

**THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
DIPLOMA IN SECONDARY EDUCATION EXAMINATION**

750

EDUCATIONAL MEDIA AND TECHNOLOGY

Time: 3 Hours

ANSWERS

Year: 2024

Instructions.

1. This paper consists of sections A and B with a total of **Fourteen (14)** questions.
2. Answer **all** questions from section A and **four (4)** questions from section B.
3. Section A carries **forty (40)** marks and section B Carries **sixty (60)** marks.
4. Cellular phones are **note** allowed in the examination room.
5. Write your **examination Number** on every page of your answer booklet(s).

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SECTION A (40 Marks)

Answer **All** questions from this section. Each question carries **four (4)** marks.

1. Show the value of using real objects in the teaching and learning process.

Using real objects in teaching makes learning more concrete and practical. It helps learners to see, touch, and sometimes hear or smell the actual item being discussed, making the lesson more memorable. Real objects also simplify difficult concepts by offering direct examples, enhance curiosity and interest, and improve understanding by linking theory to real-world applications.

2. Identify four benefits learners acquire when a teacher uses a radio to deliver the lesson.

- Firstly, learners can access quality lessons even in remote areas where trained teachers may be scarce.
- Secondly, radio lessons expose learners to a variety of voices, accents, and teaching styles, broadening their learning experience.
- Thirdly, it allows learners to receive lessons simultaneously, ensuring uniform coverage of syllabus content.
- Lastly, radio lessons can be recorded and replayed, giving learners a chance to revise and review difficult topics.

3. Explain the function of parts of the Overhead Projector (OHP).

- The base of the OHP houses the lamp that produces light for projection.
- The stage is the flat glass surface where the transparency is placed.
- The lens and mirror system magnifies and reflects the image from the transparency onto the screen.
- The focusing knob adjusts the sharpness of the projected image to ensure clarity.

4. Explain briefly the obstacles that impede teachers from using computers in the teaching and learning process.

- Many schools lack enough computers or digital equipment for teachers to use effectively.
- Some teachers have limited computer skills, making it difficult to integrate digital tools into lessons.
- There is often unreliable electricity supply in some areas, preventing regular use of computers.
- Inadequate internet connectivity limits access to online teaching resources and platforms.

5. Suggest four ways of producing copies of various written teaching and learning materials apart from photocopying.

- Teachers can use duplicating machines such as Roneo or Gestetner machines.
- Handwriting multiple copies for small class groups is an option where machines are unavailable.
- Using a typewriter with carbon paper can produce multiple copies at once.
- Printing materials from computers using printers is another effective method.

6. Give the advantages of a user manual when operating modern media.

A user manual provides clear instructions on how to properly set up and use equipment. It helps to prevent damage to devices by guiding on correct operation and handling. User manuals offer troubleshooting tips, enabling users to solve minor issues without external help. They ensure safety by highlighting warnings and precautions necessary while using the equipment.

7. Explain how the internet can be used in the teaching and learning process.
- The internet provides access to vast educational resources such as e-books, academic articles, and videos.
 - Teachers can conduct online lessons through platforms like Zoom or Google Meet, reaching learners anywhere.
 - It allows for communication and collaboration among students and teachers through emails and discussion forums.
 - Teachers can download teaching aids, exercises, and visual materials to enrich classroom lessons.
8. Explain four benefits teachers will gain from using instructional media which maintain retention of the learned concepts.
- Instructional media make learning more interesting and lively, increasing learners' attention and retention. They clarify complex ideas, helping learners to understand and remember information more effectively. Media appeal to multiple senses — seeing, hearing, and sometimes touching — enhancing memory. They provide opportunities for revision and reinforcement by offering visual and audio reminders of key concepts.
9. Explain four important aspects to be considered when selecting teaching aids that stimulate learning among students.
- The aid should be relevant to the lesson objectives and appropriate to the subject matter.
 - It must match the learners' age, abilities, and level of understanding to avoid confusion.
 - The teaching aid should be simple, clear, and easy for both teachers and learners to use.
 - It should be affordable, durable, and available within the school's resources and environment.
10. Explain four characteristics of good chalkboard illustrations to be displayed during classroom teaching and learning.
- The illustrations should be large and visible from all parts of the classroom.
 - They must be simple, clear, and free from unnecessary details to avoid confusing learners.
 - The drawings should be neat and accurate, representing the intended concept or object correctly.
 - They should be drawn in sequence if explaining a process, helping learners follow each step easily.

SECTION B (60 Marks)

Answer all questions from this question. Each question carries **fifteen (15)** marks.

11. Explain the uses of gaseous media in the teaching and learning process.

Gaseous media are used in science subjects such as chemistry and physics to demonstrate practical experiments involving gases. For example, teachers can use gases like oxygen, carbon dioxide, and hydrogen to conduct combustion, displacement, or reaction demonstrations that help students observe scientific principles in real-time.

In environmental studies and geography, gaseous media like air are used to teach about weather conditions, wind direction, and atmospheric pressure. Teachers can practically demonstrate how wind flows or how pressure affects objects by using air-filled balloons or bottles.

Another use is in health and biology lessons where gaseous exchange processes are taught. Teachers can explain how gases move in and out of the lungs or plants by using practical models or real air movements to simplify complex biological processes.

Furthermore, gaseous media help in teaching about safety and environmental pollution. Demonstrating the effects of harmful gases, smoke, or air pollutants enables students to understand the importance of clean air and the dangers of environmental contamination.

Lastly, gaseous media make lessons more interactive and interesting. Instead of teaching theories alone, learners get to witness physical phenomena like gas expansion, diffusion, or combustion, which improves understanding and memory retention.

12. Explain the impacts of using lecture method in teaching and learning without using teaching aid.

Using the lecture method alone often results in monotonous lessons. When a teacher only talks without using any visual or practical aid, students quickly lose interest and concentration, making the learning process less effective and tiresome.

It also makes it difficult for learners to understand abstract or technical concepts. Without diagrams, charts, or experiments, students struggle to imagine complex ideas, which reduces their grasp of the subject matter.

Another impact is that it encourages passive learning. Students become mere listeners, and there's little room for them to participate actively in the lesson, ask questions, or engage with the content being taught. The lecture-only approach also fails to accommodate diverse learning styles. Not all students learn best by listening; some are visual or kinesthetic learners who need to see or do something physically to understand it well.

Finally, using lectures without aids increases the risk of misunderstanding. Words alone can be interpreted differently by students, but teaching aids help clarify and reinforce what the teacher says, reducing confusion and misinterpretation.

13. Explain the ways of caring and maintaining teaching and learning media.

One way to care for teaching and learning media is to store them in a clean, dry, and secure environment. This prevents damage caused by dust, moisture, or pests and protects fragile items like charts, models, and books.

It is also important to clean and inspect teaching media regularly. For example, projectors, maps, and other equipment should be dusted, checked for wear and tear, and repaired immediately to avoid damage worsening over time.

Teaching media should be handled gently and correctly. Devices like computers and radios should be operated according to the guidelines in the user manuals to prevent misuse, breakage, or electrical faults. Consumable media such as paper charts and posters should be stored flat or hung neatly to avoid folding, tearing, or fading, ensuring that they remain presentable and usable for many lessons.

Lastly, teachers should guide learners on how to use teaching aids carefully. Allowing students to handle media under supervision not only enhances their learning experience but also teaches them to value and protect school property.

14. Support the argument that textbooks will remain essential in teaching and learning process in secondary schools despite the invention of modern media.

Textbooks provide organized, approved, and syllabus-based content for both teachers and students. They ensure learners are taught correct information that aligns with national education guidelines and prepares them adequately for examinations.

Another reason is their reliability. Textbooks can be used anytime, anywhere, without relying on electricity, internet connections, or expensive devices, which makes them practical for both urban and remote schools.

Textbooks are user-friendly for both students and teachers. They offer clear explanations, exercises, examples, and summaries in one place, enabling learners to follow lessons systematically and conduct independent study effectively.

Additionally, textbooks are durable and reusable. They can serve several students over many years, making them a cost-effective resource for schools with limited financial resources to acquire modern digital media.

Finally, textbooks support the development of good study habits. They encourage reading, comprehension, and discipline as students are required to read, underline, and take notes, skills essential for academic success and lifelong learning.