THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

713 **GEOGRAPHY**

(SUPPLEMENTARY)

Time: 3 Hours. **ANSWER** **Year: 2000**

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 (4) notable physical landforms found in East Africa, and explain one of them in relation to its formation.

   Mountains: East Africa contains prominent mountain ranges and isolated volcanic peaks such as Mount Kilimanjaro, Mount Kenya, and the Ruwenzori Mountains. These mountains rise sharply from surrounding plains, often showing glacial features near their summits and providing important water catchments and ecosystems.

   Rift valley and escarpments: The East African Rift System produces long linear valleys bounded by steep escarpments, for example the Eastern Rift in Tanzania and Kenya. The rift valley is characterized by faulting, rift lakes, volcanic activity, and steep scarp faces where the crust has been pulled apart.

   Volcanic plateaus and cones: Large areas of East Africa, especially in the rift zones, are covered by volcanic rocks, lava plains, and cones. Examples include the volcanic highlands of Ethiopia and the volcanic cones around Lake Turkana and the Virunga region, formed by repeated eruptions building up layers of lava and pyroclastic material.

   Lakes and rift lakes: East Africa hosts many large lakes, particularly rift lakes such as Lake Victoria, Lake Tanganyika, and Lake Malawi. These lakes are deep and elongated, occupying depressions formed by crustal extension along the rift system.

   Explain formation of the rift valley in relation to its formation: The East African Rift Valley formed through tens of millions of years of continental rifting, where tectonic forces stretched and thinned the lithosphere. Normal faulting produced blocks that dropped down to form linear valleys, while adjacent blocks rose to form escarpments. Mantle upwelling and associated volcanism supplied magma that created volcanoes and basaltic plateaus. Erosion and sedimentation modified the valley floors, and water accumulated in low-lying sections to form the deep rift lakes. Thus the rift valley is primarily a product of extensional tectonics, faulting, volcanism, and subsequent erosion and sedimentation.

2. Explain four (4) social or economic factors that lead to high fertility levels in less developed countries.

Low female education and early marriage: Limited access to education for girls often leads to early marriage and early childbearing. When girls leave school early, they have fewer opportunities and information about reproductive health, contraception, and career alternatives, which contributes to higher fertility.

Economic value of children and lack of social security: In many less developed areas, children are seen as economic assets who contribute labor to households, care for younger siblings, or support parents in old age. With limited pensions or social safety nets, families have more children as a form of economic security, raising fertility rates.

Limited access to family planning and reproductive health services: Poor availability, high cost, or cultural resistance to contraception and reproductive health services restricts couples' ability to space or limit births. Lack of counseling, supplies, and trained providers leads to unmet need for contraception and higher fertility.

Gender norms and male-dominated decision making: Social norms that value large families, male preference, and male control over reproductive decisions reduce women's autonomy to use contraception. Where cultural or religious expectations favor many children or where women lack decision-making power, fertility remains high.

3. Give and discuss four (4) reasons why infant mortality is still high in parts of Tanzania.

Limited access to quality healthcare and skilled birth attendants: In remote or poor communities, births may occur without skilled attendants and complications are not managed, increasing newborn deaths. Limited access to emergency obstetric care and neonatal intensive support raises infant mortality.

Poor maternal nutrition and health: Maternal malnutrition, anemia, infections, and inadequate prenatal care result in low birthweight and weakened newborns, who are more vulnerable to infections and fatal complications during the neonatal period.

Infectious diseases and preventable conditions: High prevalence of malaria, diarrheal diseases, pneumonia, and neonatal infections, coupled with limited immunization coverage and delayed care seeking, lead to many infant deaths that could be prevented by timely interventions.

Inadequate water, sanitation, and hygiene: Unsafe water, poor sanitation, and unhygienic conditions increase the risk of diarrheal disease and infections among infants. Lack of clean water for feeding and poor sanitation in health facilities also contributes to higher infant mortality.

4. What is meant by the term “prismatic compass surveying”?

Prismatic compass surveying is a method of measuring magnetic bearings of lines on the ground using a prismatic compass, an instrument that combines a magnetic needle with a sighting prism or vane to read bearings directly while sighting a target. Practically, the surveyor sights a distant point through the compass sights, aligns the needle and prism, and reads the bearing relative to magnetic north. This method is commonly used for reconnaissance surveys, traversing, and mapping where high precision is not required, and it requires corrections for magnetic declination and local attraction.

5. Outline the ways glaciation contributes to the economy of Germany.

Water resources and hydropower potential: Glacial and high-altitude catchments contribute to river systems that supply water for domestic, industrial, and agricultural use, and feed hydropower installations which generate renewable electricity.

Tourism and recreation: Glaciated mountain landscapes such as the Alps attract tourists for skiing, hiking, mountaineering, and sightseeing, supporting hotels, transport, and service industries and generating significant income and employment.

Agriculture and fertile soils: Glacial and periglacial processes have deposited fine sediments and morainic materials that form productive soils in some valleys and plains, supporting agriculture and related food industries.

Mineral and aggregate deposits: Glaciation redistributes sediments and creates deposits of sand, gravel, and moraine materials that are exploited as construction aggregates. Additionally, glacial erosion can expose bedrock and mineral occurrences that may be of economic interest.

6. Discuss advantages and disadvantages that the tourism sector brings to Tanzania.

Advantages, employment and foreign exchange earnings: Tourism creates jobs in hotels, guiding, transport, crafts, and park management, providing livelihoods for many Tanzanians. It brings foreign exchange earnings that support the national economy and finance public services.

Infrastructure development and conservation incentives: Tourism stimulates investment in roads, airports, utilities, and health services, often benefiting local communities. Revenue from parks and tourist fees can finance conservation and protected areas, incentivizing preservation of wildlife and habitats.

Disadvantages, environmental degradation and pressure on resources: Large numbers of visitors can damage fragile ecosystems, disturb wildlife, cause soil erosion, pollution, and strain water supplies in dry areas. Poorly managed tourism development may degrade the very attractions it depends on.

Cultural disruption and unequal benefits: Tourism can erode traditional cultures, commodify customs, and raise the cost of living for locals. Economic benefits are sometimes captured by foreign companies or elites, while local communities receive limited income, exacerbating inequality.

7. (a) Define environmental pollution.

Environmental pollution is the introduction of harmful substances or energy into the natural environment air, water, or land at levels that cause adverse effects on human health, ecosystems, or materials. Pollution includes chemical contaminants, biological pathogens, excessive noise, heat, or radiation that reduce environmental quality.

(b) Present a classification scheme for pollution types.

Air pollution: Emissions of gases and particulates such as sulfur oxides, nitrogen oxides, carbon monoxide, volatile organic compounds, and particulate matter that degrade air quality and harm health.

Water pollution: Contamination of surface or groundwater by organic waste, pathogens, chemicals, heavy metals, fertilizers, and oil, causing unsafe drinking water, ecosystem damage, and loss of aquatic life.

Soil and land pollution: Deposition or accumulation of hazardous wastes, pesticides, heavy metals, and solid waste that degrade soil fertility, contaminate food chains, and reduce land usability.

Noise and light pollution: Excessive or intrusive sound and artificial lighting that disturb humans and wildlife, disrupt natural cycles, and lower quality of life.

Thermal and radioactive pollution: Release of heat from industrial processes into water bodies causing thermal stress to ecosystems, and release of radioactive materials that pose long-term health and ecological risks.

8. (a) Define “pollution.”

Pollution is the presence or introduction of substances or forms of energy into the environment that cause harm, discomfort, or adverse physiological and ecological effects. It reduces the quality and utility of natural resources for humans and other organisms.

(b) Name major categories of pollution globally.

The major global categories of pollution include air pollution, water pollution, soil and land pollution, noise pollution, light pollution, thermal pollution, and radioactive pollution. Each category has different sources and impacts and often requires targeted management approaches.

9. List the essential prerequisites required for establishing hydroelectric power.

Adequate and reliable water supply: A consistent river flow or reservoir inflow providing sufficient discharge to drive turbines through seasonal cycles is essential for sustained power generation.

Suitable head or elevation difference: Either a natural drop in elevation or an engineered dam and reservoir to create a head that converts potential energy of stored water into mechanical energy for turbines.

Appropriate site geology and stable foundation: Solid bedrock and stable ground conditions are required for constructing dams, intake structures, tunnels, and powerhouse facilities safely and economically.

Transmission and access infrastructure: Roads, construction access, and transmission lines to connect the power station to the grid, plus proximity to demand centers or the ability to transmit electricity over long distances.

Environmental and social acceptability: Feasible environmental impact mitigation, resettlement planning where needed, and regulatory approvals to minimize negative effects on ecosystems and local communities.

10. Explain why the study of Geography is significant in Tanzanian schools.

Understanding environment and resources for development: Geography equips students with knowledge about landforms, climate, soils, water resources, and population distributions, enabling them to participate in sustainable planning, agriculture, and natural resource management that are central to Tanzania's development.

Enhancing spatial awareness and decision-making: Geographic skills such as map reading, field observation, and spatial analysis help learners interpret location-based information, make informed decisions about settlement, transport, and emergency response, and apply these skills in careers and daily life.

Promoting environmental stewardship and disaster preparedness: Geography education fosters awareness of environmental issues, climate variability, and natural hazards, preparing students to engage in conservation, adapt to environmental changes, and respond to disasters.

Building transferable skills and civic understanding: Studying Geography develops critical thinking, data collection, cartographic and statistical skills, and an understanding of human-environment interactions, supporting informed citizenship and diverse career pathways in planning, education, tourism, and resource management.

SECTION B (40 Marks)

Answer any two (2) questions from this section.

11. Discuss four (4) skills students develop when studying Geography.

Map reading and spatial interpretation: Students learn to read and interpret maps, use scale, contour lines, and map symbols, and translate two-dimensional representations into real-world spatial understanding. These skills are fundamental for navigation, planning, and geographic analysis.

Fieldwork and observational skills: Geography promotes fieldwork methods such as sampling, measurement, surveying, and recording observations. Students learn to design simple investigations, collect primary data, and evaluate the reliability of their findings.

Data analysis and interpretation: Students acquire the ability to handle quantitative and qualitative data, construct graphs and charts, calculate rates and densities, and interpret statistical patterns. These analytical skills support evidence-based reasoning in many disciplines.

Critical thinking about human-environment interactions: Geography fosters the capacity to analyze relationships between societies and their environments, evaluate causes and consequences of issues like urban growth, resource use, and environmental degradation, and propose sustainable solutions.

12. (a) What is meant by “teaching aids”?

Teaching aids are physical or digital materials and devices used by teachers to support and enhance instruction, make abstract concepts concrete, and facilitate student learning. They include charts, maps, models, slides, photographs, realia, and multimedia resources.

(b) Critically comment on the role of teaching aids in Geography instruction.

Teaching aids strengthen understanding and engagement: Well-chosen aids such as topographic maps, atlases, and field equipment make geographic concepts tangible and help students visualize spatial relationships, improving comprehension and retention.

Teaching aids support diverse learning styles: Visual charts, models, and interactive digital tools cater to visual and kinesthetic learners, allowing varied approaches that can increase participation and accessibility in mixed-ability classes.

Limitations when misused or unavailable: Relying too heavily on aids without sound pedagogy can lead to passive learning; poorly designed or irrelevant aids may confuse students. In resource-poor settings, lack of adequate aids limits practical exposure and may reduce the effectiveness of instruction.

Need for teacher skill and contextualization: The impact of teaching aids depends on teacher competence to integrate them into lessons, provide clear explanations, and link aids to learning objectives. Teacher training and creativity are essential to maximize benefits.

13. Critique the methods used to record geographical information, citing strengths and weaknesses.

Field notes and sketches: Strengths include immediacy, low cost, and the ability to capture contextual details and observations. Weaknesses are subjectivity, potential incompleteness, and difficulty in standardizing data for analysis.

Surveys and questionnaires: Strengths are the ability to collect systematic socio-economic data from many respondents and quantify attitudes and behaviors. Weaknesses include response bias, sampling errors, and the time and resources required for administration and processing.

Remote sensing and aerial photography: Strengths include wide area coverage, repeatable observations, and the ability to access inaccessible regions. Weaknesses are the cost of imagery, need for technical skills to interpret data, and limitations in resolving very fine-scale features.

GIS and digital databases: Strengths comprise powerful spatial analysis, integration of multiple data layers, and effective visualization. Weaknesses include high initial cost, need for technical expertise, data quality issues, and dependence on reliable power and computing resources.

14. Examine the role of the Geography syllabus in guiding a teacher's planning and delivery.

Provides content scope and sequence: The syllabus defines the topics, learning objectives, and the recommended time allocation, helping teachers plan coherent progression and ensure curriculum coverage across the term or year.

Sets assessment standards and learning outcomes: By specifying competencies, exam formats, and assessment criteria, the syllabus guides teachers to design lessons and evaluation tasks that align with expected standards and prepare students for examinations.

Supports resource and methodology choices: A well-structured syllabus suggests suitable teaching methods, fieldwork components, and resource requirements, enabling teachers to select appropriate teaching aids and plan practical activities that meet learning goals.

Limits and needs adaptation: While the syllabus offers a framework, teachers must adapt content to local contexts, learner needs, and available resources. Overly prescriptive syllabuses may constrain creativity, so effective teaching requires balancing syllabus demands with flexible, learner-centered approaches.

SECTION C (20 Marks)

Answer any two (2) questions from this section.

15. (a) Define "lesson plan."

A lesson plan is a written or mental outline of the teacher's intentions for a single lesson, detailing objectives, content, teaching and learning activities, resources, timing, assessment methods, and adaptations to guide effective delivery and to achieve specific learning outcomes.

(b) Prepare a 45-minute lesson plan for Form One students on the subtopic "Earth's rotation about its axis."

Lesson title: Earth's rotation about its axis
Class: Form One
Duration: 45 minutes
Specific objectives: By the end of the lesson, students will be able to define Earth's rotation, state its direction and period, explain day and night formation, and demonstrate simple observation linking rotation to apparent sun movement.
Introduction (5 minutes): Begin with a question: Why do we have day and night? Show a globe and a lamp representing the Sun. State lesson objectives.
Presentation (15 minutes): Explain Earth's rotation as the spinning of Earth on its axis from west to east, completing one full rotation in approximately 24 hours. Use globe and lamp to demonstrate how rotation causes different parts to face the Sun, producing day and night. Explain terms axis, rotation period, and apparent movement of the Sun.
Activity (15 minutes): Think-pair-share practical: students in pairs use a desk globe or a ball to model rotation while one student holds the lamp and the other rotates the globe slowly; they observe which side faces the lamp and record when their chosen location is in light or dark. Pairs answer guided questions about direction and timing, then share findings with the class.
Assessment and consolidation (7 minutes): Ask short questions verbally and have students sketch a simple diagram showing Earth, axis, and a position experiencing day and night. Check diagrams and give feedback.
Conclusion and homework (3 minutes): Summarize key points, assign homework: describe how rotation explains sunrise and sunset for their locality and note the time the sun rises tomorrow as observation.

16. Identify and explain four (4) effective strategies for teaching practical Geography.

Structured fieldwork with clear objectives: Plan field activities with defined learning goals, instruments to collect data, and safety procedures. Clear structure ensures students gather meaningful data, practice observation and measurement, and connect results to classroom theory.

Use of maps and local case studies: Incorporate local maps, site visits, and community-based case studies to make learning relevant. Applying theory to nearby examples helps students link spatial concepts to familiar environments, improving retention.

Hands-on data collection and analysis: Equip students to measure, sample, and record data (e.g., slope measurements, stream discharge, land-use surveys), then guide them through analysis and interpretation. Active participation builds practical skills and numeric literacy.

Integration of ICT and low-cost tools: Use GIS, GPS, digital photographs, and simple devices (thermometers, clinometers) where possible, and when not available, employ low-cost alternatives and participatory methods. Technology enhances visualization, accuracy, and student engagement, while inexpensive tools ensure inclusivity.

17. Design a lesson plan demonstrating how the think-pair-share technique can be used in Geography.

Lesson title: Causes and effects of soil erosion
Class: Form Two (example)
Duration: 40 minutes
Learning objectives: Students will identify causes of soil erosion, explain its effects on agriculture and settlements, and propose mitigation measures.
Introduction (5 minutes): Pose the question: What causes soil erosion in our locality? Have students reflect silently for one minute (think).
Think phase (2 minutes): Individual silent reflection, students jot down two causes and one effect.
Pair phase (8 minutes): Students pair up to compare ideas and refine their lists, discussing local examples and agreeing on top three causes and effects.
Share phase (12 minutes): Pairs present their main points to small groups or the whole class; teacher records responses on the board, facilitating synthesis and correction.
Application activity (10 minutes): Groups propose one practical mitigation strategy suitable for the local area and explain how it would work.
Assessment and closure (3 minutes): Teacher summarizes key causes, effects, and mitigation, asks a quick quiz question, and assigns follow-up homework to observe and report signs of erosion near home.
Rationale: Think-pair-share promotes individual thought, peer interaction to refine ideas, and class-wide sharing for broader learning, increasing participation and deeper understanding.

18. Analyze the importance of assessment in the teaching and learning of Geography.

Assessment guides teaching and learning by revealing students' strengths and weaknesses: Through formative and summative assessments, teachers learn which concepts students understand and which need reinforcement, enabling targeted revision and improved lesson planning.

Assessment motivates and structures learning: Clear assessment tasks and feedback help students focus on essential skills such as map work, data analysis, and field methods. Knowing assessment criteria encourages learners to practice and master key competencies.

Assessment provides accountability and standards: Standardized tests and school-based evaluations measure attainment against curriculum goals, informing progression decisions, curriculum review, and resource allocation, and ensuring consistent educational quality.

Assessment supports reflective practice and improvement: Feedback from assessment allows students to reflect on their learning strategies and teachers to evaluate the effectiveness of teaching methods, adjust approaches, and introduce remedial activities or enrichment where necessary.