THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL

CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

013   **GEOGRAPHY**

(For Both School and Private Candidates)

Time: 3 Hours   **Year: 2018**

Instructions

1. This paper consists of ELEVEN questions.

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

1. (i) Which of the following instruments is used to measure the maximum and minimum temperature?
A Barometer

B Thermometer
C Anemometer
D Six's thermometer
E Hydrometer
Correct answer: D
Reason: Six's thermometer is designed specifically to record both maximum and minimum temperatures using mercury and alcohol columns.

(ii) Which among the following is an extrusive volcanic feature?
A Crater
B Laccolith
C Batholith
D Sills
E Dykes
Correct answer: A
Reason: A crater is formed on the surface as a result of explosive volcanic activity, hence classified as an extrusive feature.

(iii) One of the factors for soil formation is
A organic matters
B mineral matters   C tim.
D water
E air
Correct answer: A
Reason: Organic matter contributes to humus content in the soil, influencing structure, fertility, and microbial activity.

(iv) The layer of the atmosphere which is nearer to the earth's surface is called   A troposphere
B stratosphere
C hydrosphere
D mesosphere
E thermosphere
Correct answer: A
Reason: The troposphere is the lowest layer of the atmosphere and supports weather processes and life.

(v) Which among the following is a heavenly body that possesses and transmits its own light?   A Moon
B Sun
C Earth

D Asteroid

E Planet

Correct answer: B

Reason: The Sun emits its own light through nuclear fusion, unlike planets or moons which reflect light.

(vi) A region which consists of thick forests, tree dwellers and people who engage in the cultivation of rubber, cocoa, bananas and oil palms is known as

A Tropical savanna

B Tropical monsoon

C Polar climate

D Mediterranean

E Equatorial

Correct answer: E

Reason: Equatorial regions have high rainfall and temperature that support dense forests and plantation crops.

(vii) An instrument used to determine Magnetic North is called

A Stevenson screen

B Compass

C Thermometer

D Hygrometer

E Barometer

Correct answer: B

Reason: A compass uses Earth's magnetic field to point towards the magnetic north.

(viii) Which of the following is not a process for chemical weathering?

A Carbonation

B Saltation

C Hydrolysis

D Hydration

E Oxidation

Correct answer: B

Reason: Saltation is a mechanical process involved in wind erosion, not chemical weathering.

(ix) Which among the following features are produced by wave erosion?

A Geo, wave cut platform and stack

B Blow hole, sea arch and levee

C Sea arch, beach and stump

D Beach, spit and bars

E Tombolo, meander and cliff

Correct answer: A

Reason: Geo, wave-cut platform, and stack are erosional landforms produced by sea waves acting on coastal rocks.

(x) If the scale of a map is 1:50,000, what will be the actual ground distance of a river with 18 cm on a map? A 9 km

B 2 km

C 4 km

D 18 km

E 1 km

Correct answer: D   Reason:

1 cm represents 50,000 cm on ground

18 cm on map = 18 × 50,000 = 900,000 cm

900,000 cm = 9,000 m = 9 km

Correct answer: A

2. Matching

List A

(i)   Rocks formed when magma solidifies deep in the crust and can be exposed on the surface by agents of erosion.

(ii) Rocks formed when molten magma cools and solidifies inside the rocks of the earth or on the surface of the earth.

(iii) Rocks formed as results of deposition and compaction of remains of dead plants and animals.

(iv) Rocks formed when different types of rocks are subjected to great heat and pressure.

(v) Rocks formed when sediments are deposited either by water, wind or ice.

Answers:

(i)   D

(ii) E

(iii) C

(iv) F

(v) G

3. (a) Define the following terms:

(i) Distributaries.

Distributaries are branches of a river that flow away from the main channel, usually found in delta regions where sediment deposits block the main flow.

(ii) Lagoon.

A lagoon is a shallow body of water separated from a larger sea or ocean by sandbars, coral reefs, or barrier islands.

(iii) Levee.

A levee is a raised embankment formed naturally or artificially along the sides of a river to prevent flooding.

(b) Delta is formed under different conditions. Outline three conditions necessary for its formation.
- The river must have a large load of sediments to deposit at its mouth.
- The mouth of the river should have a low tidal range to allow accumulation of sediments.
- The gradient at the river mouth should be gentle to slow down the water and promote deposition.

4. (a) Describe the type of statistical graph used.
The type of statistical graph used is a bar graph. It uses rectangular bars to represent data values, with the height of each bar corresponding to the quantity of coffee produced in tonnes from 2011 to 2014.

(b) Analyse the five procedures involved in constructing such a statistical graph.
First, data must be collected and organized in a frequency table showing coffee production by year.
Second, the scale is chosen to represent the data values accurately along the vertical axis.
Third, the horizontal axis is labeled with the years of data collection.
Fourth, bars are drawn for each year based on the quantity of coffee produced.
Fifth, the graph is titled appropriately and axes are labeled to provide clarity and context.

(c) Giving two points, comment on the differences in coffee production shown in the graph.
Coffee production increased significantly in 2012 compared to 2011 and then dropped sharply in 2013.
There was a recovery in 2014, with production rising again but still not reaching the peak of 2012.

(d) Give three advantages of presenting data by using the type of graph described in 4(a).
Bar graphs are easy to read and interpret as they visually display comparisons between categories.
They clearly show trends, such as increases or decreases in production over time.
They allow comparison of data across different years in a straightforward and accessible manner.

5. (a) Give three differences between interview and observation.
Interview involves direct verbal interaction between the researcher and respondent, while observation is done by watching behaviors or events.
Interviews provide detailed and subjective data through personal responses, while observation collects factual and behavioral data.   Interview requires the respondent's willingness to participate, whereas observation can occur without direct interaction or consent.

(b) Outline four merits of library research.
Library research provides access to a wide range of reliable secondary data sources.
It saves time and cost compared to conducting field research.
It helps develop critical thinking and referencing skills through the analysis of written works.   It allows researchers to review previous studies and build on existing knowledge.

6. Explain five importance of survey in daily life.
Survey helps collect first-hand data which are crucial in decision-making and policy planning.
It identifies problems and needs in a community, allowing for tailored interventions.

It supports business and marketing strategies by assessing customer needs and preferences.   It evaluates the success or failure of programs or services for future improvement.

It increases awareness and engagement among the population on matters being investigated.

7. Study the map extract of Ilonga (Sheet 265/2) and answer the following questions:

(a) By using square method, determine the area North western of Luhombero river from grid reference 570963 to 644034.

To determine the area using the square method, count the number of full and partial grid squares between the specified grid references. Each full square represents 1 km² on a 1:50,000 scale. For instance, if there are 30 full squares and 8 half squares (which make 4 full squares), the total area is $30 + 4 = 34$ km². This method is used for approximating areas on topographic maps.

(b) With evidence from the map, name six symbols which have been used to interpret a given map.
- Permanent buildings (represented by small black squares or rectangles)
- Seasonal swamps (shown in dotted blue with blue symbols)
- River/stream (shown in solid blue lines)
- Motorable road (represented by double black or red lines)
- Forest/woodland (green shaded areas)
- Contour lines (brown lines indicating elevation)

(c) Give the direction of Iputi to Ilonga.

By checking the relative position of Iputi to Ilonga on the map, we determine the direction. If Iputi is located to the southwest of Ilonga, the direction from Iputi to Ilonga is northeast.

(d) Describe the settlement pattern of the mapped area.

The settlement pattern in the mapped area is linear along the roads and rivers. This pattern indicates that people have settled along transportation routes and water sources for convenience, accessibility, and livelihood purposes.

(e) Giving evidences, mention five possible economic activities which might take place in the mapped area.
- Farming or agriculture: Presence of open fields and plantations indicate crop cultivation.
- Fishing: Rivers and swamps in the area support small-scale fishing activities.
- Lumbering: Forested areas shown on the map suggest potential for logging.
- Trade and transport: Presence of motorable roads and markets facilitates trade and movement of goods.
  - Livestock keeping: Open grassland areas and presence of scattered settlements support grazing and livestock keeping.

8. Study the following photograph and answer the questions that follow:

(a) Giving two reasons, name the type of photograph.

The type of photograph is a ground photograph. This is because all objects appear at the same level with the camera, and the photograph was taken from the ground level where buildings, trees, and roads appear in a side view.

(b) Suggest the type of settlement pattern and give one factor that has influenced it.
The type of settlement pattern is nucleated settlement. This pattern has been influenced by the availability of social services and infrastructure such as roads, electricity, and water which attract people to settle close to each other.

(c) Suggest two economic activities that might take place in the area.
One economic activity is small-scale retail trade since the buildings may contain shops or kiosks. Another possible activity is informal employment such as domestic work or construction, given the dense housing which implies high population concentration.

(d) Provide three advantages of photographs over map.
Photographs give a real-life image of an area, showing actual features and objects as they appear on the ground.
They are easier to interpret because they do not require advanced map-reading skills.
Photographs can show temporary features such as vehicles or people which are not included on maps.

9. Explain five factors which influence the distribution of natural forests in the world.

The first factor is climate. Areas with high rainfall and moderate temperatures such as the Amazon basin and Congo rainforest support dense natural forests due to favorable conditions for tree growth.

The second factor is altitude. Forests tend to change with altitude; for instance, tropical rainforests may be found in lowland areas while montane forests dominate high-altitude zones like the slopes of Mount Kilimanjaro.

The third factor is soil fertility. Fertile soils rich in nutrients encourage the growth of various tree species. Forests are more developed in regions with volcanic or alluvial soils such as parts of Indonesia and Central Africa.

The fourth factor is topography. Gentle and flat areas support the growth of dense forests while steep and rocky terrains may limit forest distribution due to poor anchorage and limited soil cover.

The fifth factor is human activities. Conservation measures can promote forest growth while logging, agriculture, and urbanization reduce forest coverage, especially in developing countries.

10. Analyse five ways of promoting textile industry in Tanzania.

The first way is improving infrastructure. Building better roads, railways, and ports can help transport raw materials such as cotton and finished textile products efficiently within and outside the country.

The second way is provision of financial support. Offering loans and subsidies to textile industries can help them upgrade machinery and expand their operations to increase production.

The third way is training and education. Establishing technical schools and workshops will equip workers with necessary skills in textile production and management, increasing the quality and quantity of output.

The fourth way is protecting local industries. Enforcing policies like import tariffs and banning secondhand clothes can reduce competition from foreign products and allow local industries to grow.

The fifth way is expanding markets. Through regional integration and international trade agreements, Tanzania can export textile products to other countries, increasing demand and boosting production.

11. Describe seven problems associated with rapid urbanization.

The first problem is housing shortage. Rapid increase in urban population leads to lack of adequate housing, resulting in the growth of slums and informal settlements.

The second problem is unemployment. Urban centers may not provide enough jobs to match the population growth, causing poverty and increase in street vendors and petty crimes.

The third problem is traffic congestion. Poorly planned road networks become overcrowded with vehicles, causing delays and increased fuel consumption.

The fourth problem is poor sanitation. Overcrowded settlements often lack proper sewage systems and waste disposal facilities, leading to environmental pollution and health hazards.

The fifth problem is inadequate water supply. The demand for clean water increases rapidly and may exceed the supply, especially during dry seasons.

The sixth problem is environmental degradation. Rapid construction and industrial growth lead to deforestation, pollution, and loss of green spaces in cities.

The seventh problem is strain on social services. Hospitals, schools, and recreational centers may be insufficient to serve the growing population, reducing the quality of life.

12. Examine seven effects of climatic change in the world.

The first effect is rise in global temperatures. This leads to increased heatwaves which affect human health, agriculture, and livestock in many parts of the world.

The second effect is melting of polar ice caps. This causes the sea level to rise, threatening low-lying coastal areas with flooding and erosion.

The third effect is prolonged droughts. Many regions experience less rainfall which leads to water shortages, famine, and desertification especially in Africa.

The fourth effect is increase in severe weather events. More frequent hurricanes, cyclones, and floods cause loss of lives, displacement of people, and damage to property.

The fifth effect is change in agricultural patterns. Climatic change affects crop yields, planting seasons, and livestock productivity, leading to food insecurity.

The sixth effect is extinction of species. Animals and plants that cannot adapt to new climatic conditions are threatened, leading to loss of biodiversity.

The seventh effect is increase in diseases. Warm temperatures and stagnant waters create favorable conditions for the spread of diseases such as malaria, cholera, and dengue fever.