THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

713 **GEOGRAPHY**

Time: 3 Hours. **ANSWER** **Year: 2015 p.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. Explain the significance of East African highlands to Tanzania.

   The East African highlands provide fertile soils, especially volcanic soils, which are ideal for growing crops such as coffee, tea, bananas, and maize. This supports agriculture and boosts food security in Tanzania.

   They are a major source of rivers and streams that provide water for domestic use, irrigation, and hydroelectric power generation. Highlands like Mount Kilimanjaro and the Usambara ranges feed important river systems.

   The highlands act as tourist attractions due to their scenic landscapes, unique vegetation, and wildlife. Sites such as the Uluguru Mountains and Mount Meru attract local and international visitors, contributing to the tourism industry.

   They influence climate by creating cooler temperatures in otherwise warm regions. This makes them suitable for settlement and reduces the prevalence of tropical diseases like malaria in certain areas.

   The highlands provide natural forest resources such as timber, medicinal plants, and firewood, supporting local livelihoods and industries.

2. Differentiate between under-population and over-population.

   Under-population refers to a situation where the number of people in a country or region is too small to fully utilize the available resources and infrastructure. This often results in slow economic growth and underutilized facilities.

   Over-population, on the other hand, occurs when the number of people exceeds the capacity of available resources to provide a good standard of living. It leads to problems such as resource depletion, congestion, and unemployment.

   In short, under-population means too few people to develop resources effectively, while over-population means too many people for the available resources to sustain comfortably.

3. Show how rapid population increase affects the economy of developing countries.

Rapid population growth increases the demand for basic services such as healthcare, education, and housing, putting pressure on government budgets.

It leads to high unemployment rates as the labor force grows faster than the availability of job opportunities, resulting in economic strain.

Overuse of natural resources occurs when more people require food, water, and energy, causing resource depletion and environmental degradation.

It can slow economic development because a significant portion of national income is spent on consumption needs rather than on long-term investments like infrastructure.

4. Outline the Tanzanian government's solutions to improve the fishing industry.

The government has provided training programs for fishermen to improve fishing techniques and sustainable practices.

It has encouraged the use of modern fishing equipment, which increases efficiency and reduces post-harvest losses.

Fish farming projects have been promoted to supplement natural fish stocks and increase production.

The government enforces regulations to control overfishing and protect breeding grounds, ensuring long-term sustainability of fish populations.

Infrastructure such as cold storage facilities and fish markets has been developed to improve fish handling and marketing.

5. (a) Define survey.

A survey is a scientific method of collecting, measuring, and analyzing data about the Earth's surface to determine distances, boundaries, and features for mapping or planning purposes.

(b) Mention three (3) types of survey in the Geographical context.

Topographical survey, which records natural and man-made features and their elevations for creating detailed maps.

Cadastral survey, which determines land ownership boundaries for legal and property purposes.

Engineering survey, which provides detailed measurements for the design and construction of projects like roads and bridges.

6. Describe the effects of earthquakes on the environment.

Earthquakes can cause destruction of infrastructure, including buildings, roads, and bridges, disrupting transportation and communication.

They may trigger landslides in mountainous areas, leading to loss of vegetation, destruction of farmland, and blocking of river courses.

Earthquakes can change landforms by creating cracks, uplifting ground surfaces, or causing subsidence, which may alter drainage patterns.

In coastal areas, earthquakes can generate tsunamis, leading to flooding, destruction of property, and loss of life.

7. Explain the causes of desertification.

Deforestation removes vegetation cover, exposing soil to wind and water erosion, which leads to desert-like conditions.

Overgrazing by livestock destroys grass cover, reducing soil protection and contributing to land degradation.

Poor farming methods, such as over-cultivation and monocropping, exhaust soil nutrients and reduce land productivity.

Climate change, particularly prolonged droughts, reduces soil moisture and plant growth, worsening desertification.

8. Suggest measures to prevent soil erosion.

Afforestation and reforestation programs can help bind the soil with tree roots, reducing erosion caused by wind and water.

Contour farming slows down water runoff, preventing the washing away of topsoil on slopes.

Construction of terraces in hilly areas creates level surfaces for farming, reducing erosion risks.

Using cover crops and mulching protects the soil surface from the direct impact of raindrops and maintains soil fertility.

9. Why is Geography considered a multidisciplinary subject?

Geography incorporates concepts from physical sciences like geology, climatology, and hydrology to study natural processes and features.

It draws from social sciences such as sociology, economics, and anthropology to examine human activities, settlements, and economic patterns.

It uses mathematical and statistical methods for data collection, analysis, and presentation, such as in cartography and GIS.

10. “The ozone layer is depleting.” Give reasons to support the statement.

The release of chlorofluorocarbons (CFCs) from refrigeration systems and aerosol sprays breaks down ozone molecules in the atmosphere.

Industrial emissions release nitrogen oxides and other chemicals that contribute to ozone depletion.

Certain agricultural practices produce gases like methyl bromide, which damage the ozone layer.

Deforestation indirectly contributes by reducing the number of trees that absorb carbon dioxide, worsening overall atmospheric pollution that affects ozone stability.

11. Describe the salient features of a Geography room.

A Geography room is spacious enough to accommodate all students comfortably and provide room for practical activities such as map work, group discussions, and demonstrations. This allows lessons to be conducted without congestion, improving interaction and participation.

It is equipped with essential resources like wall maps, globes, charts, and models, which support visual learning and make abstract concepts easier to understand. These materials are often displayed on the walls for quick reference.

The room has secure storage facilities such as cupboards and shelves to keep instruments like compasses, weather tools, and surveying equipment safe and well-organized. This ensures that materials are preserved and readily available for use.

Good lighting and ventilation are key features, providing a comfortable learning environment and ensuring visibility when reading maps or conducting practical exercises.

It has adequate furniture, including large tables for group work, sturdy chairs, and display boards, which facilitate both theory and practical sessions effectively.

12. Comment on the importance of teacher-made teaching materials versus ready-made materials.

Teacher-made materials are tailored to the specific needs of students and the local environment, making them more relevant and relatable. For example, a teacher can prepare a map showing nearby geographical features to make lessons more practical.

They can be produced at a lower cost using locally available resources, which is particularly important for schools with limited budgets. This encourages creativity and innovation in the teaching process.

Ready-made materials, on the other hand, are professionally designed and often of high quality, ensuring accuracy and durability. They can save the teacher's time and effort since they are readily available for classroom use.

However, ready-made materials may not always reflect local examples, which can reduce their effectiveness in helping students understand context-specific concepts.

A balanced approach, where teachers use ready-made resources alongside customized teacher-made materials, can provide the most effective learning experience.

13. Point out the syllabus components and illustrate their application using the Ordinary Level Geography syllabus.

One component is the general objectives, which outline the overall aims of teaching Geography. In the Ordinary Level syllabus, these may include developing spatial awareness, understanding environmental processes, and promoting conservation.

Another component is the specific objectives, which break down general aims into measurable outcomes. For instance, a specific objective might be for students to "describe and explain the process of river erosion."

The content section lists the topics to be covered, such as climate, population, landforms, and economic activities. Teachers use this to plan lessons and ensure all required areas are addressed.

The suggested teaching methods guide teachers on the most effective ways to deliver the content. For example, field trips are suggested for practical topics like surveying.

The assessment component specifies how learning will be evaluated, such as through written tests, practical assignments, and fieldwork reports.

14. Explain the significance of using the jigsaw method for teaching a specific Geography topic.

The jigsaw method promotes active learning by dividing the class into groups, with each group responsible for mastering a part of the topic. Each student then teaches their part to their peers, ensuring everyone participates actively.

It enhances collaboration and teamwork, as students rely on each other to complete the learning process. This builds communication skills and confidence.

The method improves retention of information because students learn by both studying their assigned section and teaching it to others, which reinforces understanding.

It accommodates different learning speeds and abilities, as each student works on a smaller, manageable portion of the topic before integrating the information as a whole.

In Geography, this method can be used for topics such as types of climate, where each group learns about one climate type and then shares it with the rest of the class.

15. Elaborate five stages to follow when preparing to teach a topic on environmental conservation for Form III students, then suggest three techniques for teaching that topic.

The first stage is reviewing the syllabus to identify the specific objectives and required content for environmental conservation. This ensures that the lesson aligns with curriculum expectations.

The second stage is researching and gathering relevant teaching materials, such as case studies, charts, and videos, to make the lesson informative and engaging.

The third stage involves selecting appropriate teaching methods, such as field trips, group discussions, and demonstrations, which encourage active participation.

The fourth stage is preparing lesson notes and organizing them logically, starting from basic concepts and progressing to more complex ideas.

The fifth stage is arranging assessment activities such as quizzes or project work to measure students' understanding after the lesson.

Three techniques for teaching this topic include field trips to conservation areas to provide real-life examples, group discussions to encourage sharing of ideas, and use of visual aids like posters to emphasize conservation messages.

16. Elaborate six factors showing the contribution of assessment to effective teaching and learning.

Assessment identifies students' strengths and weaknesses, enabling the teacher to adjust teaching strategies to address learning gaps effectively.

It provides feedback to students, helping them understand their progress and areas that need improvement, which motivates them to work harder.

Assessment informs curriculum planning by revealing which topics are well understood and which require more emphasis.

It encourages accountability for both teachers and students, as performance results reflect the effectiveness of teaching and learning efforts.

Assessment data can be used to group students according to ability levels, allowing for targeted remedial or enrichment activities.

It also measures the achievement of learning objectives, ensuring that educational goals are being met as intended.

17. Analyse four types of evaluation and explain one use of each.

Formative evaluation is conducted during the learning process to monitor progress. It is used to identify difficulties early and adjust teaching methods accordingly.

Summative evaluation takes place at the end of a learning unit or term to measure the overall achievement of learning objectives. It is used for grading and certification.

Diagnostic evaluation is carried out before instruction to determine students' prior knowledge and identify learning needs. It is used to design lessons that match learners' levels.

Norm-referenced evaluation compares a student's performance with that of peers. It is used to rank students and identify those who may need additional support.

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

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

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

The first stage is selecting a suitable site that is open, level, and free from obstructions like buildings or trees, to ensure accurate measurements.

The second stage involves acquiring standard meteorological instruments that meet recommended specifications.

The third stage is installing the instruments correctly, following guidelines for height, position, and sheltering to prevent interference.

The fourth stage is training students and teachers in proper use, maintenance, and data recording, to ensure consistent and reliable results.