Name:………………………………………………………………………………..Class:……AdmNo:…….

FORM 1 COMPUTER STUDIES

END OF TERM 2 EXAMINATION

TIME: 2HOURS

1. a) What is CPU? (2mrks)

* *Central Processing Unit*

b) Give and explain three major components of the CPU. (6mks)

* *Control unit*
* *Arithmetic and Logic Unit*
* *Main Memory*

1. (a) Registers hold one piece of data at a time and are found inside the CPU. List any FOUR examples of registers (4mrks)

* *Address register*
* *Accumulator*
* *Instruction register*
* *Storage register*

(b) What is a buffer? (2mrks)

* *A buffer is an area of memory used for the temporary storage of data when a program or hardware device needs an uninterrupted flow of information. It is a data area shared by hardware devices or program processes that operate at different speeds or with different sets of priorities. The buffer allows each device or process to operate without being held up by the other. Buffers are typically created in Random Access Memory (RAM) rather than on the hard disk, as fetching data from RAM is faster. Some input/output devices come with their own on-board RAM, as in the case of printers.*

1. List and differentiate between the TWO categories of processors depending on the number of instruction set.  (4mks)

* ***Complex instruction set computers (CISC) -*** *It’s made up of large number of inbuilt complex instructions set in the processor of a computer.*
* ***Reduced instruction Set computers (RISC) –*** *The processor of a computer has fewer inbuilt instructions than CISC.*

1. Explain four terminologies used with reference to the use of the mouse. (4mks)

* *Clicking*
* *Double clicking*
* *Right clicking*
* *Drag and drop*
* *Pointing*

1. Explain the following term as used in reference to fetch-execute cycle. (6mks)

* Fetch – *seeking for data, instructions and instruction codes*
* Decode – *interpreting the instruction by the CU.*
* Execute – *obeying the instructions 28*

1. a) What is a computer bus? (2mks)

* *Is an electronic pathway through which bits of data are transmitted between the various computer components.*

b) Describe three types of computer buses. (6mks)

* *The address bus – this is a one-way (unidirectional bus) that carries the address of the register containing the next piece of instruction to be acted upon.*
* *The data bus – this is a two way (bi-directional bus) that carries data signals to and from the processor.*
* *Control bus- this is a one way (unidirectional bus) that carries command signals used for managing the activities of the CPU.*

1. State five reasons for the increased use of microcomputers in government offices. (5mks)

* *They are small and fit in a small storage space.*
* *They are light weight hence can be carried to areas where their services are required.*
* *For laptops the monitor, system unit, keyboard units are attached together hence making its use to be pleasant.*
* *Reduced costs i.e. are cheaper than the minicomputers and mainframe computers.*
* *High processing speed*
* Are small in size (occupy less office space)
* Are more energy efficient (i.e. consume less power)
* Are more reliable in doing various functions than the early mainframe computers
* Are versatile (i.e. can be used for many different tasks)

1. State three facilities that will ensure proper ventilation in a computer laboratory. (3mks)

* *Large & enough windows and doors*
* *Installing fans*
* *Installing air conditioning system*
* *Avoid overcrowding of either machines or people in the room*

1. What is meant by UPS? (2mks)

* *Uninterruptible Power Supply*

1. State three functions of the UPS. (3mks)

* *It prevents sudden power surges that might destroy the computer*
* *It supplies power to the Computer during blackouts and brownouts*
* *It provides stable (clean) power supply*
* *Alerts the user of power loss (by beeping)*
* *Allows the user to save his/ her work, and switch off the system using the right procedure.*

1. Name and explain the two main divisions of computer storage, giving an example of each. (6mks)

* *Primary (main) storage.*

*This is the storage found within the computer itself. It is used to hold data, programs & instructions required immediately (or currently being used) by the Processor.*

*Examples: Random Access Memory (RAM) & Read Only Memory (ROM).*

* *Secondary (Backing) storage.*

*It is used by the computer to store backup information that is not needed immediately by the Processor. It is also used by the computer to supplement the computer’s main memory/ internal memory in case of mass storage purposes.*

*Secondary storage units provide permanent data storage facilities. They allow large quantities of information to be stored permanently on some form of magnetic media such Magnetic tapes or disks.*

1. List five advantages of a computerized system over a manual system. (5mks)

* *Computers process data faster:*

*The processing speed of a computer when measured against other devices like typewriters & calculators is far much higher.*

* *Computers are more accurate & reliable:*

*Computers produce more accurate results as long as the correct instructions & data are entered. They also have the ability to handle numbers with many decimal places.*

* *Computers are more efficient:*

*A computer requires less effort to process data as compared to human beings or other machines.*

* *Computers can quickly and effectively store & retrieve large amounts of data.*
* *They are very economical when saving information, for it can conserve a lot of space.*
* *Computers occupy very little office space.*
* *Computers help to reduce paper work significantly.*
* *Computers are flexible:*
* *A computer can perform a variety of jobs as long as there is a well-defined procedure.*

1. a) Differentiate between an input device and an output device. (2mks)

* *An input device is used for entering data into the computer while output used to give out the information.*

b) State the difference between hardcopy output and softcopy output as used in computing. (4mks)

* *Hardcopy is printed copy, e.g. printout on papers such as letters while softcopy is intangible information e.g. screen display or music.*

c) i) List five input devices of a computer. (5mks)

* *Mouse, keyboard, joystick, trackball, MICR, Digitizers, Document readers*

14. State five characteristics of first generation of computer. (5mks)

* *Large in physical size*
* *Relied on thermionic valves (vacuum tubes) to process and store data*
* *Consumed a lot of power*
* *Produced a lot of heat*
* *The computers constantly broke down due to the excessive heat generated; hence were short- lived, and were not very reliable*
* *Their internal memory capacity/ size was low*
* *Processing speed was very slow*
* *Very costly*
* *Used magnetic drum memory*

1. List five devices located under the cover o the system unit. (5mks)

* *Central processing Unit (CPU)*
* *Motherboard*
* *Power supply unit*
* *Main memory*
* *Hard disk*
* *Disk drives*
* *Battery*
* *Buses*
* *Input/ output ports*
* *Video card*
* *Expansion*

1. Give the full meaning of the following abbreviations: (4mks)

DRAM – *Dynamic Random Access Memory*

PROM – *Programmable Read Only Memory*

EAROM – *Erasable Alterable Read Only Memory*

EEPROM – *Electrically Erasable Programmable Read Only Memory*

1. State five differences between a CRT monitor and a flat panel screen. (5mks)

|  |  |
| --- | --- |
| *CRT monitor* | *Flat panel screen* |
| *It is bell shaped* | *It is screen flat-shaped* |
| *Has poor resolution* | *Has high resolution* |
| *Heavier, hence less portable* | *Light ,hence more portable* |
| *Cheaper* | *Expensive* |
| *Produces a high amount of radiation* | *Produces a low amount of radiation* |
| *Consumes more power* | *Consumes less power* |
| *Occupies more space* | *Occupies less space* |

1. State three ways of classifying computers. (3mks)

* *Functionality*
* *Purpose*
* *Physical size and processing power*

1. State any four components found or attached on the computer motherboard. (2mks)

* *Processor (CPU)*
* *SIMM/DDR sockets*
* *Memory chips*
* *BIOS*
* *Interface chips*
* *Buses*

1. State five factors to consider before choosing a storage device for backup. (5mks)

* *Cost*
* *Availability*
* *Accessibility to information stored in it*
* *Reliability and security – does not easily crash*
* *Durability*
* *Storage capacity*
* *Physical size and portability*
* *Compatibility with the existing computer system hardware*