THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

713 GEOGRAPHY

Time: 3 Hours **ANSWERS** **Year: 2013**

Instructions

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

2. Answer all questions in section A, two questions from section B and two questions from section C.

SECTION A (40 Marks)

Answer all questions in this section.

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

Diagram Description: A vertical sketch shows three horizontal layers:

Topsoil (A Horizon): The upper layer, rich in organic matter, supports science plant growth, studied in geography for soil fertility and agricultural productivity.

Subsoil (B Horizon): The middle layer, with minerals, aids water retention, analyzed in geography for soil structure and environmental management.

Parent Material (C Horizon): The bottom layer, bedrock or sediment, forms soil over time, examined in geography for geological processes and landform education.

2. Spell out three benefits of having a Geography room

Resource Accessibility: One benefit is resource accessibility, providing maps. A geography room centralizes science materials, enhancing teaching efficiency and student learning outcomes.

Focused Learning: It ensures focused learning, minimizing distractions. A dedicated space for soil studies improves geography education, supporting effective teaching and student engagement.

Collaboration: A geography room fosters collaboration, encouraging discussions. Students discuss earthquakes in groups, boosting geography learning and science interaction through shared resources.

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

Understanding Environment: One purpose is understanding the environment, like soil textures. Geography lessons clarify science ecosystems, enhancing student comprehension and teaching effectiveness.

Spatial Awareness: It develops spatial awareness, teaching landforms. Geography plans cover drainage patterns, improving science navigation skills and educational outcomes through geographic knowledge.

Problem-Solving: Teaching geography fosters problem-solving, addressing issues. Lessons on tourism challenges develop critical thinking, supporting geography education and instructional quality in classrooms.

4. Explain three cultural beliefs which contribute to the rapid growth of population in most of the African societies

Large Family Values: One belief is valuing large families for status. Cultural norms encourage many children for science labor, increasing population and straining educational resources.

Early Marriage: Early marriage promotes rapid population growth. Traditions marry girls young, boosting birth rates and reducing science education access, impacting geographic stability.

Religious Practices: Religious encouragement of procreation drives growth. Faith-based norms favor many children, increasing population pressures and necessitating geography studies on resource management.

5. Show three procedures of teaching the topic on solar system

Introduction: One procedure is introducing concepts, explaining basics. Teachers outline science planets, engaging geography students and setting the stage for effective learning.

Demonstration: Demonstrating with models or diagrams follows. Geography educators use globes, clarifying solar patterns, enhancing science understanding and teaching outcomes in lessons.

Discussion: Facilitating discussion reinforces learning. Students debate solar impacts, improving geography inquiry and science education through interactive teaching strategies.

6. Identify three precautions to be considered in avoiding errors during tape or chain survey

Proper Alignment: One precaution is proper alignment, ensuring accuracy. Aligning science survey tools prevents measurement errors, enhancing geographic precision and teaching effectiveness.

Regular Calibration: Calibrating equipment avoids inaccuracies. Checking science chains maintains reliability, supporting geography education on landform measurement and accuracy.

Avoid Obstacles: Avoiding obstacles, like vegetation, ensures precision. Clearing science paths during surveys improves geographic data, reducing errors and supporting educational outcomes.

7. Explain three uses of a Geography syllabus

Curriculum Guidance: One use is curriculum guidance, outlining topics. Syllabi detail soil studies, ensuring systematic geography teaching and science education alignment with goals.

Assessment Planning: Syllabi aid assessment planning, setting standards. They specify geography tests on earthquakes, enhancing teaching quality and student evaluation in classrooms.

Resource Allocation: They guide resource allocation, listing needs. Syllabi ensure maps for tourism are available, supporting geography instruction and effective science learning processes.

8. Outline three roles of using quantitative techniques in Geography

Data Analysis: One role is data analysis, measuring phenomena. Quantitative methods assess science soil erosion, improving geographic understanding and teaching precision in education.

Policy Making: They support policy making, providing statistics. Geography uses science population data, enhancing decision-making and instructional strategies for development.

Prediction: Quantitative techniques enable prediction, forecasting trends. Geography predicts climate impacts, supporting science education and teaching effectiveness through evidence-based learning.

9. (a) Define water harnessing

Water harnessing refers to capturing and managing water resources, like rivers, for science uses such as irrigation, supporting geographic sustainability and agricultural productivity in education.

9. (b) Mention two ways of water harnessing

Dams: One way is building dams, storing water for science irrigation. Dams regulate rivers, enhancing geographic water management and agricultural development in classrooms.

Rainwater Harvesting: Collecting rainwater supports water supply. Systems capture science precipitation, improving geographic resource use and teaching sustainability in education.

10. (a) What is a valley?

A valley is a lowland between hills or mountains, formed by erosion, studied in geography for science landform processes and environmental impact in educational contexts.

10. (b) Mention two types of valleys

V-Shaped Valley: A V-shaped valley, formed by river erosion, features steep sides, analyzed in geography for science geological processes and landform education.

U-Shaped Valley: A U-shaped valley, shaped by glaciers, has wide, flat floors, examined in geography for science ice effects and geographic landscape studies.

SECTION B (30 Marks)

Answer two (2) questions from this section.

11. Explain three natural and three human causes of air pollution

Natural Causes:

Volcanic Eruptions: One cause is volcanic eruptions, releasing ash. Volcanic gases pollute air, impacting science ecosystems and requiring geographic studies on environmental management.

Wildfires: Wildfires produce smoke, degrading air quality. Natural fires release science pollutants, necessitating geography education on climate impacts and mitigation strategies.

Dust Storms: Dust storms raise particles, polluting air. Wind-blown science soil affects health, driving geographic learning on erosion control and environmental stability.

Human Causes:

Industrial Emissions: Factories emit pollutants, like chemicals. Science industries release gases, requiring geography studies on pollution reduction and sustainable development.

Vehicle Exhaust: Cars produce exhaust, worsening air quality. Science transportation emissions impact health, prompting geographic education on urban planning and mitigation.

Deforestation: Clearing forests for agriculture increases pollution. Removing science vegetation reduces oxygen, necessitating geography focus on conservation and environmental management.

12. Analyse six ways of managing problems emanating from misuse of valleys in East African countries

Valleys refer to lowland areas, misused in East African contexts, requiring geographic management strategies.

Sustainable Agriculture: One way is sustainable agriculture, preventing erosion. Implementing science crop rotation in valleys reduces soil loss, enhancing geographic stability and environmental health.

Controlled Grazing: Regulating livestock grazing prevents degradation. Limiting science herds in valleys maintains vegetation, supporting geographic land management and sustainable development.

Reforestation: Planting trees restores valley ecosystems. Reforesting science areas combats erosion, improving geographic biodiversity and environmental balance through conservation efforts.

Water Management: Managing water, like damming, controls flooding. Science irrigation systems in valleys reduce misuse, enhancing geographic resource use and stability for communities.

Urban Planning: Regulating valley settlements prevents overcrowding. Science zoning laws guide development, supporting geographic sustainability and reducing environmental strain through planned growth.

Education Campaigns: Raising awareness promotes responsible use. Science education on valley conservation encourages sustainable practices, enhancing geographic learning and environmental management in schools.

13. Analyse three disaster management phases and explain three activities to each phase

Disaster management involves structured phases, addressing science geography challenges like earthquakes, with specific activities.

Mitigation:

Risk Assessment: One activity is risk assessment, identifying hazards. Evaluating science earthquake zones reduces vulnerability, supporting geographic planning and environmental safety.

Infrastructure Strengthening: Building resistant structures minimizes damage. Reinforcing science buildings in valleys enhances safety, aiding geographic disaster preparedness and stability.

Public Education: Educating communities on risks builds awareness. Teaching science evacuation plans improves geographic resilience, supporting effective disaster management and learning outcomes.

Preparedness:

Emergency Planning: Developing plans ensures readiness. Creating science response strategies for floods supports geographic safety, enhancing community preparedness and teaching effectiveness.

Training Drills: Conducting drills improves response skills. Science evacuation practices in geography classrooms boost readiness, supporting disaster management and educational progress.

Resource Stockpiling: Storing supplies, like food, aids response. Accumulating science materials for valleys ensures support, enhancing geographic resilience and disaster mitigation efforts.

Response:

Rescue Operations: Conducting rescues saves lives. Deploying science teams after earthquakes aids victims, supporting geographic recovery and community stability through rapid action.

Medical Aid: Providing healthcare addresses injuries. Offering science treatment post-disasters enhances geographic health, supporting recovery and teaching on disaster management.

Damage Assessment: Evaluating damage guides recovery. Assessing science infrastructure in valleys informs rebuilding, improving geographic planning and long-term stability in education.

14. Elaborate six principles embedded in eco-tourism

Eco-tourism refers to sustainable tourism minimizing environmental impact, guided by geographic principles.

Sustainability: One principle is sustainability, preserving resources. Eco-tourism limits science land use, supporting geographic conservation and long-term environmental health in tourism areas.

Conservation: It emphasizes conservation, protecting ecosystems. Eco-tourism safeguards science biodiversity, enhancing geographic studies on habitat preservation and educational outcomes.

Community Involvement: Involving locals ensures benefits. Eco-tourism engages science communities in tourism, boosting geographic economic stability and cultural preservation through participation.

Education: Eco-tourism educates visitors on environments. Teaching science ecology in tours enhances geographic awareness, supporting learning and teaching effectiveness in sustainable practices.

Minimal Impact: It minimizes environmental impact, reducing harm. Eco-tourism limits science pollution, aiding geographic sustainability and maintaining natural landscapes for future generations.

Economic Benefits: Eco-tourism provides economic benefits, supporting locals. Science-based tours generate income, enhancing geographic development and community stability through tourism revenue.

SECTION C (40 Marks)

Answer two (2) questions from this section.

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

Advantages:

Critical Thinking: One advantage is critical thinking, fostering analysis. Inquiry on soil textures develops geography skills, enhancing science education and teaching effectiveness through questioning.

Engagement: It increases engagement, making lessons interactive. Inquiry into earthquakes involves students, boosting geography learning and science participation in classrooms.

Skill Development: Inquiry develops skills, like research. Geography students explore drainage patterns, improving science abilities and teaching outcomes through hands-on learning.

Relevance: It ensures relevance, connecting to real issues. Inquiry on tourism addresses local problems, enhancing geography education and instructional quality through applicable science knowledge.

Disadvantages:

Time-Consuming: One disadvantage is time consumption, slowing progress. Inquiry on volcanicity extends lessons, reducing geography coverage and challenging teaching efficiency.

Complexity: It can be complex, confusing students. Inquiry into river regimes may overwhelm learners, hindering geography understanding and science education outcomes.

Resource Intensive: Inquiry requires resources, straining budgets. Geography field trips for soil studies demand materials, limiting teaching scope and science learning in classrooms.

Teacher Skill: It demands skilled teachers, risking failure. Inexperienced geography educators struggle with inquiry on climate, reducing effectiveness and science educational impact.

16. Elaborate five importance of spatial understanding in studying Geography

Navigation Skills: One importance is navigation skills, aiding orientation. Spatial understanding of soil maps enhances geography education, improving science navigation and teaching effectiveness in lessons.

Environmental Management: It supports environmental management, addressing issues. Spatial knowledge of earthquakes guides conservation, enhancing geography learning and science sustainability through strategic planning.

Urban Planning: Spatial understanding aids urban planning, optimizing space. Geography studies on settlement patterns improve science city design, supporting teaching and developmental outcomes.

Economic Analysis: It enables economic analysis, assessing resources. Spatial data on tourism locations boosts geography education, enhancing science economic strategies and instructional quality.

Policy Making: Spatial understanding informs policy making, guiding decisions. Geography insights on drainage basins shape science regulations, improving teaching relevance and societal progress in education.

17. Describe six reasons for preparing a Geography scheme of work as far as Geography teaching and learning is concerned

Planning: One reason is planning, organizing lessons. Schemes outline soil texture units, ensuring systematic geography teaching and science education efficiency for teachers.

Time Management: They ensure time management, scheduling activities. Schemes allocate periods for earthquake studies, enhancing geography teaching productivity and student progress in classrooms.

Curriculum Alignment: Schemes align with curricula, meeting goals. They cover drainage patterns, supporting science education standards and geography instructional quality for teachers.

Resource Allocation: They guide resource allocation, listing needs. Schemes specify maps for tourism, ensuring geography teachers have materials, improving teaching effectiveness and learning outcomes.

Assessment Planning: Schemes support assessment planning, evaluating progress. They schedule quizzes on volcanicity, enhancing geography teaching strategies and student achievement through structured evaluation.

Flexibility: Schemes allow flexibility, adapting to needs. Adjustments for climate lessons ensure geography teaching meets student requirements, enhancing science education and instructional adaptability.

18. Explain six stages involved during the establishment of a weather station in a school setting

Site Selection: One stage is site selection, choosing an open area. Identifying a location for science weather equipment ensures accurate geography data, supporting teaching and learning effectiveness.

Equipment Procurement: Procuring instruments, like thermometers, follows. Acquiring science tools for weather monitoring enhances geography education, ensuring reliable instructional resources.

Installation: Installing equipment, like rain gauges, is next. Setting up science devices in geography rooms supports data collection, improving teaching accuracy and student engagement.

Calibration: Calibrating tools ensures accuracy, maintaining reliability. Adjusting science weather instruments enhances geography learning, supporting precise teaching and educational outcomes.

Training: Training staff on usage prepares for operation. Teaching geography educators science weather monitoring builds skills, ensuring effective instruction and classroom management.

Data Collection: Regular data collection, like recording temperatures, finalizes setup. Science weather logs support geography studies, enhancing teaching quality and student learning through practical application.