**COMPUTER FUNDEMENTALS**

Q: What is a computer?  
A: A computer is an electronic device that can come up with four tasks. These tasks are receiving input, storing, processing and giving output.

Q: What is Computer Hardware?  
A: Computer hardware is what you can physically touch. Hardware is the collection of physical parts of a computer system. This includes the computer case, monitor, keyboard, and mouse. It also includes all the parts inside the computer case, such as the hard disk drive, transistors, chips etc.

Q: Can you give us examples of persistent and non persistent storage devices?  
A: Random Access Memory (RAM) is an example of non persistent storage and Hard Disk Drive(HDD) or Solid State Disks (SSD) are persistent storage examples.

**OPERATING SYSTEM**

Q: What is Operating System?  
A: Operating System is a software program that enables the computer hardware to communicate and operate with the computer software

Q: What is a deadlock in operating systems?  
A: Deadlock is a situation when two or more processes wait for each other to finish and none of them ever finish. Consider an example when two trains are coming toward each other on same track and there is only one track, none of the trains can move once they are in front of each other. A similar situation occurs in operating systems when there are two or more processes hold some resources and wait for resources held by other(s).

Q: Which operating system/systems do you use and have you ever used [open source](https://lms.clarusway.com/mod/lesson/view.php?id=860" \o "Open Source) operating system?  
A: (You should know which operating system do you use with its version) I am using Ubuntu 19.10/Windows 10.1. I have used OSX last year. Linux [operating systems](https://lms.clarusway.com/mod/lesson/view.php?id=56" \o "Operating Systems) are [open source](https://lms.clarusway.com/mod/lesson/view.php?id=860" \o "Open Source) and I am using Linux-Ubuntu operating system. I am also using Android/iOS operating system on my mobile phone. Android operating system is also [open source](https://lms.clarusway.com/mod/lesson/view.php?id=860" \o "Open Source).

Q: What is a shell?  
A: Shell is an interface between the user and the kernel. Even though there can be only one kernel; a system can have many shell running simultaneously. So, whenever a user enters a command at command line from terminal, the shell communicates with the kernel to execute it and then gives the output.

Q: What is Directory?  
A: Every file is assigned to a directory. A directory is a specialized form of a file that maintains a list of all files in it.

**DATA STORAGE**

Q: How many bit combinations are there in a byte?  
A: 256 possible combinations (from 0 to 255) A byte is made of 8 bits. Bits can only be on or off (0 or 1). 00000000 =0 , 00000001 = 1, 00000010 = 2, 00000011 = 3, 00000100 = 4, ... 11111111 = 255.

Q: What is ASCII?  
A: Ascii is a character encoding standard adopted by the Institute of Electrical and Electronics Engineers (IEEE) in 1963. ASCII is an abbreviation for American Standard Code for Information Interchange. It is a method of representing text characters in a binary representation recognized by computers, communications equipment, and other technological devices.

**TCP/IP Protocol**

Q: What Is A Protocol?  
A: A protocol is a method of communication between two devices. You can think of it as the language the devices use to communicate with each other, although it is not the same as a programming language (by which a human programmer controls a computer). Different brands of printers, for example, each use their own protocol (or "language") by which a computer can communicate with the printer. This is why a driver program must be written for each printer.

Q: What do you mean by the TCP/IP Model?  
A: TCP/IP stands for Transmission control protocol and Internet protocol. It describes how the data will get transmitted and routed from end to end communication.

Q: What Is Web Browser?  
A: A web browser is a program that you use to view web pages. Some of the most popular web browsers are Microsoft Internet Explorer, Google Chrome, Mozilla Firefox.

Q: What is status code in HTTP?  
A: It is a standard response code given by web [servers](https://lms.clarusway.com/mod/lesson/view.php?id=1015" \o "Servers) on the Internet. It helps to identify the cause of a problem when a web page or other resource does not load properly. There are two major group of HTTP status code error exist:

* 4xx Client Error
* 5xx Server Error

Q: What are the header fields in HTTP?  
A: HTTP header fields allow the client and server to pass information with the request and response message. Following are the header fields in HTTP:

* **General header:**It applies for both request and response message.
* **Request header:** It contains information for the request message.
* **Response header:** It is used to contain response header information sent by the web server.
* **Entity header:**It is used to contain more information about the body of the entity.

Q: What are SSL certificates?  
A: SSL is a standard security protocol which ensures confidentiality and integrity of data while in transit. It encrypts the data flow between the web browser and web server, hence ensures confidentiality. Also, web server and browser exchanges key to decrypt the data, which ensures the integrity of data.

Q: What are the benefits of HTTPS certificate?  
A: The major benefits of HTTPS certificate are:

* Customer information like credit card number and ATM pin is encrypted and cannot be easily tracked.
* Customers trust and prefer to purchase from the sites that use HTTPS protocol.
* This protocol shows authenticate register domain as secure connection.