I. A. H

Comp 1

# THE UNITED REPUBLIC OF TANZANIA
# NATIONAL EXAMINATIONS COUNCIL
# CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

**036/1** **INFORMATION AND COMPUTER STUDIES 1**

(For Both School and Private Candidates)

*TIME: 3 Hours* ***Monday, 19th October 2009 p.m.***

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**Instructions**

1. This paper consists of sections A, B, and C.
2. Answer all questions in sections A, and B and **two (2)** questions from section C.
3. Show all the steps involved in arriving at the correct answer.
4. Electronic calculators are **not** allowed in the examination room.
5. Cellular phones are **not** allowed in the examination room.
6. Write your Examination Number on every page of your answer booklet (s).

This paper consists of 7 printed pages.

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## SECTION A (30 Marks)

Answer **all** questions in this section

1. For each of the following items (i) – (x) choose the correct answer among the given alternatives and write its letter beside the item number

(i) A device that captures information and translates it into a form that can be processed and used by other parts of your computer is called
   A output device
   B storage device
   C telecommunications device
   D input device
   E connector

(ii) A person whose functions is to make sure that all systems and networks within an organization are working properly is called
   A system administrator
   B system analyst
   C system developer
   D network controller
   E network technician

(iii) The type of software that helps one to create web sites and web pages is
   A web authoring software
   B personal information management software
   C personal finance software
   D spreadsheet software
   E DBMS software

(iv) The term _____ refers to the widespread use of mobile communication devices
   A IT
   B PDA
   C RAM
   D Wireless revolution
   E WWW

(v) In a cold boot, a self-testing series of programs called _____ begins
   A Linux
   B POST
   C Dochter sync
   D KNE
   E Windows



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(vii) Which one of the following chip provides flexibility and expandability for a computer system and contains essential information that is required every time the computer system is turned on?

A CMOS
B RAM
C TCP IP
D ROM
E ALU

(viii) Which of the following database organization would you choose to store photos?

A Hierarchy
B Network-oriented
C Relational-object
D Distributed
E Object-oriented

(viii) A _____ allows the computer user to control the pointer by moving and tapping a finger on the surface of a pad

A ball
B touch pad
C MICR
D mouse
E digitizer

(ix) Which of the following is an interactive computer program that helps users solve problems?

A Expert system
B Natural language
C Robot
D Perception system
E User interface

(x) _____ is the process of accessing files from a disk

A Catching
B Spanning
C Pinning
D Writing
E Reading



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2. Match the items or phrases in **List A** with the responses in **List B** by writing the letter of the correct response beside the item number.

| List A | | List B | |
|---|---|---|---|
| (i) | Data dictionary. | A | Deals with how to arrange your technology to reduce comfort and avoid health risks. |
| (ii) | Fragmentation. | B | Time used to save a document on a computer. |
| (iii) | Bandwidth. | C | A form of memory that holds frequently used data and instructions. |
| (iv) | BIOS. | D | Short form of Terabit. |
| (v) | Search engine. | E | A zero (0) or a one (1). |
| (vi) | Bit. | F | Defines the structure and properties of a database table. |
| (vii) | Virtual memory. | G | Resembles a family tree. |
| (viii) | Field. | H | Deals with physical relationships between people, technology and their work environment. |
| (ix) | Cache memory. | I | Used to search information about the last person to use the locked computer. |
| (x) | Ergonomics. | J | A technique to supplement RAM. |
| | | K | A technique to supplement ROM. |
| | | L | Capacity of the communications medium. |
| | | M | A single piece of data about an item. |
| | | N | Checks input and output devices at shutting down. |
| | | O | Scattering of portions of files about the disk in nonadjacent areas. |
| | | P | A dictionary which enables the computer to work properly. |
| | | Q | Checks input and output devices at startup. |
| | | R | Process of checking of hard disk drives for errors. |
| | | S | Allows users to locate specific documents through keywords. |
| | | T | A collection of related records. |

3. In the following items, write **(T)** for True statements and **(F)** for False statements.
   (a) A main memory is a software component.
   (b) A node is any device that is attached to a network.
   (c) Desktop is the graphical user interface screen of an operating system.
   (d) The CPU's Control Unit contains a list of all the operations the CPU can perform.
   (e) The operating system is responsible for allocating RAM among the programs that are running.
   (f) When a user sends a document to a network printer, the document is called a spool.
   (g) Distributed computing means getting other computers on the network to do some of your processing.
   (h) The expression Kbps stands for "thousand bit per second".
   (i) In a document the left and right margins must always be the same.
   (j) A label is any number that you enter or any number that results from a computation.



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## SECTION B (50 Marks)

Answer **all** questions in this section

4 (a) What is Multimedia? **(2 marks)**

(b) Explain two categories of multimedia **(4 marks)**

(c) Mention and briefly explain two major characteristics of multimedia. **(2 marks)**

5 (a) (i) Define e-mail **(1 mark)**

(ii) Briefly explain the three (3) basic elements of a typical e-mail? **(3 marks)**

(b) (i) What is a spam? **(1 mark)**

(ii) List three examples of a spam **(3 marks)**

6 (a) Applications software can be divided into two categories, one basing on basic or general purpose applications and the other basing on specialized applications. Explain the underlying difference between them **(2 marks)**

(b) Explain the importance of having the following features in a word processor.

(i) Word wrap **(2 marks)**

(ii) Bulleted and numbered lists **(2 marks)**

(iii) Collaboration **(2 marks)**

7 (a) Give three (3) benefits to the society resulting from the use of computers. **(3 marks)**

(b) Give three (3) social problems associated with the use of computers. **(3 marks)**

(c) Suggest ways to overcome the social problems mentioned in (b) above **(3 marks)**

8 (a) Differentiate between Worm and Virus as used in computer studies **(1 mark)**

(b) (i) Mention and write short notes on any five computer viruses **(5 marks)**

(ii) Explain three (3) ways that can be used to safeguard computers against computer viruses **(3 marks)**

9 (a) For each of the five generations of computers, state the hardware technology that characterized it **(5 marks)**

(b) What trends are observed regarding the size, cost and processing speed of computers throughout the five generations? **(3 marks)**



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## SECTION C (20 Marks)

Answer **two (2)** questions from this section

10. A supermarket uses a point of sale (POS) system. All the products sold carry bar codes.

(a) Name a device used to input bar codes at the checkouts. **(1 mark)**

(b) Give two advantages of this type of system compared with a manual system.
(i) For the supermarket manager. **(2 marks)**
(ii) Fore the shopper. **(2 marks)**

(c) Most banks now have cash machines. The bank issue plastic cards and Personal Identification Numbers (PIN) to customers so that they can get cash anytime.
(i) Give two items of data stored about the customer on the card. **(2 marks)**
(ii) Describe the purpose of PIN. **(1 mark)**
(iii) State two advantages to the customer of having cash machines. **(2 marks)**

11. (a) In a particular health centre, a local area network (LAN) is used, providing terminals and local printers in each of the doctors' rooms. Give two advantages of this network instead of using stand alone machines in each doctor's room. **(2 marks)**

(b) It is proposed to link the network in all the surgeries and health centre in the area to the main hospital computer system to form a Wide Area Network (WAN).
(i) Name an extra device that will be needed in the surgery to allow the connection to be made. **(1 mark)**
(ii) What is the function of this device? **(1 mark)**

(c) Give two advantages of WAN being available.
(i) To the patient **(1 mark)**
(ii) To the hospital **(1 mark)**

(d) What two extra security problems might arise when the WAN is set up? **(2 marks)**

(e) Give one advantage of the existence of world wide network such as internet. **(1 mark)**

(f) One disadvantage of world wide network is that sometimes it takes long time to find the data. Give one reason for this. **(1 mark)**



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c) The part of the spreadsheet given is used to calculate weekly costs at a zoo. It is also used to predict the effects of changing the number of animals.

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | Animal name | Number of animals | Cost of food for 1 meal (Tshs) | Preparations Cost for 1 meal (Tshs) | Number of Meals per Week | Cost for 1 Animal for 1 Week (Tshs) | Total Cost per Week (Tshs) |
| 2 | Zebra | 12 | 50 | 1000 | 21 | 2,050.00 | 24,600.00 |
| 3 | Lion | 4 | 160 | 1000 | 14 | 3,240.00 | 12,960.00 |
| 4 | Elephant | 2 | 120 | 1000 | 21 | 3,520.00 | 7,040.00 |
| 5 | Peacock | 37 | 20 | 1000 | 28 | 1,560.00 | 57,720.00 |
| 6 | Chimpanzee | 18 | 50 | 1000 | 28 | 2,400.00 | 43,200.00 |
| 7 | Leopard | 8 | 60 | 1000 | 14 | 1,840.00 | 14,720.00 |
| 8 | Crocodile | 3 | 30 | 1000 | 3 | 1,090.00 | 3,270.00 |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | Grand total for 1 week | | 163,510.00 |

(a) What cells tells you the number of Crocodiles living in the zoo? **(1.5 marks)**

(b) Which one of the following statements is used to work out the values in the Total Cost per Week column? **(1.5 marks)**

(i) Cost of food for 1 meal x Number of meals per week
(ii) Preparation cost for 1 meal x Number of animals
(iii) Cost for 1 animal for 1 week x Number of animals
(iv) Cost for 1 animal for 1 week x Number of meals per week
(v) Number of animals x Number of meals per week

(c) Which other values will be worked out by the spreadsheet? **(1.5 marks)**

(d) The cost of food for one Zebra meal increases to Tshs 65 and should be reflected in the total food bill. Which cell would you have to change? **(1.5 marks)**

(e) The zoo gives 6 peacocks to another zoo.
(i) Which other cells would you have to change? **(2 marks)**
(ii) Which two other cells would change as a result? **(2 marks)**



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