THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

013 **GEOGRAPHY**

(For Both School and Private Candidates)

Time : 3 Hours **ANSWERS** **Year : 1997**

Instructions

1. This paper consists of sections EIGHT questions.
2. Answer all questions in section A, B and C and **one (1)** question from section D.
3. Non-programmable calculators may be used.
4. Communication devices and any unauthorised materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. (a) Draw a cross-section from Grid 890590 to Grid 920640.
   The cross-section would show the relief between these two points, indicating variations in elevation such as hills, valleys, and plains as depicted on the map.

   (b) Determine the intervisibility of the two points of the cross-section.
   The two points are not intervisible if there is a hill or raised feature blocking the line of sight. If the land is flat or slopes gradually without obstruction, then they are intervisible.

   (c) Calculate the area covered by Sinyalengima Papyrus swamp.
   The area can be calculated by multiplying the length and width of the swamp using the scale of the map, giving the answer in square kilometers.

   (d) Suggest any two possible economic activities carried out in the area.
   One activity is agriculture, especially irrigation farming, since swamps and rivers provide water.
   Another activity is fishing, as swamps support aquatic life that provides fish.

   (e) Describe the drainage of the area.
   The area is characterized by a swampy drainage pattern with papyrus swamps, seasonal rivers, and poor drainage due to flat relief.

   (f) State the contour interval.
   The contour interval is the vertical difference in elevation between consecutive contour lines as indicated on the map (usually given in meters).

2. (a) Identify the type of photograph shown.
   This is a ground-level photograph.

   (b) What are the people shown on the photograph doing?
   The people are harvesting or processing sugarcane.

   (c) What climatic conditions favour the growth of the crop shown on the photograph?
   The crop requires warm temperatures of about 20–30°C throughout the year.
   It also needs high rainfall ranging from 1200–1500 mm annually, well-distributed.
   Sunshine is essential for photosynthesis and good sugar content.
   Deep fertile soils, especially alluvial and volcanic soils, are also favorable.

(d) Mention the main use of the crop shown on the photograph.
The main use of sugarcane is for the production of sugar. It is also used for making ethanol, molasses, and animal feeds.

(e) Name three regions where the crop is grown in Tanzania.
Sugarcane is grown in Kilombero Valley.
It is also grown in Mtibwa area in Morogoro.
Another area is Kagera region near Lake Victoria.

3. (i) When it is noon in Kigoma (30°E) the standard time in Dar-es-Salaam (39°E) will be:
The difference is 9°. Since 1° longitude equals 4 minutes, 9 × 4 = 36 minutes. Dar es Salaam is ahead of Kigoma, so the time will be 12:36 p.m. The correct answer is (E).

(ii) Land and sea breezes develop locally in coastal areas due to:
They are caused by local heating intensity on the land. The correct answer is (D).

(iii) Which of the following statements about solar system is not true?
The system consists of the sun and its nine planets is outdated because Pluto is no longer considered a planet. The correct answer is (A).

(iv) The radial drainage pattern is mostly common in the following areas:
It is found in areas where underlying rocks form a cone, such as volcanic mountains. The correct answer is (E).

(v) Under pressure of metamorphism, some rocks undergo changes. The outcome includes the following rocks:
Slate, gneiss, and lignite. The correct answer is (A).

(vi) The Great East African Rift Valley passes through the following countries in East Africa:
Mozambique, Tanzania, Uganda, and Ethiopia. The correct answer is (A).

3. (a) Read the following statements carefully and write the letter of the correct answer.

(i) An RF scale of 1:50,000 can be represented by a statement scale of:
The correct answer is (C) One centimetre to 0.5 km.

(ii) When a bar links an island to the mainland, it is called:
The correct answer is (C) spit.

(iii) The part where sea and the land margin meet is known as:
The correct answer is (C) coastline.

(iv) Folding is usually a result of:
The correct answer is (B) compressional forces.

(b) Write the correct number of the item in Group B against the correct letter of the item in Group A.

- A. Stevenson screen → 12. weather station instrument shelter
- B. Rain shadow → 5. leeward side of a high land barrier
- C. Vertical interval → 8. the difference in vertical height between two successive contour lines
- D. Lithosphere → 6. the earth's crust including the SIAL and SIMA
- E. Horn → 4. a pyramidal peak in a mountain range
- F. Impervious rock → 9. that which does not allow water to soak into and pass through it
- G. Harmattan → 7. a strong, dry wind blowing over northwest Africa
- H. Pampas → 15. a broad trough of low pressure where tropical maritime air masses converge
- I. Shield dome → 16. volcano
- J. Crag → 1. a steep, rugged rock outcrop

4. Hot deserts have high temperatures during the day, around 40°C. Nights are cold with temperatures as low as 16°C.

(a) Briefly explain why it is so.
Hot deserts have high day temperatures because they receive direct overhead sunshine and lack cloud cover, allowing intense solar radiation. At night, temperatures drop rapidly because the absence of clouds allows rapid radiation of heat back into the atmosphere. The sandy soils also lose heat quickly, contributing to cold nights.

(b) Give four examples of hot deserts; one from each of the following continents: North America, South America, Asia, and Australia.
In North America, the Sonoran Desert is an example.
In South America, the Atacama Desert is an example.
In Asia, the Arabian Desert is an example.
In Australia, the Great Victoria Desert is an example.

(c) Calculate the mean daily temperature.
Mean daily temperature = (Maximum temperature + Minimum temperature) ÷ 2
= (40 + 16) ÷ 2
= 56 ÷ 2
= 28°C.

(d) Outline four adaptive features developed by plants growing in the hot desert.
Desert plants have long tap roots that reach underground water sources.
They have thick stems to store water for long periods.
Leaves are reduced to spines to minimize water loss through transpiration.
Some plants have waxy leaf surfaces to reduce evaporation.

5. Explain the formation of the following:

(a) Artesian well
An artesian well is formed in an artesian basin where permeable rock layers are sandwiched between impermeable layers. Rainwater enters the permeable layer in highland areas and moves downward due

to pressure. When a borehole is drilled into the confined aquifer, water rises to the surface under its own pressure.

(b) Ox-bow lake

An ox-bow lake is formed in the middle and lower course of a river where meanders are pronounced. Erosion occurs on the outer bends while deposition takes place on the inner bends, gradually narrowing the meander neck. Eventually, the river cuts across the neck during floods, leaving the former meander loop isolated as an ox-bow lake.

SECTION C: EAST AFRICA (12 marks)

6. On the map of East Africa provided (Fig.1) locate and explain six climatic regions.

   The six climatic regions of East Africa include:

   Equatorial climate in areas around Lake Victoria characterized by high rainfall and warm temperatures throughout the year.

   Tropical continental climate in central Tanzania and Kenya with moderate rainfall and distinct wet and dry seasons.

   Tropical monsoon climate along the coast influenced by ocean currents and monsoon winds.

   Tropical upland climate in highland areas such as Kilimanjaro and Kenya Highlands, with cool temperatures and high rainfall.

   Semi-arid climate in northern Kenya and central Tanzania with low, unreliable rainfall.

   Desert climate in northeastern Kenya with very low rainfall and high temperatures.

7. With the aid of a sketch map, name and describe the agricultural regions of East Africa.

   The agricultural regions of East Africa include:

   The Lake Victoria Basin region which is important for cotton, coffee, and tea production.

   The Kenyan Highlands region which is known for coffee, tea, maize, and dairy farming.

   The coastal region which produces coconut, cashew nuts, and cloves in Zanzibar.

   The northern semi-arid zones which support pastoralism and small-scale millet and sorghum farming.

SECTION D: THE REST OF AFRICA (12 Marks)

8. Explain the problems facing copper mining in Zambia.
   One problem is the fluctuation of world copper prices which affects Zambia's earnings.
   Another problem is high production costs due to outdated mining technology.
   Environmental degradation such as air and water pollution also poses challenges.
   Additionally, overdependence on copper makes the economy vulnerable to market changes.

9. From the sketch map of the Nile Valley provided (Fig.2) below answer the following questions by writing your answers in the answer book provided.
   (a) The Nile Valley is one of the most fertile regions in Africa due to regular deposition of silt from annual floods.
   (b) Irrigation farming is practiced extensively in the Nile Valley for crops like cotton, sugarcane, and wheat.
   (c) The Aswan High Dam plays a key role in controlling floods, generating hydroelectric power, and supporting agriculture in the region.

9. (a) Name:
   (i) Towns 1 and 2 → Cairo and Alexandria.

(ii) Man-made features S, R and A → Aswan High Dam, Suez Canal and Aswan Reservoir.

(iii) Water bodies B, C and Oasis D → Mediterranean Sea, Red Sea and Kharga Oasis.

(b) The factors that have contributed to the development of industry in Lower Egypt are:
Lower Egypt has abundant water supply from the River Nile which is used for industrial and domestic purposes.

The availability of hydroelectric power from the Aswan High Dam provides reliable energy for industries.

The region has fertile soils that support agriculture, providing raw materials for agro-based industries like cotton, sugar, and food processing.

The Suez Canal enhances trade and transport, linking Egypt with international markets.

A large population provides cheap labor and also creates a ready market for industrial goods.

Government support through infrastructure development and foreign investment policies has also boosted industrialization.

10. (a) Using the sketch map of U.S.A (Fig.3) provided below answer the questions that follow by writing your answers in the answer booklet provided.
    (i) Identify the agricultural belts labelled A, B, C and D.
    A → Dairy farming belt.

B → Wheat belt.

C → Cotton belt.

D → Corn belt.

(ii) Name the water bodies labelled I, II, III and IV.
I → Atlantic Ocean.

II → Gulf of Mexico.

III → Pacific Ocean.

IV → Great Lakes.

(b) The reasons for the establishment of the Tennessee Valley Authority (TVA) were:
It was established to control floods along the Tennessee River which frequently damaged farmland and settlements.

It aimed to generate hydroelectric power to promote industrial development in the region.

The authority sought to improve navigation by making rivers navigable for transport and trade.

It was intended to promote agricultural development by providing irrigation water and reducing soil erosion.

It also aimed at creating jobs and improving living standards in one of the poorest regions of the U.S.A.

11. Explain the factors which have promoted dairy farming and market gardening in Holland.
    Holland has fertile alluvial soils reclaimed from the sea which support pasture growth and horticulture.

The country has a cool temperate maritime climate favorable for pasture growth throughout the year.

A dense population creates a ready market for dairy products and vegetables.

Efficient transport systems such as canals, roads and railways facilitate the movement of farm produce to markets.

Advanced technology including greenhouses and mechanization boosts production of flowers, vegetables and milk.

Government support and cooperative societies also help in marketing and price stabilization for farmers.

12. (a) From the sketch map of China provided below (Fig.4):
    Identify the features represented by the letters A, B, C, D and E.
    A → Plains.

B → Mountains.

C → Plateau.

D → Rivers.

E → Ocean.

(b) Name and describe the factors which affect the climate of China.
Latitude influences climate, with northern China experiencing cold winters while southern China is warmer due to proximity to the tropics.

Relief plays a role, as the Himalayas block moist winds from reaching the interior, causing dry conditions in northwestern China.

Monsoon winds affect climate, with summer monsoons bringing heavy rainfall and winter monsoons bringing dry conditions.

Ocean currents, such as the warm Kuroshio Current, moderate temperatures along the coast.

Distance from the sea affects rainfall distribution, as coastal areas are wetter while interior regions like deserts are drier.