# Different types of computer systems information technology essay

Technology, Information Technology

# INTRODUCTION

Before getting into the detail, it is essential to understand the concept of Computer System. Computer System is a general purpose device which can be programmed to carry out a finite set of arithmetic or logical operations. Since a sequence of operation can be readily changed, the computer can solve more than one kind of problems. In this assignment I will work on the following four different phases. Each phase will cover the related content in detail. In the first part we will understand the function of computer system. In this part, I will discuss the role of computer system in different environments. Hardware, software and peripheral components of a computer system. Comparing different types of computer system. The second learning outcome is be able to design computer system in this I will produce a system design specification to meet the client's need. Then I will evaluate the suitability of a system design specification. Third learning outcome is be able to build and configure computer system. I this will build and configure a computer system to meet a design specification, then it will be test and document a computer system. Fourth learning outcome is be able to undertake routine maintenance on computer system. In this I will discuss performing routine maintenance tasks on a computer system and upgrade the hardware and software on a computer system. In this assignment, each issue & process would be discussed in detail to understand the basic concept.

# LEARNING OUTCOME # 01

## THE ROLE OF COMPUTER SYSTEM IN DIFFERENT ENVIRONMETS

In this modern day computer system is used everywhere, example at Home, Business, Networking, Real-time, Communication. At home the computer is used for normal works like for searching information on internet, playing games and etc, for that we don't require a high speed computer. In business computer plays a big role, all business there is a finance department, the main activities of the finance department is to record all the business transaction, to control the finance cash flow and etc , for that the need a computer. The Networking is all about computers, For Networking computer is important. Without computer, Networking is impossible and we cannot share resources (i. e. files, videos, sounds, pictures, etc) and communication between two or more people will not be possible. For Networking we need at least 2 computers. We use computer system in Real-time. Real-time is a process in which people can communicate without any deadline. We can share our videos and etc. Sometimes people use computer as a TV. We can access to live information from a television station through a computer. Real-time can also refer to event simulated by a computer at same speed that they would occur in real life. Communication is now done worldwide using computer system. Today most of the computers are capable of communication, like we can send a message, documents, picture and etc to our friend on the other side of the planet. An instant messenger program allows two different computers to converse by typing in text or they can even voice chat with each other.

# THE HARDWARE, SOFTWARE, AND PERIPHERALS COMPONENTS OF A COMPUTER SYSTEM

HARDWARE: Hardware consists of physical equipments of the computer. The components Hardware are power supply, motherboard, expansion Cards, hard disk and etc. A power supply unit converts alternating current electric power to low-voltage DC power for internal components of the computer. Motherboard is the main component inside the CPU. it is a large rectangular board with integrated circuitry that connects the other parts of the computer including the CPU, the RAM, the disk drive and etc. Expansion card in computing is a printed circuit board that can be inserted into an expansion slot of a computer motherboard or backplane to add functionality to a computer system via the expansion bus. Hard disk is a device for storing and retrieving digital information, primarily computer data. It consists of one or more rigid rapidly rotating discs, coated with magnetic material and with magnetic heads arranged to write data to the surfaces and read it from them. SOFTWARE: Software is a collection of computer programs and related data that provides the instruction for telling a computer what to do and how do it. There are 3 types of software: System software, Programming software and Application software. System software is computer software designed to operate the computer hardware to provide basic functionality and provide platform for running application software. Programming software include tools in the form of programs or applications that software developers use to create, debug, maintain or otherwise support other programs and application. Application software is developed to perform in any task that benefit from computation. It is a set of programs that allows the computer to

perform a specific data processing job for the user. PERIPHERAL: Peripheral is a device connected to a host computer, but not part of it, and is more or less dependent on the host. These are input/output devices. Peripherals are: Keyboard, Mouse, Monitor, Speaker and etc. Keyboard is an input device, which is use to input data by typing. Mouse is a pointing device that functions by detecting two-dimensional motion relative to its supporting surface. Monitor is an electronic visual display for computers. The monitor comprises the display device, circuitry, and an enclosure. Speakers are external to a computer that disables the lower fidelity built-in-speaker. They often have a low-power internal amplifier.

## DIFFERENT TYPES OF COMPUTER SYSTEMS

A computer is a general purpose device which can be programmed to carry out a finite set of arithmetic or logical operations. There are different types of computer system: Personal computer, Workstation, Minicomputer, Mainframe and Supercomputer. Personal computer: A personal computer can be defined as a small, relatively inexpensive computer designed for an individual user. Workstation: It is a type of computer used for engineering applications, desktop publishing, software development, and other types of application that require a moderate amount of computing power and relatively high quality graphic capabilities. Minicomputer: It is a mid size computer. In general, a minicomputer is a multiprocessing system capable of supporting from up to 200 users simultaneously. Mainframe: Mainframe computers are powerful computers used primarily by corporate and governmental organizations for critical applications, bulk data processing

such as census. In some ways, mainframes are more power than supercomputers because they support more simultaneous programs. Supercomputer: Supercomputer is a board term for one of the fastest computer currently available. Supercomputers are employed for specialized application that requires immense amounts of mathematical calculations.

## LEARNING OUTCOME # 02

## 2. 1 A SYSETM DESIGN SPECIFICATION TO MEET A CLIENT'S NEEDS

Kalba College needs new computer for their college. I went to the college n as per my serve I have made a list that how many computers are required for the college. So I have found out that they need total of 180 computers from which 100 will be for computer lab, 15 will be for male staff room, 15 will be for female staff room and 50 computers will be for graphic designing class. The requirements of the college is that they need more memory capacity to store the work, they want the computers to be fast so that no work is delayed and they need high graphics in the computers so they can for graphic designing. The problem with the current computers running is that the computers don't have enough memory capacity, the speed is very slow and they are not suitable for graphic designing.

## 2. 2 EVALUATE THE SUITABILITY OF A SYSTEM DESIGN SPECIFICATION

The computers we have design for the college is HP. The computers we have design are highly upgraded as the requirements of the college. The computers are made with more memory capacity then the before computers

so every work is stored properly. In these computers the speed is also increased by installed more GB ram so that every work is done faster. The graphic card which we have installed, which have made the computers better in graphic designing. We also installed a cooling system in every computer so that it stay cool and don't have any problem even if it is used for hours and we also made the backing up option more easier in every computer so there will be no problem in backing up. We also made the security high so that any information is not leaked out and we have installed antivirus in every computer. We are also giving free maintenance for 8 years; if any problem is there with any computer we will fix it or replace the computer. We will compare different computers so u will have a better idea that HP Is better than other computers. HPACERDELLIBMHard Disk Drive2TB 7200 rpm SATA hard disk drive1TB hard disk drive1. 5TB hard disk drive1TB hard disk driveMemory10GB DDR3ProcessorGraphic card

## LEARNING OUTCOME #03

## 3. 1 BUILD AND CONFIGURE A COMPUTER SYSTEM TO MEET A DESIGN SPECIFICATION

The steps in configuring a computer system areSystem installationSystem configurationSystem testing

### System installation:

Our case has a slide-out tray, first we have to lay the case on its side. Then screw in the spacer mounts for fixing the motherboard. Insert the CPU socket to do this, raise the small lever at the side of the socket. Then place the processor, all the pins should slide smoothly into the socket. Once the

processor in placed lock the lever back down. Don't forget to use thermal paste. Apply the thermal paste to the top of the CPU. This will help to transfer heat from the processor to the cooler. Make sure that the cooler is in the correct position. Clips fix cooler to the socket. Installing the RAM. The RAM must be suitable for the motherboard. Line up the RAM with its slot before installing it. Then, carefully press the module into the slot. Caution is recommended, as too much pressure may damage certain tracks on the motherboard. It is best to push one side down first. Then comes the installation of graphic card, nowadays graphic card are usually fitted in the AGP slot provided specifically for this purpose. The slot are located in the center of the motherboardBefore fitting an expansion card, remove the appropriate slot insert from the back panel of the case. After that install the hard drive before that always leave some space above to prevent heat buildup. Then install the CD-ROM drive, it is similar to installing a hard drive, first check that the jumper configuration is correct and then install the CD-ROM in the case, but careful not to over-tighten the screws as excess pressure can damage it. Now it's time to connect the cables. The 80-pin ribbon cable is for the hard disk and the 34-pin is for the floppy. Then connect the power supply cables. At last check that all connections are properly, once you have checked then you can start your PC. We will also install all the peripheral which are required for the college. System configuration: First configure Basic input Output System (BIOS) e. g.: clock settings, memory timing, boot order and drive setting. We have done the BIOS setting for all the computers so that there are no problems with the computers. We have installed an anti-virus to protect the computers for any

unexpected viruses and we will update the anti-virus whenever updates are available. We have done everything as per your college requirements, we have set the files and folders sharing permission and we have done all the setting for the peripheral devices. 3. 2 TEST AND DOCUMENT A COMPUTER SYSTEMSystem testing: We will test the system to find any fault in it, will check the Power On Self Test (POST) after that we will check the hardware e. g.: input/output devices, peripheral devices and then we will test the software to check if it's working properly.

## LEARNING OUTCOME #04

## 4. 1 PERFORM ROUTINE MANITENANCE TASKS ON A COMPUTER SYSTEM

There are two types of Maintenance: Software MaintenanceHardware MaintenanceSoftware Maintenance: We will upgrade the software if any update is available. We will update scheduling maintenance tasks, we will also do clean-up, back-up and we will do maintain other third party utility software e. g.: compression utilities, spyware removal. If there is any software error we will fix it with in 1 day and we will do a monthly maintenance for all the computers. Hardware Maintenance: Upgrade the hardware like installing and configure new peripherals e. g.: printers, scanners and etc. Installing additional or replacement devices e. g.: hard drive, memory, graphic, sound, optical media. We will monthly do the cleaning of the hardware.