THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

713 **GEOGRAPHY**

(SUPPLEMENTARY)

Time: 3 Hours. **ANSWER** **Year: 2001**

Instructions

1. This paper consists of sections A, B and C.

2. Answer **all** questions from Section A and **two (2)** questions from each of section B and C.

3. Section A carries **40** marks, Section B and C carry 30 marks each.

4. Cellular phones are **not** allowed inside the examination room.

5. Write your **Examination Number** on every page of your answer booklet

SECTION A (40 Marks)

Answer all questions in this section.

1. (a) Explain the relationship between climate and vegetation in Africa.

Vegetation in Africa is closely linked to climate, particularly temperature and rainfall. Areas with high and consistent rainfall, such as the equatorial regions, support dense rainforests with multiple canopy layers.

In regions with seasonal rainfall, such as the savanna zones, vegetation consists of grasses and scattered trees that can survive periodic dry seasons.

In arid and semi-arid regions, low and unpredictable rainfall results in sparse vegetation, including xerophytic shrubs, grasses, or desert plants adapted to water scarcity.

Temperature variations and the length of the dry season further influence the types and productivity of vegetation across different parts of Africa.

1. (b) Describe how human activities influence the natural vegetation of Tanzania.

Agricultural expansion significantly alters Tanzania's natural vegetation, as forests are cleared for crop cultivation, reducing biodiversity.

Livestock grazing can lead to overgrazing, causing degradation of grasslands and the encroachment of shrubs or less desirable species.

Logging, charcoal production, and timber extraction remove native trees, which changes forest composition and may lead to soil erosion.

Urbanization and infrastructure development fragment habitats, replace vegetation with built environments, and can modify local climates.

2. Briefly discuss four (4) geographical factors that determine population distribution in mountainous regions.

Altitude affects population distribution because higher elevations have lower temperatures and thinner air, making them less suitable for dense settlements.

Slope steepness influences settlement patterns, as steep areas are difficult to build on and farm, concentrating populations in gentler slopes and valley floors.

Soil fertility and depth determine agricultural potential; fertile valley soils attract more settlements, whereas shallow or rocky soils limit farming.

Water availability from rivers, springs, and rainfall runoff encourages settlement in valleys where irrigation and domestic supply are reliable.

3. What are the major problems associated with the extraction of natural gas in developing countries?

Environmental degradation occurs through gas flaring, pollution of water and air, and destruction of local habitats during extraction.

Social conflicts arise from land displacement, disputes over resource ownership, and unequal distribution of benefits among communities.

Safety and technical issues include leaks, explosions, and inadequate regulations, which can endanger workers and nearby populations.

Economic challenges involve dependency on gas revenues, underdevelopment of other sectors, and limited local employment due to foreign-controlled operations.

4. Identify four (4) differences between renewable and non-renewable sources of energy, using examples.

Renewable energy sources, such as solar, wind, and hydro, can be replenished naturally, while non-renewable sources, like coal, oil, and natural gas, are finite and take millions of years to form.

Renewable energy is generally more environmentally friendly with minimal pollution, whereas non-renewable energy often produces greenhouse gases and environmental contamination.

The cost of renewable energy has been decreasing over time due to technological advancements, while non-renewable energy is subject to market fluctuations and extraction costs.

Renewable sources are sustainable for long-term energy supply, while non-renewable sources can be exhausted, leading to energy insecurity if relied upon exclusively.

5. (a) Explain what is meant by “geographical observation”.

Geographical observation is a method of studying and recording physical and human features in the environment directly, usually in the field.

It involves examining landscapes, settlement patterns, land use, and natural processes to collect primary data for analysis.

5. (b) Mention two (2) skills a student can develop through this method.

Students develop analytical skills by observing patterns, relationships, and changes in the environment.

They also develop data recording and interpretation skills, which help in organizing field notes, sketches, and diagrams accurately.

6. State and explain four (4) factors which influence the development of transport systems in Tanzania.

Economic activities influence transport because areas with mining, agriculture, or trade demand better road and rail networks for moving goods.

Population density determines transport needs; heavily populated regions require extensive public transport and road infrastructure.

Physical geography such as mountains, rivers, and lakes can hinder transport construction, requiring bridges, tunnels, or detours.

Government policies and investment priorities determine the extent, maintenance, and modernization of transport systems.

7. (a) What is meant by environmental degradation?

Environmental degradation is the deterioration of the natural environment due to human activities, natural processes, or both, leading to loss of biodiversity, soil fertility, and ecosystem services.

7. (b) Outline the measures that can be taken to control it.

Reforestation and afforestation help restore vegetation and stabilize soil.

Enforcing environmental laws reduces illegal logging, poaching, and industrial pollution.

Promoting sustainable agriculture and land-use planning minimizes erosion and habitat destruction.

Community education raises awareness about the importance of conserving natural resources.

8. Describe four (4) ways in which the study of Geography contributes to the economic growth of Tanzania.

Geography helps identify areas suitable for agriculture, leading to improved food production and cash crops.

It assists in locating mineral and energy resources for extraction, fueling industrial growth and employment.

Transport and infrastructure planning benefits from geographic studies, enhancing trade and connectivity.

Tourism development relies on knowledge of physical landscapes, cultural sites, and ecosystems to attract visitors and generate revenue.

9. (a) Define a map scale.

A map scale is the ratio or relationship between a distance on a map and the corresponding distance on the ground.

9. (b) Distinguish between a linear scale and a ratio scale.

A linear scale uses a drawn line divided into units to measure actual distances directly on the map.

A ratio scale expresses the relationship numerically, for example 1:50,000, meaning one unit on the map equals 50,000 units on the ground.

10. Explain the importance of fieldwork in developing geographical knowledge and attitudes among students.

Fieldwork exposes students to real-world environments, enhancing observational and analytical skills beyond classroom theory.

It develops practical skills such as map reading, data collection, sketching, and recording.

Fieldwork fosters appreciation for environmental conservation and encourages responsible attitudes toward natural resources.

It also promotes critical thinking, problem-solving, and the ability to make informed decisions about human-environment interactions.

SECTION B (40 Marks)

Answer any two (2) questions from this section.

11. (a) Identify four (4) characteristics of population pyramids for developing countries.

Population pyramids of developing countries typically have a wide base, indicating a high proportion of young people under 15 years of age.

They show a narrow apex, reflecting a smaller proportion of elderly people due to low life expectancy.

The pyramids often have a rapid tapering shape, which suggests high mortality rates among children and adults in certain age groups.

They frequently display unequal gender distribution in certain cohorts due to migration, wars, or health disparities.

11. (b) With relevant examples, explain how these characteristics affect national development.

A wide base increases the dependency ratio, placing pressure on governments to provide education, health care, and other services.

A narrow apex limits the availability of experienced labor, affecting sectors that rely on skilled and older workers.

High child mortality rates force countries to invest heavily in healthcare infrastructure to reduce preventable deaths.

Unequal gender distribution can influence labor participation, reduce economic productivity, and affect social development programs.

12. Evaluate the challenges faced in implementing environmental conservation policies in East African countries.

Limited financial resources constrain the establishment and maintenance of protected areas and conservation programs.

Rapid population growth increases demand for land, water, and forest resources, leading to illegal encroachment and resource depletion.

Weak enforcement of environmental laws allows poaching, deforestation, and pollution to continue unabated.

Conflicts of interest between governments, local communities, and private enterprises hinder effective conservation and sustainable resource management.

13. (a) Explain the steps followed in conducting a land use survey.

First, define the survey objectives to determine what aspects of land use will be measured, such as residential, agricultural, or industrial areas.

Next, select the study area and sampling points to ensure representative coverage.

Then, collect primary data through observation, field notes, photographs, and interviews with local inhabitants.

Finally, analyze and present the data using maps, charts, or tables to show patterns of land use.

13. (b) Suggest ways of improving accuracy in data collection during such a survey.

Use standardized forms and checklists to ensure consistency in recording observations.

Take multiple measurements and observations at different times to reduce errors caused by seasonal or temporal variations.

Employ modern tools such as GPS, GIS, or drones to obtain precise location and spatial data.

Train surveyors thoroughly on observation techniques, categorization, and data recording procedures.

14. Discuss the contribution of geographical field studies in promoting critical thinking and decision-making skills in learners.

Field studies encourage students to analyze real-world phenomena, interpret patterns, and evaluate causes and effects critically.

They provide opportunities for problem-solving by asking learners to propose solutions to environmental, social, or economic challenges observed in the field.

Students develop decision-making skills by prioritizing data collection, choosing suitable methods, and determining appropriate interventions.

Fieldwork fosters independent thinking and teamwork, enabling learners to draw evidence-based conclusions and make informed judgments.

SECTION C (20 Marks)

Answer any two (2) questions from this section.

15. (a) What is meant by a lesson plan?

A lesson plan is a structured outline prepared by a teacher to guide the delivery of a lesson, specifying objectives, content, teaching methods, learning activities, and assessment strategies.

15. (b) Design a lesson outline on the topic “Formation of Mountains” suitable for Form II students.

Lesson Objective: Students will understand the processes that lead to mountain formation, including folding, faulting, and volcanic activity.

Introduction: Begin with a discussion on familiar mountains in Tanzania, asking students how they think mountains are formed.

Main Activities: Use diagrams to show folding and faulting, demonstrate volcanic mountain formation with models or pictures, and ask students to identify examples locally.

Assessment: Ask students to sketch a simple diagram showing mountain formation and explain the processes.

Conclusion: Recap the key processes and their effects on landscapes.

16. Propose four (4) innovative strategies that can be used to teach map interpretation effectively in secondary schools.

Use interactive GIS and digital maps to allow students to explore real-world locations and layers of information.

Incorporate problem-based learning where students solve real-life navigation or planning tasks using maps.

Use group activities like scavenger hunts or field trips where students apply map reading in practical situations.

Integrate 3D models or virtual simulations to help students visualize terrain features and spatial relationships.

17. Write a lesson plan demonstrating the teaching of "The Water Cycle" using inquiry-based learning techniques.

Lesson Objective: Students will explain the stages of the water cycle and understand how water moves between the atmosphere, land, and oceans.

Introduction: Begin by asking students questions about rainfall, rivers, and evaporation they have observed.

Main Activities: Students conduct small experiments to observe evaporation and condensation, record observations, and discuss findings.

Encourage students to hypothesize how water moves and test ideas by tracing water movement in diagrams.

Assessment: Students create a labeled diagram of the water cycle and explain each stage.

Conclusion: Discuss how understanding the water cycle is important for agriculture and water management.

18. Discuss the significance of assessment tools in evaluating students' mastery of practical geography skills.

Assessment tools help teachers measure students' ability to apply knowledge in fieldwork, map interpretation, and data collection.

They provide feedback on learners' strengths and weaknesses, guiding improvements in teaching and learning.

Practical assessments encourage students to develop critical thinking, problem-solving, and technical skills necessary for geographical analysis.

They also ensure accountability, helping teachers verify that learning objectives are met and students can apply theoretical knowledge practically.