

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
FORM TWO SECONDARY EDUCATION EXAMINATION
036 INFORMATION AND COMPUTER STUDIES

Time: 2:30 Hours

ANSWERS

Thursday, 04th December 2014

Instructions

1. This paper consists of sections A, B, and C
2. Answer all questions in section A and B and C
3. All writings must be in **blue** or **black** ink.
4. Communication devices and any unauthorized materials are **not** allowed in the assessment room.
5. Write your **Examination Number** at the top right hand corner of every page.

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i. Which one of the following is not a computer system specification?

- A. RAM
- B. Cost
- C. Processor speed
- D. Hard disk capacity

Correct answer: B. Cost

Reason: Cost is not a technical specification of a computer system. RAM, processor speed, and hard disk capacity are measurable hardware specifications, while cost is an economic factor.

ii. The output produced by computers after processing the input is known as:

- A. Data
- B. Information
- C. Hardcopy
- D. Softcopy

Correct answer: B. Information

Reason: Information is the processed form of data that provides meaning. Data is raw input, while hardcopy and softcopy are formats of output, not the processed result itself.

iii. Which one of the following is not an example of an input device?

- A. OCR
- B. MICR
- C. OMR
- D. LCD

Correct answer: D. LCD

Reason: LCD (Liquid Crystal Display) is an output device used for display, whereas OCR (Optical Character Recognition), MICR (Magnetic Ink Character Recognition), and OMR (Optical Mark Recognition) are input devices.

iv. A computer program used to display information on the internet is called:

- A. Gopher
- B. Internet Explorer
- C. Google
- D. Browser

Correct answer: D. Browser

Reason: A browser is a general term for software like Internet Explorer or Google Chrome used to access and display web pages on the internet. Gopher is outdated, and Google is a search engine, not a program for browsing.

v. One of the most useful features of spreadsheets is the ability to:

- A. Perform normal calculations
- B. Create tables
- C. Perform statistical analysis
- D. Create worksheets

Correct answer: C. Perform statistical analysis

Reason: While spreadsheets can perform calculations, create tables, and worksheets, their advanced features such as statistical analysis make them particularly powerful for data manipulation.

vi. On the keyboard, the key that is used to exit some programs is called:

- A. Special key
- B. Delete key
- C. Escape key
- D. Function key

Correct answer: C. Escape key

Reason: The Escape key (Esc) is commonly used to close dialog boxes, exit programs, or cancel actions, unlike the other keys which have different purposes.

vii. A communication device which forwards a packet directly to the address node without broadcasting is called:

- A. Gateway
- B. Repeaters
- C. Switches
- D. Bridges

Correct answer: C. Switches

Reason: Switches forward packets to specific devices within a network based on their MAC addresses, unlike repeaters or bridges which may broadcast to multiple devices.

viii. Which one of the following computer generations was characterized by Very Large Scale Integrated circuits (VLSI)?

- A. Fourth generation
- B. Third generation
- C. Second generation
- D. First generation

Correct answer: A. Fourth generation

Reason: The fourth generation of computers was marked by the use of VLSI technology, which allowed the integration of thousands of transistors into a single chip, enhancing speed and efficiency.

ix. A computer program that controls the execution of user applications and enables the user to access hardware and software resources is known as:

- A. Operating system
- B. Utility programs
- C. Special programs
- D. Application programs

Correct answer: A. Operating system

Reason: The operating system manages hardware and software resources and provides an environment for applications to run, while utility and application programs serve more specific purposes.

x. An application software that enables a user to create, edit, format, and print text documents is called:

- A. Spreadsheets
- B. Electronic word processor
- C. Electronic publisher
- D. Workbook

Correct answer: B. Electronic word processor

Reason: Word processors, such as Microsoft Word, are designed specifically for creating and editing text documents, unlike spreadsheets or publishers which serve different tasks.

xi. One of the latest radio transmission technologies that enables people to use handheld communication devices to access the Internet is called:

- A. Facebook
- B. Bluetooth
- C. Radio waves
- D. Blog

Correct answer: B. Bluetooth

Reason: Bluetooth is a wireless technology used for short-range communication and internet access between handheld devices, unlike Facebook, radio waves, or blogs, which serve entirely different purposes.

xii. Which one of the following is not a formatting attribute?

- A. Bolding
- B. Copying
- C. Underlining
- D. Italicising

Correct answer: B. Copying

Reason: Copying is not a formatting attribute; it is a general action to duplicate text or data. Formatting attributes like bolding, underlining, and italicising are used to change the appearance of text.

xiii. Examples of transmission media used to connect devices to access the internet are:

- A. Radio waves and cables
- B. Telephone lines and radio waves
- C. Microwave and cables
- D. Telephone lines and cables

Correct answer: D. Telephone lines and cables

Reason: Telephone lines and cables are standard transmission media for internet access. Radio waves and microwaves are wireless communication media, not typically classified as direct transmission media.

xiv. Which of the following is an example of a secondary source of information?

- A. Internet communication on email
- B. Audio recording
- C. Diaries
- D. Newspaper

Correct answer: D. Newspaper

Reason: A newspaper is a secondary source as it compiles and interprets information from primary sources. Diaries and audio recordings are primary sources, and emails are direct communication.

xv. A special program that helps the user to easily find any information on the internet is known as:

- A. Browser
- B. Information locator
- C. Search programs
- D. Search engine

Correct answer: D. Search engine

Reason: Search engines like Google or Bing are specifically designed to help users locate information on the internet efficiently, while browsers are for accessing and displaying web pages.

xvi. Computers that process discrete data are called:

- A. Hybrid computers
- B. Digital computers
- C. General computers
- D. Supercomputers

Correct answer: B. Digital computers

Reason: Digital computers process discrete data (binary 0s and 1s), unlike hybrid computers which process both digital and analog data.

xvii. Which one of the following is not an example of application software?

- A. Microsoft Window
- B. Microsoft Access

- C. Microsoft Word
- D. Microsoft Excel

Correct answer: A. Microsoft Window

Reason: Microsoft Window is an operating system, not application software. The others are application software used for specific tasks like database management and document creation.

xviii. The following are examples of physical topology except:

- A. Ethernet topology
- B. Star topology
- C. Bus topology
- D. Mesh topology

Correct answer: A. Ethernet topology

Reason: Ethernet is a communication standard, not a physical topology. Star, bus, and mesh are types of physical network topologies.

xix. Which one of the following are types of communication media?

- A. Bound and unbound media
- B. Wireless and unbound media
- C. Bound and coaxial media
- D. Unbound and microwave media

Correct answer: A. Bound and unbound media

Reason: Communication media are classified as bound (wired, e.g., cables) and unbound (wireless, e.g., radio waves and microwaves), covering all possible types.

xx. The editing tool that detects automatically wrongly spelled or capitalized words and replaces them with the necessary word is known as:

- A. Autocorrect
- B. Thesaurus
- C. Find and replace
- D. Autotext

Correct answer: A. Autocorrect

Reason: Autocorrect automatically identifies and fixes spelling or capitalization errors as you type, unlike thesaurus (for synonyms), find and replace (manual replacement), or autotext (used for inserting pre-set text).

2. Match the following descriptions of computer peripherals in List A to their corresponding computer hardware in List B by writing the letter of the response option below the item number.

List A:

- (i) A device which converts printed documents into electronic text without having to retype them.
- (ii) A printer which has removable flower-like wheel consisting of spokes with embossed characters.
- (iii) A printer that is expensive to buy but cheap to run.
- (iv) Printers which are used in the point of sale terminals to print receipts and bar codes.
- (v) A printer which is very expensive to run due to the higher cost of replacing the cartridges.
- (vi) A device which looks like lever used to control a pointer on the screen.
- (vii) A device that is used to enter data in form of speech in the computer.
- (viii) A type of printer grouped into the impact printer that prints by striking its pins on the ribbon placed on the paper.
- (ix) An input device which is usually found in a laptop.
- (x) Printers which are used to print geographical, architectural, and engineering drawings.

List B:

- A. Daisy wheel printer
- B. Digital camera
- C. Dot matrix printer
- D. Inkjet printer
- E. Joystick
- F. Laser printer
- G. Microphone
- H. Mouse
- I. Photo printer
- J. Plotters
- K. Scanner
- L. Speaker
- M. Thermal printer
- N. Touch pad

Answers:

- (i) K. Scanner
- (ii) A. Daisy wheel printer
- (iii) F. Laser printer
- (iv) M. Thermal printer
- (v) D. Inkjet printer
- (vi) E. Joystick
- (vii) G. Microphone
- (viii) C. Dot matrix printer
- (ix) N. Touch pad
- (x) J. Plotters

3. For each of the following statements, write TRUE if the statement is correct or FALSE if the statement is not correct.

(i) A strong password should contain text only.

Answer: FALSE

Reason: A strong password should include a combination of text, numbers, and special characters to enhance security.

(ii) A highlighted text is copied by pressing Ctrl + C and pasted by pressing Ctrl + V.

Answer: TRUE

Reason: Ctrl + C and Ctrl + V are standard keyboard shortcuts for copying and pasting, respectively.

(iii) Grammar checker and autocorrect are the basic tools for checking whether the document has typographical or grammatical error.

Answer: TRUE

Reason: These tools are designed to identify and correct errors in text automatically or with user approval.

(iv) In MS Excel, if the formula "=B4*C4" is in the cell D4, the formula assigned to cell D5 is "=B5*C5".

Answer: TRUE

Reason: When formulas are copied to adjacent cells, Excel automatically adjusts the references based on the relative positions.

(v) Installation of fibre optic cables is not difficult.

Answer: FALSE

Reason: Fibre optic cable installation requires specialized tools, equipment, and expertise.

(vi) The ALU of a computer responds to the commands coming from control section.

Answer: TRUE

Reason: The Arithmetic Logic Unit (ALU) executes instructions received from the control unit.

(vii) A scanner is one of the examples of output devices.

Answer: FALSE

Reason: A scanner is an input device used to convert physical documents into digital form.

(viii) Increasing the computer memory exposes the computer to virus infection.

Answer: FALSE

Reason: Increasing memory does not directly expose a computer to virus infection; this depends on software and network security.

(ix) Cold booting is a process of turning on a computer, which has been completely shut down.

Answer: TRUE

Reason: Cold booting refers to starting a computer from a powered-off state.

(x) Voltage stabilizers help to protect computer against power scratches.

Answer: FALSE

Reason: Voltage stabilizers protect against power surges or fluctuations, not scratches.

4. (a) Complete each of the following sentences using one item from the given list:

Twisted pair cables, Unshielded twisted pair, Coaxial cables, Fibre optic cable, Line cables

- (i) Coaxial cables are very stable even under high loads.
- (ii) Fibre optic cable are fast and support high bandwidth.
- (iii) Twisted pair cables use cheap installation equipment and are readily available.
- (iv) Unshielded twisted pair do not have a shield that prevents electric noise.

(b) (i) Define the term computer.

A computer is an electronic device that processes data and produces meaningful information by performing arithmetic, logical, and data processing operations automatically under the control of a program.

(ii) Describe two types of computers according to purpose or task.

- i. General-purpose computers: These are designed to perform a wide range of tasks, such as word processing, browsing, and multimedia editing. Examples include personal computers and laptops.
- ii. Special-purpose computers: These are designed for specific tasks and are optimized for a particular function. Examples include ATMs, traffic control systems, and medical diagnostic machines.

(c) Mention four factors that must be considered when preparing a computer laboratory.

- i. Ventilation: Proper ventilation is essential to maintain an ideal temperature for computers and prevent overheating.
- ii. Power supply: A stable and reliable power source with backup solutions, such as UPS or generators, is necessary for uninterrupted operation.
- iii. Ergonomic design: Workstations should be designed ergonomically to provide comfort for users, including adjustable chairs and desks.
- iv. Security: Measures such as surveillance cameras, locks, and access control should be implemented to protect equipment and data from theft or damage.

5. (a) (i) State three application areas of electronic spreadsheets.

- i. Financial management: Spreadsheets are used for budgeting, accounting, and financial analysis.
- ii. Data analysis: Spreadsheets are used to organize, analyze, and visualize data through charts and graphs.
- iii. Inventory management: Businesses use spreadsheets to track stock levels, sales, and reorder points.

(ii) Give three advantages of electronic spreadsheets.

- i. Easy data manipulation: Spreadsheets allow users to perform calculations, sort, and filter data efficiently.
- ii. Graphical representation: Data can be visualized using charts and graphs for better understanding.
- iii. Automation: Functions and formulas can be used to automate repetitive calculations and tasks.

(b) Study the following snapshot and answer the questions that follow:

(i) Give the name of the program used to create the snapshot above.

Answer: Microsoft Excel

(ii) State the type of graph/chart given in the snapshot above.

Answer: Pie chart

(iii) Give the name of the heading of the graph stated in (ii) above.

Answer: Net Pay

(iv) What format was done for the cells in row 1?

Answer: Bold formatting

(v) Write the function for calculating the lowest gross pay.

Answer: =MIN(E2:E5)

(vi) The national social security fund was calculated as 15% of the gross pay. Write the formula for calculating the national social security fund.

Answer: =0.15*E2

(vii) Write the function for calculating the highest basic salary.

Answer: =MAX(B2:B5)

(viii) Write the formula required to calculate the total transport allowance.

Answer: =SUM(C2:C5)

6. Describe five advantages of Internet in the society.

- i. Access to information: The internet provides access to a vast amount of information on virtually any topic, enabling education, research, and informed decision-making.
- ii. Communication: Tools such as email, video calls, and social media facilitate instant communication across the globe.
- iii. E-commerce: The internet allows businesses to sell products and services online, making transactions easier for both sellers and buyers.
- iv. Entertainment: The internet offers access to movies, music, games, and other forms of digital entertainment.
- v. Job opportunities: People can search and apply for jobs, as well as work remotely through internet-based platforms.