THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

713 **GEOGRAPHY**

(SUPPLEMENTARY)

Time: 3 Hours. **ANSWER** **Year: 2010**

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. Describe four major geomorphological regions in East Africa and explain how each region affects crop choice and market access.

The **highland plateaus** in East Africa are characterized by moderate slopes, fertile volcanic soils, and reliable rainfall. These conditions favor the cultivation of cereals, coffee, and tea. Settlements are dense, and roads are well-developed, allowing farmers to transport crops to nearby markets efficiently.

The **rift valley system** features deep valleys, escarpments, and volcanic soils. The valley floors are highly productive for crops such as maize, vegetables, and horticultural products. However, transport may be constrained in areas with steep escarpments, requiring carefully planned roads and bridges to connect farms to markets.

The **coastal plains** consist of flat lowlands with sandy soils and a warm climate. These areas are suitable for crops like coconut, cashew nuts, and rice. Proximity to ports enhances market access, enabling exports to regional and international markets.

The **savannah grasslands** are characterized by open plains and less fertile soils. These areas are more suitable for pastoralism and drought-resistant crops such as sorghum and millet. Market access is often limited by poor road networks, and settlements are scattered along water sources.

2. Explain four structural or cultural incentives that often correlate with higher birth rates in rural communities.

Preference for large families: Many rural communities value children for labor and family continuity. This cultural expectation encourages families to have more children.

Early marriage practices: Cultural norms often favor marrying young, which extends the reproductive period and increases the number of children per woman.

Economic reliance on children: In subsistence farming, children contribute to farm labor, motivating families to maintain high fertility.

Religious or traditional beliefs: Certain cultural or religious beliefs discourage contraceptive use, sustaining higher birth rates.

3. List four direct causes of infant mortality in Tanzania linked to infrastructure, and propose a realistic intervention for each.

   Poor access to healthcare facilities: Families in remote areas cannot reach clinics promptly. Intervention: build community health posts closer to villages.

   Unsafe water and sanitation: Contaminated water causes diarrhea and infections. Intervention: provide boreholes and hygiene education.

   Limited vaccination coverage: Infants remain vulnerable to preventable diseases. Intervention: conduct outreach immunization campaigns.

   Inadequate skilled birth attendants: Home deliveries increase complications. Intervention: train and deploy local midwives to assist deliveries.

4. Explain how differential positioning technology (GNSS) improves field mapping accuracy compared with compass-based methods.

   GNSS provides **precise coordinates** using satellites, which reduces errors caused by magnetic interference affecting compasses. It allows real-time mapping and high-resolution positioning, improving the accuracy of topographical and cadastral maps. Unlike compass and chain surveys, GNSS can capture points over difficult terrains quickly.

5. Identify four industries that continue to benefit from soils and landforms left by past glaciation in Europe and describe why.

   Agriculture: Glacial till and moraines form fertile soils suitable for cereal and vegetable farming.

   Tourism: U-shaped valleys, fjords, and glacial lakes attract recreational activities and sightseeing.

   Hydropower generation: Glacial valleys and rivers provide natural hydraulic head for dam construction.

Mining: Glacial deposits contain sand, gravel, and metallic minerals used in construction and manufacturing.

6. Analyze two economic benefits and two social or ecological costs associated with the rapid expansion of tourist facilities in Tanzanian landscapes.

Economic benefit: Tourism generates employment in hotels, transport, and local crafts.

Economic benefit: Foreign exchange earnings boost the national economy and local investment.

Social/ecological cost: Increased waste production and deforestation affect habitats and community health.

Social/ecological cost: Overcrowding may disrupt local customs and reduce land available for traditional farming.

7. (a) Define a pollution incident in one sentence.

A pollution incident is an event in which harmful substances are released into the environment, causing immediate or long-term negative effects on ecosystems and human health.

(b) Provide a classification scheme by receptor and by origin.

By receptor: air, water, soil, or organisms affected.

By origin: industrial, agricultural, domestic, or accidental sources.

(c) Give one short example of a pollution incident affecting a freshwater source and a response action.

An oil spill in a river contaminates water for domestic and agricultural use. Response: deploy containment booms and clean-up teams to reduce spread and remove oil.

8. (a) Give a working definition of pollution for environmental assessment.

Pollution is the introduction of physical, chemical, or biological substances into an environment at levels that cause harm or discomfort to living organisms or degrade natural resources.

(b) Name four principal pollution types encountered in industrial corridors.

Air pollution, water pollution, soil contamination, and noise pollution.

(c) For one type, outline two measurements used to quantify its severity.

Air pollution: measure particulate matter (PM2.5 and PM10) concentrations and monitor carbon monoxide levels at fixed stations.

9. Explain four essential site, hydrological, or grid-connection requirements for a large-scale hydropower project.

Sufficient river flow: ensures continuous electricity generation throughout the year.

Adequate hydraulic head: the vertical drop provides necessary energy for turbines.

Stable geological foundation: supports construction of dams and prevents structural failure.

Proximity to transmission lines: reduces costs and energy losses during electricity distribution.

10. Discuss four contributions of geography courses to national disaster preparedness and land-use decision-making in Tanzania, with examples.

Mapping flood-prone areas: students learn to produce hazard maps, informing community relocation plans.

Understanding climate patterns: helps predict droughts and plan water conservation measures.

Land-use planning: students can analyze suitable areas for urban expansion or agriculture, reducing environmental risk.

Community awareness programs: geography students conduct outreach campaigns on safe practices, such as evacuation drills and soil conservation projects.

SECTION B (40 Marks)

Answer two (2) questions from this section.

11. Discuss four cognitive or practical capabilities pupils acquire through geography education, and explain one real-world application per capability.

Critical thinking: Geography lessons teach students to analyze complex spatial and environmental problems, such as assessing flood risks or urban expansion impacts. In real-world applications, this skill is used by urban planners to design settlements that reduce vulnerability to hazards.

Map reading and interpretation: Pupils learn to read topographic, thematic, and digital maps accurately, interpreting scales, contours, and symbols. This skill is applicable in logistics and disaster management, where precise navigation and understanding of terrain are vital.

Data collection and analysis: Fieldwork trains students to collect quantitative and qualitative data, such as soil samples, rainfall measurements, and population distributions. In professional contexts, these skills are essential for environmental surveys and GIS mapping projects.

Report writing: Students compile observations and findings into structured reports, incorporating tables, graphs, and written explanations. This ability translates to producing technical or research reports for government agencies, NGOs, or environmental consultancies.

12. (a) What comprises instructional media for geography?

Instructional media in geography include tangible and digital tools used to convey spatial and environmental information. Examples are physical maps, globes, satellite images, diagrams, field equipment (compasses, GPS units), charts, models, and interactive digital platforms.

(b) Critically assess three functions of interactive field notebooks in teaching.

Enhances observation skills: Students record precise details during field visits, fostering careful attention to features like vegetation patterns or river courses.

Improves data analysis: Students can compare sequential data, identify trends, and summarize findings, improving their understanding of cause-effect relationships in geography.

Facilitates communication: By using sketches, annotations, and tables, students can share results clearly with peers and teachers, improving collaborative learning and presentation skills.

(c) Suggest two low-tech simulations to teach coastal processes.

A **sand-and-water tray model** simulates wave action, erosion, and deposition, allowing students to visualize shoreline changes.

A **cardboard slope with running water** demonstrates river deposition, delta formation, and sediment transport, helping students understand how landscapes evolve.

13. Students collected elevation profiles, land-cover notes, and water-quality strips. Compare and critique four recording formats commonly used in geography fieldwork in terms of reproducibility and student workload.

Transect notes: Provide systematic longitudinal data along a path. Reproducible if students follow the same protocol, but can be time-intensive and require careful attention to detail.

Sketch maps: Quick and flexible visualization of features. While useful for initial understanding, they are less precise and prone to subjective interpretation.

Photographic records: Capture accurate visual evidence of sites and features. Easy to reproduce, but organizing and annotating images can be time-consuming.

Water-quality strips or field sensors: Provide immediate quantitative results for indicators like pH or turbidity. Highly reproducible but may require repeated measurements to ensure reliability, increasing workload.

14. Discuss four ways a formal syllabus assists a teacher in meeting curriculum targets and preparing learners for national assessment.

Content sequencing: Ensures topics build logically from simple to complex, helping learners gradually develop understanding and competence.

Assessment alignment: Helps teachers design tests and tasks that reflect national exam standards, ensuring students are prepared.

Resource planning: Guides selection of maps, models, equipment, and digital aids to support instruction effectively.

Continuity across classes: Maintains consistency when multiple teachers teach the same subject, ensuring all learners cover essential knowledge and skills.

SECTION C (20 Marks)

Answer two (2) questions from this section.

15. (a) Define a lesson plan and list its core elements.

A lesson plan is a structured guide for teachers, detailing objectives, teaching methods, learning activities, assessments, and resources to ensure effective learning. Core elements include learning objectives, starter activity, main content, teaching aids, assessment methods, and summary/conclusion.

(b) Construct a 45-minute lesson plan on "Rotation of Earth and resulting time zones" suitable for Form One, including assessment tasks.

Learning outcomes: Students will explain Earth's rotation and demonstrate understanding of day-night cycles and time zones.

Starter (5 min): Discuss sunrise and sunset differences in various regions, prompting curiosity.

Main activity (30 min): Demonstrate rotation using a globe, calculate time differences between cities, and engage students in small-group discussions to interpret results.

Assessment (10 min): Short worksheet questions on time zone calculations, oral questions to check comprehension, and peer discussion feedback.

16. Identify four classroom and field strategies that promote accurate geographic observation and measurement, provide an example for each.

Demonstration: Teacher shows correct use of a clinometer to measure slope angles in the field.

Guided practice: Students measure distances along a transect using tape measures and pacing, verifying results with peers.

Peer collaboration: Students pair up to take GPS readings, compare points, and correct errors collectively.

Problem-solving task: Students calculate the area of a plot using measured points and identify measurement errors for correction.

17. Draft a lesson plan using Think-Pair-Share to teach students how to derive slope from contour spacing, include time allocation and expected outputs.

Think (5 min): Students individually calculate slope between two contour lines using formulas.

Pair (10 min): Students compare calculations with a partner, discussing differences and reasoning.

Share (10 min): Groups present findings to the class, highlighting methods and resolving discrepancies.

Assessment (5 min): Teacher evaluates calculations and understanding, giving feedback for improvement.

18. Discuss four purposes of classroom assessment in geography and recommend one instrument for each purpose.

Monitor understanding: Quizzes on map interpretation or field notes.

Evaluate skills: Practical checklists during field exercises or lab work.

Guide instruction: Reflection journals to identify gaps in comprehension and plan subsequent lessons.

Measure learning outcomes: Grading rubrics for practical map work, reports, or projects.