THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

713 **GEOGRAPHY**

Time: 3 Hours. **ANSWER** **Year: 2017 a.m.**

Instructions

1. This paper consists of sections A, B and C.
2. Answer **all** questions in sections A and **two (2)** questions from each of section B and C.
3. Section A carries **40** marks, section B and section C carries 30 marks each.
4. Cellular phones and unauthorized materials are **not allowed** in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. With the aid of a sketched diagram, show the three horizons of a soil profile.

   The A-horizon, also known as the topsoil, is the uppermost layer rich in organic matter such as decomposed plants and animals. It is usually dark in color and supports plant growth due to its high nutrient content. This layer is where most biological activity occurs, including the presence of earthworms and microorganisms.

   The B-horizon, or subsoil, lies beneath the topsoil and contains minerals leached down from the A-horizon. It has less organic matter and is often denser and lighter in color. This layer stores nutrients and water for deeper plant roots and acts as a transition zone between the topsoil and the deeper layers.

   The C-horizon is the layer of weathered parent material found beneath the subsoil. It consists of partially disintegrated rocks and minerals from which the upper layers are formed. It has very little organic matter and supports the formation of the layers above over time.

2. Spell out three benefits of having a Geography room.

   A Geography room provides a dedicated space equipped with maps, globes, charts, and other resources necessary for effective teaching. This specialized environment enhances practical learning and allows teachers to conduct demonstrations without interruption.

   It facilitates the storage of Geography equipment in an organized manner, ensuring that tools like compasses, measuring tapes, and weather instruments are safe, accessible, and well-maintained. This improves efficiency during lessons and field preparations.

   A Geography room creates a focused learning atmosphere where students can engage in activities such as map work and model interpretation. This focused setting reduces distractions and promotes better concentration.

3. Explain three purposes of teaching Geography according to the lesson plan.

   One purpose is to provide structured learning where concepts are introduced logically. A lesson plan helps ensure topics are taught in an order that builds from simple to complex, aiding comprehension.

It also helps achieve specific learning objectives by guiding the teacher to cover all intended knowledge, skills, and attitudes within the allocated time. This ensures that students meet curriculum standards.

Another purpose is to manage classroom activities effectively. A well-prepared lesson plan allocates time for explanations, demonstrations, student participation, and assessment, ensuring lessons are balanced and engaging.

4. Suggest three ways that will enable a Geography teacher to avoid halo effect in assessment.

The teacher should use standardized marking schemes that clearly define how marks are awarded. This ensures fairness and reduces bias influenced by a student's previous performance or behavior.

Anonymous marking, where the teacher assesses work without knowing the identity of the student, can prevent personal feelings from affecting judgment. This method focuses solely on the quality of the work.

The teacher can also assess different sections of the work separately, such as content, organization, and presentation, instead of forming an overall impression based on one strong or weak aspect.

5. Enumerate three factors which cause population explosion in some areas of East Africa.

High birth rates resulting from cultural beliefs that value large families contribute significantly to population growth. Many communities view children as a source of labor and social security in old age.

Improved healthcare and vaccination programs reduce infant mortality rates and increase life expectancy. As more people survive to adulthood, the population grows rapidly.

Migration from rural to urban areas in search of jobs and services concentrates populations in certain cities, causing urban population surges.

6. Identify one push factor and two pull factors of rural–urban migration in Tanzania.

A major push factor is the lack of employment opportunities in rural areas, which forces people to leave in search of better livelihoods.

One pull factor is the availability of more diverse job opportunities in urban areas, especially in industries, trade, and services.

Another pull factor is better access to social services such as hospitals, schools, and recreational facilities, which attract people to city life.

7. Suggest three techniques of teaching volcanic processes.

Using diagrams and models of volcanoes allows students to visualize the internal structure and eruption processes, making abstract concepts clearer.

Field trips to volcanic sites help students observe landforms like craters and lava flows directly, linking theory to real-world examples.

Multimedia presentations, such as videos showing volcanic eruptions, demonstrate the dynamic nature of volcanoes and engage learners through visual and audio effects.

8. By giving one example, state three qualities of a specific Geography instructional objective.

One quality is that it should be specific, meaning it clearly defines what the learner will achieve. For example, “Students will be able to draw and label the water cycle.”

It should be measurable so that the teacher can assess whether the objective has been met. In the example, the drawing and labeling can be checked for accuracy.

It should be achievable within the lesson time and with available resources, ensuring the task is realistic and practical.

9. Explain three uses of test scores in Geography.

Test scores help the teacher evaluate the effectiveness of teaching methods. If scores are consistently low, the teacher may adjust the approach to improve understanding.

They provide feedback to students about their strengths and weaknesses, guiding them on areas to focus on for improvement.

Test scores are used for record-keeping and can contribute to final grades, helping in decisions about student progression or remedial support.

10. List three reasons which make Geography a multi-discipline.

Geography integrates physical sciences, such as geology and climatology, when studying natural landforms, weather patterns, and environmental processes.

It incorporates social sciences like sociology and economics to understand human settlements, population trends, and economic activities.

It uses mathematical and statistical methods in tasks such as map reading, data interpretation, and geographical information system (GIS) analysis.

11. Elaborate six uses of underground water.

Underground water is used for domestic purposes such as drinking, cooking, and cleaning. In many rural and urban areas where piped water supply is limited, boreholes and wells provide a reliable source of clean water for households.

It supports agricultural activities through irrigation. Farmers use underground water to grow crops during dry seasons, ensuring food security and continuous crop production.

Industries use underground water for cooling machines, processing products, and as an ingredient in manufacturing, such as in beverage and food industries.

Underground water is used in livestock farming for watering animals. Reliable water supply improves livestock health and productivity.

It serves as a source of mineral extraction in some areas, where minerals like salt are obtained from underground water deposits.

In tourism and recreation, underground hot springs and spas attract visitors, providing economic benefits to local communities.

12. Explain six factors to be considered before construction of Hydroelectric Power (H.E.P) dam.

The availability of a reliable and sufficient water source is crucial. The river or lake feeding the dam must have enough flow throughout the year to sustain power generation.

Topography must be suitable, with a narrow valley or gorge preferred to minimize construction costs and maximize water storage capacity.

Geological stability is important to ensure the dam is built on strong foundations to avoid collapse or leakage.

Environmental impact assessments should be conducted to determine how the project will affect wildlife, vegetation, and nearby communities.

The location's accessibility is essential for transporting construction materials, equipment, and maintenance services during and after construction.

The social impact, including relocation of communities, must be carefully planned to avoid disputes and ensure fair compensation.

13. Power rationing has been a common phenomenon in most developing countries. What should be done to rectify the situation? Give four ways.

Investment in alternative energy sources such as solar, wind, and geothermal power can reduce dependence on hydroelectric power, ensuring a steady electricity supply.

Regular maintenance of power plants and transmission lines prevents breakdowns and power losses that contribute to shortages.

Promoting energy conservation through public awareness encourages households and industries to use energy efficiently, reducing demand pressure.

Expanding power generation capacity by constructing new plants or upgrading existing ones ensures supply meets growing population and industrial needs.

14. Explain three advantages and three disadvantages of nuclear energy.

One advantage is that nuclear power generates large amounts of electricity with minimal greenhouse gas emissions, helping to combat climate change.

Another advantage is the reliability of nuclear plants, which can operate continuously for long periods without interruptions caused by weather conditions.

Nuclear energy has a high energy density, meaning a small amount of fuel produces a large amount of electricity compared to fossil fuels.

One disadvantage is the high cost of building and maintaining nuclear plants, which requires significant investment and skilled personnel.

Another disadvantage is the risk of nuclear accidents, which can have catastrophic environmental and human health impacts, as seen in historical incidents like Chernobyl and Fukushima.

Nuclear waste disposal is also a major issue, as radioactive materials remain hazardous for thousands of years and require secure storage facilities.

15. Explain four advantages and four disadvantages of inquiry method in teaching and learning Geography.

An advantage is that the inquiry method promotes active learning, encouraging students to investigate, ask questions, and discover knowledge on their own.

It enhances critical thinking skills, as students must analyze data, draw conclusions, and justify their findings.

The method increases retention of knowledge because learners engage with materials actively and relate findings to real-life situations.

It fosters independence and confidence, as students learn to take responsibility for their own learning process.

One disadvantage is that it can be time-consuming, making it difficult to cover the syllabus within the allocated period.

It may require resources and equipment that are not always available in all schools, limiting its use.

Not all students adapt well to self-directed learning; some may become confused or lose focus without sufficient guidance from the teacher.

The method can be challenging for large classes where individual supervision is difficult, reducing its effectiveness.

16. Elaborate five importance of spatial understanding in studying Geography.

Spatial understanding helps students interpret maps accurately, enabling them to locate places, identify distances, and understand spatial relationships.

It allows for the analysis of patterns, such as settlement distribution, climate zones, and resource locations, which are key to geographical studies.

Spatial skills are essential in using modern technology like Geographic Information Systems (GIS) and remote sensing for data analysis and decision-making.

It aids in problem-solving by enabling learners to visualize the impacts of environmental changes on specific areas, such as floods or deforestation.

Spatial understanding supports planning and management, such as in urban development, transportation systems, and environmental conservation projects.

17. Describe six reasons for preparing a Geography scheme of work.

A scheme of work organizes content into manageable units, ensuring topics are covered systematically within the academic year.

It helps the teacher allocate time appropriately for each topic, balancing theoretical and practical lessons.

It ensures teaching aligns with the curriculum objectives, avoiding omission or repetition of content.

A scheme of work guides the selection of teaching methods and resources suitable for each topic, improving lesson delivery.

It provides a framework for assessment planning, indicating when tests, assignments, and fieldwork should be conducted.

It serves as a reference for other teachers or substitutes, ensuring continuity in teaching if the main teacher is absent.

18. (a) Show five types of instruments used in a weather station.

A thermometer measures temperature.
A rain gauge collects and measures the amount of rainfall.
A barometer measures atmospheric pressure.
An anemometer records wind speed.
A wind vane indicates wind direction.

(b) Explain four stages involved in establishing a weather station in a school setting.

The first stage is site selection, where an open, level, and well-drained area free from obstructions is chosen to ensure accurate readings.

The second stage is acquiring instruments and equipment, ensuring they meet standard specifications for weather data collection.

The third stage is installing instruments properly, following guidelines on positioning and sheltering where necessary to avoid interference.

The final stage is training students and teachers on how to read, record, and maintain the instruments to ensure reliable and continuous data collection.