THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

036/1 **INFORMATIONAND COMPUTER STUDIES 1**

(For Both School and Private Candidates)

Time : 3 Hours **ANSWERS** **Year : 2024**

Instructions

1. This paper consists of sections A, B and C.
2. Answer all questions in section A and B and **one (1)** question from section C.
3. Non-programmable calculators may be used.
4. Communication devices and any unauthorised materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. (i) Which object would you use to add a calculated field in the Ms Access database?

   A. Table

   B. Macros

   C. Query

   D. Report

   E. Form

   Correct answer: C. Query

   Reason: Calculated fields are added in queries where expressions are used to compute values from existing fields.

   (ii) The following are date and time functions used in spreadsheet except;

   A. TODAY()

   B. NOW()

   C. DATE()

   D. HOUR()

   E. MIN()

   Correct answer: E. MIN()

   Reason: MIN() is not a date or time function, it is a statistical function used to return the smallest number in a range.

   (iii) What type of topology is appropriate for combining star and bus topology?

   A. Hybrid topology

   B. Tree topology

   C. Mesh topology

   D. Mixed topology

   E. Ring topology

   Correct answer: B. Tree topology

   Reason: Tree topology is a combination of bus and star topology.

   (iv) You have been given analog and digital data to process for immediate use. Which type of computer will you opt for the effectiveness and efficiency of the task?

   A. Minicomputer

B. Microcomputer
C. Supercomputer
D. Hybrid computer
E. Mainframe computer

Correct answer: D. Hybrid computer
Reason: A hybrid computer can process both analog and digital data effectively.

(v) A principal of a certain education college wants to establish an e-mail address for all staff members in order to have effective and secure communication. Which type of email address would you suggest to be opted?
A. Commercial email address
B. Organisational email address
C. Yahoo email address
D. Academic email address
E. Google email address

Correct answer: B. Organisational email address
Reason: An organizational email address provides security, central management, and professionalism for institutional communication.

(vi) Which keyboard shortcut would you use to insert a page break in a word document?
A. Pressing Alt + Enter
B. Pressing Esc + Enter
C. Pressing Ctrl + Enter
D. Pressing Fn + Enter
E. Pressing Tab + Enter

Correct answer: C. Pressing Ctrl + Enter
Reason: In Microsoft Word, pressing Ctrl + Enter inserts a page break.

(vii) Most television users use remote to regulate volume and channels. What type of multimedia application does the remote belong?
A. Inventive multimedia
B. Integral multimedia

C. Input multimedia

D. Interactive multimedia

E. Interference multimedia

Correct answer: D. Interactive multimedia

Reason: Remote control is an example of interactive multimedia where users interact with the system.

(viii) How can you arrange data, information and knowledge according to their relationship?

A. Data → Information → Knowledge

B. Knowledge → Data → Information

C. Data → Knowledge → Information

D. Information → Knowledge → Data

E. Information → Data → Knowledge

Correct answer: A. Data → Information → Knowledge

Reason: Raw data is processed into information, and with experience and interpretation, it becomes knowledge.

(ix) Halima's computer displays a message "Memory not found" during booting process. Which one is the source of that fault?

A. Loose or unavailability of RAM

B. Insufficient memory space

C. Computer Virus Infection

D. The hard disk was corrupted

E. Loose or unavailability of ROM

Correct answer: A. Loose or unavailability of RAM

Reason: During booting, if RAM is unavailable or loose, the computer will not detect memory leading to such an error.

(x) What will you do to view a presentation from multiple presentations prepared using Microsoft PowerPoint?

A. Click view tab then click cascade and select the presentation.

B. Click view tab then click new window and select the presentation.

C. Click view tab then click arrange all and select the presentation.

D. Click the switch button on the task pane and select presentations.

E. Click view tab then switch windows button and select the presentation.

Correct answer: E. Click view tab then switch windows button and select the presentation

Reason: The switch windows option under the view tab allows users to toggle between multiple open presentations.

2. Match the function of html tags in List A with the corresponding tags in List B by writing the letter of the correct answer beside the item number in the answer booklet provided.

List A

(i) Tags for emphasizing the header of the table in a webpage.

(ii) Tags for creating a list of bullet in a webpage.

(iii) Tags for creating a link in a webpage.

(iv) Tags for highlighting the main title of the webpage.

(v) Tags for inserting a picture in a webpage.

(vi) Tags for enclosing the elements for visibility to the webpage visitors.

A. <img src="">

B. <h1> </h1>

C. <body> </body>

D. <th> </th>

E.

F.

G. <hr> </hr>

H.

I.

Correct answers: (i) D, (ii) F, (iii) I, (iv) B, (v) A, (vi) C

3. The headmaster of a certain secondary school complained that his computer is not working properly. The investigation showed that the computer was infected by malware.

   (a) Explain three warning signs that led the investigator to confirm the source of the problem.

One warning sign is slow performance of the computer, where programs take unusually long to open or respond.

Another warning sign is frequent system crashes or automatic restarts without reason.

A third warning sign is the appearance of strange pop-up messages or unknown programs running in the background.

(b) Identify three causes of the problem identified by an investigator.

One cause is downloading and installing software from untrusted sources, which may contain malware.

Another cause is failure to update antivirus software, leaving the computer vulnerable to new threats.

A third cause is frequent use of infected storage devices like flash disks without scanning them.

(c) What should be done by the headmaster to prevent the problem in future? Give three points.

The headmaster should install and update antivirus software regularly to detect and remove malware.

He should educate users on safe browsing habits and discourage downloading files from unsafe websites.

He should enforce regular data backups and system updates to protect against data loss and vulnerabilities.

4. (a) You have been assigned by the coordinator of the Open University of Tanzania to propose the type of computer network that connects its branches all over the country. What type of network would you suggest?

The type of network to suggest is Wide Area Network (WAN).

(b) Differentiate router from switch as used in computer network.

A router is a device that connects multiple networks together and directs data packets between them, often providing internet connectivity.

A switch is a device that connects multiple computers within the same network and forwards data to the correct destination device using MAC addresses.

(c) “Deploying Fiber Optical cable for computer network in recent technology is inevitable”. Justify this statement by giving three reasons.

Fiber optic cables support very high-speed data transfer, making them more efficient for modern demands.

They are less prone to electromagnetic interference compared to copper cables, ensuring stable communication.

They can carry data over very long distances without significant loss of signal strength.

5. Employees of a certain company spend most of their time communicating with customers through computer system and mobile phones. This extensive use of electronic devices raises the health risk to them.
   (a) Identify three possible health risks which likely to be faced by these employees.

One possible health risk is eye strain due to prolonged staring at computer or phone screens.

Another risk is back and neck pain caused by poor sitting posture while using computers.

A third risk is stress and fatigue caused by overuse of digital devices and constant connectivity.

(b) Explain three ways to minimize the identified risks in 5(a).

Employees should take regular breaks away from the screen to reduce eye strain.

They should use ergonomic chairs and maintain proper sitting posture to prevent back and neck pain.

They should set time limits for device use and practice stress management techniques like exercises or relaxation.

6. The National Bureau of Statistics (NBS) of Tanzania used manual system to conduct national census. During 2022 national census, NBS practiced computerized system installed in tablets for data collection.
   (a) Explain two advantages the bureau would have been experienced for using the new approach.

The computerized system enabled faster collection and processing of census data.

It also reduced human errors and improved accuracy compared to manual data collection.

(b) What challenges were likely to be faced by the bureau of statistics when using new approach. Give three challenges.

One challenge is system breakdown or software failure during the census exercise.

Another challenge is insufficient technical skills among enumerators to operate tablets.

A third challenge is network problems in remote areas affecting data transmission.

(c) Suggest two measures that could have been used by the Bureau of Statistics to enforce data security.

They could use data encryption to protect sensitive census information.

They could also implement user authentication such as passwords or biometrics to limit access to the system.

7. Which steps are to be followed when:
   (a) Inserting the comment to a slide.

First, open the slide where you want to insert a comment. Then, go to the “Review” tab, select “New Comment”, and type the comment in the box provided.

(b) Printing six slides in a single page.

First, go to the “File” menu and select “Print”. Then under “Settings”, choose “Handouts” and select 6 slides per page before clicking “Print”.

(c) Starting a slide show in power point presentation.

First, click on the “Slide Show” tab. Then, select “From Beginning” or press the F5 key to start the presentation.

8. The ICS Teacher at Kampaga Secondary School assigned you to prepare the following worksheet which shows the second term results of Form Four students.

(a) Which function would you use to calculate the Average of the student marks which are integers?

The function is =AVERAGE().

(b) Suggest the function used to assign the grades for each student.

The function is =IF(AVERAGE>=75,"A",IF(AVERAGE>=65,"B",IF(AVERAGE>=45,"C",IF(AVERAGE>=30,"D","F")))).

(c) Which function would you use to rank the students' positions?

The function is =RANK(AVERAGE,AVERAGE_RANGE).

(d) Which steps would you follow to remove row 10 from the worksheet?

First, select row 10 by clicking on its row number. Then, right-click and choose "Delete" from the menu to remove it from the worksheet.

9. "The use of Multimedia Technology in Tanzania has great impacts in social-economic development". Justify this statement by giving four points.

Multimedia technology supports education by enabling e-learning platforms, interactive teaching methods, and access to digital libraries, which improve learning outcomes.

It enhances communication through social media, video conferencing, and instant messaging, which reduce costs and improve business efficiency.

It promotes entertainment industries such as film, music, and gaming, creating employment opportunities and contributing to the economy.

It improves service delivery in sectors like health and banking, where multimedia is used for telemedicine, online banking, and customer service.

10. You were asked by a certain office to advise the operating system to be purchased for their newly bought computers. Describe six specifications that will guide you to make decision.

The operating system should have high compatibility with the available hardware to ensure smooth functioning.

It should support multitasking and multiprocessing to allow users to run several programs at the same time.

It should provide strong security features such as user authentication, encryption, and protection against malware.

It should be user-friendly with a simple interface that is easy to learn and operate.

It should support networking features to enable file sharing, internet access, and communication between computers.

It should have regular updates and technical support from the developer to maintain performance and security.

11. The headmaster asked you to design a school monthly magazine. However, he asked you to use a Desktop Publishing (DTP) in designing to impress the readers. Explain four steps that you would follow to accomplish the goal.

The first step is planning the layout by deciding the number of pages, arrangement of text, and placement of images to make the magazine attractive.

The second step is creating and formatting text using columns, headings, and styles to improve readability and presentation.

The third step is inserting graphics and images such as photographs, charts, and drawings to support the written content.

The fourth step is proofreading and editing to ensure there are no spelling, grammar, or formatting errors before printing the final copy.