computerhope.com/jargon/b/bluetoot.htm), [EIDE](https://www.computerhope.com/jargon/e/eide.htm), [FireWire](https://www.computerhope.com/jargon/f/firewire.htm), [IDE](https://www.computerhope.com/jargon/i/ide.htm), [parallel](https://www.computerhope.com/jargon/p/parallel.htm), [RAID](https://www.computerhope.com/jargon/r/raid.htm), [SCSI](https://www.computerhope.com/jargon/s/scsi.htm),  [serial](https://www.computerhope.com/jargon/s/serial.htm), and [USB](https://www.computerhope.com/jargon/u/usb.htm)).

[Modem](https://www.computerhope.com/jargon/m/modem.htm)

[MPEG Decoder](https://www.computerhope.com/jargon/m/mpeg.htm)

[Network Card](https://www.computerhope.com/jargon/n/nic.htm)

[ound Card](https://www.computerhope.com/jargon/s/souncard.htm)

[Video capture card](https://www.computerhope.com/jargon/v/videcapt.htm)

[Video Card](https://www.computerhope.com/jargon/v/video-card.htm)

4.What are the types of expansion cards?

AnsVideo Card

Sound Card

Network Interface Card (NIC)

Modem Card

5.Do a practical to identify the types of expansion slots

6.Do a practical to install the Graphics card.

7.Do a practical to install LAN card.

Topic:I/O Ports

1.What is I/O ports?

Ans;A connection point that acts as interface between the computer and external devices like mouse, printer, modem, etc. is called port. Ports are of two types.

input port − It connects the motherboard to internal devices like hard disk drive, CD drive, internal modem, etc.

Output port − It connects the motherboard to external devices like modem, mouse, printer, flash drives, etc.

2.ist out the I/O ports available?

## Ans: Serial Port

## Parallel Port

## USB Port

## USB Port

## Infrared Port

## Bluetooth Port

## FireWire Port

3.Do a practical to identify the I/O ports.

Topic:BIOS & CMOS

1.What is BIOS ?

Ans; BIOS (basic input/output system) is the program a personal computer'smicroprocessor uses to get the computer system started after you turn it on. It also manages data flow between the computer's operating system and attached devices such as the hard disk, video adapter, keyboard, mouse and printer.

2.What is CMOS?

Ans; Complementary metal-oxide semiconductor, or CMOS, typically refers to a battery-powered emory chip in your computer that stores startup information. Your computer's basic input/output system (BIOS) uses this information when starting your computer.Real-Time Clock (RTC), Non-Volatile RAM (NVRAM) or CMOS RAM, CMOS is short for Complementary Metal-Oxide Semiconductor. CMOS is an on-board, battery powered semiconductor chip inside computers that stores information. This information ranges from the system time and date to system hardware settings for your computer. The picture shows an example of the most common CMOS coin cell battery used to power the CMOS memory.

3.What is the role of BIOS in i/o?

4.What is the role of i/o in CMOS?

5.Do a practical to reset BIOS

6.Do a practical to remove cmo

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Topic:Laptop & storage

1.What is laptop?

Ans: A laptop is a computer designed for portability. Laptops are usually less than 3 inches thick, weigh less than 5 pounds and can be powered by a battery. As such laptops are designed for low power consumption and are most often used when space is limited, such as on an airplane.

A laptop computer is also called a notebook.

2.Why laptop is used widely now a days?

3.Describe the working process of laptop?

4.What is storage?

Ams; Storage is a process through which digital data is saved within a data storage device by means of computing technology. Storage is a mechanism that enables a computer to retain data, either temporarily or permanently.Storage devices such as flash drives and hard disks are a fundamental component of most digital devices since they allow users to preserve all kinds of information such as videos, documents, pictures and raw data.Storage may also be referred to as computer data storage or electronic data storage.

5.List out the types of storage.

## Ans  External Hard Drive

## Solid State Drive

## Network Attached Storage

## USB Thumb Drive Or Flash Drive

## Optical Drive (CD/ DVD)

## Cloud Storage

6.Do a practical to identify types of storage.

7.Do a practical to disassemble and assemble the storage.

8.Do a practical to install the storage devices.

Topic:Printer

1.What is printer?

Ans; A printer is an [external](https://www.computerhope.com/jargon/e/external.htm)hardware [output device](https://www.computerhope.com/jargon/o/outputde.htm)that takes the electronic data stored on a computer or other device and generates a [hard copy](https://www.computerhope.com/jargon/h/hardcopy.htm) of it. For example, if you created a report on your computer, you could print several copies to hand out at a staff meeting. Printers are one of the most popular computer peripherals and are commonly used to print text and photos.

2.Why is printer needed?

Ans; Using less paper and printing devices means that less power and resources are used which supports the environment. Most offices and homes in the country are still usingprinters and paper as a part of their daily routines. The reason is simply that they all still need a printer.

3.Describe the working process of printer

Ans; printers work by converting digital images and text into physical copies. They do this using a driver or specialised software that has been designed to convert the file into a language that the printer can understand. The image or text is then recreated on to the page using a series of miniscule dots

4.What are the types of printer.

Ans;Laser Printers.

Solid Ink Printers.

LED Printers.

Business Inkjet Printers.

Home Inkjet Printers.

Multifunction Printers.

Dot Matrix Printers.

3D Printers

5.Do a practical to install the printer.

6.Do a practical to Troubleshoot the improper printing.

Module 5 [Network Types,Device and Tools]

Topic:Storage devices

1.What is storage device?

Ans; A computer storage device is any type of hardware that stores data. The most common type of storage device, which nearly all computers have, is a [hard drive](https://techterms.com/definition/harddrive). Finally, tape drives, which use reels of tape to store data, are another type of storage device and are typically used for backing up data.

2.Why we need storage devices?

Ans;

3.List out the types of storage devices.

Ans; Primary Storage

Secondary Storage ;

4.Describe the working process of storage devices.

5.Do a practical to Remove storage devices and reinstall it and make a gpt disk.

Topic:ATA

1.What is ATA?

Ans: Stands for "Advanced Technology Attachment." It is a type of disk drive that integrates the drive controller directly on the drive itself. Computers can use ATA hard drives without a specific controller to support the drive.

2.Describe working of ATA.

3.Do a practical to identify and install ATA cables.

Topic:SATA

1.What is SATA?

Ans: Serial ATA (SATA, abbreviated from Serial AT Attachment)is a [computer bus](https://en.wikipedia.org/wiki/Computer_bus) interface that connects [host bus adapters](https://en.wikipedia.org/wiki/Host_adapter) to [mass storage devices](https://en.wikipedia.org/wiki/Mass_storage_device) such as [hard disk drives](https://en.wikipedia.org/wiki/Hard_disk_drive), [optical drives](https://en.wikipedia.org/wiki/Optical_drive), and [solid-state drives](https://en.wikipedia.org/wiki/Solid-state_drive). Serial ATA succeeded the earlier [Parallel ATA](https://en.wikipedia.org/wiki/Parallel_ATA) (PATA) standard to become the predominant interface for storage devices.

2.Do a practical to identify sata.

3.Do a practical to install SATA.

4.Where does SATA is used.

Ans; The Serial SATA connector is used as an interface for connecting a host bus adapter to a mass storage device or optical drive. This connector was designed to replace the older connectors, 34-pin, 40-pin, et

Topic:SCSI

1.What is SCSI?

Ans: Small Computer System Interface (SCSI, /ˈskʌzi/ SKUZ-ee) is a set of standards for physically connecting and transferring data between computers and peripheral devices. The SCSIstandards define commands, protocols, electrical, optical and logical interfaces.

2.WHy SCSI needed?

Ans:

3.What is the rpm of SCSI?

Ans: SCSI drives come in 10,000 or 15,000 rotations per minute (RPM) versions, meaning it will access data much faster than your desktop will (desktop drives are generally 5400 or 7200 RPM).

4.Do a Practical to install scsi.

Topic:Laptop

1.What is laptop?

Ams: A laptop is a computer designed for portability. Laptops are usually less than 3 inches thick, weigh less than 5 pounds and can be powered by a battery. As such laptops are designed for low power consumption and are most often used when space is limited, such as on an airplane.

2.What are the types of laptop?

Ans: Notebook (aka laptop)

ltraportable

Ultrabook

Netbook

Chromebook

MacBook

Convertible (2-in-1)

Tablet as a laptop

3.Diffrent names of laptop.

Ans: laptop.

Micro computer

Minic omputer.

Notebook  computer.

palmtop.

4.What are the parts of laptop?

Ans: display screen

Keyboard

base panel

top panel

Cooling Fan

RAM

Hard disk

palm rest assembly

Touchpad

Battery

Hinges

Speaker

Optical drive

Antenna

5.Do a practical of identifying parts of the laptop.

. An

6.Do a practical to disassemble the laptop.

7.Do a practical to change the RAM in the laptop.

TOPIC PRINTER

1.What is printer?

Ans: A printer is an [output device](https://techterms.com/definition/outputdevice) that prints paper documents. This includes text documents, images, or a combination of both. The two most common types of printers are [inkjet](https://techterms.com/definition/inkjet) and [laser printers](https://techterms.com/definition/laserprinter). In order to print a document, the electronic data must be sent from the computer to the printer.

2.In it a input device or output device?

Ans:input/output devices are as USB drive also known as pen drive or flash stick works as both input devices to computer and as an output device USB drives receive or save data from a computer as an input and it can also send data to a computer or another device.

3: Describe the types of printer

*ANS:* [*Laser Printers*](https://www.printerland.co.uk/#laser)

[*Solid Ink Printers*](https://www.printerland.co.uk/#solid)

[*LED Printers*](https://www.printerland.co.uk/#led)

[*Business Inkjet Printers*](https://www.printerland.co.uk/#business)

[*Home Inkjet Printers*](https://www.printerland.co.uk/#inkjet)

[*Multifunction Printers*](https://www.printerland.co.uk/#mfp)

[*Dot Matrix Printers*](https://www.printerland.co.uk/#dotmatrix)

[*3D Printers*](https://www.printerland.co.uk/#3d)

4. Describe inkjet printer

Ans: Inkjet printing is a type of computer printing that recreates a digital image by propelling droplets of ink onto paper and plastic substrates. Inkjet printers are the most commonly used type of printer, and range from small inexpensive consumer models to expensive professional machines.

5. Do a practical of network installation of the printer.

6. Do a practical to troubleshoot the printer of no cartridge error.

Module 6 [Network types, Device and tools]

Topic: Network Types

1.What is network?

Ans: A network is a collection of computers, servers, mainframes, network devices, peripherals, or other devices connected to one another to allow the sharing of data. An example of a network is the [Internet](https://www.computerhope.com/jargon/i/internet.htm), which connects millions of people all over the world. To the right is an example image of a home network with multiple computers and other network devices all connected.

2.Why do we need network?

Ans: File sharing: Networking of computers helps thenetwork users to share data files. Hardware sharing: Users can share devices such as printers, scanners, CD-ROM drives, hard drives etc User communication: Networks allow users to communicate using e-mail, newsgroups, and video conferencing etc

3.What are the types of network?

* Ans: Personal Area Network (PAN) ...
* Local Area Network (LAN) ...
* Wireless Local Area Network (WLAN) ...
* Campus Area Network (CAN) ...
* Metropolitan Area Network (MAN) ...
* Wide Area Network (WAN) ...
* Storage-Area Network (SAN) ...
* System-Area Network (also known as SAN)
* Passive Optical Local Area Network (POLAN)
* Enterprise Private Network (EPN)
* Virtual Private Network (VPN)

4.Describe the types of network?

Ans: The smallest and most basic type of network, a PAN is made up of a wireless modem, a computer or two, phones, printers, tablets, etc., and revolves around one person in one building. These types of networks are typically found in small offices or residences, and are managed by one person or organization from a single device.

unctioning like a LAN, WLANs make use of [wireless network technology](https://searchnetworking.techtarget.com/opinion/6-emerging-trends-in-wireless-networking-technology-for-2019), such as Wi-Fi. Typically seen in the same types of applications as LANs, these types of networks don’t require that devices rely on physical cables to connect to the network.

Larger than LANs, but smaller than metropolitan area networks (MANs, explained below), these types of networks are typically seen in universities, large K-12 school districts or small businesses. They can be spread across several buildings that are fairly close to each other so users can share resources.

These types of networks are larger than LANs but smaller than WANs – and incorporate elements from both types of networks. MANs span an entire geographic area (typically a town or city, but sometimes a campus). Ownership and maintenance is handled by either a single person or company (a local council, a large company, etc.).

5.Do a practical to crimp the lan cable.

Topic :Network Device

1.What are the device devices used in lan connection?

2.List out the network devices.

* Ans: Hub.
* Switch.
* Router.
* Bridge.
* Gateway.
* Modem.
* Repeater.
* Access Point.

3.How does switch work?

Ans: While switches allow different devices on a network to communicate, routers allow different networks to communicate. A router is a networking device that routes data packets between computer networks. A router can connect networked computers to the Internet, so multiple users can share a connection.

4.Do a practical to connect a new system in the switch.

5.Do a practical to identify the network devices.

Topic:Network Tools

1.What are network tools?

Ans: A computer networking tool is any type of software that assists in the creation, maintenance, or distribution of a wireless network. Also, computer networking tools aid in a website's creation, maintenance, advertising, security, and modification.

2.List out the network tools.

* Speedtest.net/pingtest.net.
* Subnet and IP Calculator.
* PuTTY/Tera Term.
* Netstat.
* Nslookup..
* Ipconfig/ifconfig.
* Tracert/traceroute.
* Ping. The most commonly used network tool is the ping utility.

3.Do a practical to work with the crimping tool

4.Do a practical to work with the router and switch together.

Topic:TCP/IP Assignment level:basic

1.What is TCP/IP?

Ans: The Internet protocol suite is the conceptual model and set of communications protocols used in the Internet and similar computer networks. It is commonly known as TCP/IP because the foundational protocols in the suite are the [Transmission Control Protocol](https://en.wikipedia.org/wiki/Transmission_Control_Protocol) (TCP) and the [Internet Protocol](https://en.wikipedia.org/wiki/Internet_Protocol) (IP).

2.What are the types of ip address?

Ans: There are four different types of IP addresses: public, private, static, and dynamic.

3.What is the loopback address?

Ans: Loopback is the routing of electronic signals, digital data strearns, or flows of items back to their source without intentional processing or modification. It is primarily a means of testing the communications infrastructure. There are many example applications.

4.What is APIPA Address?

Ans: automatic private P Addressing (APIPA) is a feature of Windows-based operating systems (included in Windows 98, ME, 2000, and xp) that enables a computer to automatically assign itself an ip address when there is no dynamic host configuration protocol (DHCP) server available to preform that function.

5.Do a practical to check if the system is available on the network with the ip address: 192.168.1.225

6.describe the classes of ip address

Ans: CP/IP defines five classes of IP addresses: class A, B, C, D, and E. Each class has a range of valid IP addresses IP addresses from the first three classes (A, B and C) can be used for host addresses. The other two classes are used for other purposes – class D for multicast and class E for experimental purposes

Topic: Protocols and Port

1.What is protocol?

Ans: A protocol is a standard set of rules that allow electronic devices to communicate with each other. These rules include what type of [data](https://techterms.com/definition/data)may be transmitted, what commands are used to send and receive data, and how data transfers are confirmed.

2.Why do we need protocol?

Ans: in information technology, a protocol is the special set of rules that end points ins telecommunication connection use when they communicate. Protocols specify interactions between the communicating entities, protocols are basically needed because it’s important for the receiver to UNDRSTAND the sender.

3.What is the use of protocol in network?

Ans: A network protocol is an established set of rules that determine how data is transmitted between different devices in the same network. Essentially, it allows connected devices to communicate with each other, regardless of any differences in their internal processes, structure or design.

4.List out the ports in the network.

Ans:

|  |  |  |
| --- | --- | --- |
| Port | Service name | Transport protocol |
| 23 | Telnet | TCP |
| 25 | Simple Mail Transfer Protocol (SMTP) | TCP |
| 50, 51 | IPSec |  |
| 53 | Domain Name System (DNS) | TCP and UDP |

3.What is the port number for https?

Ans: A port number is a way to identify a specific process to which an Internet or other network message is to be forwarded when it arrives at a [server](https://whatis.techtarget.com/definition/server).

Topic: Wireless Technologies

1.What is wireless technology?

Ans: Wireless technology provides the ability to communicate between two or more entities over distances without the use of wires or cables of any sort. This includes communications using radio frequency (RF) as well as infrared (IR) wavesWireless technology involves transmitting electromagnetic signals over the air.

2.Where is wireless technologies used?

Ans: Wifi uses radio waves to allow two devices to communicate with one another. The technology is most commonly used to connect internet routers to devices like computers, tablets and phones. However, it can be used to connect together any two hardware components.

3.What are the wireless network devices?

Ans: Wireless Clients (Station)

Devices such as computers, tablets, and phones are common Clients on a network. ...

Access Points (Master)

Most wireless networks are made using Access Points - devices that host and control the wireless connection for laptops, tablets, or smart phones.

4.Do a practical to create a wireless network.

5.What are the wireless standards in wireless technology?

Ans: an extension to the 802.11 srandard developed by thr IEEE for wireless network technology. 802.11b applies yp wireless local area networks and supports a maximum connect rate of 11 Mbps with fallback to 5.5, 2. And 1 Mbps in the 2.4GHz ISM band. This standard was ratified in 1999.

Module 7 [Operating system,Installation,Upgrades]

Topic:Install OS

1.What is OS?

Ans: An operating system (OS) is system software that manages computer hardware, software resources, and provides common services for computer programs The dominant desktop operating system is Microsoft Windows with a market share of around 76.45%.

2.What are the types of OS?

Ans: Batch Operating System – This type of operating system does not interact with the computer directly. ...

Time-Sharing Operating Systems – Each task is given some time to execute, so that all the tasks work smoothly. ...

Distributed Operating System – ...

Network Operating System – ...

Real-Time Operating System –

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

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

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

6.Do a practical to install Kali Linux

7.Do a practical to install windows 10

8.Do a practical to install Macos X

Topic:Clean Install

1.What is clean install?

Ans: A completely new installation of an operating system or application on a computer. In a clean install of an OS, the hard disk is formatted and completely erased nstalling an OS on a new computer or installing an application for the first time is automatically aclean install. Contrast with "in-place upgrade."

2.What is the process for clean install?

Ans: In a clean install of an OS, the hard disk is formatted and completely erased. In a clean install of an application, the older version is uninstalled first. Installing an OS on a new computer or installing an application for the first time is automatically a clean install. Contrast with "in-place upgrade."

3.what are the benefits of clean install?

Ans: The clean install method gives you more control over the upgrade process. You can make adjustments to drives and partitions when upgrading with installation media. Users can also manually back up and restore the folders and files that they need to migrate to Windows 10 instead of migrating everything.

4.Do a clean installation of windows XP

5.Do a clean installation of windows 8

Topic:Upgrade installation

1.What is upgrade installation?

Ans: 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 It does, however, overwrite operating system files more or less completely.

2.What is the benefit of upgrade installation?

Ans: Benefits of a software upgrade new features not available or found in previous versions. Often, the new versio of a program has better stability and increased performance. Support for newer computer hardware.

3.Write down the steps of upgrade installation.

Ans:  The basic healthy and secure computing steps provided here will help ensure asmooth upgrade. Take a data inventory. Make a physical copy of all critical system-related information. Remove spyware and run your antivirus program. Clean up data. Check your hard disk. Defrag. Back up your data.

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

Topic: Partition & Formating

1.What is partitioning?

Ans: Disk partitioning or disk slicing[[1]](https://en.wikipedia.org/wiki/Disk_partitioning#cite_note-1) is the creation of one or more regions on [secondary storage](https://en.wikipedia.org/wiki/Secondary_storage), so that each region can be managed separately.[[2]](https://en.wikipedia.org/wiki/Disk_partitioning#cite_note-2) These regions are called partitions. It is typically the first step of preparing a newly installed disk, before any [file system](https://en.wikipedia.org/wiki/File_system) is created.

2.What is partition?

Ans: A partition is a section of a storage device, such as a hard disk drive or solid state drive. It is treated by the operating system as a separate logical volume, which makes it function similar to a separate physical device Windows stores system files in a "System Partition" and user data files in data partition.

3.What is format?

Ans: the shape of something or the way it is arranged or produced it is the same book but in a different format.

4.Do a Practical of mbr partition.

5.Do a Practical of gpt partition

6.Do a practical using cmd.

7.covert a partition to gpt by cmd.

Ans: Open Command Prompt and type in DiskPart and press "Enter".

Then type in list disk (Note down the number of the disk you which you want to convert to GPT).

Then type in select disk X (the number of the disk).

Finally, type in convert gpt.

8..Format a partition using cmd.

Ans: STEP 1: Open Command Prompt As Administrator. Opening the commandprompt. ...

STEP 2: Use Diskpart. Using diskpart. ...

STEP 3: Type List Disk. ...

STEP 4: Select the Drive to Format. ...

STEP 5: Clean the Disk. ...

STEP 6: Create Partition Primary. ...

STEP 7: Format the Drive. ...

STEP 8: Assign a Drive Letter.

Topic :Transfering FIles

1.What is transferring Files?

Ans: File transfer is the [transmission](https://en.wikipedia.org/wiki/Transmission_(telecommunications)) of a [computer file](https://en.wikipedia.org/wiki/Computer_file) through a [communication channel](https://en.wikipedia.org/wiki/Communication_channel) from one computer system to another. Typically, file transfer is mediated by a [communications protocol](https://en.wikipedia.org/wiki/Communications_protocol). In the [history of computing](https://en.wikipedia.org/wiki/History_of_computing), numerous [file transfer protocols](https://en.wikipedia.org/wiki/List_of_file_transfer_protocols) have been designed for different contexts.

2.What are the ways of transferring files?

Ans: Upload your files to cloud storage. Uploading files to cloud storage is a great way to transfer large files

Compress the Files. Another tried and tested method of transferring files is to compress them

Use a VPN

USB flash drive

FTP

SFTP..

FTPS

Jumpshare

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

## 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 storage device or flash drives

4.Types of file transferring media.

Ans: 12 File Transfer Protocols for Businesses | JSCAPE

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)

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

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

Module 8 [Windows Administrative tools]

Topic:Administrative tools

1.WWhat are administrative tools?

Ans: Administrative Tools is a folder in Control Panel that contains tools for system administrators and advanced users. The tools in the folder might vary depending on which edition of Windows you are using.

2.What is the use of administrative tools?

Ans: The programs can be used to schedule a test of your computer's [memory](https://www.lifewire.com/what-is-random-access-memory-ram-2618159), manage advanced aspects of users and groups, format [hard drives](https://www.lifewire.com/what-is-a-hard-disk-drive-2618152), configure Windows [services](https://www.lifewire.com/what-is-a-service-4107276), change how the operating system starts, and much, much more.

3..List out the administrative tools.

Ans: Component Services.

Computer Management.

Defragment and Optimize Drives.

Disk Cleanup.

Event Viewer.

iSCSI Initiator.

Local Security Policy.

ODBC Data Sources.

4.What is disk management tools.

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

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

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

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

Topic:Windows Feature.

1.What is windows features?

Ans: Microsoft Windows Features on Demand is a feature that allows system administrators to add or remove roles and features in Windows 8 and WindowsServer 2012, and later versions of the client and server operating system to alter the file size of those operating systems.

2.List out the windows features.

Ans: Start Menu Returns. It's what Windows 8 detractors have been clamoring for, and Microsoft has finally brought back the Start Menu

Cortana on Desktop. Being lazy just got a lot easier

Xbox App

Project Spartan Browser. ...

Improved Multitasking

Universal Apps

Office Apps Get Touch Support

Continuum

3.What is the use of IIS?

Ans: Internet Information Services server (IIS server) is a Windows Server-based web application used to deliver website content over the internet to an end user. Internet Information Services is an installable server role, and it is bundled with all Microsoft Windows Server products.

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

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

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

Topic:Backup & Restore

1.What is backup?

Ans: Backup refers to the process of making copies of data or data files to use in the event the original data or data files are lost or destroyed. Secondarily, a backup may refer to making copies for historical purposes, such as for longitudinal studies, statistics or for historical records or to meet the requirements of a data retention policy. Many applications, especially in a Windows environment, produce backup files using the .BAK file extension.

2.What is Restore?

Ans: Restore is a term used to describe the a [backup](https://www.computerhope.com/jargon/b/backup.htm).

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 occurs. There should be additional data backups if the original backups result in data corruption or hard drive failure. This option is best done via the cloud or offsite storage.

3.What are the tools of backup?

Ans: AMANDA. AMANDA stands for "Advanced Maryland Automatic Network Disk Archiver," and it's a very popular enterprise backup system that supports disk, tape and optical media backups

BackupPC

Bacula

Bareos

Box Backup

BURP

Clonezilla

Duplicati

4.How do we restore?

Ans: System Restore is a Microsoft® Windows® tool designed to protect and repair the computer software. System Restore takes a "snapshot" of the some system files and the Windows registry and saves them as Restore Points. When an install failure or data corruption occurs, System Restore can return a system to working condition without you having to reinstall the operating system. It repairs the Windows environment by reverting back to the files and settings that were saved in the restore point.

5.How to create a restore point?

Ans: 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.

6.Do a practical to create restore point.

7.Do a practical to restore from restore point.

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

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

9opic:Disk Management

1.What is Disk management?

Ans: Disk Management is a [Microsoft](https://www.computerhope.com/comp/msoft.htm) [Windows](https://www.computerhope.com/jargon/w/windows.htm) utility first introduced in Windows XP as a replacement for the [fdisk command](https://www.computerhope.com/fdiskhlp.htm). It enables users to view and manage the [disk drives](https://www.computerhope.com/jargon/d/diskdriv.htm) installed in their computer and the [partitions](https://www.computerhope.com/jargon/p/partition.htm) associated with those drives. As the image below shows, each drive is displayed followed by the layout, type, file system, status, capacity, free space, % free, and fault tolerance.

2.What is the use of disk management?

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

3.What are the merits of Disk management tool?

Ans:An important function of Disk Management in Windows 10 is its ability to free up valuable disk space. If you have lots of files and folders not being used, you can use the utility for defragmenting hard drives, which rearranges your cluttered files and folders into a more logical order.

1.Where can we find the disk management tool?

Ans: The most common way to access dosk management is via the computer management utikity. Which you can get to from administrative tools in the control panel. Administrative tools windows 10, it can also be started by executing diskmgnt. Msc via the command prompt or another command line interface in windows.

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

## Ans: See information about your drives and partitions

## Create partitions on your drives

## Format partitions found on your drives

## Resize the partitions found on your drives

## Delete partitions from your drives

## Change the drive letters of your partitions

## Change the drive labels of your partitions

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

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

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

Topic:Device Management

1.What is Device Management?

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

2.What is the need of device management?

Ans: Device Management is another important function of the operating system. Device management is responsible for managing all the hardware devices of the computer system. It may also include the management of the storage device as well as the management of all the input and output devices of the computer system.

3.What are the benefits of Device management?

Ans: Ease of remote management. ...

Bring your own device support. ...

Controlled device updates. ...

Increased network security. ...

Reduced IT needs. ...

Improved regulatory compliance.

4.Where can we access device management?

Ans: click the start button.

In the start menu, click settings.

In the settings windows, click devices.

In the devices screen, click printers & scanners or connected devices, and under the related settings category, click devices manager.

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

Ans: [Sign in](https://admin.google.com/) to your [Google Admin console](https://support.google.com/a/answer/182076).

Sign in using an administrator account, not your current account shahbhumi7991@gmail.com

From the Admin console Home page, go to **Users**.

In the **Users** list, find the user. If you need help, see [Find a user account](https://support.google.com/a/answer/33324).

Click the user’s name to open their account page.

On the user's details page, click **Managed devices** to see the list of their devices.

Optional) To return to the user’s account page, at the top right, click the Up arrow

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

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

Module 9 [Network Configuration, User Group Management]

Topic:configured Network

1.What is configured network?

Ans: Network configuration is the process of setting a network's controls, flow and operation to support the network communication of an organization and/or networkowner. This broad term incorporates multiple configuration and setup processes onnetwork hardware, software and other supporting devices and components.

2.How do we configure network?

Ans: Connect your router. The router is the gateway between the Internet and your home network

Access the router's interface and lock it down

Configure security and IP addressing

Set up sharing and control

Set up user accounts

3.How to check the ip address?

Ans:Open the Windows Start menu and right-click ”My Network Places.” Click “Properties” and you see a Network Connections screen. Double-click “Wireless Network Connection” or “Local Area Connection” for wired connections. Open the Support tab and click “Details.” Your IP address now appears.

4.How to check the ip address through cmd?

Ans: From the desktop, navigate through; Start > Run> type "cmd.exe". A commandprompt window will appear.At the prompt, type "ipconfig /all". All IP information for all network adapters in use by Windows will be displayed.

5.How can we enter static address in network adapter?

Ans: Accessing your WAC104 for the first time requires connecting your Windows device to the access point and setting a static IP address on your Ethernet or wireless adapter. This article outlines the steps required to set a static IP address on your Ethernet adapter if using a direct connection between your Windows device and the access point or wireless adapter if connecting wirelessly to the access point.

6.Do a practical to release the packets from the adapter

7.Do a practical to renew the lease of the ip address.

8.Do a practical to check the connectivity to the google.

Topic Remote Desktop:

1.What is remote desktop?

Ans: A remote desktop is a separate program or feature found on most operating systems that allows a user to access an operating computer system's desktop. The access occurs via the Internet or through another network in another geographical location and allows users to interact with that system as if they were physically at their own computer. USB devices with the ability to recreate a remote user’s desktop are commonly called secure portable offices.

2.What is the use of remote desktop?

Ans: Use Remote Desktop on your Windows, Android, or iOS device to connect to a Windows 10 PC from afar.

1. Set up the PC you want to connect to so it allows remote connections:
   * Make sure you have Windows 10 Pro. To check, go to Start  > Settings  > System > About and look for Edition. For info on how to get it, go to [Upgrade Windows 10 Home to Windows 10 Pro.](https://support.microsoft.com/help/12384/)
   * When you're ready, select Start  > Settings  > System > Remote Desktop, and turn on Enable Remote Desktop.
   * Make note of the name of this PC under How to connect to this PC. You'll need this later.
2. Use Remote Desktop to connect to the PC you set up:
   * On your local Windows 10 PC: In the search box on the taskbar, type Remote Desktop Connection, and then select Remote Desktop Connection. In Remote Desktop Connection, type the name of the PC you want to connect to (from Step 1), and then select Connect.
   * On your Windows, Android, or iOS device: Open the Remote Desktop app (available for free from Microsoft Store, Google Play, and the Mac App Store), and add the name of the PC that you want to connect to (from Step 1).  Select the remote PC name that you added, and then wait for the connection to complete.

3.How to enable remote desktop?

zAns: The simplest way to allow access to your PC from a remote device is using the Remote Desktop options under Settings. Since this functionality was added in the Windows 10 Fall Creators update (1709), a separate downloadable app is also available that provides similar functionality for earlier versions of Windows. You can also use the legacy way of enabling Remote Desktop, however this method provides less functionality and validation.

4.Steps to enable services of remote desktop.

Ans: n the device you want to connect to, select Start and then click the Settings icon on the left.

Select the System group followed by the Remote Desktop item.

Use the slider to enable Remote Desktop.

It is also recommended to keep the PC awake and discoverable to facilitate connections.

5.Do a practical to configure the remote desktop.

6.Do a practical to transfer files in remote desktop.

7.Do a practical to take remote desktop in mac.

Topic:TCP/IP

1.What is TCP/IP?

Ans:The Internet protocol suite is the [conceptual model](https://en.wikipedia.org/wiki/Conceptual_model_(computer_science)) and set of [communications protocols](https://en.wikipedia.org/wiki/Communications_protocol)used in the [Internet](https://en.wikipedia.org/wiki/Internet) and similar [computer networks](https://en.wikipedia.org/wiki/Computer_network). It is commonly known as TCP/IPbecause the foundational protocols in the suite are the [Transmission Control Protocol](https://en.wikipedia.org/wiki/Transmission_Control_Protocol) (TCP) and the [Internet Protocol](https://en.wikipedia.org/wiki/Internet_Protocol) (IP).

2.What is the full form of TCP/IP?

Ans: TCP/IP stands for Transmission Control Protocol/Internet Protocol. TCP/IP is a set of standardized rules that allow computers to communicate on a network such as the internet.

3.List out the types of IP

Ans: **nicast IP addresses** – an address of a single interface. The IP addresses of this type are used for one-to-one communication.

**multicast IP addresses** – used for one-to-many communication.

**broadcast IP addresses** – used to send data to all possible destinations in the broadcast domain (the one-to-everybody communication).

4.What is protocol?

Ans: A communication protocol is a system of rules that allow two or more entities of a [communications system](https://en.wikipedia.org/wiki/Communications_system) to transmit [information](https://en.wikipedia.org/wiki/Information) via any kind of variation of a [physical quantity](https://en.wikipedia.org/wiki/Physical_quantity). The protocol defines the rules, [syntax](https://en.wikipedia.org/wiki/Syntax), semantics and [synchronization](https://en.wikipedia.org/wiki/Synchronization) of [communication](https://en.wikipedia.org/wiki/Communication) and possible [error recovery methods](https://en.wikipedia.org/wiki/Error_detection_and_correction).

5.DO a practical to set the tcp/ip in network adapter.

Module 10 [Physical and digital security basics]

Topic:Physical security

1.Why physical security needed?

Ans: So the foremost responsibility of physical security is to safeguard employees since they are an important asset to the company All the firewalls, intrusion detector system, cryptography, and other security measures would be useless if someone were able to break in and steal the assets or important data.

2.what is physical security?

Ans: Physical security describes [security](https://en.wikipedia.org/wiki/Security) measures that are designed to deny unauthorized access to facilities, equipment and resources and to protect personnel and property from damage or harm

3.list out the ways of physical security.

Ans: Physical barriers.

Natural surveillance.

Security lighting.

Alarm systems and sensors.

Video surveillance.

Mechanical access control systems.

Electronic access control systems.

Identification systems and access policies.

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

Ans: Avoid deploying unprotected power strips, which do nothing to protect connected equipment from sags, surges, and lightning strikes. Deploy surge protectors and UPS devices instead. Connect all sensitive electronic equipment to UPS or surge protectiondevices.

Topic:Firewall settings

1.What is firewall?

Ans: In [computing](https://en.wikipedia.org/wiki/Computing), a firewall is a [network security](https://en.wikipedia.org/wiki/Network_security) system that [monitors](https://en.wikipedia.org/wiki/Network_monitoring) and controls incoming and outgoing [network traffic](https://en.wikipedia.org/wiki/Network_traffic) based on predetermined security rules.A firewall typically establishes a barrier between a trusted network and an untrusted network, such as the [Internet](https://en.wikipedia.org/wiki/Internet).

2.Why is firewall needed?

Ans: A firewall is an essential part of your business' security system. Without it, your network is open to threats. A firewall keeps destructive and disruptive forces out, and controls the incoming and outgoing network traffic based on security parameters that you can control and refine.

3.What are the features of firewall?

### Ans: Bandwidth control and monitoring

## Web filtering

## Logging

## Internet aggregation and SD WAN

## Sandboxing

## Integrated wireless controller

## Deep Packet Inspection

## Virtual Private Networks

## Malware and virus filtering

## Intrusion prevention system

## Identity management integration and Single Sign On

4.Describe types of firewall

Ans: Packet-Filtering Firewalls. This is the oldest firewall type out there. ...

Circuit-Level Gateways

Stateful Inspection Firewalls

Next-Generation Firewalls

Software Firewalls

Hardware Firewalls

Cloud Firewalls

5.Do a practical to allow anydesk through firewall.

6.do a practical to turn off the services of firewall.

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

Topic:User Management

1.What is user management?

Ans: User management describes the ability for administrators to manage user access to various IT resources like systems, devices, applications, storage systems, networks, SaaS services, and more User management enables admins to control user access and on-board and off-board users to and from IT resources.

2.WHy is user management needed?

Ans: Effective user management can help organisations ensure that they are maintaining their user based license compliancy, and helps with the transparency of user-based licenses. It is important to ensure that user based licenses, like Office 365 or Adobe Creative Cloud, are used effectively and to their full potential.

3.Where can we access the user management?

Ans: User Access Management allows IT administrators to securely manage access to services and resources for all the users in an organization. All this can be done simply within a [Universal Directory](https://www.okta.com/products/universal-directory/).

4.What are the features of user management?

Ans: Reset Password

Unlock User

Manually Reset Password

Disable Accountm

Delete Account

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

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

Topic:File and Folder Permission

1.What is file folder permission?

Ans: When you set permissions, you specify what users are allowed to do within thatfolder, 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).

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

Ans: you specify what users are allowed to do within thatfolder, 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).

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

Ans: Browse to the file or folder you want to hide. Right click the file or folder and select the properties. Check the box beside read only.click ok.

4.Write a steps to give a file only admin permission.

Ans: Access the Properties dialog box.

Select the Security tab.

Click Edit.

Click Add.

In the Enter the object names to select text box, type the name of the user or group that will have access to the folder (e.g.2125.

Click OK.

Click OK on the Security window.

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

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

Topic:Wires and Wireless security

1.What is wireless security?

Ans: Wireless security is the prevention of unauthorized access or damage to computers or data using wireless networks, which include Wi-Fi networks WEP is an old IEEE 802.11 standard from 1997, which was superseded in 2003 by WPA, or Wi-Fi Protected Access. WPA was a quick alternative to improve security over WEP.

2.What is the use of wireless security?

Ans: In recent years, wireless networking has become more available, affordable, and easy to use. Home users are adopting wireless technology in great numbers. On-the-go laptop users often find free wireless connections in places like coffee shops and airports. If you’re using wireless technology, or considering making the move to wireless, you should know about the security threats you may encounter. This paper highlights those threats, and explains what you need to know to use wireless safely, both in the home and in public. You will find definitions of underlined terms in the glossary at the end of this paper

3.What are the type s of wireless security?

Ans: WEP

WPA

WPA2

WPS

4.What wires are used to create a network?

Ans: Coaxial Cable. It has a single copper conductor in the middle

Shielded Twisted Pair (STP) Cable. It is a special kind of copper telephone wiring used in business installations

Fiber Optic Cable

Unshielded Twisted Pair

Network Cabling in Perth

5.Do a practical to set-up the web wireless security.

Topic Troubleshoot security:

1.What is troubleshooting?

Ans: Troubleshooting is the process of identifying, planning and resolving a problem, error or fault within a software or computer system. It enables the repair and restoration of a computer or software when it becomes faulty, unresponsive or acts in an abnormal way.

2.what is the need of troubleshooting security?

## Ans: Rooting Out Physical Infrastructure Problems

## Rooting Out Logical Infrastructure Problems

## Troubleshooting Specific, Network-Based Security Systems

## Keeping It Simple

## Troubleshooting Checklist:

## Alphabet Soup: Network Security System Acronyms

3.Do a practical to change the WPA password.

Ans:

4.Do a practical to change the user account password.

Module 11 [Troubleshooting]

Topic:OS Troubleshooting

1.What are the basic of troubleshooting?

Ans: We recommend starting by using the following tips. Write down your steps. Once you start troubleshooting, you may want to write down each step you take. This way, you'll be able to remember exactly what you've done so you can can avoid repeating the same mistakes.

2.Write down the steps of os troubleshooting.

Ans: Identify the problem.

Establish a theory of probable cause.

Test the theory to determine the cause.

Establish a plan of action to resolve the problem and implement the solution.

Verify full system functionality and, if applicable, implement preventive measures.

Document the peocess.

3.Do a practical to repair OS.

4.Do a practical to repair boot file.

5.DO a practical to repair bootmgr.

Topic:Recovery

1.What is recovery?

Ans: the recovery model, recovery approach or phychological recovery is an approach to mental disorder or substance dependence that emphasixes and supports a persons potential for recovery.

2.Why do we need recovery?

Ans: The whole purpose of recovery in exercise is to allow your muscles to repair themselves and to engage muscles that are sore from your workout. There are also different things that you can do during the recovery stage to help move the process along and come out ready to perform better than your pre-rest stage.

3.list out the tools for recovery.

## Ans:  [Recuva](http://www.piriform.com/recuva/download)

## [Pandora Recovery](http://www.pandorarecovery.com/)

## [PC INSPECTOR](http://www.pcinspector.de/default.htm?language=1) File Recovery

## [PC INSPECTOR](http://www.pcinspector.de/default.htm?language=1) Smart Recovery

## [FreeUndelete](http://www.officerecovery.com/freeundelete/)

## [ADRC Data Recovery Software Tools](http://www.adrc.com/software/data_recovery_tools/)

## [Active File Recovery](http://www.file-recovery.com/)

## [Active Partition Recovery](http://www.partition-recovery.com/)

4.DO a practical to recover deleted file.

5.Do a practical to recover the formatted file 4.Do practical to recover data from the os Corrupted file.

Topic:Hard Drive troubleshooting

1.What is Hard troubleshooting?

Ans: Open up your computer and make sure that the [power and data connection cables](http://knowledge.seagate.com/articles/en_US/FAQ/196169en) for your hard drive are plugged in and working. If you drive is not there, then turn the compoter off and open the case. On the back of your hard drive will bea power cable and a data cable. Make sure they are both plugged in properly.

2.Why do we need Hard drive troubleshooting.

Ans: When your hard drive clicks when it spins or your computer won't boot up, you wantto be able to solve the problem without needing to rely on external help. The data on your drive is important to you. You cannot lose it. ... Consider it an option in case you are not able to recovery the data yourself.

3.Do a practical to troubleshoot the digging sound.

4.Do a practical to change the sata cable in harddrive.

Topic:Laptop,Printer,Video card Troubleshooting

1.What is the basic troubleshooting for printer?

Ans: Check the power. Make sure your printer is turned on and has power.

Check the paper. Make sure you have paper in the paper tray

Check the connection. Check that the cable (probably USB) connecting the printer to your Mac or router is plugged into its appropriate port.

Check what's selected.

Check for ink issues.

2.What are the basic troubleshooting for laptop?

Ans: Run fewer programs at the same time. Don't have too many programs running at the same time.

Restart your computer.

Remove viruses and malware.

Free up hard disk space.

Verify windows system files.

Uninstall unnecessary programs.

Adjust windows visual effects.

Run a disk scan.

3.Do a practical to disassemble the laptop and change the corrupted ram.

4.Do a practical to change the cartridge of the printer.

5.Do a practical to change the processor fan. 4.Do a practical to ch eck the laptop which is not starting up.