



ଓଡ଼ିଶା ରାଜ୍ୟ ମୁକ୍ତ ବିଶ୍ୱବିଦ୍ୟାଳୟ, ସମ୍ବଲପୁର, ଓଡ଼ିଶା  
Odisha State Open University, Sambalpur, Odisha  
Established by an Act of Government of Odisha.

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# COMPUTER APPLICATION

## Block

# 1 Computer Fundamentals

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### Unit -1

#### Introduction to Computer

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### Unit -2

#### MS-Windows

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ODISHA STATE OPEN UNIVERSITY, SAMBALPUR

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# Unit -1

## Introduction to Computer

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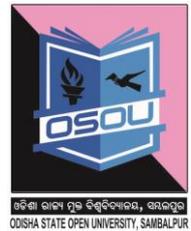
### Learning objectives

After the completion of this unit you should be able to know:-

1. What a computer is with its functions.
2. Classification of computer.
3. Generations of computer.
4. Computer memory units.
5. Components of computer (Broad Overview).
6. Components of computer (Detailed Overview).

### Structure

- 1.1 Introduction
- 1.2 Definition
- 1.3 Characteristics of computer
- 1.4 Functions of computer
- 1.5 Application of computer
- 1.6 Classification of computer
- 1.7 Generation of computer
- 1.8 Computer memory units
- 1.9 Components of computer {Broad Overview}
- 1.10 Components of computer {Detailed Overview}
- 1.11 Let us sum up
- 1.12 Key words
- 1.13 References
- 1.14 Check your progress – possible answers



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## 1.1 Introduction

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### The Present Day computer

The computer as we know it today had its beginning with a 19th century English mathematics professor name Charles Babbage. He designed the Analytical Engine and it was this design that the basic framework of the computers of today are based on. In the present 21<sup>st</sup> century we depend on computers to fulfill our requirements at a very short period of time.

Some of the many purposes where Computers are used are

1. Email service such as Yahoo, Gmail for quick delivery of messages.
2. In hospitals for the purpose of patient care and hospital billing.
3. Telecommunications in the form of mobile phones.
4. Defense in the form of missile guidance system and other defense activities.

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## 1.2 Definition

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A computer is a device that accepts information (in the form of digitalized data) and manipulates it for some result based on a program or sequence of instructions on how the data is to be processed and give the output

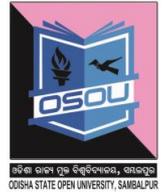


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## 1.3 Characteristics of computer

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The characteristics of computers that have made them so universally useful are speed, accuracy, diligence, versatility, storage capacity, power of remembering, no IQ, no feeling



- **Speed:** - In terms of speed computers can work incredibly fast to achieve the needs of a human within a short span of time.
- **Accuracy:** -In terms of accuracy the computer is 100 % accurate and so computerized calculation is given importance in the field of science and other subjects.
- **Diligence:** -Computer can work for hours without any break and creating error.
- **Versatility:** - We can use computer to perform completely different type of work at the same time.
- **Storage:** - Computer can store mass storage of data with appropriate format.
- **Power of Remembering:** -It can remember data for us. One of the examples includes mobile phones which retrieve phone numbers when the name is selected or the name of the person when the mobile number is dialed.
- **No IQ:** -Computer does not work without instructions.
- **No feeling:** - Computer does not have emotions, knowledge, experience, and feeling.

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## 1.4 Functions of the computer

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The functions of the computer are

1. **Input:**-Receiving of accepting information from outside sources. Some of the

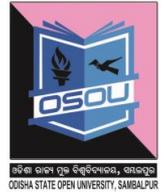


input device

2. Storages are as shown below.

3. **Storage:** - The storage is done by a storage device. A storage device is any computing hardware that is used for storing, Porting and extracting data files and objects. It can hold and store information both temporarily in Primary Storage

Devices and permanently in secondary storage devices which can be internal or external to a computer.



**Primary storage devices      Secondary storage devices**



4. **Processing:** - The processing is done by the computer processor. A processor is the logic circuitry that responds to and processes the basic instructions that drive a computer. The term processor has generally replaced the term central processing unit (CPU). The processor in a personal computer or embedded in small devices is often called a microprocessor.



**Microprocessor**

5. **Output:** -The Output Of a computer is done by Output device. An output device is any device used to send data from a computer to another device or user.

## Output Devices



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### **1.5 Application of computer**

Computers are used in areas which require huge amount of data to be processed at a short period of time to give desired required output.

#### **Where computer is used**

Computer is used in many fields and they are

1. Scientific Calculations where a human is prone to error.
2. Large scale data processing which human being cannot do
3. Getting data from dangerous locations where a human being cannot reach or may lose life.
4. Telecommunication and many more

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#### **Check your progress 1**

**Q.1. What is a computer? Describe the characteristics, functions and application of computer?**

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## 1.6 Classification of computer

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1. Analog: - An analog computer is a form of computer that uses the continuously changeable aspects of physical phenomena such as electrical, mechanical, or hydraulic quantities to model the problem being solved.



### ANALOG COMPUTER

2. Digital: - The device capable of solving problems by processing information in discrete form. It operates on data, including magnitudes, letters, and symbols, that are expressed in binary form—i.e., using only the two digits 0 and 1.



### DIGITAL COMPUTER

3. Hybrid: - Hybrid computers are computers that exhibit features of analog computers and digital computers. The digital component normally serves as the controller and provides logical and numerical operations, while the analog component often serves as a solver of differential equations and other mathematically complex equations.



## HYBRID COMPUTER

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Check your progress 2

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Q.1 what are the classifications of computer?

A. \_\_\_\_\_  
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### 1.7 Generation of computer

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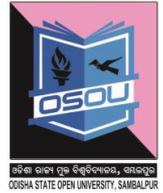
#### 1<sup>st</sup> Generation: - PERIOD :- ( 1946-1959).

1. Used Vacuum tubes which radiated a lot of heat.
2. Worked on batch processing operating systems
3. Input devices used: - Punched Cards, paper tape, magnetic tape.
4. Output devices used: - Punched Cards, paper tape, and magnetic tape.
5. Used machine code as programming language.
6. Consumed a lot of electricity
7. Slow input and slow output
8. Very huge in size and not portable.

Some of the examples of 1<sup>ST</sup> Generation computers are

- ENIAC
- EDVAC
- UNIVAC
- IBM-701

- IBM-650



## **2<sup>nd</sup> Generation: - (1959-1965)**

1. Used transistors which consumed less power.
2. More compact in size
3. More reliable and faster than the first generation computers
4. Used magnetic core as the primary memory and magnetic tape and magnetic disk as secondary memory.
5. Used machine, assembly language and high level programming languages such as Fortran, Cobol.
6. Used batch processing and multiprogramming operating systems.
7. Needed A/C

Some of the examples of 2<sup>nd</sup> Generation computers are

- IBM 1620
- IBM 7094
- CDC 1604
- CDC 3600
- UNIVAC 1108

## **3<sup>rd</sup> Generation (1965-1971)**

1. Used Integrated Circuits.
2. More reliable and faster in comparison to the previous 2 generation computers.
3. Less heat and less maintenance.
4. Consumed less electricity
5. Costly
6. Supported high level languages.

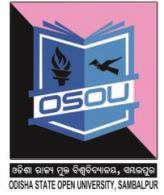
Some of the examples of 3rd Generation computers are

- IBM-360 series
- PDP(Personal Data Processor)
- IBM-370/168
- TDC-316
- Honeywell-6000 series

## **4<sup>th</sup> Generation ((1971-1980)**

1. Microprocessor Based
2. Uses VLSI(Very large scale Integration Circuit) Technology

3. Very cheap
4. Portable and reliable
5. Use the concept of pipeline processing
6. No A/C required
7. Internet was introduced in these systems



Some computers of this generation were:

- PDP 11
- DEC 10
- STAR 1000
- CRAY-X-MP(Super Computer)
- CRAY-1(Super Computer)

### 5<sup>th</sup>Generation (1980- )

1. Used Ultra Large Scale Integration circuits
2. Use of high level languages such as C,C++,Java, vb.net.c#.net
3. Use of web development and web technologies
4. High speed portable and reliable
5. Used natural language processing
6. Used parallel processing
7. More friendly user interfaces with multimedia features
8. Use of web technologies such as php,JSP,J2EE,SAP
9. Used super conductor technology
10. Very powerful compact computers at cheaper rates

Some of the computers of this generation are

- Desktop
- Laptop
- Notebook

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### Check your progress 3

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**Q. What are the generations of computer?**

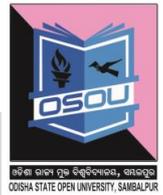
A. \_\_\_\_\_

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### 1.8 Computer memory units

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Computer memory Units. Memory unit is: the amount of data that can be stored in the storage unit. That in which storage capacity is expressed in terms of Bytes.

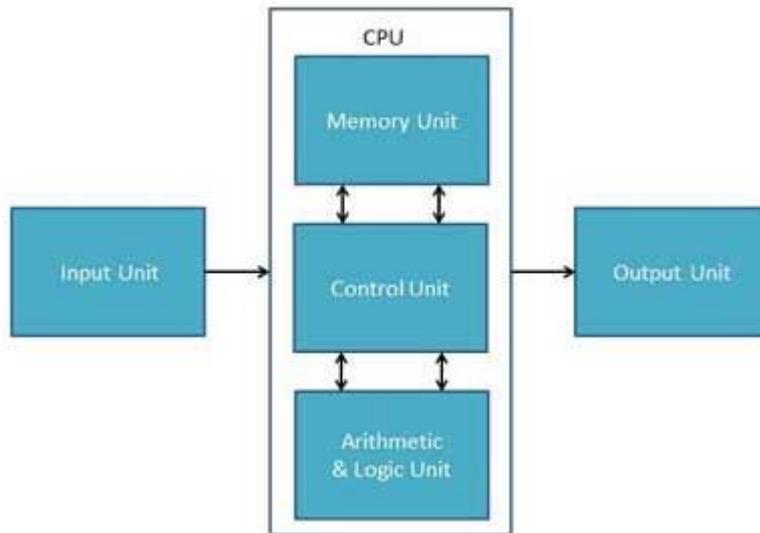


Sl.No.	Unit	Description
1	Bit (Binary Digit)	A binary digit is logical 0 and 1 representing a passive or an active state of a component in an electric circuit.
2	Nibble	A group of 4 bits is called nibble.
3	Byte	A group of 8 bits is called byte. A byte is the smallest unit which can represent a data item or a character.
4	Word	A computer word, like a byte, is a group of fixed number of bits processed as a unit which varies from computer to computer but is fixed for each computer. The length of a computer word is called word-size or word length and it may be as small as 8 bits or may be as long as 96 bits. A computer stores the information in the form of computer words.
5	Kilobyte (KB)	1 KB = 1024 Bytes
6	Megabyte (MB)	1 MB = 1024 KB
7	Giga Byte (GB)	1 GB = 1024 MB
8	Tera Byte (TB)	1 TB = 1024 GB
9	Peta Byte (PB)	1 PB = 1024 TB

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### 1.9 Components of computer {Broad Overview}

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**The components of a computer include the following**

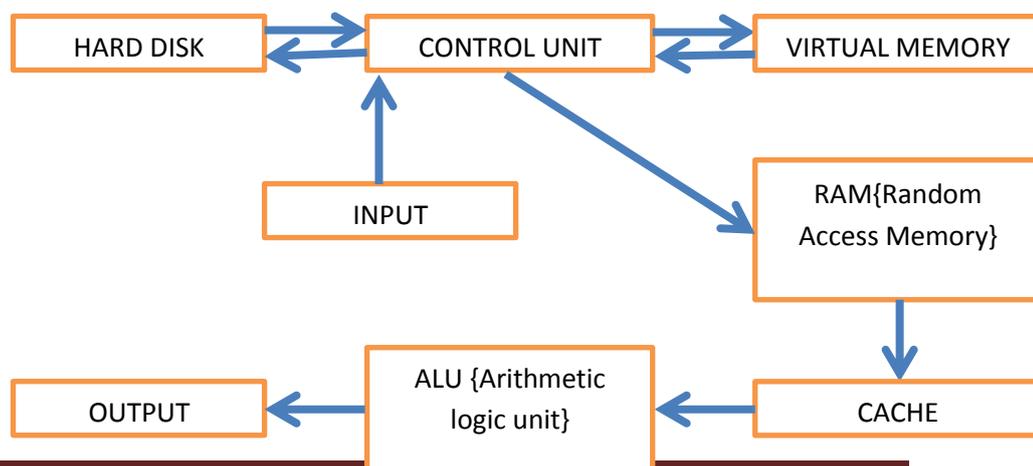
**Input unit:** -The input unit is used to input data into the computer. Keyboard is an input devise.

**Processing unit:** -The processing unit is used to process he data. CPU is a processing unit.

The CPU is comprised of 3 units

- a) **Memory unit/cache:-** :-During the time of processing raw data from the RAM some data from RAM is brought from the RAM to cache memory prior to processing to increase processing speed . This memory keeps on filling up and gets emptied by the control unit till all the instructions and raw data from the RAM get emptied. RAM on the other hand gets filled up with instructions and raw data from the virtual memory (A Portion occupied in the hard disk) by the control unit till the program is completely executed.

**A BRIEF OVER VIEW HOW THE PROCESSING TAKES PLACE IN COMPUTER TO GIVE OUTPUT**





Hard disk :- A device to store huge amount of data and instructions.

Data from the input unit is taken by the control unit and stored in hard disk or sent to RAM for processing .When working with heavy data and instruction from hard disk RAM is a small place and so when data and instructions are too heavy to be stored in RAM and so they are stored in the virtual memory a Portion of hard disk for faster execution. Instructions and data in RAM {Random Access Memory} go to the cache memory for processing. Instructions and data from cache memory go to the ALU for processing.After processing from ALU the output is generated on printer/ monitor or stored to a hard drive.Once instruction in RAM are over they are filled from virtual memory. The cycle continues till all instructions are executed.

b) **Control Unit**:-It is responsible for controlling all parts of the computer.

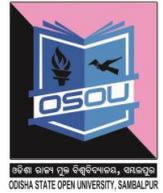
- Responsible in controlling the transfer of data and instructions among other units of a computer.
- Responsible in managing and coordinating with all the units of the computer.
- Gets instructions from the memory, interprets them, and accordingly directs the operation of the computer.
- Responsible in communication with input/output devices for transfer of data or results from storage.
- Does not process or store data.

c) **Arithmetic and Logic Unit**:-Arithmetic and logic section is comprised of 2 units. They are arithmetic section and logic section.

- Arithmetic unit: - Arithmetic section is used to perform all arithmetic operation namely addition, subtraction, multiplication, division.
- Logic Unit: - Logic unit is used to perform all logic operations such as comparison, selection, matching and merging of data.

**Output unit**: -Output unit is a device which generates the output.

Example: - Printer



### Other units to discuss

- a) **Secondary storage:** - The secondary storage comprises of data that is very large in nature. Hard Disk is an example secondary storage device
- b) **Virtual memory.** When the program is too large to be executed in the memory the entire program does not load but only a Portion of it which is to be executed comes to the RAM and the rest of it is stored in the harddisk in the form of virtual memory. The process is called paging.
- c) **External storage:-**External data is a storage devise to store data externally for the following reasons.
  - i. Easy data migration.
  - ii. Vital Data remains safe in case computer crashes and everything can be rebuilt in less time by the process called restoration.
  - iii. It helps to store maximum data and keeps the computer drives empty to store data.

### **Examples of external storage are:**

- i. **Pen drive:** - A pen drive/USB flash drive is a data storage device that includes flashmemory with an integrated Universal Serial Bus (USB) interface. USB flash drives are typically removable and rewritable, and physically much smaller than an optical disc.It comes in forms 4GB, 8GB, 16GB, 32GB, and 64 GB.
- ii. **External Hard disk:** -An external hard drive is a Portable storage device that can be attached to a computer through a USB or FireWire connection, or wirelessly. External hard drives typically have high storage capacities and are often used to back up computers or serve as a network drive. Capacity 500 GB,1 GB
- iii. **Google Drive /Cloud storage :-**Google Drive is a file storage and synchronization service created by Google. It allows users to cloud, share, and edit documents, spreadsheets, and presentations with collaborators. Google Drive encompasses Google Docs, Sheets, and Slides, an office suite that permits collaborative editing of documents, spreadsheets, presentations, drawings, forms, and more.

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**Check your progress 4**

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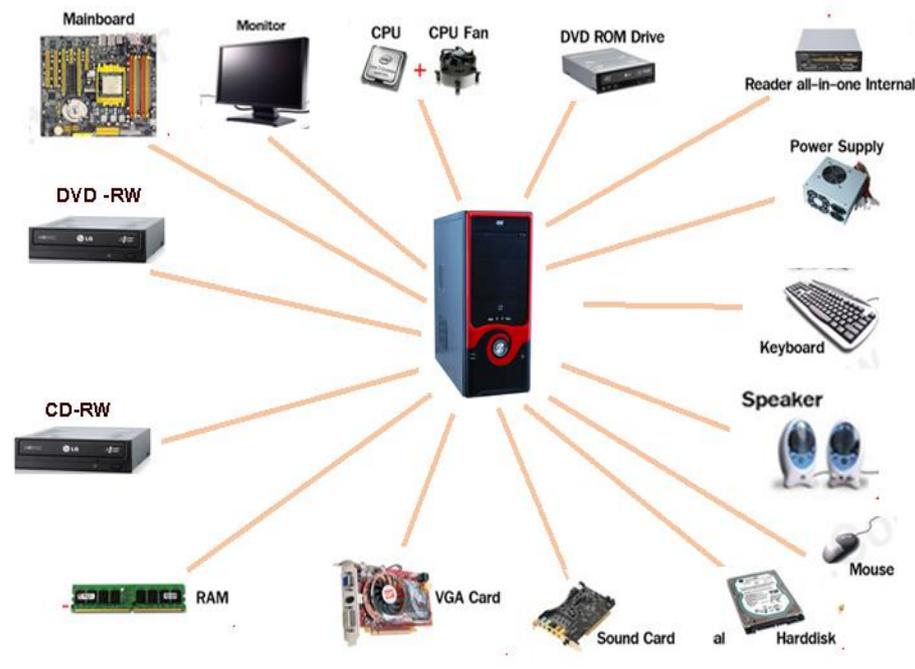


Q.1. what are memory units in computer?

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Q.2. Describe the components of computer (Broad overview)

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## COMPONENTS OF COMPUTER

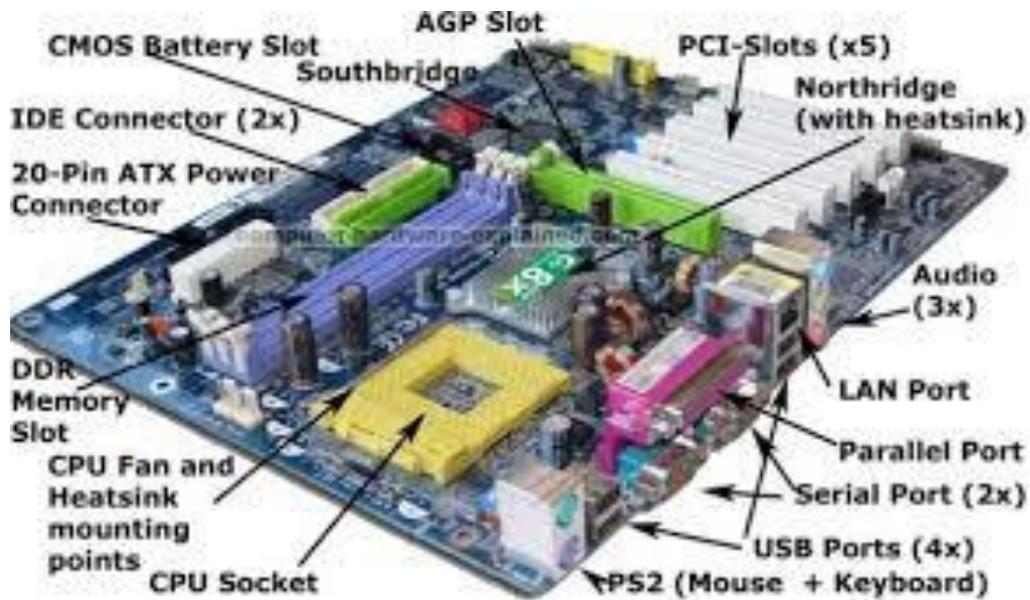
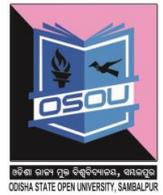
**1. SMPS (power supply):-** SMPS stands for switch mode power supply. 240A/C Current that comes from the switch board and gets converted in low D/C voltage for the mother board and other devices at this unit. A switched-mode power supply (SMPS) is an electronic circuit that converts power using switching devices that are turned on and off at high frequencies, and storage components such as inductors or capacitors to supply power when the switching device is in its non-conduction state.



### SMPS

**2. Motherboard:** - A motherboard (sometimes alternatively known as the mainboard, system board, baseboard, planar board or logic board, or colloquially, a mob) is the main printed circuit board (PCB) found in general purpose microcomputers and other expandable systems. It holds and allows communication between many of the crucial electronic components of a system, such as the central processing unit (CPU) and memory, and provides connectors for other peripherals. A motherboard usually contains significant sub-systems such as the central processor, the chipset's input/output and memory controllers, interface connectors, and other components integrated for general purpose use.

**Port:** - A computer Port is a connection point or interface between a computer and an external or internal device. Internal Ports may connect such devices as hard drives and CD ROM or DVD drives; external Ports may connect modems, printers, mice and other devices.



## Motherboard

Motherboard/main board of the PC is a large printed circuit that holds many of the most essential parts of the computer which are

1. North Bridge
  - a. RAM
  - b. Microprocessor
    - i. Cache Memory
    - ii. ALU
    - iii. Control Unit
  - c. Heat Sink
  - d. CPU Fan And Heat Sink Mounting Points
  - e. AGP Slot (port)
2. South bridge
  - a. BIOS/EPROM
  - b. ROM
  - c. I/O (port)
  - d. PCI (port)
  - e. EIDE (port)
  - f. USB (port)
3. Chipset
4. 20 pin ATX Power Connector (port)



5. CMOS Battery Slots
6. PS2 Port(Mouse +Keyboard) (port)
7. Parallel Ports (port)
8. Serial Ports (port)
9. LAN Ports (port)
10. Audio Port (port)
11. Other connected devices like
  - a. Printers
  - b. Hard Disks
  - c. CD-R/W
  - d. DVD-R/W
  - e. VGA Card
  - f. Sound Card
  - g. Mouse
  - h. Keyboard
  - i. Monitor
  - j. Speaker

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### Check your progress 5

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#### Q.1. Write Down the components of the computer {Detailed View}?

A. \_\_\_\_\_

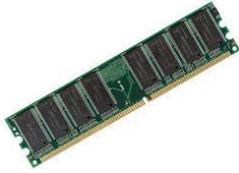
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#### 1. North bridge

- a) RAM:-RAM (Random access memory) is the place in a computer where the operating system, application programs, and data in current use are kept so that they can be quickly reached by the computer's processor.



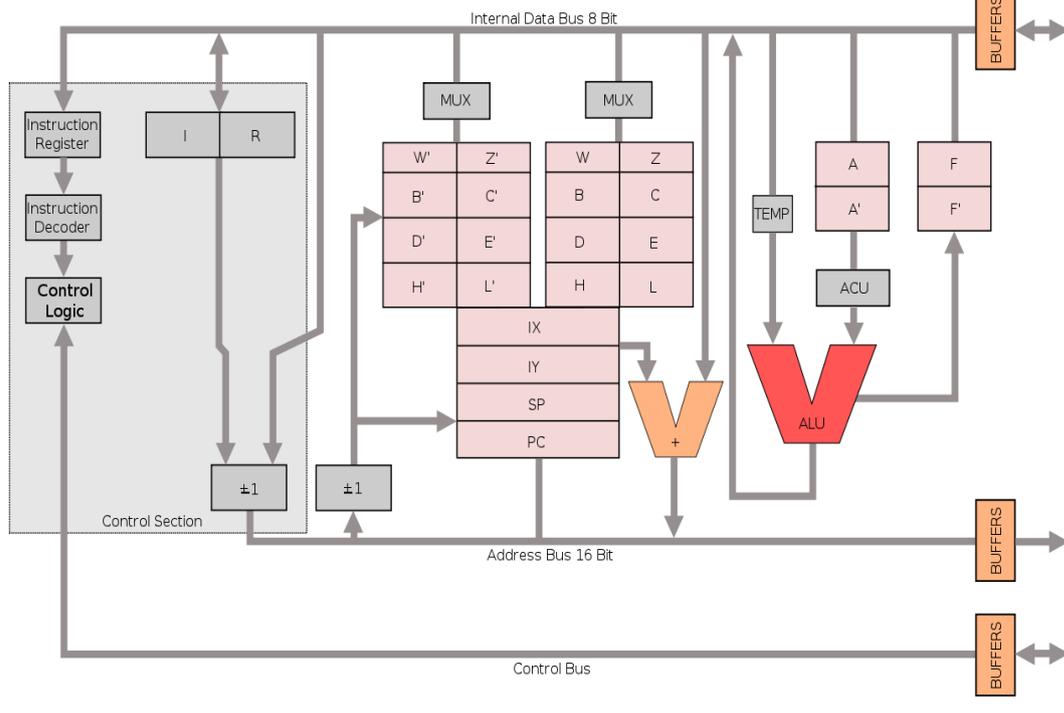
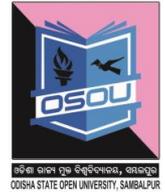
RAM is much faster to read from and write to than the other kinds of storage in a computer, the hard disk, floppy disk, and CD-ROM. However, the data in RAM stays there only as long as your computer is running. When you turn the computer off, RAM loses its data. When you turn your computer on again, your operating system and other files are once again loaded into RAM, usually from your hard disk.

- b) Microprocessor: - A microprocessor is a computer processor that incorporates the functions of a computer's central processing unit (CPU) on a single integrated circuit (IC), or at most a few integrated circuits.



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### **Components of microprocessor**



- I. Arithmetic logic unit (ALU). The ALU performs operations such as addition, subtraction, and operations such as AND, OR.
- II. The control unit retrieves instruction operation codes from memory, and initiates whatever sequence of operations of the ALU requires carrying out the instruction. A single operation code might affect many individual data paths, registers, and other elements of the processor.

As integrated circuit technology advanced, it was feasible to manufacture more and more complex processors on a single chip. The size of data objects became larger; allowing more transistors on a chip allowed word sizes to increase from 4- and 8-bit words up to today's 64-bit words. With the ability to put large numbers of transistors on one chip, it becomes feasible to integrate memory on the same die as the processor.

- III. Cache Memory: -Cache memory, also called CPU memory, is random access memory (RAM) that a computer microprocessor can access more quickly than it can access regular RAM. This memory is typically integrated directly with the CPU chip.

- c) Heat sink: -The role of the heat sink is to remove the high temperature of the motherboard generated due to high speed processing and give a cooling effect to the motherboard to work efficiently and effectively.

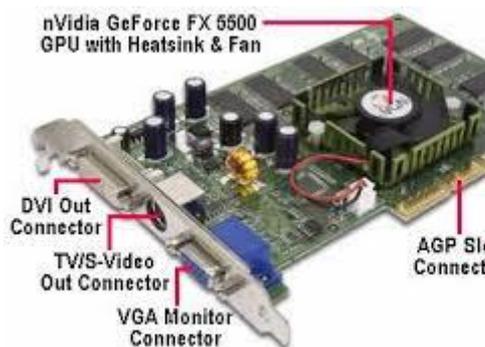


- d) CPU Fan and Heat sink mounting points: -The CPU Fan and heat sink are mounted on the CPU to remove the heat from the CPU. When the CPU works a lot of heat is generated and this heat has to remove and this is done by the CPU fan and the sink mounting points.



#### **CPU fan with heat sink**

- e) AGP (Accelerated Graphics Port) Slot: -This slot is used to attach AGP Cards a high-speed point-to-point channel for attaching a video card to a computer system, primarily to assist in the acceleration of 3D computer graphics. The primary advantage of AGP over PCI is that it provides a dedicated pathway between the slot and the processor rather than sharing the PCI bus.

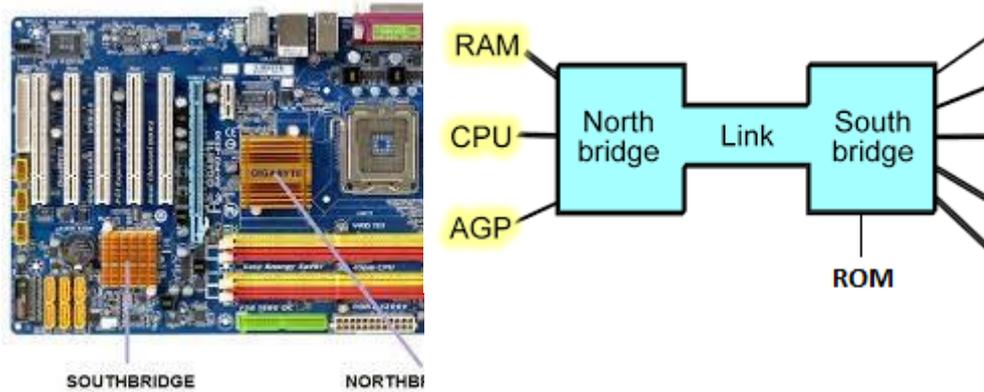
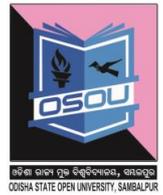


**AGP card**



**AGP slot**

**2. South bridge:-** Southbridge is an Intel chipset that manages the basic forms of input/output ( I/O ) such as Universal Serial Bus ( USB ), serial , audio, Integrated Drive Electronics ( IDE), and Industry Standard Architecture ( ISA ) I/O in a computer.



South bridge overhead view      Diagram showing south bridge and north bridge jobs

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**Check your progress 6**

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**Q. What are the components of the North Bridge?**

A. \_\_\_\_\_

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**The southern bridge manages the following devices as defined below**

**a) BIOS(Basic Input Output System/EPROM:-**



**Bios chips**

**Bios chips on motherboard**



**BIOS setting**

**Basic input output system**

The BIOS software has a number of different roles, but its most important role is to load the operating system. When you turn on your computer and the microprocessor tries to execute its first instruction, it has to get that instruction from somewhere. It cannot get it from the operating system because the operating system is located on a hard disk, and the microprocessor cannot get to it without some instructions that tell it how. The BIOS provides those instructions. The BIOS is special software that interfaces the major hardware components of your computer with the operating system. It is usually stored on a Flash memory chip on the motherboard, but sometimes the chip is another type of ROM. When you turn on your computer, the BIOS do several things.

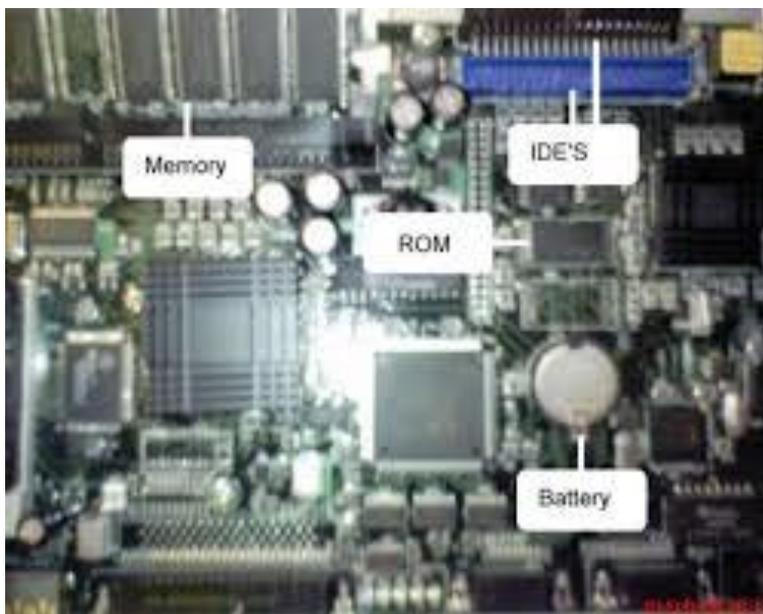
This is its usual sequence:

1. Check the CMOS Setup for custom settings
2. Load the interrupt handlers and device drivers
3. Initialize registers and power management
4. Perform the power-on self-test (POST)
5. Display system settings
6. Determine which devices are bootable
7. Initiate the bootstrap sequence
8. Managing a collection of settings for the hard disks, clock, etc.

The first thing the BIOS do is check the information stored in a tiny (64 bytes) amount of RAM located on a complementary metal oxide semiconductor (CMOS) chip. The CMOS Setup provides detailed information particular to your system and can be altered as your system changes. The BIOS uses this information to modify or supplement its default programming as needed.

**Setting up the Bios:** -To set up the bios Start the computer and press the Del key repeatedly

- b) **ROM Read only memory:** - This is a nonvolatile memory that stores the instructions as how the computer should function.



- c) **I/O (Input Output System):**- Input/output or I/O (or, informally, Io or IO) is the communication between an information processing system, such as a computer, and the end user, possibly a human or another information processing system. Inputs are the signals or data received by the system and outputs are the signals or data sent from it. The term can also be used as part of an action; to "perform I/O" is to perform an input or output operation. I/O devices are used by a human (or other system) to communicate with a computer. For instance,

a keyboard or mouse is an input device for a computer, while monitors and printers are output devices. Devices for communication between computers, such as modems and network cards, typically perform both input and output operations.

There are 2 types of devices: input device and output device.

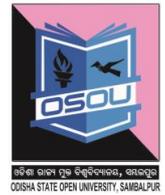
- **Input device:** - An input device is a peripheral (piece of computer hardware equipment) used to provide data and control signals to an information processing system such as a computer or information appliance. Example: Keyboard, mouse, light pen
- **Output device:** -An output device is any piece of computer hardware item used to communicate the results of data processing carried out by an information processing system (such as a computer) which converts the electronically generated information into human-readable form. The example of output devices are printer, projector, monitor

#### d) PCI (Peripheral Component Interconnect)



The **Peripheral Component Interconnect** slots, commonly known as the **PCI slots**, refer to a computer bus. The computer bus is used by the computer to connect to peripheral add-on devices, such as a PCI video card, network cards, sound cards, TV tuners, fire wire cards, graphics cards and many other types of extension cards.

#### e) EIDE:-



Enhanced (sometimes "Expanded") IDE is a standard electronic interface between computer and its mass storage drives. EIDE's enhancements to Integrated Drive Electronics (IDE) make it possible to address a hard disk larger than 528 Mbytes. EIDE also provides faster access to the hard drive, support for Direct Memory Access (DMA), and support for additional drives, including CD-ROM and tape devices through the AT Attachment Packet Interface. When updating your computer with a larger hard drive (or other drives), an EIDE "controller" can be added to computer in one of its card slot.

- f) **USB (Universal Serial Bus):-** USB, short for Universal Serial Bus.USB was designed to standardize the connection of computer peripherals (including keyboards, pointing devices, digital cameras, printers, Portable media players, disk drives and network adapters) to personal computers, both to communicate and to supply electric power. It has become commonplace on other devices, such as smartphones, PDAs and video game consoles. USB has effectively replaced a variety of earlier interfaces, such as serial and parallel Ports, as well as separate power chargers for Portable devices.

### USB Ports

#### Male ports



**USB-A –male**

#### Female ports



**USB-A-female**



**USB-A-male (mini)**



**USB-A-female(mini)**



**USB-A-male(micro)**



**USB-A-female(micro)**



**USB-B-male**



**USB-B-female**



**USB-B-male(mini)**



**USB-B-female(mini)**



**USB-B-male(micro)**



**USB-B-female(micro)**



**USB-C-male**

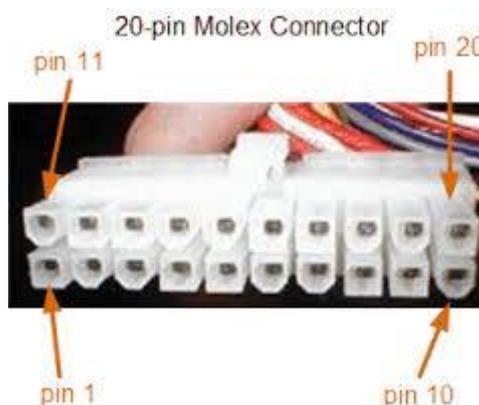


**USB-C-female**

**3. Chipset:** -In a computer system, a chipset is a set of electronic components in an integrated circuit that manages the data flow between the processor, memory and peripherals. It is usually found on the motherboard. Chipsets are usually designed to work with a specific family of microprocessors. In computing, the term chipset commonly refers to a set of specialized chips on a computer's motherboard or an expansion card.



**4. 20 pin ATX power connector:** -A connector from SMPS (switch mode power supply) to Power up the Motherboard.

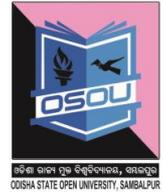


Atx power connector pin diagram



Atx power connector connected to mother board

## 5. CMOS Battery Slots:-



CMOS (complementary metal-oxide-semiconductor) is the term usually used to describe the small amount of memory on a computer motherboard that stores the BIOS settings.

**CMOScleaning:** - CMOS clearing is done to achieve the following

- i. Reset the settings to factory settings
- ii. Reset the password of the bios.

### CMOS clearing can be done in 3 ways

**1<sup>st</sup> Way:** -The easiest way to clear the CMOS is to enter the BIOS setup utility and choose to **Reset BIOS Settings** to their factory default levels...

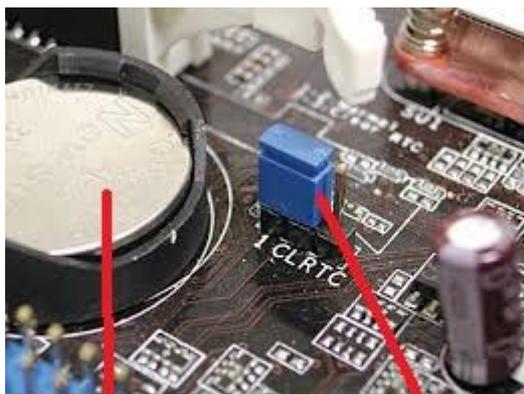
**2<sup>nd</sup>Way:** - Remove the CMOS battery for a minute and then replace it.

**3<sup>rd</sup>Way:** - Clear CMOS by changing the motherboard jumper.

**Step -1** Switch off the computer .Unplug all supplies to it.

**Step-2** Change motherboard jumper to pin labeled

**CLRPWD / PASSWORD /CLEAR. / CLR**



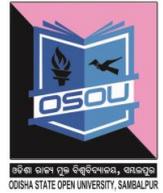
**CMOS BATTERY      JUMPER ON CLR**

**Step-3** Switch on the computer for resetting to take place.

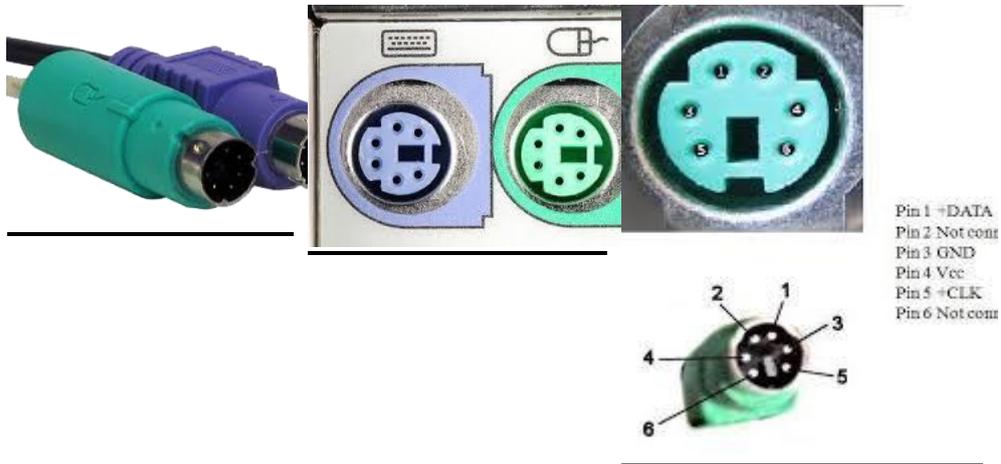
**Step-4** Switch off the computer.

**Step-5** Reset the motherboard jumper

**Step-6** Start the computer and press del key to enter bios settings.  
 Check if settings are changed. And change settings.



**6.PS2 Port (Mouse + Keyboard):** -The PS/2 connector is a 6-pin mini-DIN connector used for connecting some keyboards and mice to a PC compatible computer system.



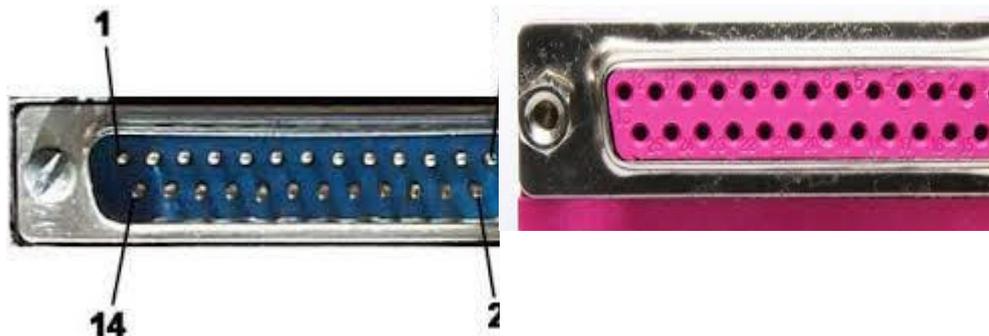
Pin 1 =DATA  
 Pin 2 Not conn  
 Pin 3 GND  
 Pin 4 Vcc  
 Pin 5 =CLK  
 Pin 6 Not conn

**PS2-male port**

**PS2 –female port**

**PS2 needle positions**

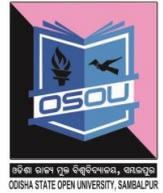
**7.ParallelPorts:** -A parallel Port is an interface allowing a personal computer (PC) to transmit or receive data down multiple bundled cables to a peripheral device such as a printer. The most common parallel Port is a printerPort known as the Centroids Port.



**Parallel port male**

**Parallel port female**

## 8. Serial port:-



A serial port is a serial communication physical interface through which information transfers in or out one bit at a time serial Ports to devices such as modems, terminals and various peripherals.

While such interfaces as Ethernet, FireWire, and USB all send data as a serial stream, the term "serial port" usually identifies hardware intended to interface with a modem or with a similar communication device.

Modern computers without serial ports may require serial-to-USB converters to allow compatibility with RS 232 serial devices such as modems.

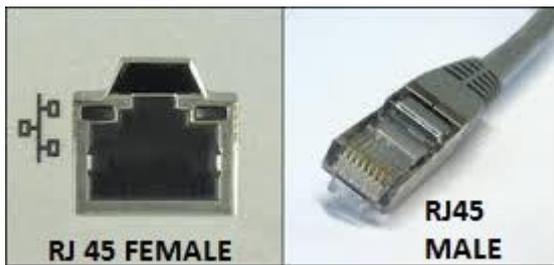


### Serial to USB

### Model Serial port connected to CPU

Serial ports are still used in applications such as industrial automation systems, scientific instruments, point of sale systems and some industrial and consumer products. Server computers may use a serial Port as a control console for diagnostics.

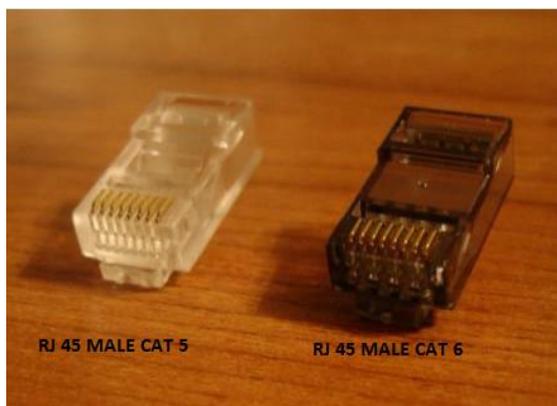
## 9.Lanports :-Lan stands for local area network



(Local area network **port**) An RJ-45 Ethernet socket on a computer or network device such as a switch or router. All client machines, servers and network devices on the local network are cabled together at their LANports.



Rj45 are connected to cat 5/6 cables to prepare LAN cable,



**CAT 5 male Rj45 AND CAT6 male RJ45**



**CAT -5 female**



**CAT -6 female**

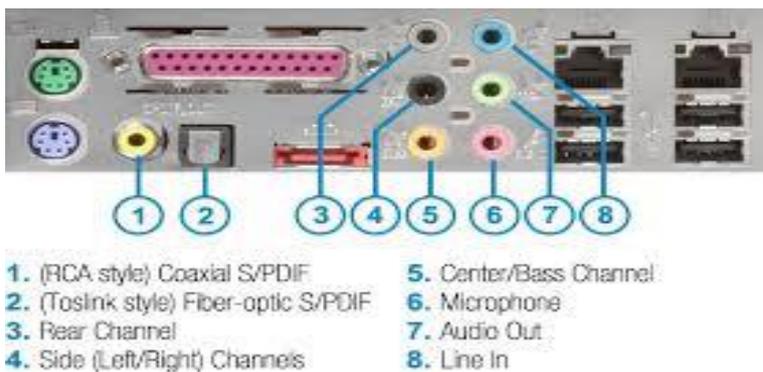


**CAT-5 cable with CAT5 male connector**



**CAT-6 cable with CAT6 male connector**

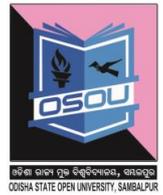
**10. Audio Port:** -Audio Port is used to listen to music and make use of a microphone to transmit voice and sound into the system in order to record it.



**11. Other connected devices :-**The other connected devices are

- a. Printers
- b. Hard Disks
- c. CD-ROMS
- d. DVD Writers

- a. **Printers:** -Printers are used to output data as a hard copy. Printers are classified into 2 types
1. **Impact printers:** -Impact printer refers to a class of printers that work by banging a head or needle against an ink ribbon to make a mark on the paper. This includes dot-matrix printers, daisy-wheel printers, and line printers.



**Dot matrix printer**



**Daisy wheel printer**



**Line printer**

2. **Non-Impact Printers:** -A type of printer that does not operate by striking a head against a ribbon. Examples of nonimpact printers include laser and ink-jet printers.



**Laser printer**



**Ink jet printer**

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**Check your progress 7**

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**Q.1 .What is a port ?what are the various types of ports?**

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q.2. What is the full form of BIOS?**

A. \_\_\_\_\_

**Q.3. What is a chipset?**

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q.4. What is CMOS?**

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q.5. What is a Printer? Describe with types of printers?**

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**b.Hard disks :-** A hard disk drive (HDD), hard disk, hard drive or fixed disk is a data storage device used for storing and retrieving digital information using one or more rigid ("hard") rapidly rotating disks (platters) coated with magnetic material. The platters are paired with magnetic heads arranged on a moving actuator arm, which read and write data to the platter surfaces. Data is accessed in a random-access manner, meaning that individual blocks of data can be stored or retrieved in any order rather than sequentially. HDDs retain stored data even when powered off.



HDD Capacity is specified in unit prefixes corresponding to powers of 1000: a 1-terabyte (TB) drive has a capacity of 1,000 gigabytes (GB; where 1 gigabyte = 1

billion bytes). The two most common form factors for modern HDDs are 3.5-inch, for desktop computers, and 2.5-inch, primarily for laptops. HDDs are connected to systems by standard interface cables such as PATA (Parallel ATA), SATA (Serial ATA), USB or SAS (Serial attached SCSI) cables.

**How it works:** -An HDD records data by magnetizing a thin film of ferromagnetic material. A typical HDD design consists of a spindle that holds flat circular disks, also called platters, which hold the recorded data. The platters are made from a non-magnetic material, usually aluminum alloy, glass, or ceramic, and are coated with a shallow layer of magnetic material typically 10–20 nm in depth, with an outer layer of carbon for protection.

**c. CD:** -CD stands for compact disk. It comes in two types.

- a. **CD-R:**- It follows the principle of WORM(write once read many)
- b. **CD-R/W:** - It can be written as many times and read as many times. Erasing the entire disk and loading new data is possible.

**d. DVD:** -Dvd stands for Digital versatile disk. It is a digital optical disk storage which was developed in the year 1995 by Sony, Phillips, Toshiba and Panasonic to store data. Capacity ranges from 4.7GB /single density to 8.5GB/double density. DVD is of 2 types

**DVD-R:** -It follows the principle of WORM(write once read many)

**DVD-R/W:** - It can be written as many times and read as many times. Erasing the entire disk and loading new data is possible.



## VGA CARD

**e. VGA Card:** -A VGA card connects to the motherboard of a computer system and generates output images to display. Video cards are also referred to as graphics cards. Video cards include a processing unit, memory, a cooling mechanism and connections to a display device



---

## Sound card

**f. Sound card:** -A sound card (also known as an audio card) is an internal computer expansion card that facilitates economical input and output of audio to and from a computer under control of computer programs. The term sound card is also applied to external audio interfaces that use software to generate sound, as opposed to using hardware inside the PC. Typical uses of sound cards include providing the audio component for multimedia applications such as music composition, editing video or audio, presentation, education and entertainment (games) and video projection



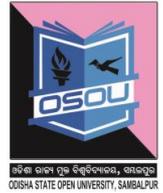
## Reader all in one internal

**g. Reader all in one internal:-** A memory card reader is a device for accessing the data on a memory card such as a CompactFlash (CF), Secure Digital(SD) or Multi Media Card (MMC). Most card readers also offer write capability, and together with the card, this can function as a pen drive. Some printers and personal computers have a built-in card reader.

A multi card reader is built-used for communication with more than one type of flash memory card. Multi card readers do not have in memory capacity, but are able to accept multiple types and styles of memory cards.

The number of compatible memory cards varies from reader to reader and can include more than 20 different types. The number of different memory cards that a multi card reader can accept is expressed as x-in-1, with x being a figure of

merit indicating the number of memory cards accepted, such as 35-in-1. There are three categories of card readers sorted by the type and quantity of the card slots: single card reader (e.g. 1x SD-only), multi card reader (e.g. 9-in-1) and series card reader (e.g. 4 as SD-only).



## Mouse

**h. Mouse:** - A device that controls the movement of the cursor or pointer on a display screen. A mouse is a small object you can roll along a hard, flat surface. Mouse comprises of left button, scroll button, right button.

### Left mouse button is used to

1. Click often termed as left click the buttons, icons, tabs etc.
2. Select the part of the document that is needed.

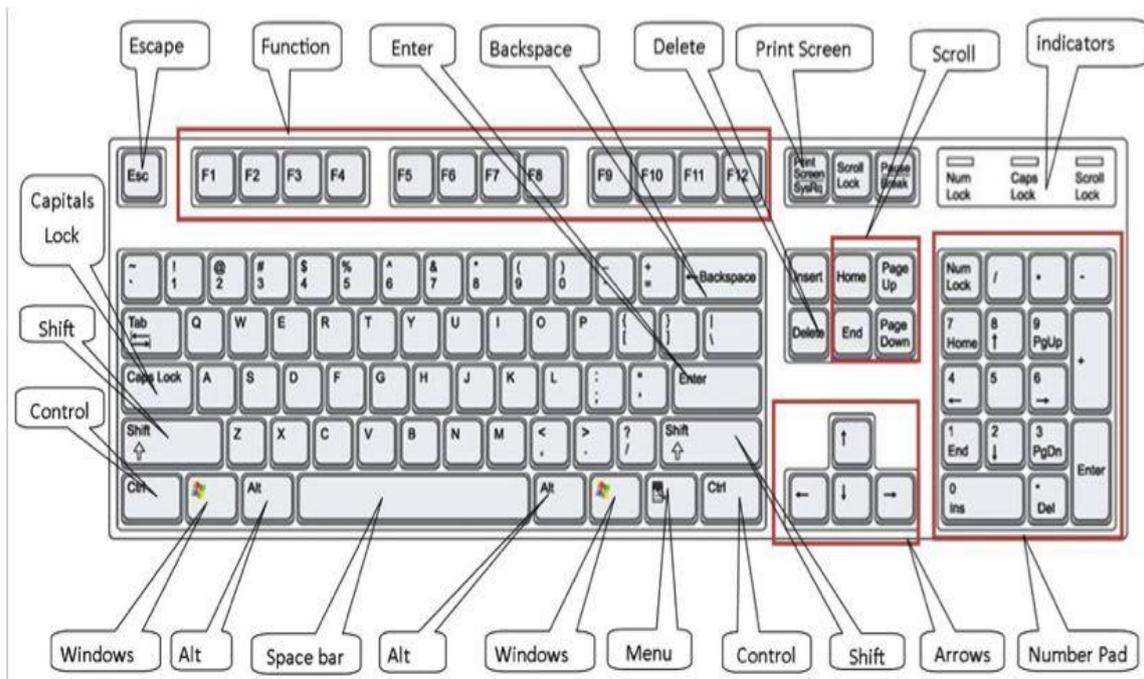
### Right mouse button is used to

1. Cut and paste
2. Change the font
3. Any other option that is defined by the software

### Scroll mouse button is used to

1. Scroll the document.

**i. Keyboard:** - A keyboard is the set of typewriter-like keys that enables you to enter data into a computer and other devices. Computer keyboards are similar to electric-typewriter keyboards but contain additional keys. The keys typically found on computer keyboards are often classified as follows:



- Alphanumeric keys – All of the letters and numbers on the keyboard. A-Z and 0-9.
  - Punctuation keys – All of the keys associated with punctuation such as the comma, period, semicolon, brackets, and parenthesis and so on. Also, all of the mathematical operators such as the plus sign, minus sign, and equal sign.
  - Special keys – All of the other keys on the computer keyboard such as the function keys, control keys, arrow keys, caps lock key, delete key, etc.
- Special keys on a PC Keyboard
1. Alt key – Short for Alternate, this key is like a second control key.
  2. Arrow keys – Most keyboards have four arrow keys that enable you to move the cursor (or insertion point) up, down, right, or left. Used in conjunction with the Shift or Alt keys, the arrow keys can move the cursor more than one position at a time, but this depends on which program is running.
  3. Backspace key – Deletes the character just to the left of the cursor (or insertion point) and moves the cursor to that position.
  4. Caps Lock key – A toggle key that, when activated, causes all alphabetic characters to be uppercase.
  5. Ctrl key – Short for Control, this key is used in conjunction with other keys to produce control characters. The meaning of each control character depends on which program is running.

6. Delete key – Sometimes labeled Del, deletes the character at the current cursor position, or the selected object, but does not move the cursor. For graphics-based applications, the delete key deleted the character to the right of the insertion point.
7. Enter key – Used to enter commands or to move the cursor to the beginning of the next line. Sometimes labeled Return instead of Enter.
8. Esc key – Short for Escape, this key is used to send special codes to devices and to exit (or escape) from programs and tasks.
9. Function Keys – Special keys labeled F1 to F12. These keys have different meaning depending on which program is running.

**j. Monitor:** - A computer monitor is an electronic device that shows pictures for computers... Monitors often have higher display resolution than televisions. A high display resolution makes it easier to see smaller letters and fine graphics.

There are three types of computer displays:

- The CRT monitor. Cathode ray tube technology that was developed for television. Monitors are made with better parts which give a higher display resolution and picture sharpness than a television.



**CRT monitor**



**LCD Monitor**

- The LCD monitor, the most common kind of flat panel display. It is a newer technology than CRT. LCD monitors use much less desk space, are lightweight and use less electricity than CRT. They have been used for many years in the screens of laptop and notebook computers. They also work as touch screens in tablet computers, mobile phones, and other handheld technologies.



### LED Monitor

- An LED Monitor (short for Light Emitting Diode) or LED display is an LCD Monitor that uses light emitting diodes for back lighting.

**k. Speakers:** - Speakers are the audio output devices used to listen to sound from the computer. Audio output which include sound from the audio track of music or movie or an animation.



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### Check your progress 8

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**Q.1 .What is full form of HDD ,CD,DVD ?**

A. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Q.2.. What is a VGA card?**



A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q.3. What is a sound card?**

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q.4. What is read all in one internal?**

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q.5. What is a Mouse?**

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q.6. What is a keyboard?**

A. \_\_\_\_\_  
\_\_\_\_\_



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**Q.7. What is a monitor ? Describe the types of monitor ?**

A. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Q.8. What is a speaker ?**

A. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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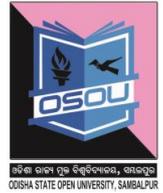
### **1.11 Let us sum up**

A computer is a device that accepts information (in the form of digitalized data) and manipulates it for some result based on a program or sequence of instructions on how the data is to be processed and give the output. The characteristics of computers that have made them so universally useful are speed, accuracy, diligence, versatility, storage capacity, power of remembering, no IQ, no feeling. The functions of computer include input, storage, processing and output. Computer is used for scientific calculations, large scale data processing, getting data from dangerous places and telecommunications. Computers are classified into analog, digital and hybrid. The generations of computer are 1st, 2nd, 3rd, 4th and 5th. The broad overview of the computer is comprised of input unit, control unit, memory unit, arithmetic logic unit and output unit. Coming to the detailed view the computer is comprised of CPU, CPU fan, DVD, read all in one internal, power supply {SMPS}, keyboard, speaker, mouse, harddisk, sound card, VGA card, RAM, CD-RW, DVD-RW, motherboard, monitor.

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## 1.12 Key words

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- **Input:** Any information or data that is sent to a computer for processing is considered input. Input or user input is most often sent to the computer using an input device such as a keyboard or mouse. The picture is an example of input being sent from the computer keyboard to the computer.
- **Process:** A series of functions that lead to the achievement of certain goals.
- **Output:** Any computer-generated information displayed on screen, printed on paper or in machine readable form, such as disk and tape.
- **Storage:** - A series of computer components and recording media used to retain digital data. It is a core function and fundamental component of computers.
- **Storage Devices:** A storage device is any computing hardware that is used for storing, porting and extracting data files and objects. It can hold and store information both temporarily and permanently, and can be internal or external to a computer, server or any similar computing device. Internal storage devices include hard disk drives. External storage devices include external hard disk drives, pen drives, DVD, CD.

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## 1.13 References

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1.tutorialspoint.com

2.google.com

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## 1.14 Check your progress possible answers

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### Answers to check your progress 1

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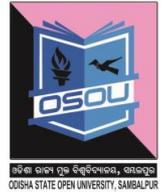
**Answer 1.** A computer is a device that accepts information (in the form of digitalized data) from an input device and manipulates it for some result based on a program or sequence of instructions on how the data is to be processed to give the output. The characteristics of computer are speed, accuracy, diligence, versatility, storage capacity, power of remembering, no IQ, no feeling. The functions of the computer are input, storage, processing, output. The applications of computer are scientific calculations, large scale processing, Getting data from dangerous locations, telecommunication. { For Details ref page numbers : 3 – 6 }.

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## Answers to check your progress 2

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**Answer 1** The classifications of computer are analog, digital, hybrid. For details refer to page numbers : {7 - 9}.



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## Answers to check your progress 3

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**Answer 1** The generations of computer are

- 1st Generation: - period :- (1946-1959).
- 2nd Generation: - period :- (1959-1965)
- 3rd Generation :- period : (1965-1971)
- 4th Generation :- period :- (1971-1980)
- 5th Generation: - period :- (1980- )

---

## Answers to check your progress 4

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The components of computer in broad view are input unit, processing unit, memory unit, control unit, arithmetic logic unit, output unit, secondary storage, virtual memory, external storage devices such as { pen drive, external hard disk , Google drive }

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## Answers to check your progress 5

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The components of the computer are monitor, CPU, CPU fan, DVD ROM drive, Reader all in one internal, power supply (SMPS), keyboard, speakers, mouse, hard disk, sound card, VGA card, RAM, CD-RW, DVD-RW, motherboard. The motherboard is comprised of

1. North Bridge
  - a. RAM
  - b. Microprocessor
    - i. Cache Memory
    - ii. ALU
  - iii. Control Unit
    - c. Heat Sink
    - d. CPU Fan And Heat Sink Mounting Points
    - e. AGP Slot (port)
2. South bridge
  - a. BIOS/EPROM
  - b. ROM
  - c. I/O (port)
  - d. PCI (port)
  - e. EIDE (port)



- f. USB (port)
3. Chipset
4. 20 pin ATX Power Connector (port)
5. CMOS Battery Slots
6. PS2 Port(Mouse +Keyboard) (port)
7. Parallel Ports (port)
8. Serial Ports (port)
9. LAN Ports (port)
10. Audio Port (port)
11. IDE Connector (port)
12. Other connected devices like
  - a. Printers
  - b. Hard disks
  - c. CD-R/W
  - d. DVD-R/W
  - e. VGA card
  - f. Sound card
  - g. Mouse
  - h. Keyboard
  - i. Monitor
  - j. Speakers

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### Answers to check your progress 6

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#### A.1 :- The components of North Bridge are

1. RAM
  - a. Cache Memory
  - b. ALU
  - c. Control Unit
3. Heat Sink
4. CPU Fan And Heat Sink Mounting Points
- 5 AGP Slot (port)

---

### Answers to check your progress 7

---

**A.1 :-** A computer port is a connection point or interface between a computer and an external or internal device. Internal ports may connect such devices as hard drives and CD ROM or DVD drives; external ports may connect modems, printers, mice and other devices.



- AGP slot (port)
- I/O (port)
- PCI(port)
- EIDE(port)
- USB(port)
- 20 PIN ATX Power Connector
- PS2 port
- Parallel port
- Serial port
- LAN port
- Audio port
- IDE connector port

**A.2 :-** BIOS stands for basic input output system

**A.3 :-** A chipset is a set of electronic components in an integrated circuit that manages the data flow between the processor, memory and peripherals.

**A.4 :-** CMOS (complementary metal-oxide-semiconductor) is the term usually used to describe the small amount of memory on a computer motherboard that stores the BIOS settings.

**A.5 :-** Printers are used to output data as a hard copy. Printers are classified into 2 types

1. Impact printer
2. Non –impact printer

---

### **Answers to check your progress 8**

---

A.1.

- HDD stands for hard disk drive
- CD: - CD stands for compact disk.
- DVD: - DVD stands for Digital versatile disk

A.2. VGA Card: -A VGA card connects to the motherboard of a computer system and generates output images to display. Video cards are also referred to as graphics cards. Videocards include a processing unit, memory, a cooling mechanism and connections to a display device.



A.3. Sound Card :-A sound card (also known as an audio card) is an internal computer expansion card that facilitates economical input and output of audio to and from a computer under control of computer programs.

A.4. Reader all in one internal :-A device for accessing the data on a memory card such as a CompactFlash (CF), Secure Digital(SD) or Multi Media Card (MMC).

A.5. Keyboard :-A keyboard is the set of typewriter-like keys that enables you to enter data into a computer and other devices.

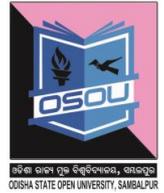
A.6. Monitor :-A computer monitor is an electronic device that shows pictures for computers. The types of monitors are CRT(Cathode Ray Tube ), LCD (Liquid Crystal display), LED(Light Emitting Diode).

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## Unit - 2

### Windows

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### Learning objectives

After the Completion of this unit you should be able to know

1. What is an operating system
2. Classification of operating system.
3. Benefits of operating system.
4. What is windows ?
5. Windows as single user multitasking operating system and multiuser multitasking operating system.
6. Windows 7 operating system, installation and use.

### Structure

- 2.1 Introduction
- 2.2 Definition.
- 2.3 Operating system concepts
- 2.4 Classification of operating system
- 2.5 Operating system benefits
- 2.6 Windows
- 2.7 File and folder management in Windows 7.
- 2.8 Windows7 installation
- 2.9 Let us sum up
- 2.10 Key words
- 2.11 References
- 2.12 Check your progress possible answers.

---

## 2.1 Introduction

---

An operating system (OS) is the software component of a computer system that is responsible for the management and coordination of activities and the sharing of the resources of the computer. The OS acts as a host for application programs that are run on the machine. As a host, one of the purposes of an OS is to handle the details of the operation of the hardware. This relieves application programs from having to manage these details and makes it easier to write applications. Almost all computers use an OS of some type.

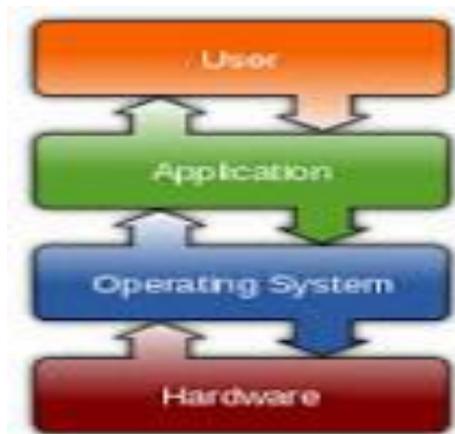
Operating systems offer a number of services to application programs and users. Applications access these services through application programming interfaces (APIs) or system calls. By using these interfaces, the application can request a service from the OS, pass parameters, and receive the results of the operation. Users may also interact with the OS by typing commands or using a graphical user interface (GUI).

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## 2.2 Definition

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An operating system (OS) is system software that manages computer hardware and software resources and provides common services for computer programs. The operating system is a component of the system software in a computer system. Application programs usually require an operating system to function.



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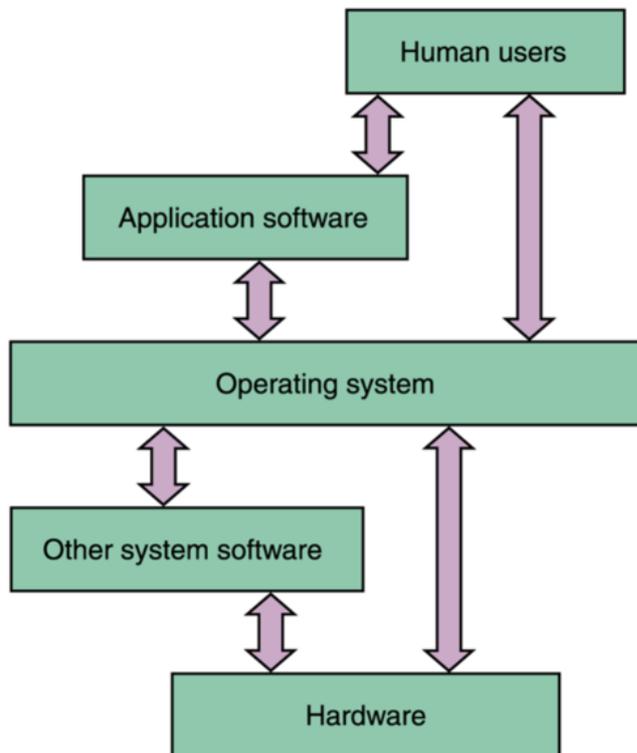
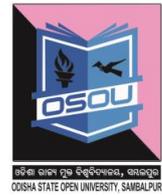
## 2.3 Operating system concepts

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An **Operating system** is basically an intermediary agent between the user and the computer hardware.

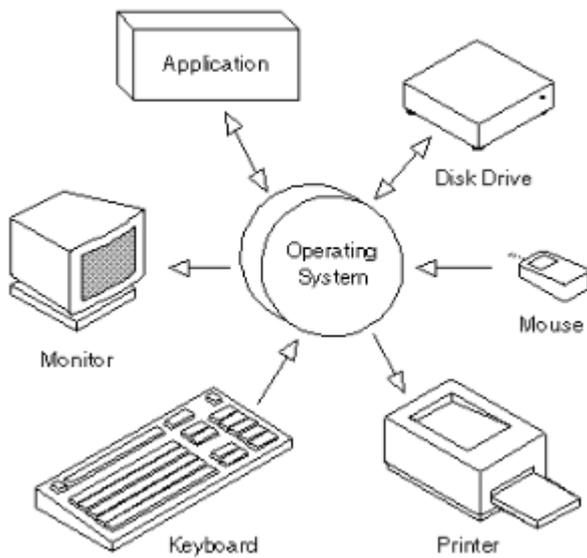
- Manages the computer's resources (hardware, abstract resources, software)
- It's a resource allocator.

- It is also used to control programs to prevent errors and improper computer use.
- It is interrupt driven.



**Application software** :-An application software is a computer program designed to perform a group of coordinated functions, tasks, or activities for the benefit of the user. Examples of an application software include MS Word, MS Excel.

**Operating System** :-The operating system is the most important program that runs on a computer. Operating systems perform basic tasks, such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and directories on the disk, and controlling peripheral devices such as disk drives and printers. Every general-purpose computer must have an operating system to run other programs and applications. For large systems, the operating system has even greater responsibilities and powers such as making sure that different programs and users running at the same time do not interfere with each other. The operating system is also responsible for security, ensuring that unauthorized users do not access the system.



**Other System software:-** The other system soft wares are the software that are used to run devises of a particular company which the operating system may not include. These soft wares are loaded into the system by CD /DVD so that the operating system recognizes the hardware. These include software of printers, scanners etc.

---

## 2.4 Classification of Operating System

---

- **Multi user:** Allows two or more users to run programs at the same time. Some operating systems permit hundreds or even thousands of concurrent users.
- **Multi-processing :** Supports running a program on more than one CPU.
- **Multi-tasking :** Allows more than one program to run concurrently.
- **Multi-threading :** Allows different parts of a single program to run concurrently.
- **Real time:** Responds to input instantly. General-purpose operating systems, such as DOS and UNIX, are not real-time.

---

## 2.5 Operating System benefits

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- Simplifies hardware control for applications
- Enforcer of sharing, fairness and security with the goal of better overall performance of the system
- Provides abstract resources such as
  - Sockets
  - Inter-process communication

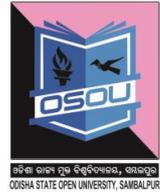
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## Check your progress 1

---

**Q. What is an Operating System?**

A. \_\_\_\_\_  
\_\_\_\_\_



---

## 2.6 Windows

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**Windows :-** Windows is an operating system that has been developed by Microsoft. It comes in 2 forms

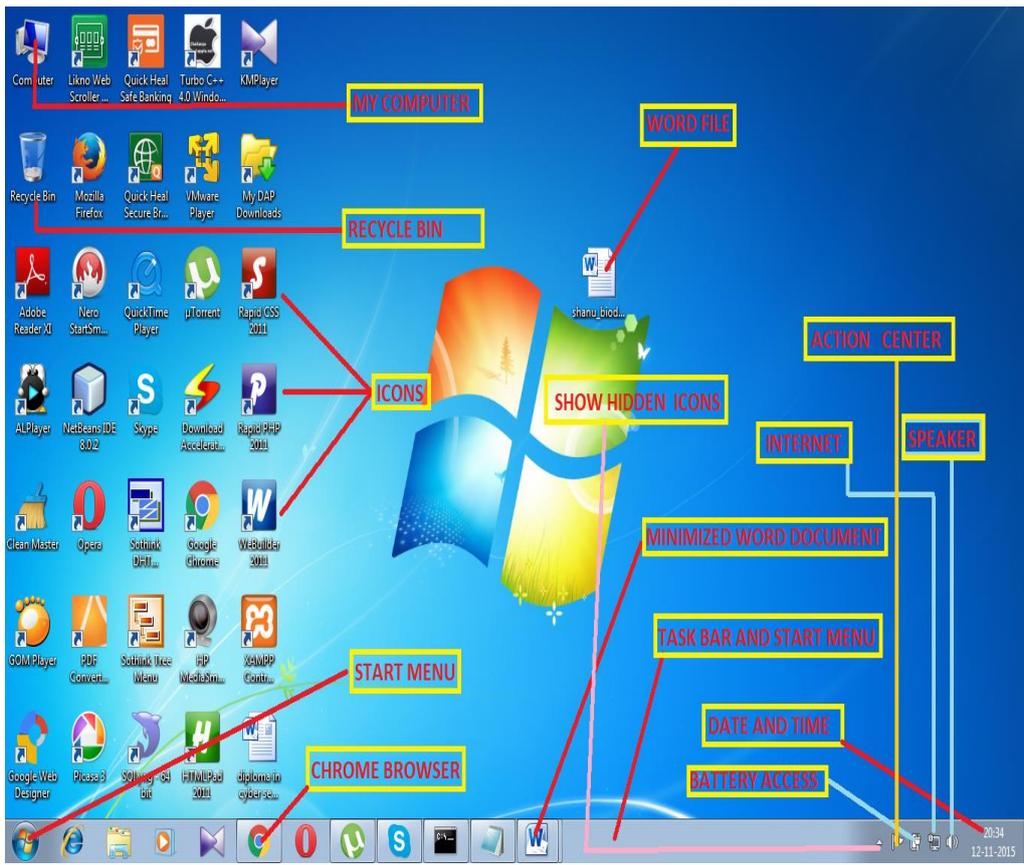
- **Single user Multi-Tasking OperatingSystem:** - A single-user multi-tasking operating system is a type of operating system (OS) that is developed to do multiple tasks at the same time. An example of single user multi-tasking includes printing a page of a different word document at the same time allowing the user to edit other word documents. Examples of this are Windows Xp, Windows 7, and Windows 8.
- **Multi user Multi-tasking Operating system :-**A multi user multi-tasking operating system is the operating system developed to do multiple tasks of multiple users at the same time. Examples of these operating systems are Windows NT, Windows 2000, Windows 2016.

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### 2.6.1 Windows 7

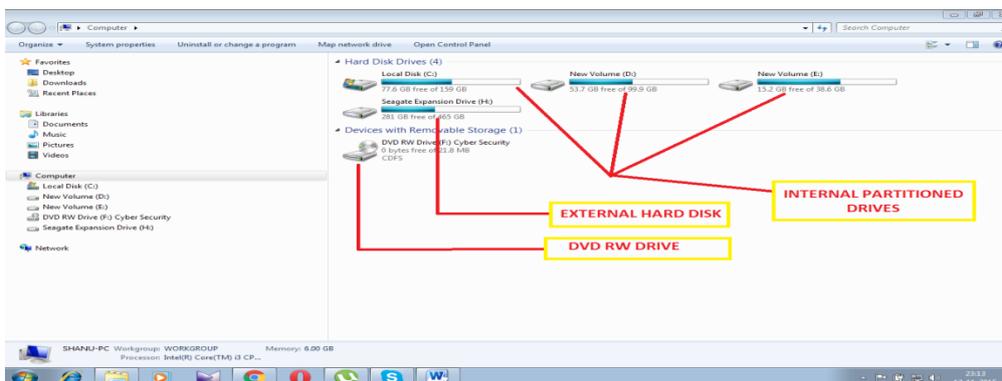
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**Windows -7 is a single user multiprocessing Operating System.**



### 2.6.1.1 My Computer

My Computer is the source of all resources in the computer including drives, control panels and data. Upon double clicking on My Computer allows the user open the drives.



Upon double clicking we come across the following

1. Organize
2. System properties

3. Uninstall of change a program
4. Map Network drive
5. Open control panel
6. Drives

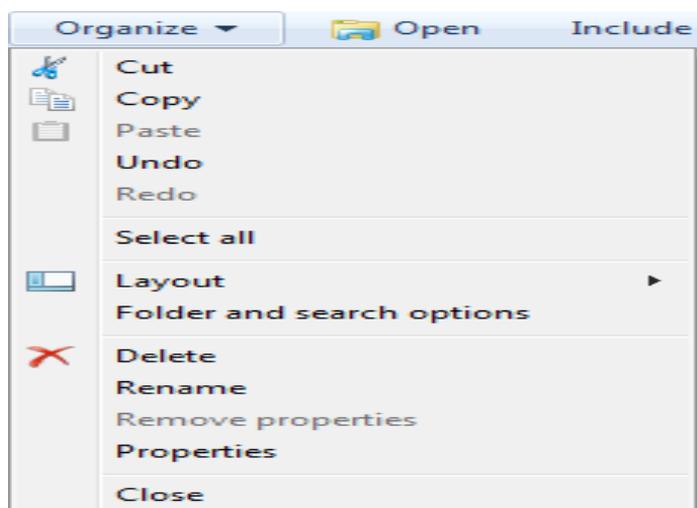


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### 2.6.1.1.1 Organize

---

Organize: - Upon clicking on the organize option guides the user to the following options as shown below.



**Cut:** - This option is used to cut a file or folder from a particular drive or folder and place it elsewhere using the Paste option.

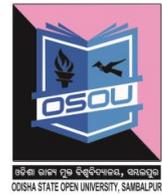
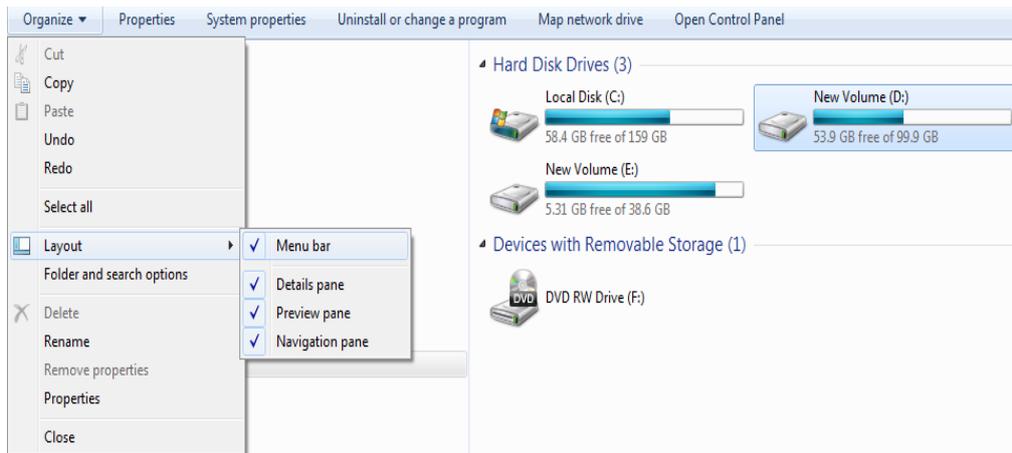
**Copy:** - This option is used to copy a file or folder from a particular drive and place it elsewhere using the paste option.

**Rename:** - This option is used to rename a file/folder.

**Select All :-** This option is used to select all

- The drives
- The folders in a particular drive
- The files in a particular folder.

**Layout:** - This option is used to change the layout of the organize screen.



Clicking on layout .This option shows or hides the

- Menu bar: - Checking it shows the menu bar.
- Details pane: - Checking it shows the detail Pane.
- Preview Pane: - Checking it shows the preview pane.
- Navigation Pane: - Checking it shows the navigation pane.

Delete :- Delete a Folder or a file

Rename :- This option is used to rename a folder or a file

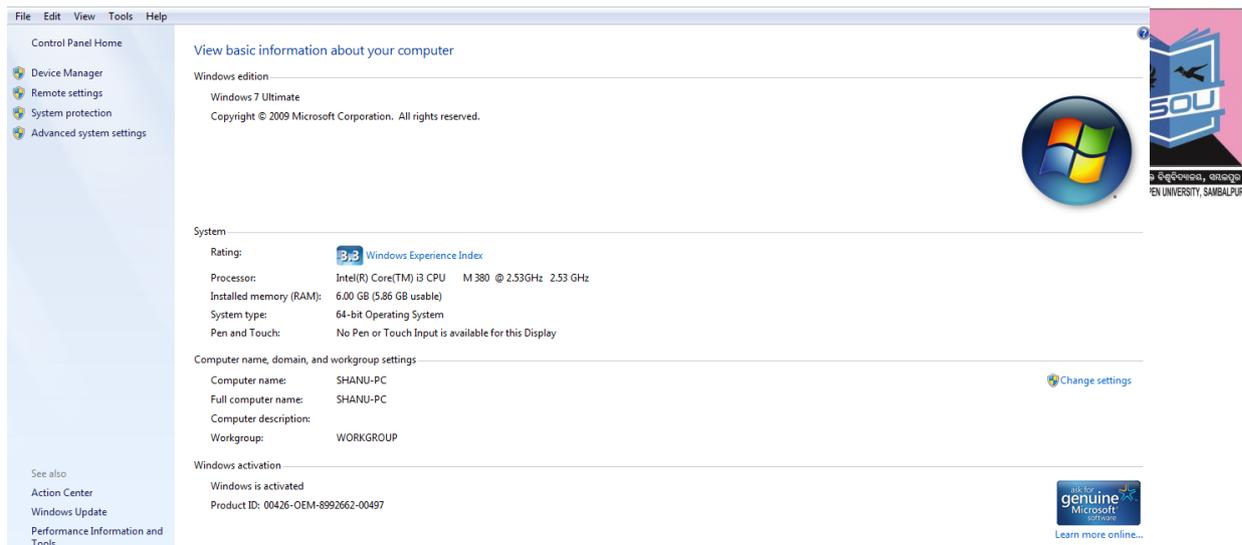
Close :- This option is used to close the My computer

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### 2.6.1.1.2 System properties

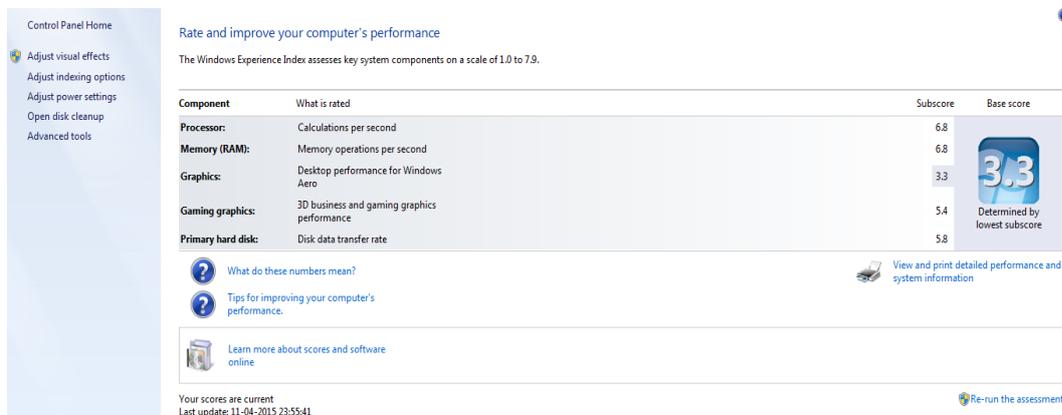
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A feature found in Windows that displays basic overview of your computer, System Properties allows the user to customize many system settings and access Device Manager



## This gives the information about

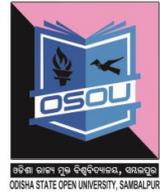
1. **Which Operating System is being used .Here it is Windows 7 ultimate**
2. **Rating :- windows assessment about the system that is being used**



## It is in terms of

- **Processor :- Calculations per second**
- **Memory(RAM) :- Memory operations per second**
- **Desktop performance for Windows**
- **3D Business and gaming graphics performance**
- **Disk data transfer rate**
- **Which processor is being used :- Here it is core I3**
- **Installed memory: - Which means how much RAM is the system. Here is 6GB**
- **Pen and touch: - Shows if a light pen is installed or touch pad is installed.**

- **Computer name :-** Shows the computer name
- **Workgroup :-** Member of Domain/workgroup
- **Product Id: -** Product Id of the installed windows system.



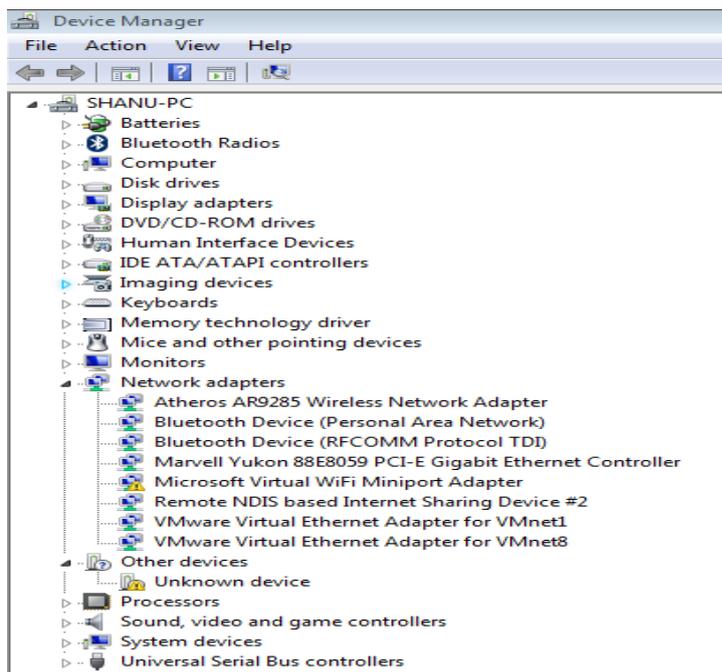

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### 2.6.1.1.2.1 Device Manager

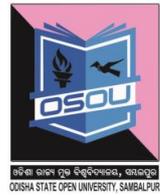
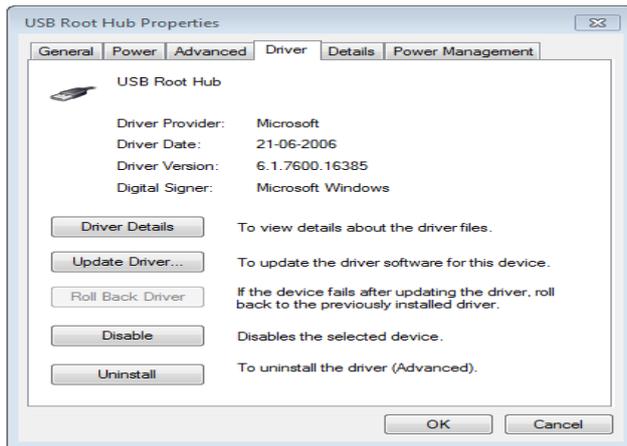
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**Device manager is an OS feature that lets us to view and change the properties of the devices attached to the computer**



**Right click on the device Universal Serial Bus controller and click on properties.**



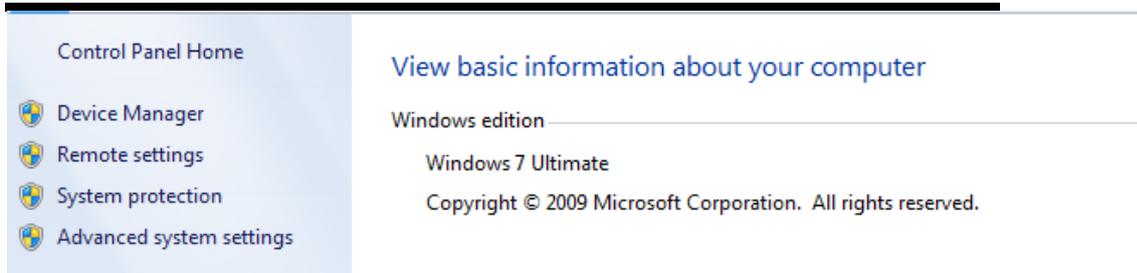
This option is used to

1. **Enable and disable the devices**
2. **View Driver details of the devices**
3. **Update driver details of the devices**

---

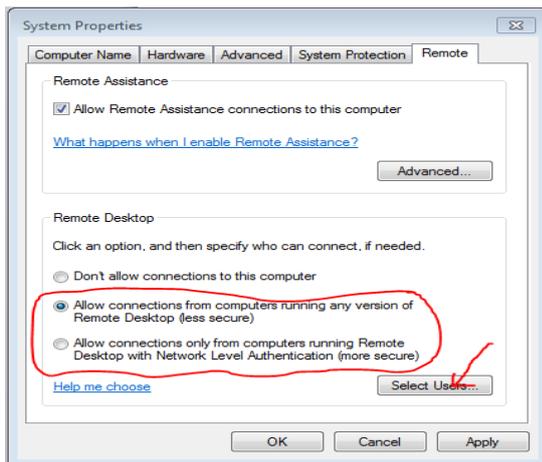
#### 2.6.1.1.2.2 Remote Settings

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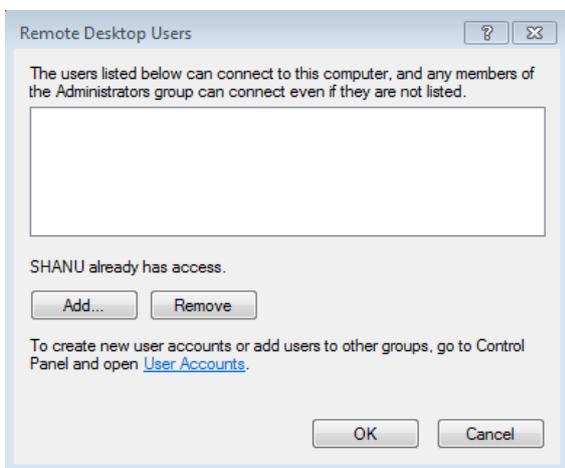


Remote settings: - To allow someone to connect to your computer using Remote Desktop.

#### **Step-1**



## **Step-2**



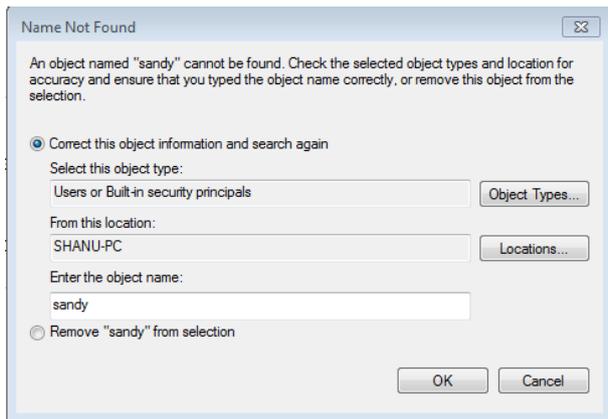
## **Step-3**

Click on Add to add users



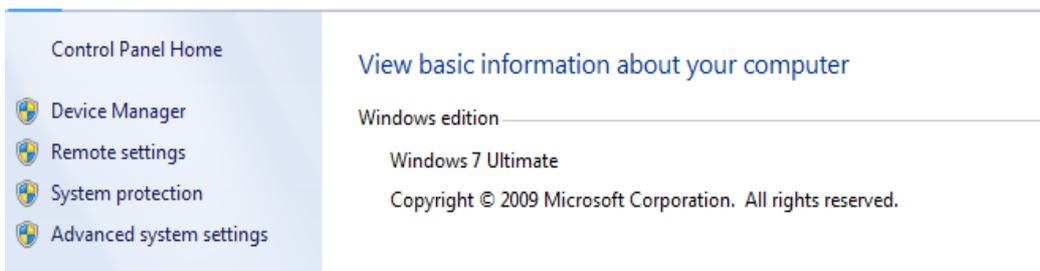
## **Step-4**

Click on check names

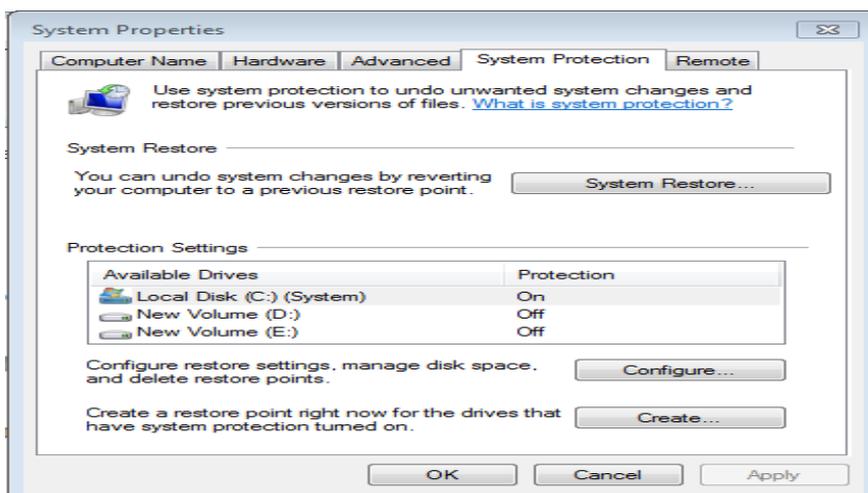


Had the remote name was found clicking on the OK button connects to the remote user?

### 2.6.1.1.2.3 System protection

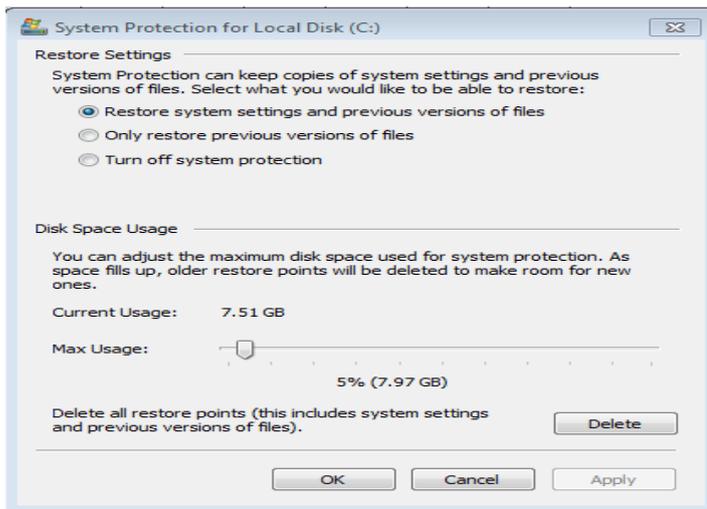


This involves creating a system restore point so that any point of time data can be restored from the restore point.

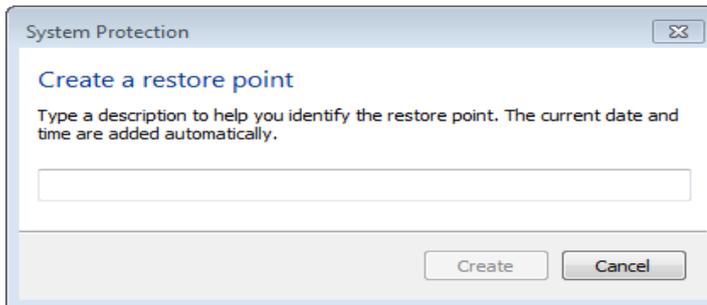


This involves 2 options

1. Configure :-



2. Create :-

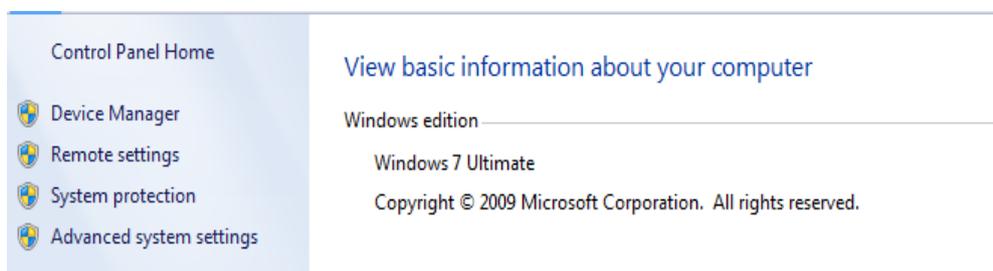


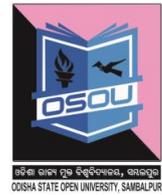
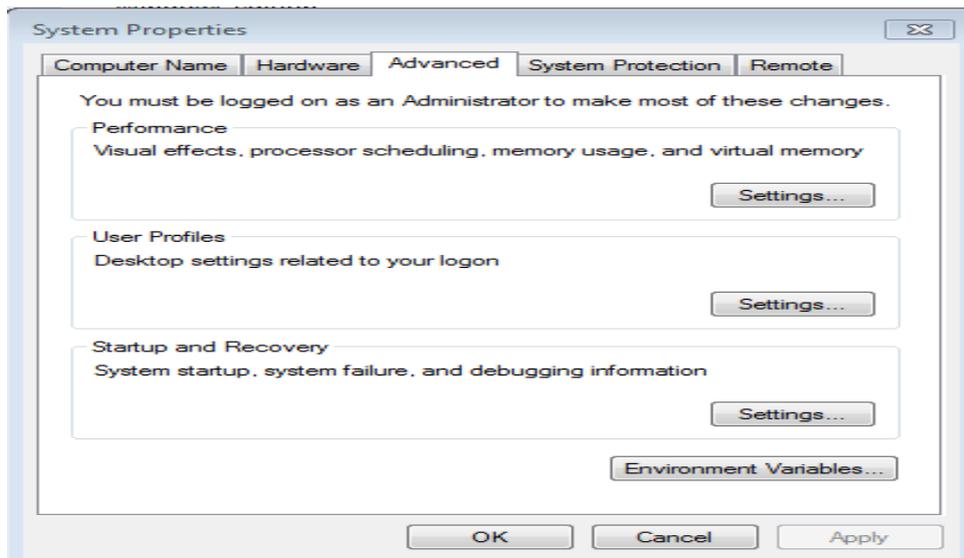
Type in the name of the restore point and click on Create to create the restore point.

---

#### 2.6.1.1.2.4 Advanced system setting

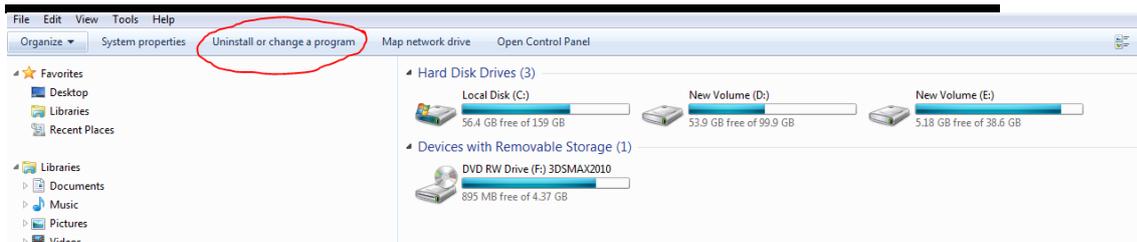
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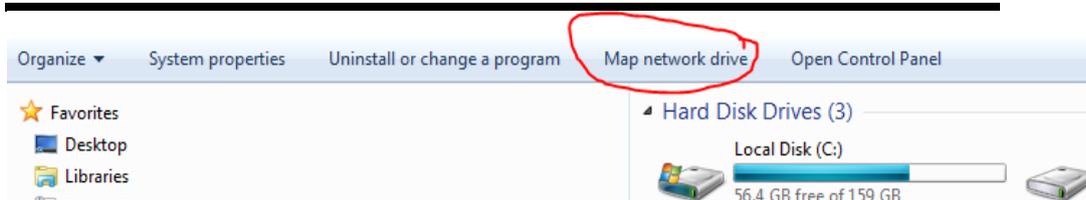
This option is used to set the Performance, user profiles, Startup and Recovery and environment variables.

### 2.6.1.1.3 Uninstall or change a program



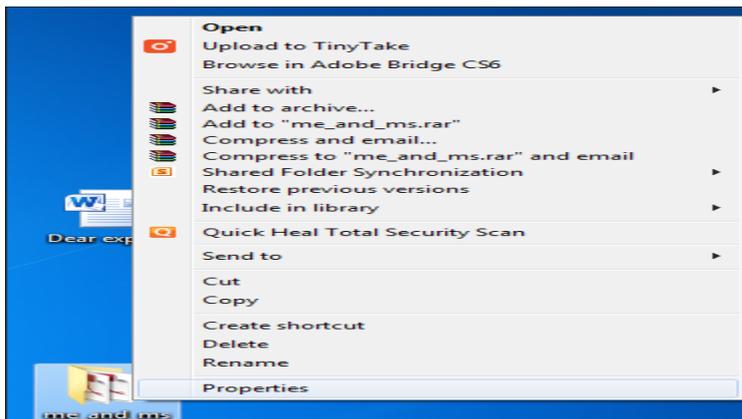
This option is used to uninstall program

### 2.6.1.1.4 Map network drive



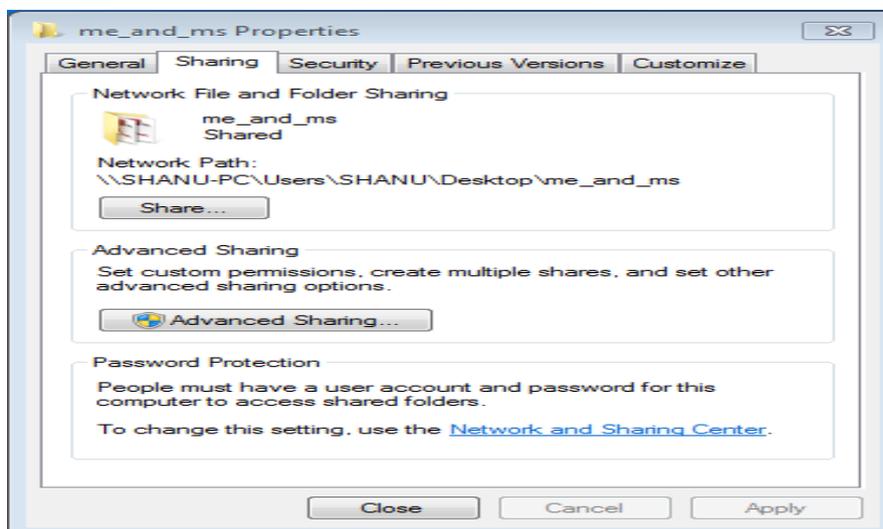
This option is used to map a networked shared folder on the server with client pc.

#### Step-1

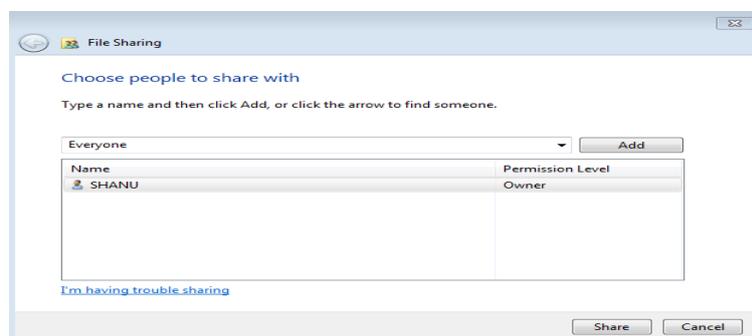


**Step-2**

Click on the properties



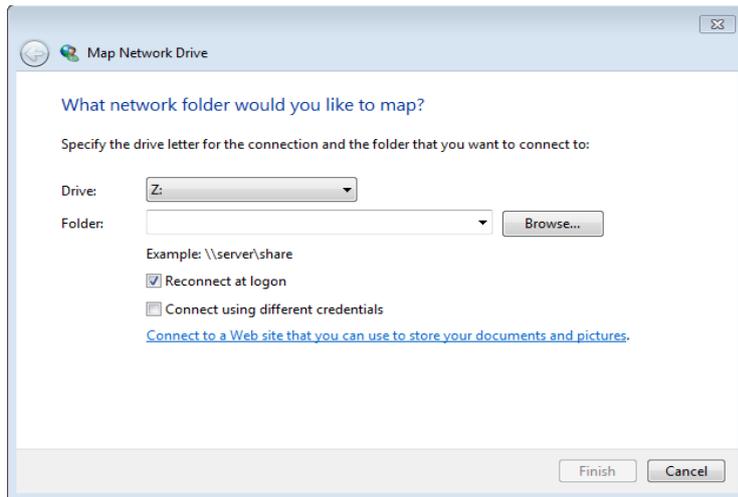
**Step-3** Click on the share button



Click on share at the server

**Step-4**

Click on map network drive as shown below



Enter the folder name located at the server as

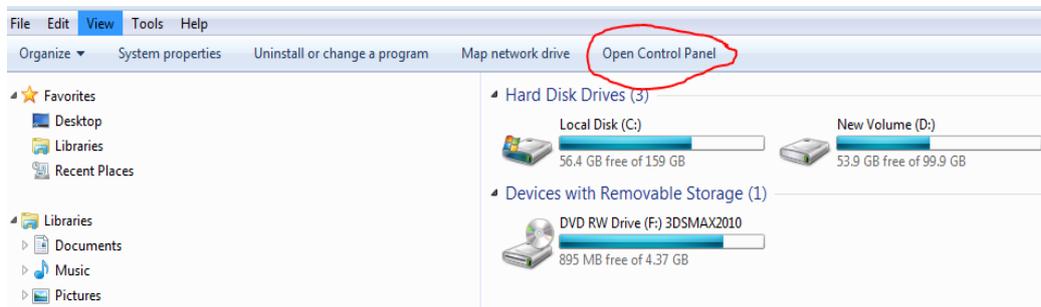
\\server name\share name

Or you can browse the shared folder click finish

---

### 2.6.1.1.5 Control Panel

---



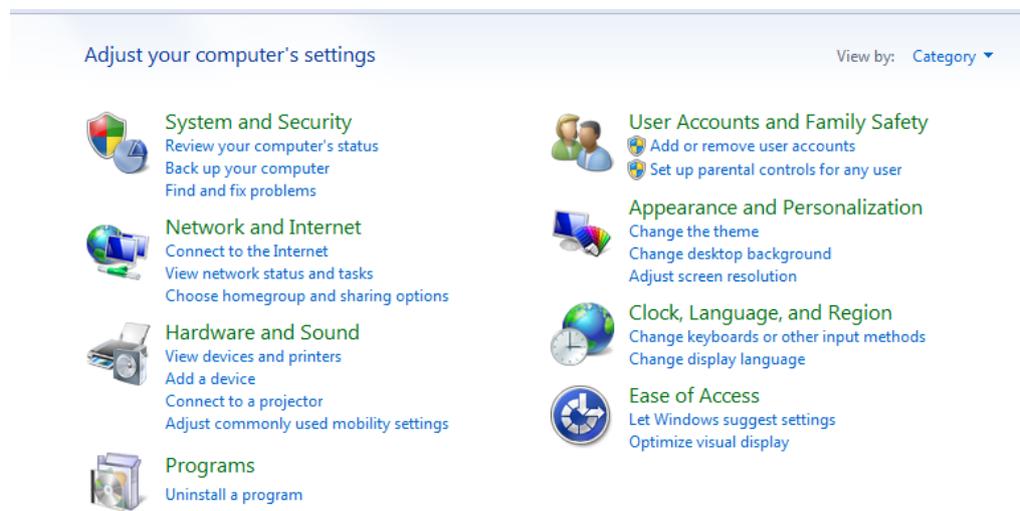
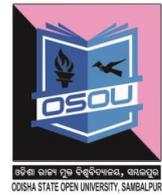
The Control Panel in Windows 7 is the place to go when you need to make changes to various settings of your computer system. You can control most Windows commands and features using the various options and sliders in the Control Panel.

To open the Control Panel, click the Start button on the taskbar and then click Control Panel on the Start menu. Windows 7 gives you three different views for looking at your computer's Control Panel: To switch views, click the View By drop-down button (labeled Category by default) in the upper-right corner of the Control Panel and then choose one of the views from the button's drop-down menu.

#### Category view

By default, the Control Panel is displayed in Category view, which is separated into eight categories, ranging from System and Security to Ease of Access. To open a

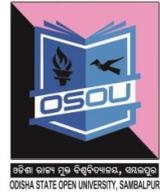
window with the Control Panel options for any one of these categories, simply click the category's hyperlink.



The following table gives you a description of all the Control Panel categories, including the various programs you can find by clicking each category's hyperlink.

<b>Click This Category Link</b>	<b>To Display These Groups of Links</b>
System and Security	Action Center, Windows Firewall, System, Windows Update, Power Options, Backup and Restore, BitLocker Drive Encryption, and Administrative Tools
User Accounts	User Accounts, Windows Cardspace, Credential Manager, and Mail (32-bit)
Network and Internet	Network and Sharing Center, Homegroup, and Internet Options
Appearance and Personalization	Personalization, Display, Desktop Gadgets, Taskbar and Start Menu, Ease of Access Center, Folder Options, and Fonts
Hardware and Sound	Devices and Printers, AutoPlay, Sound, Power Options, Display, and Windows Mobility Center
Clock, Language, and Region	Date and Time, and Region and Language

Programs	Programs and Features, Default Programs, and Desktop Gadgets
Ease of Access	Ease of Access Center and Speech Recognition
Programs	Used to uninstall a program



You'll notice that some Control Panel windows and dialog boxes can be accessed in more than one way. You can also find most Control Panel programs by doing a Start Menu search.

---

### Check your progress 2

---

**Q 1.What are the items that one comes across upon double clicking my computer**

A. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Q 2.What is meant by system properties?**

A. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

---

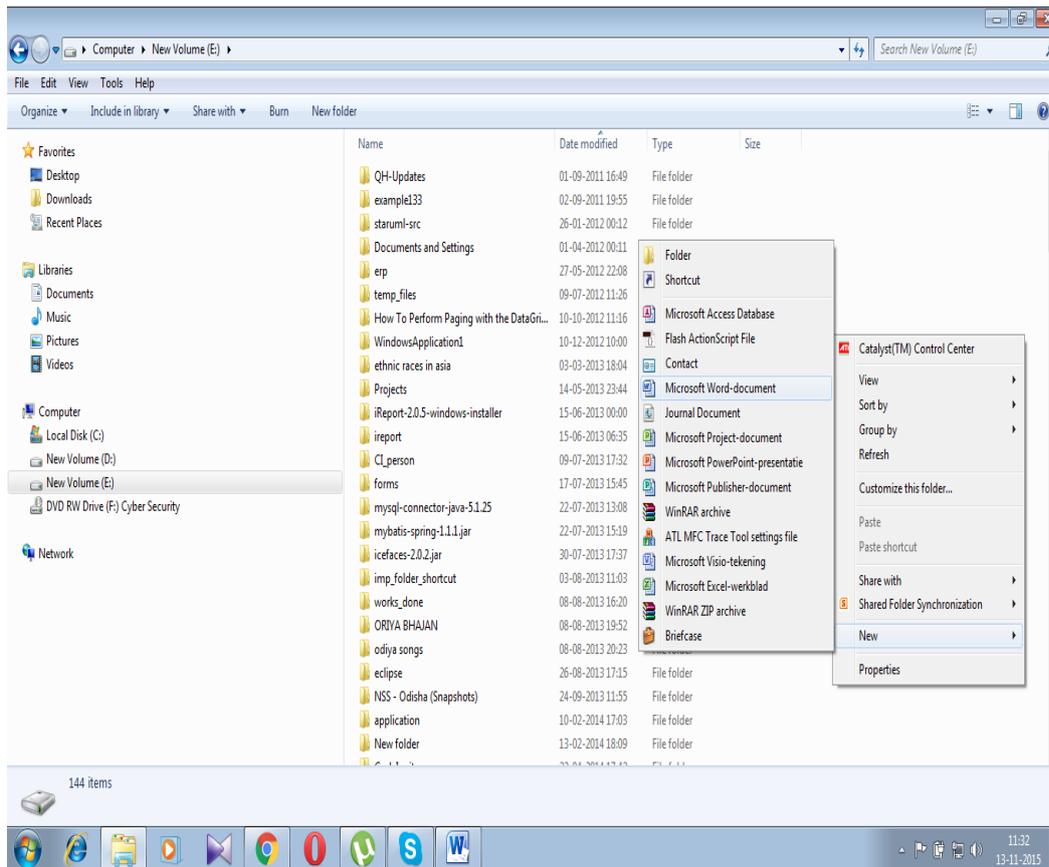
### 2.6.1.1.6 Drive

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Drive :- An electromechanical device that contains and reads and writes magnetic disks, optical discs or magnetic tapes.

List of drives on computer are C:/D:/E and double clicking open drives.

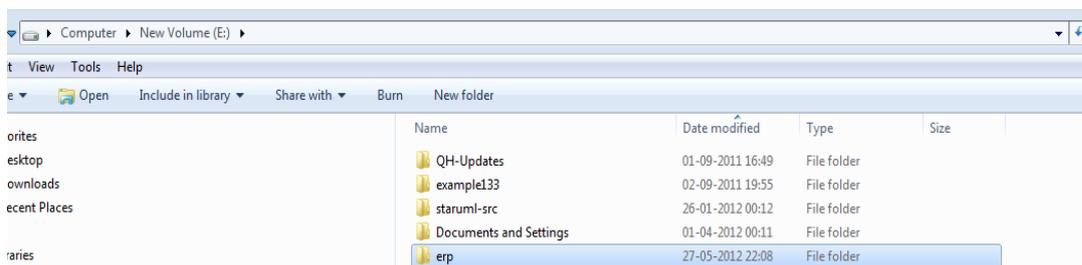
Now right click on the drive to get the menu as defined below

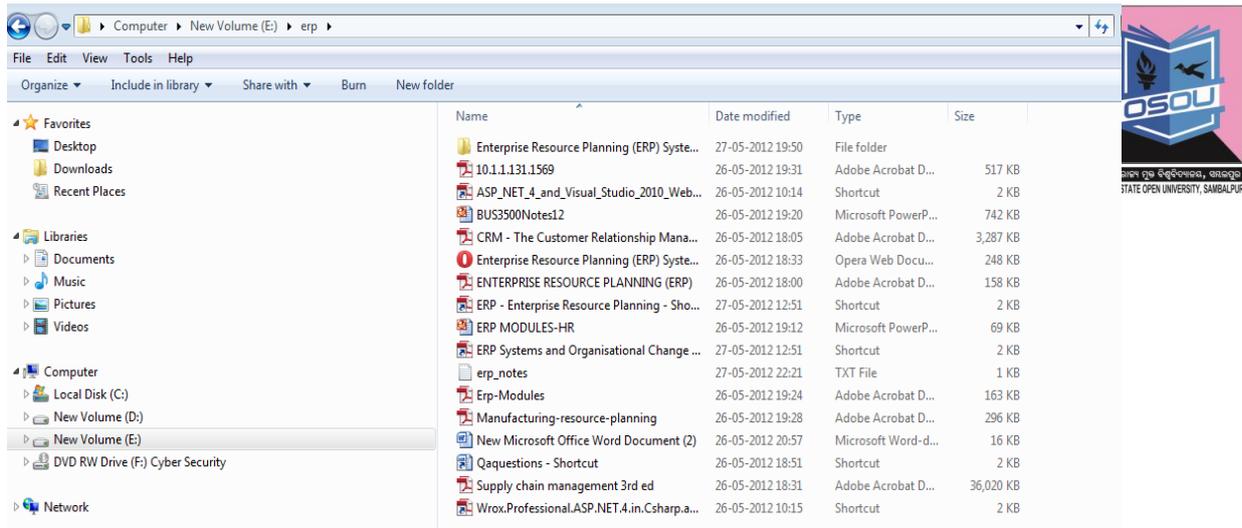


## 2.7 File and folder management in Windows 7

- **File** :- A file is a resource for storing information, which is available to a computer program and is usually based on some kind of durable storage.
- **Folder** :- A folder is a virtual location where programs, files, and other folders can be located.

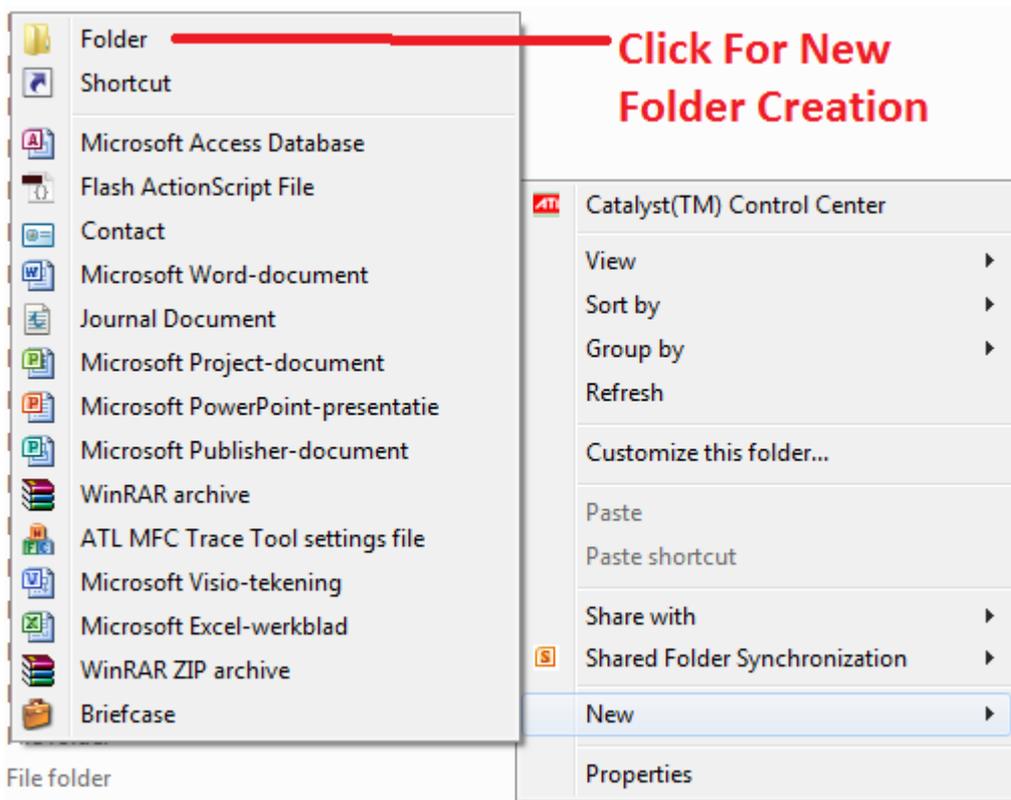
Double click the folder and you can see the contents of the folder as shown below.





### 2.7.1 How to create a folder under a drive

Right click the drive and you get the option as shown below.

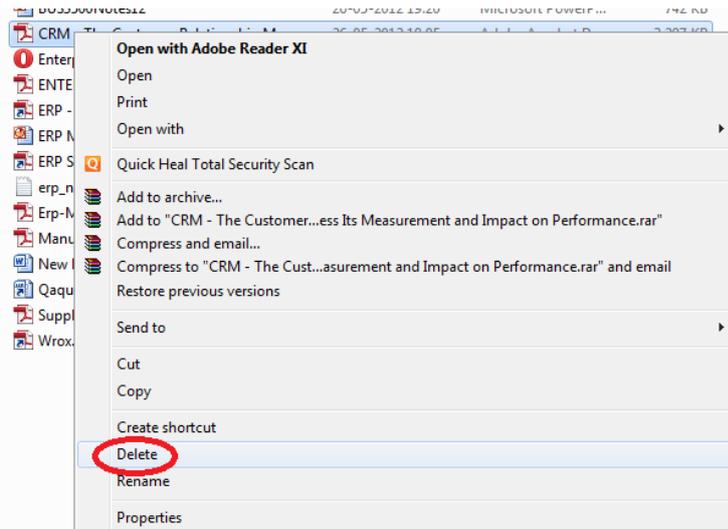


Follow the earlier steps to create a file under a folder

### 2.7.2 How to delete a file under a folder

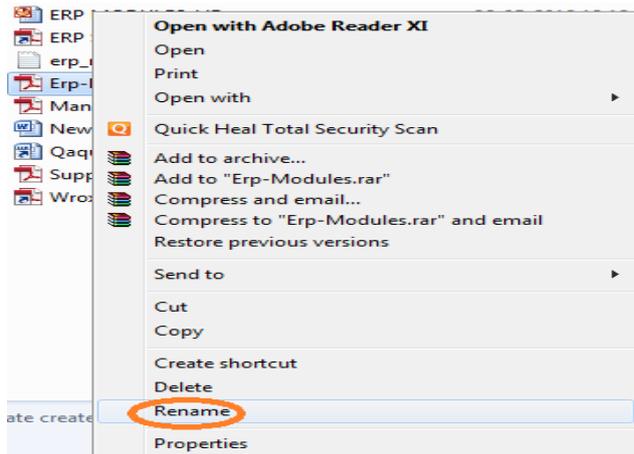
Double Click The Folder

Right click the file and choose the option Delete



### 2.7.3 How to rename a file under a folder

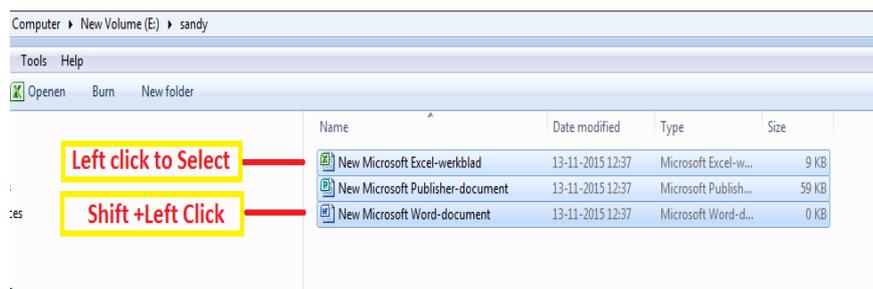
#### To Rename A File In The Folder



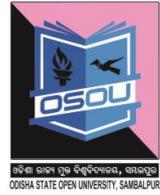
To Delete /Rename a folder right click on the folder and follow the same steps as that you did on a file.

### 2.7.4 Deleting all files under a folder

Let us consider a folder say sandy



1. Left Click the first file
2. Shift and left click the last file in the folder
3. Press del key to delete files. These files go to the recycle bin
4. Press shift + del key to permanently delete files.



## 2.7.5 Deleting specific files under a folder

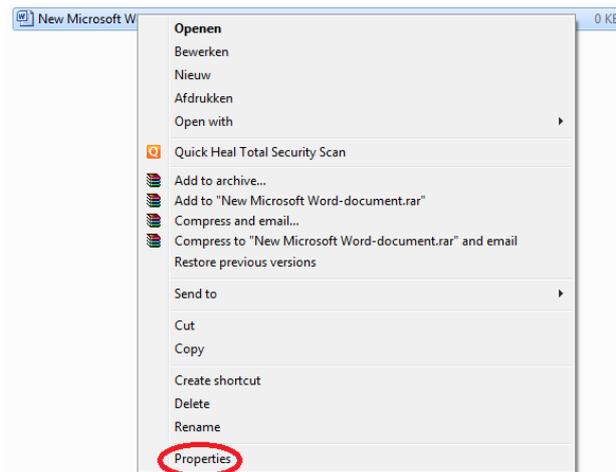
**Deleting Specific Files From A folder :-** Let us consider the folder say sandy

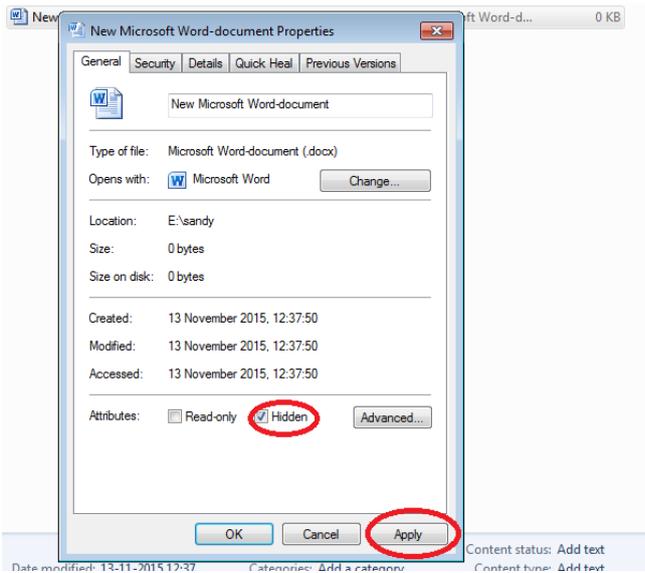
	New Microsoft Excel-werkblad	13-11-2015 12:37	Microsoft Excel-w...	9 KB	left Click
	New Microsoft Publisher-document	13-11-2015 12:37	Microsoft Publish...	59 KB	Ctrl +Left Click
	New Microsoft Word-document	13-11-2015 12:37	Microsoft Word-d...	0 KB	

Press the del key to delete the selected files.

## 2.7.6 Hiding a file under a folder

**To hide a file:-**Right Click on the file and you get the menu





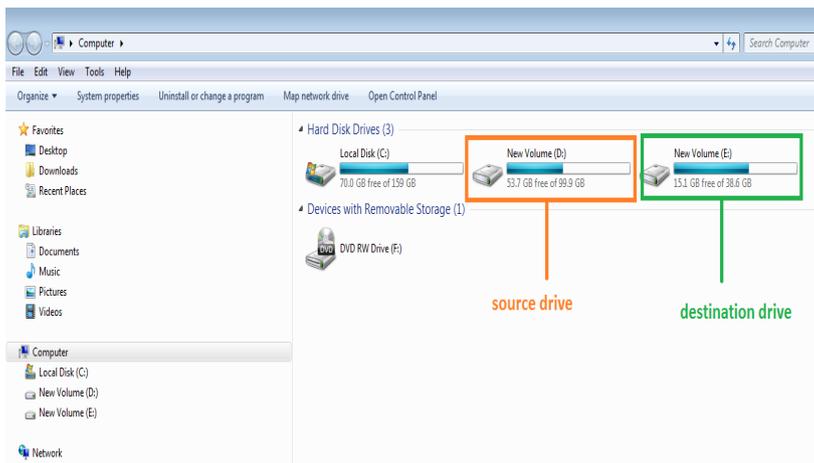

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### 2.7.7 Copying a file from one folder to another folder

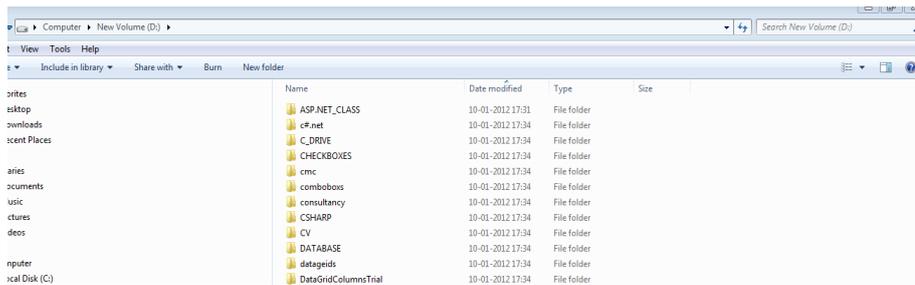
---

**To copy a file from one folder to the Other Follow The Following Steps**

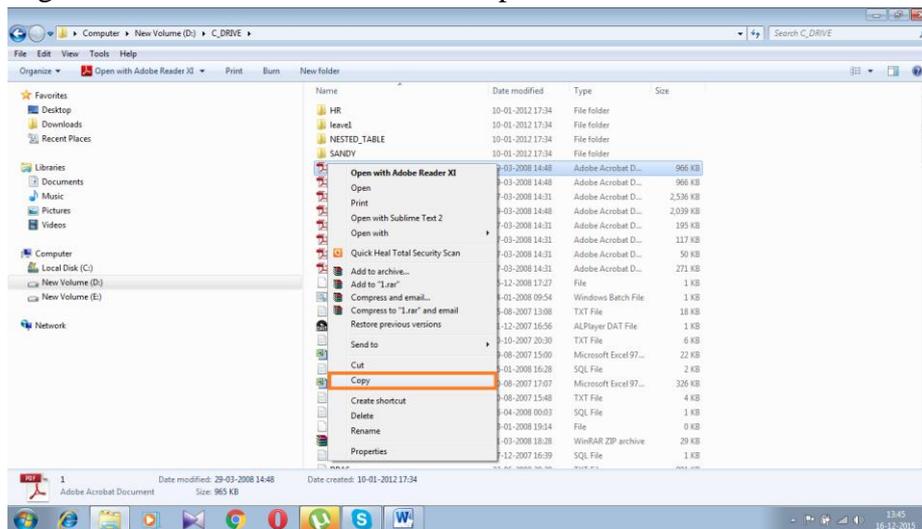
1. Double Click on My Computer



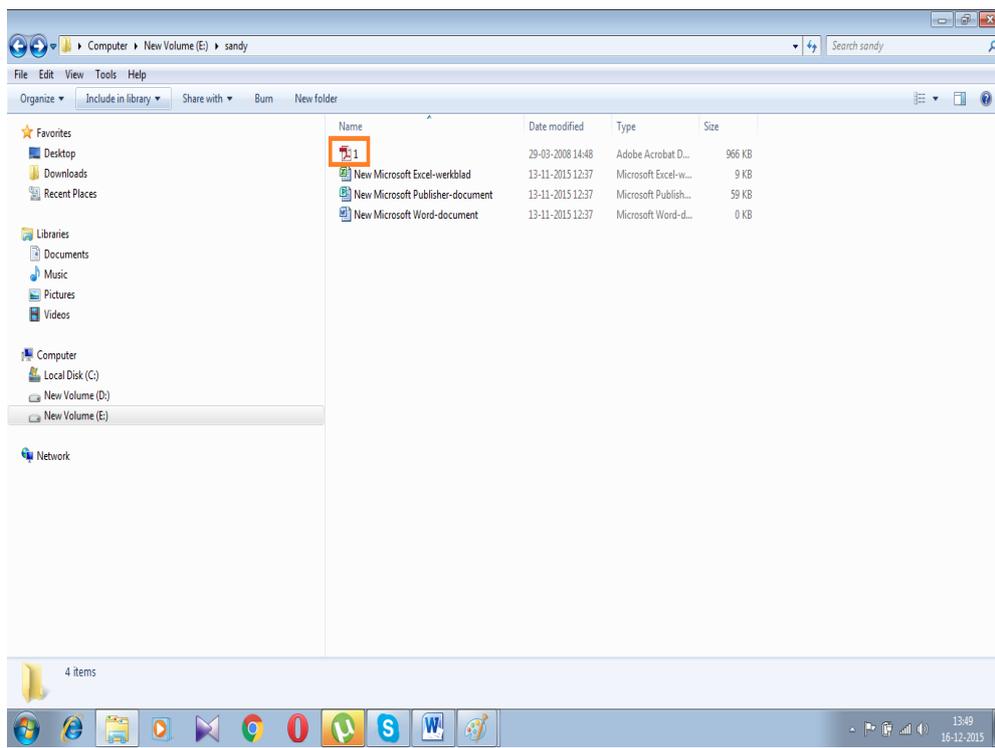
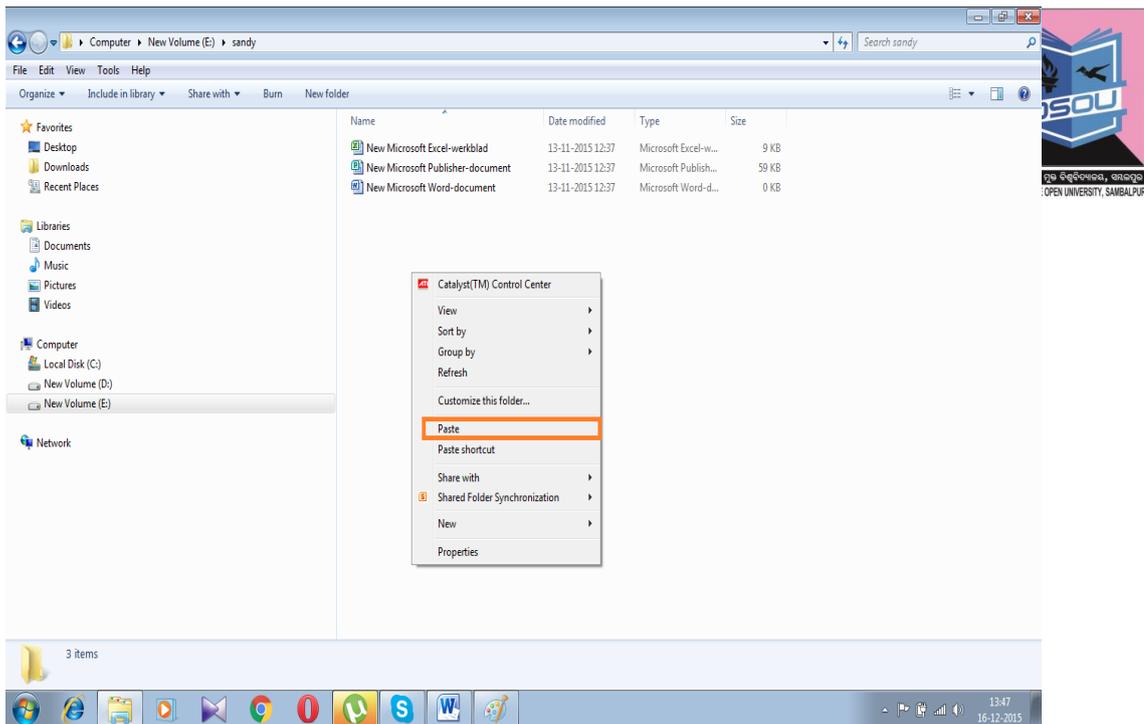
2. Open the source drive



3. Open the source folder
4. Right click on the desired file to be copied



5. Open the Destination drive
6. Open the Destination folder
7. Right click and paste

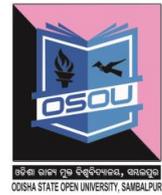


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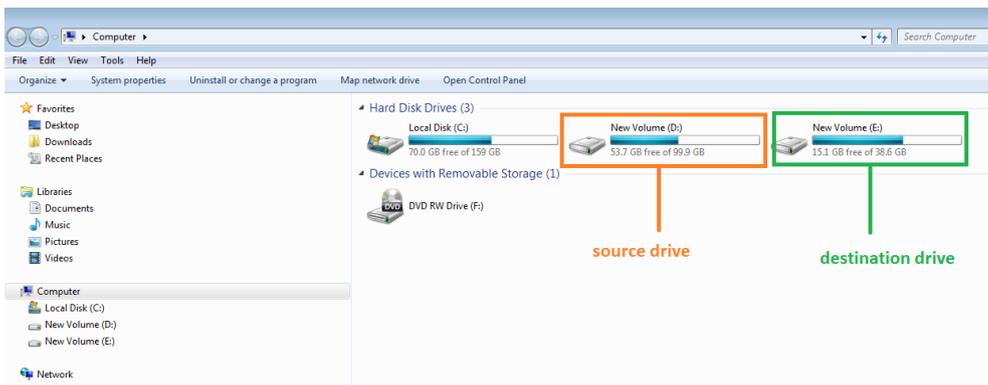
## 2.7.8 Cut a file from one folder and paste it into another folder

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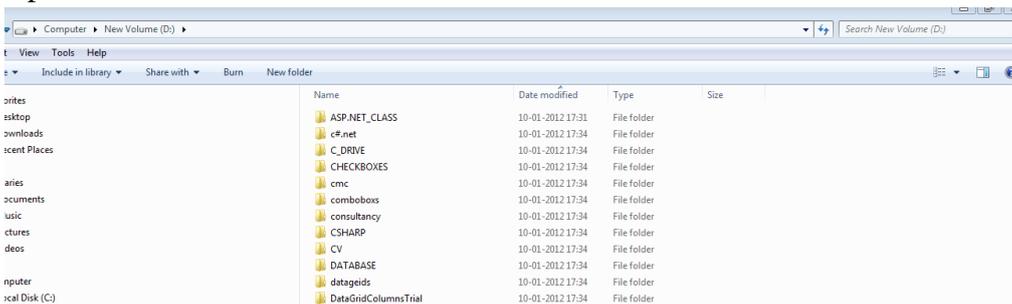
To cut a file from one folder and paste it to the Other Follow The Following Steps



1. Double Click on My Computer

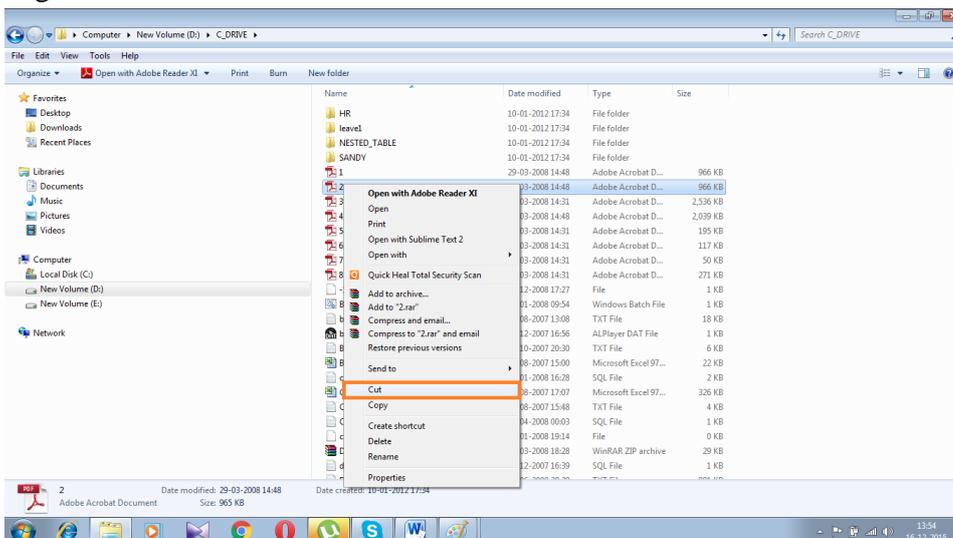


2. Open the source drive



3. Open the source folder

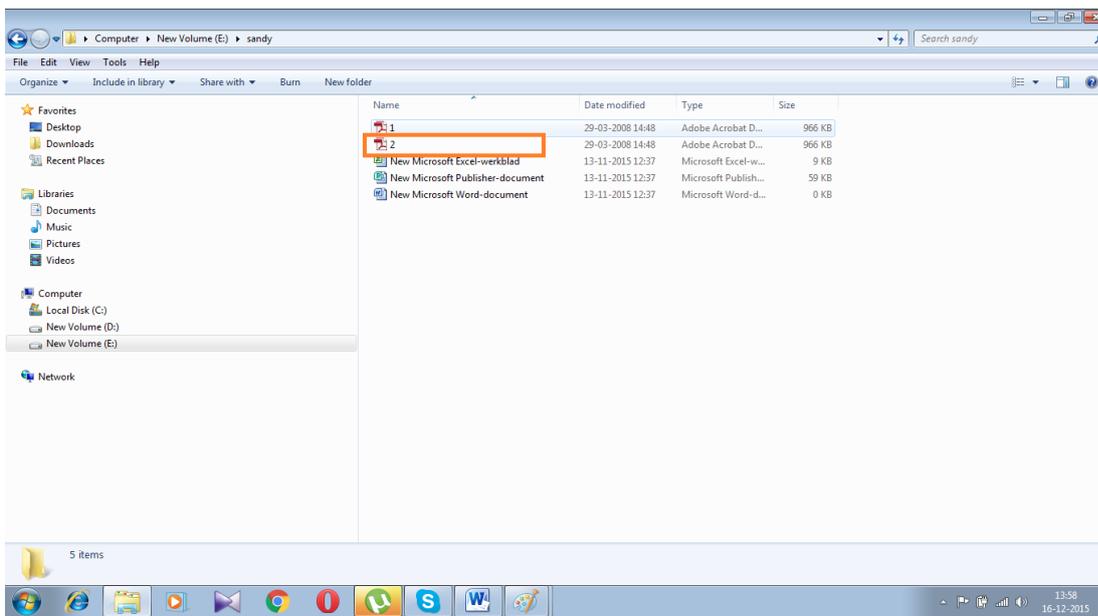
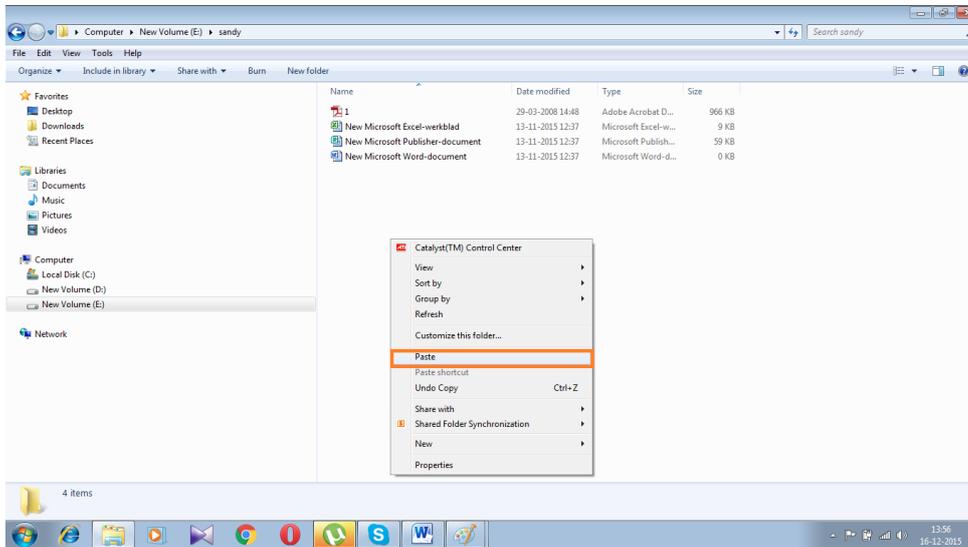
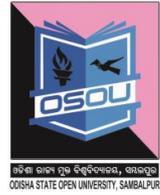
4. Right click on the desired file to be cut



5. Open the Destination drive

6. Open the Destination folder

7. Right click and paste



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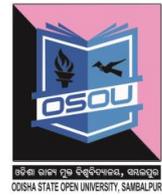
### Check your progress 3

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**Q1. What is a file and what is a folder ?**

**A.** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Q2. What are the operations that are performed on a file and folder**

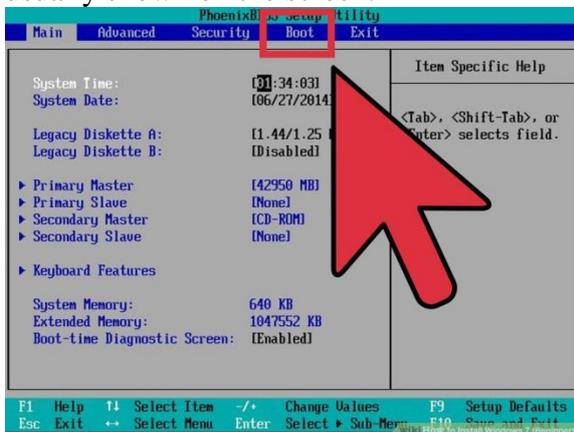


A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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## 2.8 Windows 7 installation

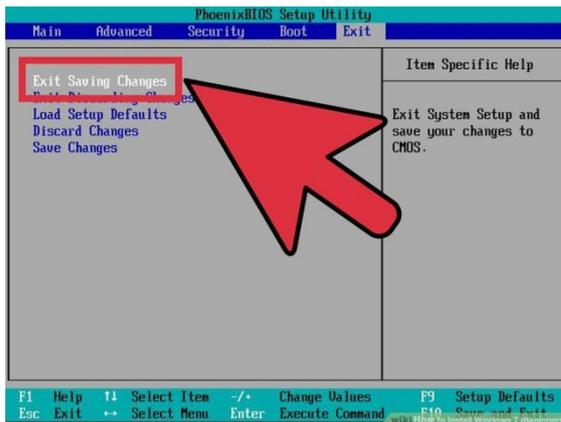
**Step-1** Enter your computer's BIOS. Turn off the computer that you want to install Windows on then turn it back on. When the BIOS screen appears or you are prompted to do so, press **Del**, **Esc**, **F2**, **F10**, or **F9** (depending on your computer's motherboard) to enter the system BIOS. The key to enter the BIOS is usually shown on the screen.



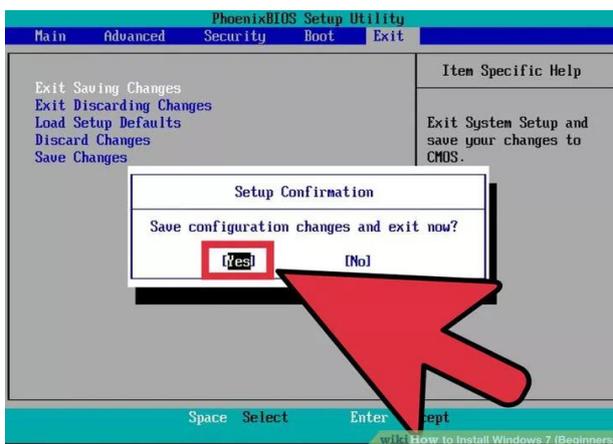
### **Step-2**

Select the CD-ROM drive as the first boot device of your computer.

### **Step-3**



**Step-4**



**Step-5**

**Shut off your computer.** Either turn off the computer by choosing the shut-down option in your current operating system, or hold the power button until the computer powers off.

**Step-6**

**Step-7**

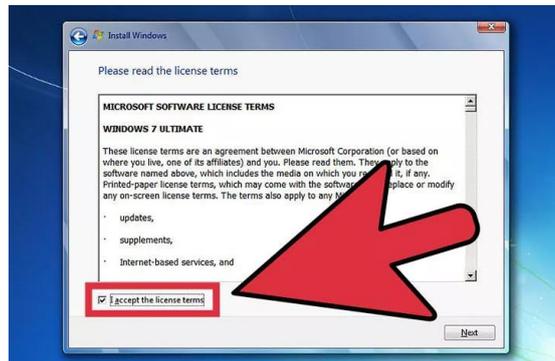


**Step-8**

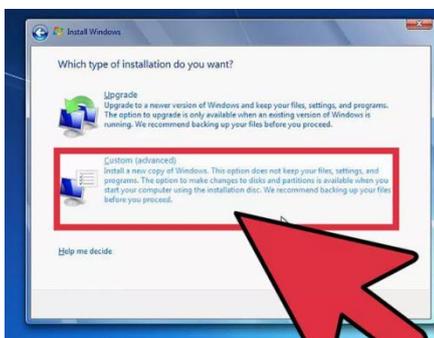
**Step-9**



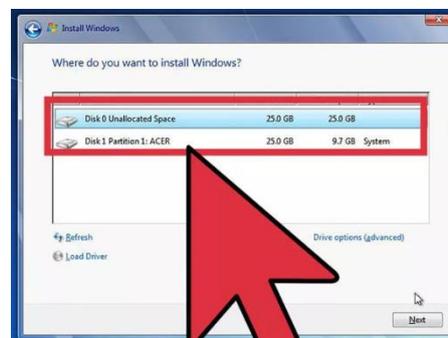
**Step-10**



**Step-11**



**Step-12**



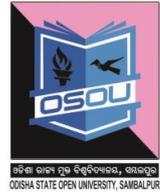
**Step-13**



## 2.9 Let us sum up

The operating system is the most important program that runs on a computer. Operating systems perform basic tasks, such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and directories on the disk, and controlling peripheral devices such as disk drives and printers. Computers cannot function without an operating system. Computers are classified into multi-user, multi-processing, multi-tasking, and multi-threading and real time.

The operating system acts as an interface between the user and hardware. We learn about windows 7 and its use, how files and folders are managed in windows 7. We learnt about system protection, remote settings, device manager, advanced settings, uninstall a program, map network drive, control panel, drives, folder and file management, windows 7 installation.



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## 2.10 Key words

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Configure :- Change the settings of the windows.

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## 2.11 References

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1. Google.com
  2. <https://www.bgsu.edu/content/dam/BGSU/libraries/documents/windows-7-tutorial.pdf>
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## 2.12 Check your progress –Possible answers

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### Answers to check your progress 1

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**A.1 :** An operating system (OS) is system software that manages computer hardware and software resources and provides common services for computer programs. The operating system is a component of the system software in a computer system.

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### Answers to check your progress 2

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**A. 1 :**

1. Organize
2. System properties
3. Uninstall of change a Program
4. Map Network drive
5. Open Control Panel
6. Drives

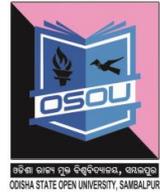
**A. 2 :**

A feature found in Windows that displays basic overview of your computer, System Properties allows the user to customize many system settings and access Device Manager.

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### 2.12.3 Answers to check your progress 3

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**A. 1. :** A file is a resource for storing information, which is available to a computer program and is usually based on some kind of durable storage.

A folder is a virtual location where programs, files and other folders can be located

**A. 2. :** The operations that are performed on a file are open ,save, close ,update, rename, Delete.