

**TESO NORTH DISTRICT JOINT EVALUATION EXAMINATION  
451/ 1  
COMPUTER  
PAPER 1  
MARKING SCHEME**

**SECTION A (40 MKS)**

**Answer ALL questions in this section.**

1. List two types of computers that we can have if we classify them by function *(1mk)*  
Digital computers  
Analogue computers
2. State four disadvantages of first generation computers *(2mks)*  
Consumed a lot of power  
Constantly broke down due to excessive heat generated  
Very Large in size
3. Name any two types of input devices *(1mk)*  
Keying devices  
Pointing devices  
Document readers
4. Give the name of CPU registers used to perform the following: *(2mks)*
  - a) Store the address of the next instruction to be executed  
Address register
  - b) Stores instructions currently being executed  
Instruction register
5. Differentiate between standard package software and user-developed software *(2mks)*  
The standard soft wares are developed by software engineers, packages and made available for purchase through a vendor, while user-developed are uniquely designed and tailored to meet a particular user's need.
6. Programs and data can be lost through various means. Give two measures that can be taken to avoid loss of data through unauthorized access. *(2mks)*  
Physical restriction  
Burglar proofing doors and windows  
Access cards
7.
  - i) Define information processing *(1 mk)*  
Manipulation of raw facts and figures into meaningful information that can be consumed by users
  - ii) What is a parity bit as used in data representation *(1mk)*
8. Describe the following processing methods *(2mks)*
  - a) **Online**
    - Data is processed immediately its received and the computer is connected directly to the data input unit via a communication link
  - b) **Multiprocessing**
    - Refers to the processing of more than one task at the same time on different processors of the same computer
9.
  - i) What is word processing? *(1mk)*  
The act of using a word processor, which is an application software that enables a person to create. save, edit, format and print text documents
  - ii) Give 4 advantages of using an electronic word processor rather than using the traditional typewriter.
    - • A document can be stored in a computer for future reference
    - • Using a word processor is easier and more efficient because some actions are automated

- • Most word processors have special editing features like spelling and grammar checks e. t. c.
  - • Word processors have superior document formatting features
  - • Typewriters may require typing of the entire document when one needs more copies but a word processor lets produce many copies via the printer (4mks)
10. i) Define the term programming (2mks)  
The process of developing computer instructions (programs) used to solve a particular task.
- ii) Describe the following categories of high level languages (4mks)
- a) **Structured**
- The language makes it possible to break a program into components called nodules each performing a particular task.
- b) **Object oriented**
- The language enables the programmer to look at a program as having various objects interacting to make up a whole
11. Explain any four factors that one would need to consider when selecting a printer. (2 mks)
- Cost of buying as compared to benefits
  - Maintenance cost
  - Physical size
  - User Needs
12. Name six hardware factors considered when selecting a computer system. (3mks)
- Storage capacity
  - Processor speed
  - Physical Size
  - User Needs
  - Documentation
  - Memory size
13. a) Convert the following octal number to its binary equivalent. (2mks)  
247<sub>8</sub>  
2      4      7  
010   100   111  
= 0101001112
- b) Subtract 110012 from 1111112 (2mks)
14. Write Ms-DOS commands used to do the following functions (4mks)
- a) Rename a file  
REN (Old Filename) (New filename)
- b) Delete a directory  
DEL (name of directory)
- c) Label floppy disk  
LABEL
- d) Copy contents of one disk to another  
COP YDISK
15. Write the acronym DBMS in full (1mk)  
Database Management System

### SECTION B (60 MKS)

Answer Question 16 (Compulsory), and any other 3 questions in this section.

16. a) Draw a flowchart that will help to code in a high level language a program that would receive any four numbers, find their sum and average and display them.
- b) List any three disadvantages of high level languages (3mks)

- Use of many instructions in a word hence complexity of the programs causes slower program processing  
They have to be compiled to machine readable form before the computer can execute them
- c) Give any four objectives that fourth generation languages were designed to meet. **(4mks)**  
Make programming easier  
Present programmer with programming tools  
To free programmer from tedious work of writing code  
To have graphical codes by use of the available graphical objects
17. a) Write brief notes on random file organization **(4mks)**  
Records are stored randomly but accessed directly. To access a file randomly a record key is used to determine where a record is stored on the storage media.
- b) State the elements of a computer file **(3mks)**  
- Characters  
- Fields  
- Records
- c) Explain four types of computer processing files **(4mks)**  
- Master file  
- Main file that contains relatively permanent records about particular item entries  
- Transaction file  
- Used to hold input data during transaction processing  
- Reference file  
- Mainly used for reference of look-up purposes.  
- Backup file  
- Use a to hold copies of data or information from the computers fixed storage  
- Report file file
- d) Name the other three file organization methods other than random file organization **(3mks)**  
sequential, Indexed sequential and serial
18. a) Define the following as used in programming **(3mks)**  
i) **Local Variable**  
Defined only for use in one part of the program (normally a function or procedure)  
ii) **Global Variable**  
Caused anywhere in the program  
iii) **Identifier**  
- A name label chosen by the programmer to represent an object within a program
- b) i) Define Normalization **(2mks)**  
- To change a number in floating point form into standard floating point representation format.  
ii) Mention 2 aims or uses of normalization **(2mks)**  
- To avoid having two different binary codes meaning the same thing  
Multiplication is performed more accurately  
- The form chosen is usually that which provides maximum precision
- c) Differentiate between a folder and a file **(2mks)**  
A file is a collection of related data items given a specific name while a folder is a storage location of related files
- d) i) What is a computer? **(1mk)**  
- An electronic device that accepts user input (data) and transforms it under the influence of sets of special instructions called programs to produce the desired output referred to as information
- e) What is a computer bus **(1mk)**  
Common pathway shared by signals to and from several components of a computer.
- f) Differentiate between impact and non-impact printers **(4mks)**  
- IMPACT -

- NON-IMPACT
  - Cheap to buy and maintain Produces good quality print
  - Expensive to buy and maintain
  - Poor quality print
  - Noisy
  - Silent
  - Uses ribbon
  - Uses cartridges and Toners
19. a) Define a computer network (1mk)
- A collection of independent entities that are arranged in a such a manner as to exchange data, information or resources.
- b) Apart from Metropolitan Area Network Explain 2 other types of Networks (2mks)
- Local Area network
  - Wide area network
- c) Explain 2 limitations of networking (2mks)
- Security issues
  - High Initial Cost
  - Moral and cultural effects
  - Spread of terrorism and drug trafficking
  - Over-reliance on networks
- d) Briefly describe the stages of the system Development Life cycle (6 mks)
- Problem recognition and definition
  - Information gathering
  - Requirement specification
  - System design
  - System construction (coding)
  - System implementation
  - System review and maintenance
- e) Distinguish between soft and hard systems (2mks)
- f) Explain four characteristics of systems (2mks)
- Holistic thinking
  - Subsystems
  - Boundary and environment
  - Purpose
  - Process
  - System entropy
  - Inputs and outputs
  - Open and closed systems
  - Control
20. a) One of the elements of networking includes Communication devices. Explain the function of the following communication devices (4mks)
- i) **Network Interface Card**  
Creates a physical link between the computer and the transmission media
- ii) **Hub**  
Also called a concentrator is a component that connects computers on a network and is able to relay signals from one computer to another on the same network.
- b) Explain how computers are applied in: (4mks)
- i) **Financial systems**
- Payroll systems
  - Accounting systems
  - Banking systems
- ii) **Reservation systems.**

- c) Explain each one of the following bringing out the differences between them as applied to impact of ICT on Society . **(6mks)**
- i) Job Creation
  - ii) Job Replacement
  - iii) Job displacement
- d) What is an expert system future trends in ICT. **(1mk)**