

[Lecture 7: Introduction to Computer] BBA First semester

1. Mention the applications of MS-Word and MS-Excel in business.***
2. Write down the characteristics of hard disk.***
3. Mention the security systems of computer communication.**
4. What is meant by the terms resolution, dot pitch and refresh rate? *****
5. What are the advantages and disadvantages of CRT and Flat-panel display or LCD?*****
6. What is VOIP ?***
7. What is Ergonomics?***
8. What is Optical disk?
9. What is Barcode reader? What are the functions of Bar-code reader?***
10. What is BIOS (Basic Input Output System)*****
11. CPU (Central Processing Unit)*****
12. What is Cache?*****
13. What is pipeline?*****
14. What is multitasking?*****
15. What is MIDI?*****
16. What is E-commerce? Briefly describe three basic categories of application of E-commerce?***
17. What is Data theft or Hardware theft?***
18. MS –Word & MS- Excel (see class Lecture)*****
19. Difference between Compiler and Interpreter.**
20. Describe OSI model.*****

1. Mention the applications of MS-Word and MS-Excel in business.

Nineteenth century business owners armed with manual typewriters created business documents that took time to type. Today, we can use modern computer programs, such as Microsoft Word, to help we create documents and manage our business. The important applications of MS-Word are given below:-

- Image Editing
- Desktop Publishing
- Mailing
- Templates

Microsoft Excel helps companies maximize the value of their data, helping to control costs more effectively and obtain business information.

Microsoft Excel gives businesses the tools they need to make the most of their data. And when it comes to making the most of resources, and maximizing return on investment, this is becoming increasingly important.

Here are five of the top features and benefits of Microsoft Excel:

- Build great charts
- Use conditional formatting
- Help identify trends
- Bring data together
- Online access

2. Write down the characteristics of hard disk.

The main characteristics of hard disk are given as below:

(i)Storage Capacity

The capacity of a hard drive is measured in bytes. Modern drive capacities are in the gigabyte (billions of bytes) and terabyte (trillions of bytes) range and likely to go higher.

(ii)Access Speed

The hard drive is an electro-mechanical device. The data that is stored on the magnetic platters is read by a head that floats just above the surface as the disk rotates beneath it. The read-write head must move to different parts of the platter as it spins to read all of the parts of a file. The combination of the speed of the head movement and how quickly the platter can rotate under the head form the basis for the access speed.

(iii)Form Factor

Early hard drives were huge, housed in separate machines and connected to the CPU via heavy cables. Modern hard drives are limited to three physical formats: 3.5-inch, 2.5-inch and 1.8-inch. The smaller physical size limits the number of platters and the diameter of those platters. A 1.8-inch drive, for example, has a maximum capacity of 320 gigabytes.

(iv)Interface

The electronic connection between the hard drive and processor has undergone a number of changes over time. Each interface change has improved the data transfer speed and ease with which the hard drive is handled by the motherboard in the computer. The current standard interface is SATA, the Serial Advanced Technology Attachment.

3. Mention the security systems of computer communication.

If we follow the following instruction which are given as below then I think a computer communication can be protected

Password locks

Locks allow the system administrator to restrict certain users from logging in or to lock login accounts that haven't been used for an extended period of time.

System passwords

System passwords control access to particular terminals that might be targets for unauthorized use. Usually a system password must be entered before you enter your individual password.

Primary and secondary passwords

Some systems require that two users, each with a valid password, be present to log in successfully to certain extremely sensitive accounts.

Dial-in password

Some systems require that special passwords be used to access dial-in lines.

4. What is meant by the terms resolution, dot pitch and refresh rate?

For graphics monitors, the *screen resolution* signifies the number of dots (pixels) on the entire screen. For example, a 640-by-480 pixel screen is capable of displaying 640 distinct dots on each of 480 lines, or about 300,000 pixels. This translates into different dpi measurements depending on the size of the screen. For example, a 15-inch VGA monitor (640x480) displays about 50 dots per inch.

Dot pitch, or "pixel pitch," is a measurement that defines the sharpness of a monitor's display. It measures the distance between the dots that display the image on the screen. This distance is very small and is typically measured in fractions of millimeters. The smaller the dot pitch, the sharper the picture. Dot pitch applies to both CRT monitors and flat-screen displays. While some large-screen CRTs have dot-pitches as high as 0.51 mm, most computer displays have a dot pitch between 0.25 and 0.28 mm.

The **refresh rate** is the number of times in a second that a display hardware draws the data. This is distinct from the measure of frame rate in that the refresh rate includes the repeated drawing of identical frames, while frame rate measures how often a video source can feed an entire frame of new data to a display.

5. What are the advantages and disadvantages of CRT and Flat-panel display or LCD?

Principal CRT Advantages

1. Resolution and Aspect Ratio

They operate at any resolution, geometry and aspect ratio without the need for rescaling the image.

2. Highest Resolutions

CRTs run at the highest pixel resolutions generally available.

3. Black-Level and Contrast

Produce a very dark black and the highest contrast levels normally available. Suitable for use even in dimly lit or dark environments.

4. Color and Gray-Scale Accuracy

CRTs produce the very best color and gray-scale and are the reference standard for all professional calibrations. They have a perfectly smooth gray-scale with an infinite number of intensity levels. Other display technologies are expected to reproduce the natural power-law Gamma curve of a CRT, but can only do so approximately.

5. Motion Artifacts

CRTs have fast response times and no motion artifacts. Best for rapidly moving or changing images.

6. Cost

CRTs are less expensive than comparable displays using other display technologies.

Principal CRT Disadvantages

1. Sharpness

The CRT's Gaussian beam profile produces images with softer edges that are not as sharp as an LCD at its native resolution. Imperfect focus and color registration also reduce sharpness. Generally sharper than LCDs at other than native resolutions.

2. Interference

All color CRTs produce annoying Moiré patterns. Many monitors include Moiré reduction, which normally doesn't eliminate the Moiré interference patterns entirely.

3. Geometric Distortion

Subject to geometric distortion and screen regulation problems. Also affected by magnetic fields from other equipment including other CRTs.

4. Brightness

Relatively bright but not as bright as LCDs. Not suitable for very brightly lit environments.

5. Screen Shape

Some CRTs have a rounded spherical or cylindrical shape screen. Newer CRTs are flat.

6. Emissions

CRTs give off electric, magnetic and electromagnetic fields. There is considerable controversy as to whether any of these pose a health hazard, particularly magnetic fields. The most authoritative scientific studies conclude that they are not harmful but some people remain unconvinced.

7. Physical

They are large, heavy, and bulky. They consume a lot of electricity and produce a lot of heat.

LCD Monitors

- **Principal LCD Advantages**

LCD or The flat panel monitor is stylish, space-saving and has low power requirements. With the advances in technology it has a good picture quality, gives maximum image size in the minimal space and is now very affordable. The monitors come in a collection of sizes, ranging from fourteen inches to thirty inches, to suit every requirement. Being lighter in weight than its predecessor, the Crt monitor, it is admittedly portable.

The smaller size monitors are ideal for general daily tasks in a home. The larger sizes are designed to deliver clear displays to improve the entertainment and gaming experience. Therefore, there is a size that fits the need and allocation of all users.

- **Principal LCD Disadvantages**

One of the main disadvantages of a Lcd monitor is the soft covering which can be more admittedly damaged and is difficult to clean. This means that it may not be suitable for a location, such as a school, where the computer is accessed by children. Another is that even though the prices have come down significantly, they are still more expensive than the Crt monitors. Lcd monitors are also thought about a high security risk because being light-weight, admittedly movable and expensive they make a very engaging target for thieves.

When choosing a Lcd computer monitor it is leading to do the research. With the whole of distinct sizes and features available choosing the right goods for the purpose can save money. It is no use buying an expensive monitor packed full of features if they are not going to be fully utilized.

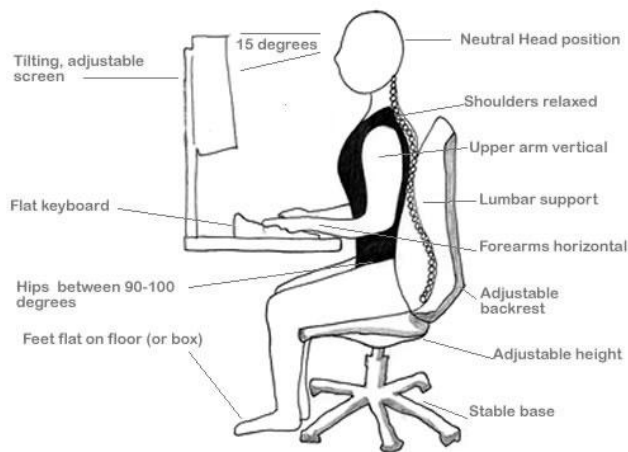
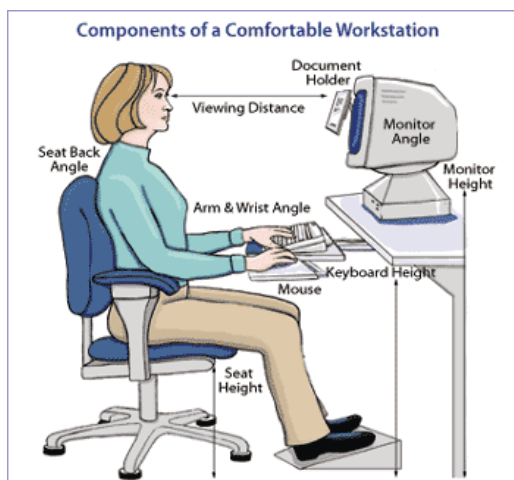
There are over fifty distinct manufacturers in the shop along with all the majors all the major electronics companies who furnish flat panel computer monitors and there is bound to be one that suits every persons need and budget.

6. What is VOIP ?

Voice over Internet Protocol (VoIP) is a methodology and group of technologies for the delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks, such as the Internet. Other terms commonly associated with VoIP are *IP telephony*, *Internet telephony*, *voice over broadband (VoBB)*, *broadband telephony*, *IP communications*, and *broadband phone service*.

The term *Internet telephony* specifically refers to the provisioning of communications services (voice, fax, SMS, voice-messaging) over the public Internet, rather than via the public switched telephone network (PSTN). The steps and principles involved in originating VoIP telephone calls are similar to traditional digital telephony, and involve signaling, channel setup, digitization of the analog voice signals, and encoding.

7. What is Ergonomics?



8. What is Optical disk?

A storage medium from which data is read and to which it is written by lasers. Optical disks can store much more data -- up to 6 gigabytes (6 billion bytes) -- than most portable magnetic media, such as floppies. There are three basic types of optical disks:

- **CD-ROM** : Like audio CDs, CD-ROMs come with data already encoded onto them. The data is permanent and can be read any number of times, but CD-ROMs cannot be modified.
- **WORM** : Stands for *write-once, read-many*. With a WORM disk drive, you can write data onto a WORM disk, but only once. After that, the WORM disk behaves just like a CD-ROM.
- **erasable**: Optical disks that can be erased and loaded with new data, just like magnetic disks. These are often referred to as *EO* (erasable optical) disks.

These three technologies are not compatible with one another; each requires a different type of disk drive and disk. Even within one category, there are many competing formats, although CD-ROMs are relatively standardized.

9. What is Barcode reader? What are the functions of Bar-code reader?

A barcode reader (or barcode scanner) is an electronic device for reading printed barcodes. Like a flatbed scanner, it consists of a light source, a lens and a light sensor translating optical impulses into electrical ones. Additionally, nearly all barcode readers contain *decoder* circuitry analyzing the barcode's image data provided by the sensor and sending the barcode's content to the scanner's output port.

Barcode readers can be differentiated by technology as follows:

- Pen-type readers
- Laser scanners
- CCD readers
- Camera-based readers
- Omni-directional barcode scanners
- Cell phone cameras
- Smartphone

barcode readers are machines that are able to take the visual barcode and interpret the pattern of lines as a digital code (black lines are a 1 and white lines are a 0) This code is often used to list things like price or type of an item in a store, but it can be used to store any kind of information theoretically.

10. BIOS (Basic Input Output System)

An integral part of the PC, the BIOS is the program a microprocessor uses to get the computer started after you turn it on. It also manages the data flow between the computer's operating system and attached peripheral devices.

11. CPU (Central Processing Unit)

The CPU is the computer's control center. Think of it as the brain that does all the thinking (computation). It reads instructions from your software and tells your computer what to do. The actual CPU is about 1.5 inches square, yet it is the most critical part of the computer.

The speed at which the CPU processes information internally is measured in MegaHertz (MHz) and GigaHertz (GHz). 1 GHz is equal to 1,000 MHz. Generally, processors with higher MHz or GHz enhance

12. What is Cache?

Cache (pronounced cash) is a block of high speed memory where data is copied when it is retrieved from the RAM. This storage of key instructions enables a performance improvement in the processor. Intel processors incorporate level 1 (L1) and level 2 (L2) caches.

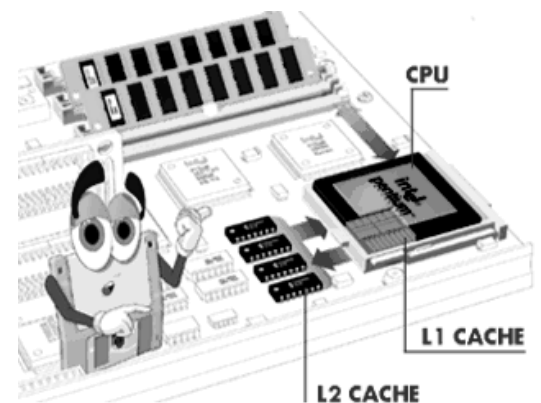
There are two groups of extremely fast memory chips that allow the computer to operate faster:

- (1) Internal cache (L1) is built into the CPU, and
- (2) External cache (L2) resides on the motherboard. The L2 cache is an area of high-speed memory that improves performance by reducing the average memory access time. L2 cache is also called SRAM.

Both L1 and L2 store data recently used by the CPU. When the CPU needs data, it first checks the fastest source — L1. If the data is not there, the CPU checks the next-fastest source — L2. If the data still cannot be found, a time-consuming search of the slower RAM is required

13. What is pipeline?

In computing, a pipeline is a set of data processing elements connected in series, where the output of one element is the input of the next one. The elements of a pipeline are often executed in parallel or in time-sliced fashion; in that case, some amount of buffer storage is often inserted between elements.



14. What is multitasking?

In computing, **multitasking** is a method where multiple tasks, also known as processes, are performed during the same period of time. The tasks share common processing resources, such as a CPU and main memory. In the case of a computer with a single CPU, only one task is said to be *running* at any point in time, meaning that the CPU is actively executing instructions for that task. Multitasking solves the problem by scheduling which task may be the one running at any given time, and when another waiting task gets a turn. The act of reassigning a CPU from one task to another one is called a context switch. When context switches occur frequently enough the illusion of parallelism is achieved.

15. What is MIDI?

MIDI (short for **Musical Instrument Digital Interface**) is a technical standard that describes a protocol, digital interface and connectors and allows a wide variety of electronic musical instruments, computers and other related devices to connect and communicate with one another. A single MIDI link can carry up to sixteen channels of information, each of which can be routed to a separate device.

16. What is E-commerce? Briefly describe three basic categories of application of E-commerce?

Electronic commerce, commonly known as e-commerce, is a type of industry where the buying and selling of products or services is conducted over electronic systems such as the Internet and other computer networks. Electronic commerce is generally considered to be the sales aspect of e-business. It also consists of the exchange of data to facilitate the financing and payment aspects of business transactions. This is an effective and efficient way of communicating within an organization and one of the most effective and useful ways of conducting business.

Ecommerce can be broken into four main categories: B2B, B2C, C2B, and C2C.

- **B2B (Business-to-Business)**

Companies doing business with each other such as manufacturers selling to distributors and wholesalers selling to retailers. Pricing is based on quantity of order and is often negotiable.

- **B2C (Business-to-Consumer)**

Businesses selling to the general public typically through catalogs utilizing shopping cart software. By dollar volume, B2B takes the prize, however B2C is really what the average Joe has in mind with regards to ecommerce as a whole.

Having a hard time finding a book? Need to purchase a custom, high-end computer system? How about a first class, all-inclusive trip to a tropical island? With the advent ecommerce, all three things can be purchased literally in minutes without human interaction. Oh how far we've come!

- **C2B (Consumer-to-Business)**

A consumer posts his project with a set budget online and within hours companies review the consumer's requirements and bid on the project. The consumer reviews the bids and selects the company that will complete the project. Elance empowers consumers around the world by providing the meeting ground and platform for such transactions.

- **C2C (Consumer-to-Consumer)**

There are many sites offering free classifieds, auctions, and forums where individuals can buy and sell thanks to online payment systems like PayPal where people can send and receive money online with ease. eBay's auction service is a great example of where person-to-person transactions take place everyday since 1995.

17. What is Data theft or Hardware theft?

Data/ Hardware theft is a growing problem primarily perpetrated by office workers with access to technology such as desktop computers and hand-held devices capable of storing digital information such as USB flash drives, iPods and even digital cameras. Since employees often spend a considerable amount of time developing contacts and confidential and copyrighted information for the company they work for, they often feel they have some right to

the information and are inclined to copy and/or delete part of it when they leave the company, or misuse it while they are still in employment.

While most organizations have implemented firewalls and intrusion-detection systems very few take into account the threat from the average employee that copies proprietary data for personal gain or use by another company. A common scenario is where a sales person makes a copy of the contact database for use in their next job. Typically this is a clear violation of their terms of employment.

18. MS –Word & MS- Excel (see class Lecture)

Qes: **For MS-Word:** Creating and saving documents, editing, coping, pasting, Spelling and grammar checking, creating table, creating header and footer, print.

For MS-Excel: Creating and saving documents, editing, coping, pasting, Creating formula, creating table, creating header and footer, creating charts, print.

19. Difference between Compiler and Interpreter.

Difference between Compiler and Interpreter

No	Compiler	Interpreter
1	Compiler Takes Entire program as input	Interpreter Takes Single instruction as input .
2	Intermediate Object Code is Generated	No Intermediate Object Code is Generated
3	Conditional Control Statements are Executes faster	Conditional Control Statements are Executes slower
4	Memory Requirement : More (Since Object Code is Generated)	Memory Requirement is Less
5	Program need not be compiled every time	Every time higher level program is converted into lower level program
6	Errors are displayed after entire program is checked	Errors are displayed for every instruction interpreted (if any)
7	Example : C Compiler	Example : BASIC

20. Describe OSI model.

The Open Systems Interconnection (OSI) model (ISO/IEC 7498-1) is a conceptual model that characterizes and standardizes the internal functions of a communication system by partitioning it into abstraction layers. The model is a product of the Open Systems Interconnection project at the International Organization for Standardization (ISO). The model groups similar communication functions into one of seven logical layers.

OSI Model			
	Data unit	Layer	Function
Host layers	Data	7. Application	Network process to application
		6. Presentation	Data representation, encryption and decryption, convert machine dependent data to machine independent data
		5. Session	Interhost communication, managing sessions between applications
	Segments	4. Transport	Reliable delivery of packets between points on a network.
Media layers	Packet/Datagram	3. Network	Addressing, routing and (not necessarily reliable) delivery of datagram between points on a network.
	Bit/Frame	2. Data link	A reliable direct point-to-point data connection.
	Bit	1. Physical	A (not necessarily reliable) direct point-to-point data connection.

	Introduction to Computer	English
Review class will be held on	27.10.13 [Lecture: 7]	[Parts of speech]
	28.10.13 [Lecture: 7]	[correction]
	29.10.13 [Lecture: 6]	[WH Question]
	30.10.13 [Lecture: 6]	[Combine sentence]
	31.10.13 [Lecture: 5,4,3,2,1] &	[How do you write (Exam)]