

**THE UNITED REPUBLIC OF TANZANIA  
NATIONAL EXAMINATION COUNCIL  
GRADE A TEACHERS' CERTIFICATE EXAMINATION**

**635**

**INFORMATION AND COMMUNICATION TECHNOLOGY**

**Time: 3 Hours.**

**ANSWER**

**Year: 2013**

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**Instructions**

1. This paper consists of sections **A**, **B** and **C**.
2. Answer **all** questions in sections A and **two (2)** questions from each sections B and C.
3. Mobile phones and unauthorized materials are **not allowed** in the examination room.
4. Write your **Examination Number** on every page of your answer **booklet(s)**.

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**1. Give four disadvantages students may face if a school relies only on oral communication to pass important academic instructions.**

One disadvantage is forgetfulness. Students may not remember everything said orally, especially when instructions are long or detailed, which leads to confusion and mistakes.

Another disadvantage is lack of reference. Oral communication does not provide a written record, so students cannot check back if they missed or misunderstood the message.

A third disadvantage is misinterpretation. Students may interpret oral instructions differently depending on how they heard them, causing inconsistency in following school rules or assignments.

Lastly, oral communication excludes students with hearing difficulties. Those who cannot hear clearly are disadvantaged and may miss out on important academic instructions.

**2. Mention four reasons why teachers need to install and update operating systems in computers used for teaching.**

One reason is to ensure compatibility. Updated operating systems allow teachers to run the latest educational software and applications needed in teaching.

Another reason is security. Installing and updating an operating system ensures that security patches are applied, reducing the risk of viruses or hacking in school computers.

A third reason is performance improvement. Updated operating systems fix errors and improve speed, which makes teaching smoother and more efficient.

Lastly, updating an operating system introduces new features. These may enhance teaching methods, such as better presentation tools or easier file management.

**3. Explain four ways word processing software can improve preparation of teaching and learning materials in schools.**

One way is by simplifying editing. Teachers can quickly correct mistakes in lesson notes without rewriting entire documents, saving time.

Another way is formatting flexibility. Word processing software allows teachers to organize notes using headings, tables, and diagrams, making them easier for students to read.

A third way is storage convenience. Teaching materials prepared in word processors can be saved digitally and reused in future years, reducing workload.

Lastly, word processors support multimedia integration. Teachers can insert pictures, charts, and hyperlinks, which make learning materials more engaging for students.

**4. List four challenges students may encounter when using wireless internet for academic purposes in schools.**

One challenge is instability. Wireless internet may be slow or unreliable, especially if many students are connected at the same time, which disrupts research or online learning.

Another challenge is security risks. Unprotected wireless connections expose students to cyber threats such as hacking or phishing attacks.

A third challenge is distraction. Students may misuse wireless internet for social media or entertainment instead of focusing on academic work.

Lastly, wireless coverage may not reach all parts of the school, meaning some students cannot access the network from classrooms or dormitories.

**5. State four possible reasons why a school printer may fail to produce examination papers when urgently needed.**

One reason is lack of consumables. The printer may be out of ink, toner, or paper, preventing it from printing.

Another reason is poor connections. If the printer is not properly connected to the computer or power source, it will fail to function.

A third reason is software or driver problems. If the printer drivers are missing or corrupted, the computer cannot send commands to the printer.

Lastly, mechanical faults such as paper jams or worn-out printer parts can also stop printing, especially during heavy use like exam preparation.

**6. Give four signs that a computer in the school lab is infected with a virus and may affect student files.**

One sign is slow performance. The computer takes longer than usual to open programs or files.

Another sign is unexpected error messages. The system displays random pop-ups or warnings that confuse students while working.

A third sign is appearance of unknown files or programs. Viruses often create new folders or software without the user's consent.

Lastly, frequent system crashes or automatic shutdowns are a clear sign of virus infection, which disrupts students' work.

**7. Mention four reasons why spreadsheets are more effective than manual methods in preparing student performance reports.**

One reason is speed. Spreadsheets automatically calculate totals and averages, which saves time compared to manual calculations.

Another reason is accuracy. Built-in formulas reduce the risk of human error when preparing reports.

A third reason is data analysis. Spreadsheets can create charts and graphs, making it easier to identify student performance trends.

Lastly, spreadsheets are easy to update. If marks change, teachers only adjust one cell and all results are updated automatically.

**8. State four advantages of using ICT to collect both primary and secondary data in educational research.**

One advantage is efficiency. ICT tools like online surveys and databases allow researchers to collect large amounts of data quickly.

Another advantage is accuracy. Digital collection methods reduce errors that often occur with manual data recording.

A third advantage is accessibility. ICT enables researchers to collect data from many respondents regardless of distance, using emails or online platforms.

Lastly, storage and retrieval are easy. Data collected through ICT can be stored digitally and retrieved for analysis without loss of quality.

**9. Explain four problems students may face when relying only on the internet for doing their assignments.**

One problem is exposure to unreliable sources. Students may find misleading or false information online, which lowers the quality of their assignments.

Another problem is plagiarism. Easy access to ready-made answers tempts students to copy instead of developing their own ideas, which affects originality.

A third problem is over-reliance on technology. Students may neglect books, journals, and classroom notes, limiting the variety of their knowledge sources.

Lastly, technical challenges such as poor connectivity or device failures can prevent students from completing their assignments on time.

**10. Mention four disadvantages of electronic communication among students in a learning environment.**

One disadvantage is misuse of time. Students may spend more time chatting or browsing instead of concentrating on studies.

Another disadvantage is exposure to inappropriate content. Electronic communication may introduce students to immoral or distracting information.

A third disadvantage is dependency. Students may rely too much on quick online answers instead of developing critical thinking and problem-solving skills.

Lastly, electronic communication can reduce face-to-face interaction, weakening students' ability to communicate confidently in person.

**11. Discuss five ways in which ICT can enhance the teaching and learning process in secondary schools.**

One way ICT enhances teaching is through interactive lessons. Teachers can use projectors, smartboards, and multimedia presentations to make learning more engaging, helping students to better understand difficult concepts.

Another way is access to wider resources. ICT allows students and teachers to use e-books, online journals, and digital libraries, expanding knowledge beyond what is available in textbooks.

A third way is individualized learning. ICT supports platforms where students can learn at their own pace through online tutorials and practice exercises, helping slow learners catch up and fast learners advance further.

A fourth way is improved assessment. Teachers can use ICT to create online quizzes and tests that provide immediate feedback, making evaluation more effective and efficient.

Lastly, ICT enhances collaboration. Students and teachers can share documents, discuss through online forums, and work together on group projects even outside the classroom.

## **12. Analyse five challenges that schools face in protecting student information stored in computer systems.**

One challenge is weak cybersecurity systems. Many schools lack strong firewalls and updated antivirus programs, which makes student data vulnerable to hackers and malware.

Another challenge is limited financial resources. Schools may not have enough funds to invest in secure servers, professional IT staff, and advanced data protection systems.

A third challenge is insider threats. Staff with access to student records may intentionally or unintentionally leak information, compromising privacy.

A fourth challenge is poor ICT policies. Schools that do not establish clear rules for data handling and storage risk exposing sensitive student information through negligence.

Lastly, lack of regular backups creates another problem. If systems fail or are attacked, schools without proper backups may lose valuable student records permanently.

## **13. Evaluate five reasons why lack of ICT skills among teachers affects the quality of education in Tanzania.**

One reason is reduced use of digital teaching tools. Teachers without ICT skills cannot use projectors, spreadsheets, or word processors effectively, limiting modern teaching methods.

Another reason is low student motivation. When teachers rely only on chalk and talk methods, students miss interactive lessons that ICT could have made more engaging.

A third reason is poor record management. Teachers without ICT knowledge may struggle to prepare accurate student performance reports, leading to delays and errors in assessments.

A fourth reason is inability to prepare digital content. Without ICT skills, teachers cannot create e-learning resources or use online platforms, leaving students without opportunities for blended learning.

Lastly, lack of ICT skills reduces competitiveness. Students trained by ICT-illiterate teachers may not acquire the digital skills needed for higher education or job markets, affecting their future prospects.

**14. “ICT has revolutionized the preparation, administration, and marking of examinations in schools.” With six points, justify this statement.**

ICT has revolutionized exam preparation by allowing teachers to use word processors to design clear, well-formatted question papers that are easy to edit and reuse.

It has also improved exam administration through computerized timetables, candidate registration systems, and automated attendance tracking, which reduces errors.

Another way is printing efficiency. ICT tools enable bulk printing of examination papers using networked printers, saving time compared to manual methods.

In marking, ICT allows automatic grading of multiple-choice questions using computer software, reducing the workload for teachers.

ICT also enhances storage and retrieval of results. Examination records can be kept in databases and retrieved easily for future reference, unlike manual registers.

Finally, ICT supports online examinations, where students complete tests digitally, making marking and feedback faster while saving printing costs.

**15. Examine six challenges students face when using ICT for learning and propose practical solutions that schools can implement.**

One challenge is limited access to computers. In many schools, the number of computers is too small for the population of students. A solution is to introduce computer labs with scheduled access times.

Another challenge is unreliable electricity. Frequent power cuts interrupt ICT-based learning. Schools can address this by installing backup generators or solar power systems.

A third challenge is internet costs. Many students cannot afford continuous internet access. Schools should negotiate with service providers for subsidized educational packages.

A fourth challenge is distraction. Students may misuse ICT tools for games or social media. Schools can solve this by installing monitoring software and enforcing strict ICT use policies.

A fifth challenge is lack of ICT skills. Some students cannot use ICT tools effectively. Schools should provide regular ICT training sessions to build competence.

Lastly, some students face language barriers when using ICT tools. Schools should use bilingual digital content and train teachers to guide students in adapting to these platforms.

**16. Assess six ways in which ICT can be used to improve the relationship between teachers, students, and parents in modern schools.**

One way ICT improves relationships is through communication platforms. Schools can use emails, SMS, or WhatsApp groups to update parents about student progress and school events.

Another way is digital performance reports. Parents can access their children's grades and attendance records online, which encourages accountability and parental involvement.

A third way is virtual meetings. ICT tools like Zoom or Google Meet allow teachers, parents, and students to hold discussions remotely, saving time and travel costs.

A fourth way is learning management systems. Platforms like Moodle or Google Classroom keep teachers, students, and parents connected through assignments, deadlines, and feedback.

A fifth way is reminders and alerts. ICT can send automatic alerts to parents about fee payments, examinations, or disciplinary issues, ensuring transparency.

Lastly, ICT provides platforms for collaboration. Students can share work with teachers, teachers can update parents, and parents can give feedback directly to schools, building stronger trust and cooperation.