THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

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

(For Both School and Private Candidates)

Time: 3 Hours   **ANSWERS**   **Year: 2018**

Instructions

1. This paper consists of sections A, B and C with a total of twelve questions

2. Answer all the questions in section A and B and one question in section C.

1. For each of the following items (i) - (x), choose the most correct answer among the given alternatives and write its letter beside the item number in the answer booklet provided.

(i) The end product of the comsuter processing is known as
A. news
B. input
C. information
D. data
E. program

Correct Answer: C. information
Reason: Information is the processed data that is meaningful and serves as the final output of a computer's processing system. Other options like data and input are part of the process but not the final product.

(ii) The increase of voltage above 110% of the normal voltage is called
A. over voltage
B. high voltage
C. sag
D. alternation
E. surge

Correct Answer: E. surge
Reason: Surge refers to a sudden spike in voltage levels above the normal limit, while over voltage and high voltage refer to consistently elevated levels, and sag indicates a voltage drop.

(iii) A computer hardware which uses laser light technology to write and read data from a disc is known as
A. floppy disc drive
B. hard disc drive
C. compact disc drive
D. flash disc drive
E. Digital versatile disc drive

Correct Answer: E. Digital versatile disc drive
Reason: A Digital Versatile Disc (DVD) drive uses laser technology to write and read data, unlike hard discs or floppy drives which use magnetic methods.

(iv) The part of the computer which specifically does the logical operations is called
A. Central processing unit
B. Logic and Control Unit
C. Arithmetic and Logic Unit
D. Arithmetic control unit
E. Arithmetic and processing unit

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Correct Answer: C. Arithmetic and Logic Unit

Reason: The Arithmetic and Logic Unit (ALU) is responsible for performing all logical and arithmetic operations in a computer.

(v) A software which is installed when a new hardware is connected to the computer system is called
A. Utility program
B. Driver
C. Operating system
D. Firmware
E. Application software

Correct Answer: B. Driver

Reason: A driver is a specific program installed to enable hardware to communicate and function properly with the operating system.

(vi) The correct use of the web layout in Microsoft word is
A. to view website
B. to browse the internet
C. to save Webpages
D. to print a web documents
E. to see a document in a web

Correct Answer: E. to see a document in a web

Reason: The web layout feature in Microsoft Word allows users to preview how their documents would look in a web format.

(vii) Which of the following error in an excel is displayed due to invalid intersection of cells?
A. #N/A
B. #NUM!
C. #NULL!
D. #VALUE!
E. #REF

Correct Answer: C. #NULL!

Reason: The #NULL! error occurs when an invalid intersection is used in Excel formulas, unlike #N/A for unavailable data and #REF for invalid cell references.

(viii) A file system extension used by default when saving a new word document in MS word 2007 is
A. .accdb
B. .docx
C. .doc
D. .txt
E. .xlsx

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Correct Answer: B. .docx
Reason: MS Word 2007 uses the .docx extension by default, while .doc was used in earlier versions.

(ix) A type of topology which is more difficult to configure is called
A. Bus
B. Star
C. Tree
D. Ring
E. Mesh

Correct Answer: E. Mesh
Reason: Mesh topology is more complex to configure due to its point-to-point connection between nodes.

(x) Which one among the following set of factors distinguish primary and secondary storages of the computer?
A. Speed, size and technology
B. Size, technology and persistence
C. Persistence, technology and speed
D. Speed, size and persistence
E. Speed, size and user friendliness

Correct Answer: D. Speed, size and persistence
Reason: Primary storage (RAM) is faster, smaller, and temporary, whereas secondary storage is slower, larger, and persistent.

2. Match the functions of network devices in List A to the corresponding network device in List B by writing the letter of the correct response beside the item number in the answer booklet provided.

List A
(i) A device that is used in twisted pair cable as terminator.
(ii) A device that connects computers in the network and relay signals from one computer to another.
(iii) A device that connects two nodes point to point as if they were linked by a direct cable between them.
(iv) A device that converts signals from analog to digital and vice versa.
(v) A device that creates a physical link between the computers and the transmission media.
(vi) A device that handles distortion from signals before sending them to another segment.
(vii) A device used to connect different networks.
(viii) A device that can be configured to provide access to wide area network.
(ix) A device that selectively determine the appropriate segment for which a message is meant for delivery through address filtering.
(x) An instrument with wireless hardware for detecting signals in the surrounding.

List B

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A. RJ45
B. Antennae
C. Bridge
D. RJ terminator
E. RJ40
F. Gateway
G. Hub
H. Modem
I. NIC
J. Repeater
K. Router
L. Switch
M. Terminator

Answers
(i) D
(ii) C
(iii) G
(iv) H
(v) I
(vi) J
(vii) F
(viii) K
(ix) L
(x) B

3. In the following items, write True for a correct statement and False for an incorrect statement.

i. Both ROM and RAM are Volatile.
False. ROM is non-volatile because it retains data even after the computer is turned off, while RAM is volatile.

ii. The CPU carries out all instruction executions.
True. The Central Processing Unit (CPU) is responsible for processing and executing instructions in a computer.

iii. Hypermedia is not a subset of multimedia.
False. Hypermedia is a subset of multimedia that integrates text, images, video, and hyperlinks.

iv. Notepad provides the basic standard for creating Webpages.
True. Notepad is a basic text editor often used for creating simple HTML documents.

v. Presentation software is very difficult to learn how to use.
False. Presentation software is designed to be user-friendly and is relatively easy to learn.

vi. It is possible to insert an image in an HTML document using tags.
True. HTML provides the `<img>` tag for inserting images into a webpage.

vii. Video is a powerful tool in presentations.
True. Video enhances presentations by making them more engaging and informative.

viii. A byte is a pattern of bits sufficient to store a character.
True. A byte, typically 8 bits, can represent a single character in most encoding systems.

ix. Pasteboard is a small blank space surrounding the printable area where objects are designed or edited.
True. Pasteboard in publishing software is the workspace surrounding the printable area of a page.

x. A JPEG is a standard for the storage and transfer of images that uses image compression techniques to minimize storage size.
True. JPEG is widely used for compressing and storing digital images efficiently.

4. A businessman investigated the possible income from his collections. He typed information into the following spreadsheet:

a.
i. Write the feature(s) used in row 1 to make the text appear as a single cell in columns A-D.
The feature used is "Merge and Center."

ii. Give the feature(s) used in cell C2.
The feature used is "Wrap Text."

iii. Give the description of the error message appeared in cell D5 and write the correct function which required to give the valid result.
The error in cell D5 (#VALUE!) occurs because the formula attempts to multiply incompatible data types. The correct formula should be:
=12367 * 0.05

iv. Why is the answer in cell D6 not displayed correctly?
The answer in cell D6 is not displayed correctly because the value exceeds the cell width. To fix this, adjust the column width.

b. Describe any two special features of the spreadsheet program.
i. Autofill: Automatically fills cells with data based on a pattern or sequence.
ii. Conditional Formatting: Highlights cells based on specified conditions.

5.

a. Give the long form of the term "internet" and give its purpose.

Internet stands for Interconnected Network. Its purpose is to connect devices globally, enabling communication and data sharing.

b. Describe four advantages of using the internet.

i. Communication: Instant messaging and video calls.

ii. Information Access: Provides vast knowledge and educational resources.

iii. Entertainment: Offers streaming services, gaming, and social media.

iv. Business Opportunities: Facilitates e-commerce and online marketing.

c. Identify three basic elements considered when composing an email.

i. Subject Line: Clearly states the purpose of the email.

ii. Recipient Address: Specifies the intended recipients.

iii. Content: Includes the main message or information.

6.

a. Describe five resources managed by an Operating System.

i. Processor: Allocates CPU time to processes.

ii. Memory: Manages RAM usage for programs.

iii. Storage: Handles data storage and retrieval.

iv. Input/Output Devices: Controls devices like keyboards and printers.

v. Network: Manages network connections and data transfer.

b. Mention procedures that could be performed for the following operations:

i. Restore deleted files to their original locations.

Use the recycle bin or recovery tools to restore files.

ii. Move multiple files or folders from one drive to another.

Select the files, use cut or drag-and-drop, and paste them to the destination.

7.

a. Why HTML page can run on any Operating System?

HTML pages are platform-independent as they are interpreted by web browsers, which are available on all operating systems.

b. Mention two significances of HTML form.

i. Collects user input for processing or storage.

ii. Enables user interaction with a webpage.

c. Write the HTML codes which will display the following output on a web browser:

Type your First Name

Type your Last Name

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```
<!DOCTYPE html>
<html>
<head>
<title>HTML Form</title>
</head>
<body>
<form>
<label>Type your First Name:</label>
<input type="text" name="firstname"><br><br>
<label>Type your Last Name:</label>
<input type="text" name="lastname"><br><br>
<input type="submit" value="Process">
</form>
</body>
</html>
```

8.
a. Write the function of standard toolbar.
The standard toolbar provides quick access to commonly used commands such as save, open, print, and undo.

b. Mention six parts of the Microsoft word application window.
i. Title Bar
ii. Ribbon
iii. Status Bar
iv. Navigation Pane
v. Document Area
vi. Scroll Bars

c. Explain two methods of proofreading a document prepared in Microsoft word.
i. Spell Check: Automatically identifies and suggests corrections for spelling errors.
ii. Grammar Check: Highlights grammatical mistakes and provides suggestions.

9.
a. Explain two advantages of using Desktop Publishing (DTP) over word processor.
i. Advanced Design Features: Offers templates, color schemes, and layout tools for professional designs.
ii. Multi-Page Layout: Simplifies handling large documents like magazines or books.

b. You are asked to prepare a school identification card by using a computer; give other two hardware and two software needed to complete your work.
Hardware:
i. Printer

ii. Digital Camera
Software:
i. Graphic Design Software
ii. Database Software

c. Write steps required to create basic shape in PageMaker.
i. Open PageMaker and create a new document.
ii. Select the shape tool from the toolbox.
iii. Drag the cursor on the workspace to draw the desired shape.
iv. Customize the shape's properties such as color and size.
10. Describe five types of database models according to their data organizations.

i. Hierarchical Model
The hierarchical model organizes data into a tree-like structure where each record has a parent and can have multiple children. It is suitable for scenarios where data follows a one-to-many relationship, such as organizational charts.

ii. Network Model
The network model uses a graph structure where records are nodes, and relationships are edges. This model is ideal for representing many-to-many relationships, such as social networks or airline routes.

iii. Relational Model
The relational model organizes data into tables with rows and columns. Each table represents a relation, and the tables can be linked using primary and foreign keys. It is the most widely used model due to its simplicity and flexibility.

iv. Object-Oriented Model
The object-oriented model stores data in the form of objects, similar to object-oriented programming. It combines data and methods to manipulate it, making it suitable for applications like multimedia and CAD systems.

v. Document Model
The document model stores data in document formats such as JSON or XML. It is commonly used in NoSQL databases for unstructured or semi-structured data, such as web applications or content management systems.

11. a. Describe four roles of Information and Communication Technology in the society.

i. Enhancing Communication
ICT facilitates communication through emails, video conferencing, and instant messaging, making it easier to connect people globally. It supports business operations and personal relationships.

ii. Supporting Education

ICT provides access to online resources, virtual classrooms, and e-learning platforms. Students and teachers can access vast knowledge and collaborate effectively.

iii. Improving Healthcare
ICT supports telemedicine, electronic health records, and hospital management systems. It enhances the efficiency of healthcare delivery and patient care.

iv. Enabling Economic Development
ICT drives e-commerce, digital marketing, and online payment systems, contributing to economic growth by creating jobs and expanding markets.

b. Explain two effects of disposing of electronic equipment on the environment.

i. Soil and Water Pollution
Improper disposal of electronic equipment can release toxic substances such as lead and mercury, which contaminate soil and water, harming ecosystems and human health.

ii. Air Pollution
Burning electronic waste releases harmful gases like dioxins and furans, contributing to air pollution and respiratory issues among nearby communities.

12. Explain five advantages of the Internet in the society.

i. Access to Information
The internet provides unlimited access to information on various topics, helping individuals learn and stay informed about global events.

ii. Facilitating Communication
It enables instant communication through email, social media, and video calls, bridging distances and enhancing relationships.

iii. E-Commerce Opportunities
The internet supports online shopping, banking, and digital transactions, making trade more convenient and accessible.

iv. Entertainment
It offers a wide range of entertainment options, such as streaming movies, music, and gaming, catering to diverse preferences.

v. Promoting Innovation

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The internet fosters innovation by providing platforms for sharing ideas, collaborating on projects, and accessing advanced tools and resources.

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