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

635   **INFORMATION AND COMMUNICATION TECHNOLOGY**

Time: 3 Hours.   **ANSWER**   **Year: 2016**

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).**

1. Explain four reasons why some students may perform poorly in ICT even when provided with modern computer laboratories at school.

One reason is the lack of proper guidance from teachers. Even though the laboratories are well equipped, students may not know how to use the resources effectively without close supervision and support from teachers who are skilled in ICT.

Another reason is students' negative attitudes towards ICT. Some students see ICT as a difficult subject or believe it is only for "clever" students, which discourages them from making full use of the facilities provided.

A further reason is limited practice time. In many schools, ICT labs are shared by several classes, so students do not get enough individual practice. Without continuous hands-on use, their skills remain weak.

Finally, language barriers affect many students. Since ICT content and most computer programs are in English, students with low English proficiency struggle to follow instructions and perform tasks correctly.

2. Describe four ways in which overdependence on ICT resources can weaken the creativity and problem-solving skills of students.

One way is that students may rely on internet search engines for answers instead of developing their own critical thinking. This weakens their ability to analyze problems independently.

Another way is the heavy use of ready-made templates and tools, which reduces innovation. Students often copy solutions without thinking of how to create something original.

A third way is reduced practical experience. Overdependence on ICT discourages students from engaging in real-world experiments and problem-solving outside the computer environment.

Lastly, overreliance leads to poor memory and reduced logical reasoning because students store everything digitally and do not practice recalling or constructing answers themselves.

3. Identify four challenges teachers face in trying to integrate ICT with traditional teaching methods in Tanzanian classrooms.

One challenge is the lack of adequate training. Many teachers are not fully trained in ICT and therefore find it difficult to blend technology with their teaching style.

Another challenge is the shortage of ICT resources compared to the number of students. Teachers struggle to ensure each student benefits equally when there are limited computers.

A further challenge is unreliable electricity and internet connection in schools. Power outages and poor connectivity disrupt lessons and make ICT integration inconsistent.

Finally, resistance from teachers themselves is a challenge. Some prefer traditional methods because they are familiar and feel ICT will complicate their teaching.

4. Explain four dangers students face when using unregulated internet resources for academic purposes.

One danger is exposure to false information. Without regulation, students may rely on unreliable websites that provide misleading or incorrect content.

Another danger is exposure to harmful content such as violence, pornography, or radical ideologies, which can negatively influence students' behavior.

A third danger is cybercrime. Students can unknowingly download malware, become victims of hacking, or reveal personal information to dangerous individuals.

Lastly, overexposure to unregulated sites can lead to addiction, where students spend more time on entertainment instead of academic work.

5. Describe four strategies schools can adopt to ensure ICT facilities are used responsibly by students.

One strategy is to introduce clear ICT policies. Rules should guide when and how students can access computers and the internet.

Another strategy is to use monitoring software to track student activities online. This ensures misuse is identified and addressed quickly.

A third strategy is to involve teachers in supervising ICT sessions. Proper guidance ensures students stay on task.

Finally, schools can provide training on digital citizenship, teaching students the importance of responsible and ethical ICT use.

6. State four reasons why some students prefer learning through social media platforms rather than through official e-learning platforms provided by schools.

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One reason is that social media platforms are more familiar. Students already use them daily for communication, so they find it easy to adapt them for learning.

Another reason is flexibility. Social media allows real-time discussions and quick responses from peers and even teachers, which is more engaging than formal platforms.

A third reason is accessibility. Most social media apps consume less data and work better on mobile phones than school e-learning platforms.

Lastly, students find social media learning more enjoyable since it combines social interaction with academic exchange.

7. Give four negative impacts of poor ICT maintenance culture in schools on student learning and performance.

One negative impact is frequent breakdown of ICT equipment. Computers and projectors fail often when not maintained, reducing learning opportunities.

Another impact is slow performance of outdated systems. This frustrates both teachers and students, leading to less interest in ICT lessons.

A further impact is increased repair costs. Instead of saving money, schools end up spending more, which reduces funds for improving student learning.

Lastly, poor maintenance creates unequal access since only a few machines remain functional, leaving many students without practice.

8. Explain four reasons why teachers may resist the adoption of ICT despite clear advantages in improving teaching.

One reason is lack of ICT confidence. Teachers who are not well trained in ICT fear making mistakes in front of students.

Another reason is fear of increased workload. Preparing digital lessons takes more time compared to using traditional teaching methods.

A third reason is the perception that ICT reduces the teacher's authority. Some believe that with ICT, students may know more than them, making them feel insecure.

Finally, resistance arises from inadequate support. Without technical assistance, teachers avoid ICT to save time and effort.

9. Mention four consequences of unequal ICT access among students in the same school.

One consequence is unequal academic performance. Students with more ICT access perform better, widening the gap between learners.

Another consequence is reduced classroom participation. Students without ICT access feel left out and may avoid ICT-related discussions.

A third consequence is lower confidence among disadvantaged students. They feel inferior compared to peers who are ICT skilled.

Lastly, unequal access creates social divisions within the school, where privileged students dominate group tasks while others remain passive.

10. Identify four ways ICT can unintentionally increase academic dishonesty among students.

One way is plagiarism. Students easily copy and paste content from the internet instead of writing their own work.

Another way is cheating during exams through mobile phones, where students access unauthorized materials online.

A third way is the misuse of communication platforms. Students share assignments or exam answers with each other electronically.

Lastly, students can manipulate software, such as editing documents or using AI tools, to submit work that is not genuinely theirs.

11. Discuss four challenges that Tanzanian secondary schools face in implementing e-learning programs effectively.

One challenge is inadequate infrastructure. Many schools lack enough computers, reliable internet connections, and proper ICT classrooms, which makes e-learning implementation difficult.

Another challenge is financial constraints. Schools operate on limited budgets, and setting up e-learning platforms, buying software, and maintaining equipment require funds that most institutions cannot afford.

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A third challenge is insufficient ICT skills among both teachers and students. Without proper training, they cannot fully utilize e-learning systems, leading to underuse or misuse.

Lastly, the digital divide between urban and rural schools is a major challenge. Rural schools often face electricity shortages and poor connectivity, leaving their students behind compared to urban learners.

12. Examine four ways in which ICT integration can positively transform the teaching and learning of science subjects in schools.

One way is through simulations and virtual experiments. ICT tools allow students to conduct experiments digitally, which is especially helpful when schools lack physical laboratory equipment.

Another way is the use of multimedia presentations. Teachers can explain complex science concepts more clearly using animations, videos, and interactive models, making learning more engaging.

A third way is access to updated scientific knowledge. Through ICT, students and teachers can access the latest research findings, ensuring lessons are current and relevant.

Lastly, ICT enhances collaborative learning in science. Students can share ideas and results of experiments online, improving group work and problem-solving skills.

13. Explain four disadvantages students may face when schools replace printed books entirely with digital learning resources.

One disadvantage is eye strain and health problems. Prolonged use of screens can cause vision difficulties, headaches, and reduced concentration.

Another disadvantage is overdependence on electricity and internet. If there is a power outage or poor connectivity, students cannot access digital resources.

A third disadvantage is the risk of distractions. Digital devices contain games and social media, which can divert students from studying.

Lastly, not all students have equal access to digital devices at home. This creates inequality since those without gadgets cannot revise properly after school.

14. Evaluate four ways in which ICT can both improve and complicate school administration.

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ICT improves administration by making record keeping easier. School data such as student attendance, grades, and fees can be stored and retrieved quickly.

It also enhances communication between teachers, students, and parents. Through emails, SMS, and online platforms, important updates are shared instantly.

However, ICT complicates administration when systems crash or experience technical failures, which can lead to loss of important data and disruptions.

Another complication is cyber insecurity. Without strong protection, school administrative data may be hacked or misused, threatening privacy and credibility.

15. Suggest four strategies that schools can use to minimize the misuse of ICT by students for non-academic purposes.

One strategy is to introduce strict access controls. Schools can block entertainment sites and allow only educational resources during ICT lessons.

Another strategy is consistent monitoring of student activities. Teachers should supervise labs closely and review logs of student internet use.

A third strategy is to integrate ICT ethics into the curriculum. Teaching students the importance of responsible ICT use encourages discipline.

Lastly, providing adequate academic ICT activities keeps students busy. If given structured assignments and projects, students are less likely to misuse the resources.

16. Analyze four ways in which ICT can shape the future career opportunities of students in Tanzania.

One way is by equipping students with digital skills that are in high demand in the job market. Knowledge of software applications, programming, and online communication makes them more employable.

Another way is the creation of self-employment opportunities. ICT enables students to work online as freelancers, digital marketers, or developers, reducing reliance on formal employment.

A third way is through global connectivity. Students can access international opportunities such as online courses, scholarships, and remote jobs, which broaden their career choices.

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Lastly, ICT fosters innovation and entrepreneurship. With digital tools, students can design apps, create content, or start online businesses, contributing to both personal growth and national development.

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