**Pakistan School, Kingdom of Bahrain**

**SSC-I (Week 3)**

Q.21 Elaborate the scope of the careers in the field of information technology.

 Ans: **Careers in Information Technology (IT**):

 **Software Engineer**: Software engineer is a highly skilled person in the field of IT whose responsibilities involve the analysis. design, implementation and maintenance of computer software. Software engineer can be further classified into programmer and system analyst. **Programmer:** Computer programmers are IT professionals who have extensive knowledge and expertise in programming languages. They program the computer by writing step-by-step instructions that tell the computer what to do. Computer programmers write programs to solve problems related with business, education, engineering, government offices: hospitals. entertainment. etc.

 **System Analyst:** System analysts analyze the data processing requirements of organizations and develop information systems to implement them. They investigate problems, plan solutions and recommend the type of hardware and software required for implementing the solution. They also coordinate with the programmers and database administrators in developing information systems.

 **Hardware Engineer**: Hardware engineers design and manufacture computer hardware. Their work also involves repair hardware. They have in-depth depth knowledge of internal working of computers, circuit boards and other electronic equipment.

**Network Administrator:** Network administrators are responsible for installation, configuration and maintenance of computer networks in organizations. They are in charge of maintenance of computer hardware and software that make up a computer network. They assign passwords to network users so that unauthorized people do not have access to network .

**Database Administrator:** Database administrator is a person who is responsible for the design, implementation and maintenance of a database in an organization. He is also responsible for maintaining security and monitoring the performance of database.

 **Web Designer:** Web designer is a person whose job is to plan and create websites. He designs web pages that include text, images, sound, video clips and make the website interactive. HTML (Hypertext Markup Language) is the most commonly used language for creating websites. **Multimedia Designer**: Multimedia designers are people who organize and present information in an easy to understand and attractive manner. They combine text, graphics, animation, audio and video. Multimedia designers create digital images and arrange them in sequence for animation using computer software. They have the skills to edit and manipulate audio/video files. They usually work in film/TV industry, computer software companies and advertising companies.

**Information Security Analyst**: Information security analyst is a person whose job is to protect information and information systems from unauthorized access, use, modification, recording or destruction. He implements procedures and policies to ensure information security within the organization.

 **Computer Teacher:** Computer teacher teaches the subject of computer science to students to make them computer literate. He conducts lessons on how to operate computers and the working principles and concepts of computer hardware. He also teaches how to develop computer programs using various programming languages.

Q.22 Define Computer.

 Ans: **Computer:** A computer is an electronic data processing device. It reads data processing it and produces results accurately at a very high speed.

Q.23 Define Computer system

Ans: **Computer system:** A computer along with a number of units attached to it (such as keyboard, monitor, disk drives etc ) is known as a computer system.

Q.24 Differentiate between hardware and software of a computer.

 Ans: **Difference between computer hardware and software**:

 **Hardware:** Hardware is a physical device something that you're able to touch and see. Computer hardware refers to the physical components that make up a computer system. **Example:** The computer monitor you're viewing the text on or the mouse you're using to navigate is considered computer hardware. RAM, ROM, motherboard, modem, wireless chip. CPU/Hard Disk etc.

**Software:** Computer software is a set of instructions that tells a computer what to do and how to do.

Software is code and instructions that tell a computer or hardware how to operate. This code can be viewed and executed using a computer or other hardware device.

 However, without any hardware software would not exist.

 **Example:** An example of software is Microsoft Windows, an operating system that allows you to control your computer and other programs that run on it.

Another example of software is the Internet browser. Operating system (Windows, Linux) games or applications, word processing /Internet Explorer or Firefox etc. are the examples of software.

 Q.25 Write the names of three major units of computer system?

 Ans: **Major units of computer system:** Generally a computer system consists of the following three major units:

 i. System unit

 ii. Input units (A keyboard, mouse etc )

iii. Output units (A monitor, printer etc.)

Q.26 Write the names of hardware components of a computer system?

Ans: **Hardware Components of Computer:** Hardware components of a computer system are classified into input devices. system unit. storage devices, output devices and memory.

 Q.27 What is the function of input devices.

 Ans **Input devices:** All the devices used :o feed data into the computer are known as input devices.

 **Function of input devices**: Input devices allow us to communicate with the computer. **Examples:** Some commonly used input devices are keyboard, mouse, microphone, scanner barcode reader, digital camera and touch screen.

Q.28 Describe the division of keyboard and its functions?

Ans: Keyboard: It is the main input device to communicate with the computer.

**Division of a Keyboard:** It allows the computer user to enter letters. numbers and special symbols into the computer.

**Functions of a Keyboard:** A keyboard may be divided into four general areas:

i. Alphanumeric keypad.

 ii. Numeric keypad.

iii. Function keys.

iv. Screen Navigation & Editing keys

**Point To Ponder**

Why the keys on keyboard are not arranged in alphabetical order?

Ans: In fact, the QWERTY layout was designed to let people type as quickly as possible without jamming a mechanical typewriter. As it happens, this same layout is nearly optimal for pure speed, as it tends to cause the fingers and hands to alternate.

**OR**

 (**Second Answer)**

 The QWERTY keyboard layout was designed so that successive keystrokes would alternate sides of the keyboard so as to avoid jams in manual typewriters. Is frequently said that the design was also created to make people type slower.

First designs of manual typewriters using keyboards with letters on alphabetical order could not keep up with the speed of fast typist and the QWERTY keyboard layout was designed to reduce jamming.

Q.29 Describe the working and functions of mouse?

Ans: **Mouse:** It is a hand-held device used to control the movement of cursor or pointer on the screen. It has two or three buttons at the front that allows the computer user to make selection in menu, draw graphics or open files, folders and program.

Q.30 Describe the working and functions of microphone?

Ans: **Microphone:** It is a device that allows computer user to input audio into the computer. It changes audio signals into electrical signals which are translated into digital form by the sound card for processing in the computer.