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 : 1995**

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. Carefully study the Map Extract of part of TANZANIA – DODOMA WEST (Sheet 162/1) provided and then answer the questions that follow:

(a) How big is SINGE SWAMP? How was it formed?
Singe Swamp covers an area of about 9 square kilometres. It was formed due to poor drainage where water collects in a low-lying basin, creating swampy conditions.

(b) Draw a cross-section between grid references 910180 and 950227.
The cross-section would show a gradual slope rising from the swampy valley bottom towards higher land with scattered vegetation and settlements.

(c) With evidence from the map comment on the nature and distribution of natural vegetation in the area shown.
Natural vegetation is mainly scattered woodland and grassland. It is distributed sparsely with dense patches along valleys and rivers, while higher ground and cultivated areas show less natural cover.

(d) Calculate the length of the Dodoma – Bahi road.
The length is approximately 16 km based on measurement and conversion from the map scale.

(e) With evidence from the map outline the economic activities carried out in the area.
Agriculture is practiced as indicated by cultivated land.
Livestock keeping is carried out around grazing lands.
Trading activities take place in Dodoma town.
Transport is an activity supported by the road network.

(f) Give factors for the growth of Dodoma town.
Dodoma has grown due to its position as the political capital of Tanzania.
It is located along the central railway and highway, making it a transport hub.
Availability of land for expansion has encouraged settlement.
The town is a regional administrative and commercial centre.

(g) With evidence from the map, determine the climate of the area shown.
The area has a semi-arid climate characterized by low rainfall, seasonal rivers, and dominance of grassland and thicket vegetation.

(h) Give the direction of Dodoma airport from Mbwanga cattle market.

The airport is located to the south-east of Mbwanga cattle market.

2. Carefully study the photograph provided below and then answer the questions that follow:

(a) What is the major cash crop shown in the photograph?

The major cash crop shown is maize.

(b) What variety is the crop you have mentioned in (a) above?

The variety is hybrid maize, commonly grown for both commercial and subsistence purposes.

(c) Why is intercropping necessary in the production of this crop?

Intercropping helps to maximize land use and improves soil fertility when maize is grown with legumes. It also reduces the risk of total crop failure and controls weeds.

(d) What climatic conditions favour the growth of the two crops shown?

Warm temperatures of about 20–27°C and moderate to high rainfall of 800–1200 mm favour their growth. Sunshine is also necessary for ripening.

(e) Comment on the weather conditions at the time this photograph was taken.

The weather appears sunny and dry, as indicated by the bright light and absence of clouds in the background.

(f) What activity is shown in the photograph?

The activity shown is harvesting of maize.

(g) What type of photograph is this?

This is a ground-level photograph taken at close range.

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

(i) The sun is overhead on the tropic of Capricorn on one of the following dates:

A. 21st March

B. 23rd September

C. 22nd December

D. 21st June

E. 24th October

The correct answer is C. The sun is overhead on the Tropic of Capricorn on 22nd December (Southern Hemisphere summer solstice).

(ii) The All Africa Games opening ceremony took place in Harare – Zimbabwe, 30°E at Noon on 15th September, 1995. What was the time in New York 45°W?

A. 1 pm

B. 7 am

C. 12.40 pm

D. 1 am

E. 7.30 pm

The correct answer is B. The longitude difference is 75° (30°E to 45°W), which equals 5 hours. New York is west, so time is earlier: 12:00 noon – 5 hours = 7:00 am.

(iii) The earth is made up of:

A. Sial, Sima and Silica

B. The core, mantle and crust

C. Mountains, plains and the oceans

D. Magma, lava and ash

E. Corals, granite and fossils

The correct answer is B. The structure of the earth consists of the core, mantle, and crust.

(iv) If the temperature at Kaijungeni with an altitude of 300 m above sea level is 32°C, what will be the temperature at Msongola which is 1500 m above sea level?

A. 0.6°C

B. 24.8°C

C. 28.8°C

D. 23°C

E. 18°C

The correct answer is B. The altitude difference is 1200 m. Using lapse rate 0.6°C per 100 m, temperature drop = 0.6 × 12 = 7.2°C. Therefore, 32 – 7.2 = 24.8°C.

(v) What is the compass direction of 112½° bearing?

A. ENE

B. SSE

C. SE

D. ESE

E. NNE

The correct answer is C. A bearing of 112½° corresponds to South-East (SE).

(vi) The doldrums occur where:

A. Cold and warm winds meet

B. Westerlies and trade winds meet

C. Trade winds meet

D. Warm and cold fronts meet

E. The pressure gradient is steep

The correct answer is C. The doldrums are low-pressure areas near the equator where trade winds from both hemispheres converge.

(vii) Molten igneous rock which has cooled slowly at considerable depth in the earth's crust is called:

A. Metamorphic rock

B. Stratified rock

C. Plutonic rock

D. Extrusive rock

E. Pyroclastic rock

The correct answer is C. Plutonic rocks (e.g., granite) are formed when magma cools slowly at depth.

(viii) Exfoliation is a type of weathering which mostly occurs:

A. At high altitudes with low temperatures

B. In arid or semi-arid regions with large diurnal temperature range

C. In hot humid regions with strong winds

D. In hot regions where frost occurs fairly regularly

E. In chalk and limestone areas

The correct answer is B. Exfoliation occurs in arid or semi-arid regions due to high temperature variations between day and night.

(ix) The following set of features has been formed by the process of erosion:

A. Arches and tombolo

B. Inselbergs and barchans

C. Arêtes and drumlins

D. Seifs and zeugens

E. Yardangs and stacks

The correct answer is C. Arêtes and drumlins are erosional features formed by glaciation.

(x) Land can be conserved by:

A. Strip cultivation and terracing

B. Ploughing up and down the slope

C. Ridging and forest clearance

D. Contour ploughing and shifting cultivation

E. Overgrazing and destocking

The correct answer is A. Land conservation is achieved through methods like strip cultivation and terracing which reduce erosion.

4. Study the climatic table of station X below and then answer the questions that follow:

Months	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Temperat	80	77	75	73	70	67	69	69	70	72	78	82

Months	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
ures °C												
Rainfall mm	240	150	200	100	10	0	0	0	0	110	250	300

(a) Under which climate is station X found?

Station X is found under the Tropical Monsoon climate, characterized by distinct wet and dry seasons.

(b) In which season does the station experience rainfall?

The station receives rainfall during the summer months, particularly from November to April.

(c) How much rainfall does station X receive annually?

Total rainfall = 240 + 150 + 200 + 100 + 10 + 0 + 0 + 0 + 0 + 110 + 250 + 300 = 1360 mm annually.

(d) What is the annual range of temperature at station X?

Maximum = 82°F (December), Minimum = 67°F (June).

Annual range = 82 – 67 = 15°F.

(e) Determine the annual average temperature.

Sum of monthly temperatures = 80 + 77 + 75 + 73 + 70 + 67 + 69 + 69 + 70 + 72 + 78 + 82 = 912.

Annual average = 912 ÷ 12 = 76°F.

5. With the aid of a diagram explain the world distribution of grasslands.

   Grasslands are found in the interiors of continents where rainfall is moderate and not enough to support forests.

   In North America, they occur in the Prairies.

In South America, they are found in the Pampas of Argentina and Uruguay.
In Eurasia, they occur as Steppes from Ukraine to Mongolia.
In Africa, they occur as Savannahs between tropical rainforests and deserts.
In Australia, they occur in the Downs.

SECTION C – EAST AFRICA

6. (a) Draw a sketch map of East Africa and locate:

- Lakes: Victoria, Tanganyika, Nyasa, Turkana, and Albert.
- The East African Rift Valley.
- Towns: Dar es Salaam, Tanga, Mombasa, Mwanza, Kisumu, Kampala, Nairobi, and Dodoma.

(b) The importance of Dar es Salaam harbour to the hinterland of East, Central and Equatorial Africa:
It serves as the main import and export port for Tanzania and landlocked countries like Zambia, Malawi, and Burundi.
It handles a wide variety of cargo including oil, minerals, and agricultural products.
It is linked to the interior by roads and railways like the TAZARA railway.
It provides employment opportunities and supports industries in the hinterland.
It encourages regional trade and integration.

7. Compare the rainfall distribution in the East African countries in relation to farming and the population that the land can support.
Rainfall in East Africa is unevenly distributed with highlands receiving more rainfall than lowlands.
In Uganda, rainfall is well distributed throughout the year, supporting dense population and intensive farming.
In Kenya, rainfall is concentrated around the highlands while arid and semi-arid areas receive little rainfall, limiting population and farming.
In Tanzania, coastal and highland regions receive good rainfall, supporting crops like cloves and coffee, while central regions remain semi-arid, supporting mainly livestock.

Thus, areas with high rainfall support dense populations and intensive agriculture, while drier areas support sparse populations and pastoralism.

SECTION D – THE REST OF AFRICA

8. Explain the importance of mining in the economy of South Africa.
   Mining contributes significantly to foreign exchange earnings through exports of gold, diamonds, and platinum.
   It provides employment to a large number of people.
   It has stimulated the growth of related industries such as metal processing and engineering.
   It contributes to infrastructure development such as railways and ports.
   It attracts foreign investment and improves the balance of payments.

9. Write an account of the Volta River Scheme in Ghana.
   The Volta River Scheme involved the construction of the Akosombo Dam to generate hydroelectric power.
   It provides electricity to industries, especially the aluminum smelter at Tema.
   It has created Lake Volta, one of the largest man-made lakes in the world, which supports fishing.
   It provides water for irrigation and domestic use.
   It has improved transport and communication by creating water routes.
   However, it also caused displacement of people and environmental problems such as waterborne diseases.

SECTION E – NORTH WESTERN EUROPE, NORTH AMERICA AND ASIA

10. To what extent is the Ruhr Industrial Region important to the economy of Germany?
    It is the leading industrial area of Germany, producing coal, steel, chemicals, and engineering products.
    It provides employment and supports millions of people.
    It contributes significantly to exports and foreign exchange earnings.
    It supports infrastructure such as ports, railways, and highways.
    It also contributes to research, innovation, and technological advancement.

11. What were the aims and achievements of Tennessee Valley Authority (TVA) to the economy of the United States of America?

    Aims: To control flooding in the Tennessee River, generate hydroelectric power, improve navigation, and promote regional development.

    Achievements: TVA controlled floods, provided cheap electricity, promoted industrial growth, improved farming through irrigation, and reduced poverty in the valley.

12. (a) Draw a sketch map of the Indian sub-continent and show the direction of winds in summer.

    The sketch should show monsoon winds blowing from the Indian Ocean towards the Indian sub-continent.

(b) Account for the distribution of natural vegetation in the Indian sub-continent.

The western coast and northeastern region receive heavy rainfall, supporting tropical evergreen forests.

The northern plains with moderate rainfall have deciduous forests.

The Thar desert region in the northwest has desert vegetation like thorn bushes.

The Himalayas support alpine vegetation due to cold climate.

Thus, vegetation distribution corresponds to rainfall and temperature patterns.