**Assignment-1**

**Computer Fundamentals**

1. **Define an Operating System**

An Operating System (OS) is an interface between a computer user and computer hardware. An operating system is a software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.

1. **Name any five Operating Systems**

Linux, Windows, OS X, Ubantu ,  Mac OS etc

1. **Describe the basic operations of the Operating Systems**

An operating system has three main functions:

(1) Manage the computer's resources, such as the central processing unit, memory, disk drives, and printers

(2)Establish a user interface

(3) Execute and provide services for applications software.

1. **What are the different types of applications?**

**Different kinds of applications that would be suitable for different tasks:**

* 1. **Word Processing software** - Use this kind of tool to create worksheets, type letters, type papers, etc
  2. **Desktop Publishing software** - Use this software to make signs, banners, greeting cards, illustrative worksheets, newsletters, etc.\
  3. **Spreadsheet software** - Use this kind of tool to compute number-intensive problems such as budgeting, forecasting, etc. A spreadsheet will plot nice graphs very easily.
  4. **Database software** - Use this software to store data such as address, membership and other text information. A database can be used to easily sort and organize records.
  5. **Presentation software** - Use this software to create multimedia stacks of cards/screens that can effectively present a lesson or a sales pitch. The user often clicks on buttons to advance to the next screen in a sequence.
  6. **Internet Browsers** - This software allows one to surf the Web. Often they can read email and create Web pages too.
  7. **Email programs** - These programs send and receive email.

1. **What type of software is used for creating letters, papers and other documents?**

MS Word

1. **What are the advantages of using a Ms-Excel?**

Advantages of using a Ms-Excel

* 1. **Excel** **has the ability to organize large amounts of data into orderly spreadsheets** **and** **charts** **quickly ,**
  2. **It can be password protected for extra security**
  3. It  **can  be used for analysis and decision making**
  4. A**bility to analyze large amounts of data to discover trends and patterns that will influence decisions**
  5. **The worksheets** **can contain thousands of** **rows** **of data in the form of records and multiple** **columns** **in the form of fields**
  6. **Excel** **makes it easy to store** **the data** **, perform numerical calculations ,  format the cells , and adjust layouts to generate the output and reports to share with others**

1. **What is the file extension of Ms-Word document?**
2. **docx:** default Word 2007/2010 extension
3. **dotx and dotm:** Word 2007/2010 template files
4. **doc:** Word 97-2003 format
5. **What is the Physical Memory?**

Physical memory is the Random Access Memory, or RAM, used by the computer. By imaging the physical memory, the volatile state of the computer system can be preserved for later analysis. The contents of memory include the code and data, of the operating system and of the programs running on the computer

1. **What is the Virtual Memory?**

A computer can address more memory than the amount physically installed on the system. This extra memory is actually called virtual memory and it is a section of a hard disk that's set up to emulate the computer's RAM.

1. **What is Remote Desktop Connection?**

Remote desktop is a program or an operating system feature that allows the user to connect to a computer in another location, see that computer's desktop and interact with it as if it were local.

1. **What are the requirements for Remote Desktop Connection?**
   1. Connection required between both computers
   2. IP-address required of other computer which you want to access.
   3. Login details and password is required.
2. **What is Loop back address?**

A loopback address is a type of IP address that is used to test the communication or transportation medium on a local network card and/or for testing network applications. Data packets sent on a loopback address are re-routed back to the originating node without any alteration or modification.

Loopback address is a special IP number (**127.0.0.1**) that is designated for the software loopback interface of a machine. The loopback interface has no hardware associated with it, and it is not physically connected to a network.

1. **What is Cache?**

A cache is a place to store something temporarily in a computing environment. In computing, active data is often cached to shorten data [access times](http://searchstorage.techtarget.com/definition/access-time), reduce [latency](http://whatis.techtarget.com/definition/latency) and improve input/output ([I/O](http://whatis.techtarget.com/definition/input-output-I-O)). Because almost all application [workload](http://searchdatacenter.techtarget.com/definition/workload) is dependent upon I/O operations, [caching](http://whatis.techtarget.com/definition/caching) is used to improve application performance.

**For example**, Web [browsers](http://searchwindevelopment.techtarget.com/definition/browser) such as [Internet Explorer](http://searchenterprisedesktop.techtarget.com/definition/Internet-Explorer), [Firefox](http://searchsoa.techtarget.com/definition/Firefox), [Safari](http://whatis.techtarget.com/definition/Safari) and [Chrome](http://searchconsumerization.techtarget.com/definition/Google-Chrome-browser) use a browser cache to improve performance for frequently accessed WebPages. When you visit a webpage, the [files](http://searchexchange.techtarget.com/definition/file) your [browser](http://searchwindevelopment.techtarget.com/definition/browser) requests are stored on your computing storage in the browser's cache. If you click "back" and return to that page, your browser can retrieve most of the files it needs from cache instead of requesting they all be sent again. This approach is called [read cache](http://searchstorage.techtarget.com/definition/read-cache). It is much faster for your browser to read data from the browser cache than to have to re-read the files from the webpage.

1. **What is FTP? How does FTP work? What is the difference between passive and active FTP?**

File Transfer Protocol (FTP) is a standard Internet [protocol](http://searchnetworking.techtarget.com/definition/protocol) for transmitting files between computers on the Internet.

FTP is a [client-server](http://searchnetworking.techtarget.com/definition/client-server) protocol that relies on two communications channels between client and server: a command channel for controlling the conversation and a data channel for transmitting file content. Clients initiate conversations with servers by requesting to download a file. Using FTP, a client can upload, download, delete, rename, move and copy files on a server.

FTP sessions work **in passive or active modes.**

In **active mode**, after a client initiates a session via a command channel request, the server initiates a data connection back to the client and begins transferring data.

In **passive mode**, the server instead uses the command channel to send the client the information it needs to open a data channel. Because passive mode has the client initiating all connections, it works well across firewalls and Network Address Translation ([NAT](http://searchenterprisewan.techtarget.com/definition/Network-Address-Translation)) gateways.

1. **What is HTTP?Is FTP better than HTTP for downloading files?**

HTTP (Hypertext Transfer Protocol) is the set of rules for transferring files (text, graphic images, sound, video, and other multimedia files) on the [World Wide Web](http://searchcrm.techtarget.com/definition/World-Wide-Web). As soon as a Web user opens their Web [browser](http://searchwindevelopment.techtarget.com/definition/browser), the user is indirectly making use of HTTP.

1) HTTP is faster than FTP when downloading one big file.

2) HTTP can use parallel chunk download which makes it 6x times faster than FTP depending on the network conditions. Both of them uses TCP as a transport protocol, but HTTP uses a persistent connection, which makes the performance of the TCP better

1. **What is HTTPS and How it is different from HTTP?**

Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP, the protocol over which data is sent between your browser and the website that you are connected to. The 'S' at the end of HTTPS stands for 'Secure'. It means all communications between your browser and the website are encrypted.