**TOPIC 5: COMPUTER SOFTWARE**

**Define the Computer Software.***Computer Software refers to series of instructions, commands and programs that tell the computer what to do.*

**Give the two types of Computer Software.**

* *System Software*
* *Application software.*

**Explain the difference between system software and application software  
*System software*** *refers to the programs/instructions designed to manage the operation of computers and avail computer resources to the users while****Application software*** *is a program designed to enable a user to accomplish specific task(s).*

**Define the term System Software?**

***System software*** *refers to a category of software that enables the computer to work and as well control devices connected to it.*

**OR***-It refers the software that performs tasks related to the operation and performance of the computer system.*

**OR** *-System software is a set of programs designed to manage operations of the computer and avail computer resources to the user.*

**State the functions of system software**

* + *Booting the computer*
  + *Making sure that all hardware elements are working properly*
  + *Performing operations such as retrieving, loading, executing and storing application programs*
  + *Storing and retrieving files*
  + *Performing a variety of system utility functions.*

**State any two branches of system software.**

* *Operating system.*
* *Drivers.*
* *Programming languages.*
* *Utility programs.*

**Define the term Operating System as used in Computer Software?***An operating system is a generalized program/software that manages and coordinates all the activities taking place within a computer system*

**Give the types of operating system**

* *Stand-alone operating system*
* *Network operating system*
* *Embedded operating system*

What is meant by Stand-alone operating system?

**Mention the functions of the Operating System to the Computer.**

* *Starting a computer, (Booting the computer)*
* *Providing a user interface,*
* *Managing programs,*
* *Configures devices, (Device drivers are often needed). Plug and Play devices are recognized automatically.*
* *Monitoring performance*
* *Providing file management.*
* *Administering security.*
* *Managing resources.*
* *Coordinating tasks, and Spooling.*
* *Managing memory,*
* *Establishing an Internet connection.*

**What is meant by the term User Interface?  
*A user interface*** *is the part of the software with which you interact; it controls how data and instructions are entered and information is presented on the screen.*

**What are the features of a graphical User Interface?**

* *Uses graphics to stand for the complicated actions*
* *Use icons*
* *Use a mouse to selector the icons*
* *Screen divided into windows allowing different things on each*
* *WIMP - Windows Icons Menus Pointers*
* *Requires little IT knowledge*

**Mention the advantages of using a Graphical User Interface**

* *Easy to use*
* *Easy to explore and find your way around the system*
* *Do not have to learn complicated commands*
* *Exchange data between different software*
* *Good help facilities provided with GUIs*

**Give the limitations of using a Graphical User Interface.**

* *Larger amount of hard disk space than other interfaces*
* *Significantly more memory (RAM) to run than other interface type*
* *GUI use more processing power than other types of interfaces*
* *GUI can be slow for experienced programmers to use, they find CLI much faster*

**Suggest the advantages of using Command line Interface.**

* *Knowing the correct commands, this can be much faster than any other interface type*
* *Uses much less memory (RAM) than any other interface type*
* *Low resolution, cheap monitors can be used*
* *CLI does not require Windows to run.*

**Explain the limitations of using Command Line Interface.**

* *Can be confusing/Complicated*
* *Commands have to be typed precisely, if there is a spelling error the command will fail*
* *If you mistype an instruction, it is often necessary to start all over again*
* *Large number of commands need to be learned*

**List the examples of popular Operating systems used today?**

|  |
| --- |
| * *Microsoft Windows* |
| * *Linux* |
| * *Chrome O.S* |
| * *IOS Apple O.S* |
|  |

**Explain the term Programing Languages?***These are artificial languages designed to communicate instructions to a machine, particularly a computer. Programming languages can be used to create and control the behavior of a machine*

**Mention any five classifications of Programming languages that you know.**

* *Machine/Computer/Code languages(low level)*
* *Assembler (low level) languages.*
* *High level languages.*
* *Fourth Generation languages.*
* *Fifth Generation Languages.*

**Define the term Machine Code Language as used in programming***These are languages written/represented in binary form in the computer. They are only understood by computers.*

**What are the advantages of Machine Code Language?**

* *Machine code program are executed faster.*
* *They don't require either a compiler or interpreters*
* *They are suitable to developing operating systems.*

**Give the disadvantages of Machine code language.**

* *They are difficult to learn and understand.*
* *The instructions are expressed in binary form( 0 and 1s)*
* *The programs are machine dependent hence difficult to be used by other machines of different family.*

**Differentiate between Assembler Language and High level language  
*Assembler language which*** *consist of mnemonic symbols (English like words) used to represent the binary digits of zeros and ones of machine language While****High level languages*** *consist of statements or sequences text including words, numbers and punctuation, much like written natural languages*

**Mention the advantages of using High level languages.**

* *They are machine independent and can be used by other computers.*
* *They are user friendly and problem oriented.*
* *They are easier to learn, write, correct and revise than assembler and machine languages.*
* *They can be used for development of application software*.

**List examples of High-level languages**

|  |  |  |
| --- | --- | --- |
| * *Python* | * *ECMAScript* | * *C* |
| * *Visual Basic* | * *Ruby* | * *FORTRAN* |
| * *Delphi* | * *COBOL* | * *LISP* |
| * *Perl* | * *Ada* | * *Pascal* |
| * *PHP* | * *C++* | * *Algol* |
| * *Java Script* | * *Prolog* | * *BASIC* |

**Explain the following language translators that you know.  
*A Compiler*** *is a computer program that translates high level program into machine code, the language a computer can understand.****An Assembler*** *is a program that translates a program written in assembly language into machine code language.****An Interpreter*** *is a program that translates the source high-level programming language into machine code language line by line while the program is running. This is done every time the program is executed.****Linkers*** *are programs that combines compiled programs and determines where the program will be located in memory.*

**Explain the meaning of the following categories of Application Software**

***Freeware*** *refers copyrighted software provided at no cost,*

***Shareware*** *refers to copyrighted software provided on a trial basis but later the user has to pay to use of all the functions provided*

***Off-to Shelf Software*** *refers to packaged software that is designed to meet the needs of a wide variety of end users.****Custom (bespoke) software*** *is tailor-made software, which is developed at a user's request to perform specific functions****Open source software*** *is software provided for use, modification, and redistribution.****Public-domain software*** *refers to the software that**has been donated for public use and has no copyright restrictions.*

***Web-based software*** *refers to programs hosted by a Web site*

***Special Purpose (Specialized) Software*** *refers to computer programs developed and dedicated to accomplish particular jobs only. Programs that run on special purpose computers*

**General purpose software refers** *to a wide a variety of application programs that perform many common tasks.*

**Adware** *refers to software that contains commercial advertisements of the company embedded in the application that constantly displays when the user open the application.*

**Spyware** *refers to the software that is designed to secretly gather information on a target computer about ongoing activities without knowledge and permission of the owner.*

**What is a software suite?**   
*A software suite is a collection of individual application software packages sold as a single entity.*

**What are the advantages of using software suites?**

* *Costs significantly cheaper than buying each of the application package separately*
* *Easy to learn and use because applications within a suite usually use a similar interface and share common features such as clip art and toolbars*
* *Easy installation because all the various applications can be installed at once*

**State one factor to consider before buying a software program.**

* *Compatibility issue with the hardware.*
* *Compatibility with the available software.*
* *Needs of the organisation.*
* *Is the product an up-to-date, current version or release?*
* *Ease of use of the software.*
* *Whether the manufacturer offers technical assistance of users of the programs.*
* *Nature of the software manufacturer.*
* *Efficiency and productivity of the program.*
* *Whether the software vendor offers service support centre for routing updates.*
* *Cost of the program to use.*

**What is meant by copyrighted software***Copyrighted software refers to computer programs with restrictions regarding use, modification, and redistribution*

**Differentiate between a software update and software upgrade.  
A Software Update** *(also known as software patch) is a free download for an application or software suite that provides fixes for features that are not working as intended or adds minor software enhancements and compatibility.* ***While*A Software Upgrade** *is a new version of your software that offers significant change or improvement over your current version*

**Define the following terms as used in Computer Software**

**Software release***is the process of issuing/letting the software or application for publication, use and distribution.***Software version** *refers to variation of an earlier or original type with minor changes to the existing version or type. Eg. ITunes 12.0, ITunes 12.2.3*  
**Software license** *refers is a document that provides legally binding guidelines for the use and distribution of software.***Software License Agreement** *refers to the legal contact between licensor and /or author and the purchaser of a piece of software which establishes the purchaser’s’ rights.*

**Software bug** *refers to an error in the programming code that does not permit it to function*

**Beta software** *is a type of software provided to people for testing purposes.*

**What are systems software programs?**

*Is computer software designed to operate and control the computer hardware and to provide a platform for running application software.*

**Distinguish between application software and system software.**

*Application software refers to programs that perform specific end user tasks, while; System software consists of programs that control the operations of a computer and its devices.*

**What is a computer program?**    
*A computer program is a collection of instructions that performs a specific task when executed by a computer.*

**Give one reason for storing a document in a pdf format.**

* *PDF documents can be quickly and easily created*
* *It ensures required security without compromising originality.*
* *It has to ability to compact and able to compress large files.*
* *It has the ability to exist independently from the hardware, software and operating system (OS)   
   used to create or view the PDF document.*
* *Less chance of information being lost, destroyed or being accessed inappropriately.*
* *Records are managed throughout their lifetime.*

**Give two advantages of using a shareware program.**

* *It is free of charge*
* *It can be copied from computer to another.*
* *It is covered by a copyright.*
* *Gives the user an opportunity to compare*

**Mention one use of a software driver.**

* *It enables the computer to communicate with the device.*
* *It configures the hardware devices with the operating system*

**Outline two examples of an application programs.**

* *Video Editing Software*
* *Music playing software*
* *Word processing software*
* *Spread sheet software*
* *Presentation Software.*
* *Database Software*
* *Desk top Publishing Software*

**Mention any two examples of specialised application programs**.

* *Accounting package.*
* *Computer Aided Design.*
* *Customer Relations Management (CRM).*

**State two advantage of keeping work in a soft copy.**

* *Convenient to store.*
* *Can be easily transported from one computer to another.*
* *Easily edited.*
* *Can be shared by many people easily say in a network.*
* *Data security can easily be achieved at least costs.*
* *Not affected much by natural disasters like humidity, e.t.c.*
* *Cheaper to store.*
* *Soft copies can easily be searched quickly and obtained.*

**. Mention two dangers of software piracy.**

* *Leads to loss to software manufacturers.*
* *Leads to imprisonment to offenders.*
* *Leads to lack of software support from software developers.*
* *Leads to transmission of computer viruses.*

**Give the difference between a computer instruction and program.**

*An instruction is a command entered into the computer while a program is a software that tells a computer what to do.*

**State one advantage of keeping data in a soft copy. (01 mark)**

* *It is easier to make changes on the work*
* *Can be accessed anytime by the user*
* *Producing soft copies is less expensive.*
* *Soft copy has no weight*
* *Requires no physical space*
* *Soft copy can be stored for a long period of time.*

**Write True of False next to each of these statements.**

|  |  |  |
| --- | --- | --- |
|  | *Statement* | *T / F* |
| *a* | *Computer programs are custom made only.* | *F* |
| *b* | *A command line interface is a form of operating system.* | *F* |
| *c* | *Freeware normally attract payment after some time.* | *T* |
| *d* | *A compiler is an example of applications software.* | *F* |
| *e* | *Linkers are used to write computer codes.* | *T* |