

**THE UNITED REPUBLIC OF TANZANIA**  
**NATIONAL EXAMINATIONS COUNCIL OF TANZANIA**  
**CERTIFICATE OF SECONDARY EDUCATION EXAMINATION**

**013**

**GEOGRAPHY**

(For Both School and Private Candidates)

**Duration: 3 Hours**

**SOLUTIONS**

**Year: 2025**

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**Instructions**

1. This paper consists of sections A, B and C with a total of **eleven (11)** questions.
2. Answer **all** questions in section A and B and **two (2)** questions from section C.
3. Section A carries **sixteen (16)** marks, section B **fifty four (54)** marks and section C **thirty (30)** marks.
4. All writing must be in **blue** or **black** ink **except** drawing which must be in pencil.
5. Map extract of Kazikazi (Sheet 140/1) is provided.
6. Programmable calculators, Communication devices and any unauthorised materials are **not** allowed in the examination room.
7. Write your **Examination Number** on every page of your answer booklet(s)

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## SECTION A

Answer all questions in this section.

1. For each of the items (i) to (x), choose the correct answer from among the given alternatives.

(i) Suppose the local time at Greenwich Meridian (0) is 11:00 am on Wednesday, what will be the time and day at longitude 180°E?

- A. 11:00 pm, Wednesday
- B. 12:30 pm, Tuesday
- C. 11:00 am, Thursday
- D. 11:00 pm, Thursday

Correct answer: C. 11:00 am, Thursday

Reason: Longitude 180°E is 12 hours ahead of Greenwich. Adding 12 hours to 11:00 am Wednesday gives 11:00 pm Wednesday, and crossing the International Date Line adds one day, making it Thursday at 11:00 am.

(ii) Halisafi prefers to use environmentally friendly energy resources for cooking in his restaurant. Which type of energy resource is Halisafi using?

- A. Fuel wood
- B. Petroleum
- C. Natural gas
- D. Nuclear

Correct answer: C. Natural gas

Reason: Natural gas is cleaner and more environmentally friendly compared to fuel wood and petroleum which cause pollution and deforestation.

(iii) The Form Four students were observing a photograph of an extensive land in Australia where Merino sheep are cared for production of wool. How is that type of livestock keeping called?

- A. Transhumance
- B. Nomadism
- C. Ranch
- D. Sedentary

Correct answer: C. Ranch

Reason: Ranching involves keeping livestock on large areas of land, common in Australia for sheep rearing.

(iv) Asha was travelling by air across the Sahara Desert and observed crescent shaped features in groups developed by obstruction such as rocks. What could be the features she observed?

- A. Seif dunes
- B. Barchans
- C. Loess
- D. Zeugens

Correct answer: B. Barchans

Reason: Barchans are crescent shaped sand dunes formed in deserts where wind direction is constant and there is an obstacle.

(v) Areas along the equator receive more rainfall than areas away from it. What is the main cause of that rainfall?

- A. High atmospheric pressure
- B. High humidity

- C. Low temperature
- D. High evaporation

Correct answer: B. High humidity

Reason: The equatorial region experiences intense heating leading to high humidity and convectional rainfall.

(vi) Which one among the following is not the cause of environmental degradation in Tanzania?

- A. Deforestation
- B. Use of inorganic fertilizers
- C. Disposal of industrial chemicals
- D. Afforestation

Correct answer: D. Afforestation

Reason: Afforestation involves planting trees which helps conserve the environment rather than degrading it.

(vii) Masalamengi is a farmer in Shinyanga and travelled to Mikumi National Park for leisure. Who is Masalamengi in Mikumi National Park?

- A. Farmer
- B. Researcher
- C. Tourist
- D. Geographer

Correct answer: C. Tourist

Reason: A person visiting a national park for leisure is regarded as a tourist.

(viii) Mr. Kazi is an entrepreneur in Umoja village. He decided to invest in small scale paper bag manufacturing industry. The following will be the basic requirements for the location of his industry except:

- A. Availability of power supply
- B. Availability of market
- C. Availability of skilled labour
- D. Presence of religious centres

Correct answer: D. Presence of religious centres

Reason: Religious centres are not a factor for industrial location.

(ix) The rocks that are folded with one side of the limb being steeper than the other side depending on the intensity of force involved are called:

- A. Simple fold
- B. Over fold
- C. Asymmetrical fold
- D. Overthrust fold

Correct answer: C. Asymmetrical fold

Reason: Asymmetrical folds have limbs that are unequal in steepness due to unequal compressional forces.

(x) Mama Huruma has given birth to twelve children. The ability of Mama Huruma to give birth is referred to as:

- A. Mortality
- B. Fertility
- C. Population
- D. Migration

Correct answer: B. Fertility

Reason: Fertility refers to the ability to give birth to children.

2. Match the description of time zone in List A with its respective name in List B.

List A	List B
(i) Time recorded along the same longitude.	A. Greenwich Mean Time
(ii) Geographical area where the standard time is normally used.	B. International Date Line
(iii) Different stretches of land take their time from agreed meridians.	C. Latitude and Longitude
(iv) The line where date is changed when crossing it.	D. Standard time
(v) The local time at Longitude 0 across the globe.	E. Local time
(vi) The line which divides the Earth into East and West.	F. Time zone
	G Great circles
	H Prime Meridian

**ANSWERS** (i) C (ii) D (iii) E (iv) B (v) A (vi) F

## SECTION B

Answer all questions in this section.

3. (a) Name four physical features found on the given map.

Rivers, hills, valleys, forests.

(b) Calculate the area covered by the map in km<sup>2</sup>.

Scale is 1:50,000. One grid square represents 1 km by 1 km. Counting the full map grid gives 10 km by 10 km.

Area = 10 km × 10 km = 100 km<sup>2</sup>.

(c) What is the general direction of flow of the river from grid reference 215785 to 267720?

The river flows from North East to South West.

(d) What is the main possible factor that controls the direction of the river in (c)?

Relief or slope of the land.

4. (a) Describe the concept of research.

Research is a systematic process of collecting, analyzing, and interpreting data in order to discover new facts or improve existing knowledge.

(b) Using eight points, explain the importance of research.

Helps in problem solving.

Improves decision making.

Promotes technological development.

Enhances academic knowledge.

Supports planning and policy making.

Encourages innovation.

Improves productivity.

Helps in understanding social and environmental issues.

5. (a) Using a well labeled diagram, illustrate fold mountains.

Description: Fold mountains consist of anticlines and synclines formed due to compressional forces.

(b) Describe how fold mountains are formed.

Fold mountains are formed when two tectonic plates collide, causing rock layers to compress, bend, and fold upwards.

(c) Give three importance of fold mountains to societies.

Source of minerals.

Tourism attraction.

Source of rivers.

6. (a) Describe the type of photograph.

It is an oblique ground photograph.

(b) Propose the climate of that area.

Semi arid climate.

(c) Mention three environmental impacts of the activity taking place at the foreground.

Deforestation.

Soil erosion.

Loss of biodiversity.

(d) Mention four alternative sources of energy which can be used by those people.

Solar energy.

Wind energy.

Biogas.

Hydroelectric power.

7. (a) Mention the atmospheric conditions learned by him.

Weather and climate.

(b) Differentiate the atmospheric conditions mentioned in (a).

Weather refers to short term atmospheric conditions.

Climate refers to average atmospheric conditions over a long period.

(c) Using four points, explain the importance of predicting weather.

Helps farmers plan activities.

Reduces disaster risks.

Supports aviation and marine transport.

Assists in planning daily activities.

8. Scores: 82, 74, 35, 54, 42, 63, 33, 65, 52, 58, 60, 71, 35, 62, 58, 47, 51, 72, 56, 58, 64, 42, 59, 61, 31.

(a) Frequency distribution table:

Class interval	Frequency
30 – 39	4
40 – 49	3
50 – 59	7
60 - 69	6
70 – 79	4
80 – 89	1

(b) Modal class

50 to 59.

(c) Explain two disadvantages of the modal class.

It may not represent all data accurately.

It ignores extreme values.

## SECTION C

Answer two questions.

9. Amani measured distances, angles, directions and elevation in order to position his livestock sheds and a storage building. Describe five objectives of the activity.

The activity described is surveying. One objective of surveying is to measure distances accurately. Accurate measurement of distances helps in proper spacing of buildings such as livestock sheds and storage facilities, ensuring efficient use of land and avoidance of congestion.

Another objective of surveying is to determine directions. Knowing directions helps in orienting buildings correctly, for example positioning structures to face prevailing winds or sunlight, which is important for ventilation and comfort.

Surveying also aims at determining elevations and slopes of the land. This helps in identifying suitable areas for construction, avoiding steep slopes or flood prone lowlands which may affect the safety and durability of buildings.

Another objective of surveying is to prepare maps and plans. Survey data is used to draw maps that guide construction activities and future land use planning, ensuring systematic development.

Finally, surveying helps in defining boundaries of land. Clear boundary identification prevents land conflicts and ensures that all constructions are done within legally owned land.

10. Suppose you have enough capital and you want to invest in large scale mining in Tanzania, describe six necessary factors to be considered before starting the project.

One important factor to consider is the availability and quality of mineral deposits. Large scale mining can only be viable if sufficient quantities of minerals exist to justify long term investment and operational costs.

Another factor is availability of capital. Large scale mining requires heavy investment in machinery, infrastructure, labor, and technology, so adequate financial resources are essential for successful operation.

Transport infrastructure is also a key factor. Reliable roads, railways, or ports are needed to transport raw materials to processing centers and finished products to markets efficiently and at low cost.

Government policies and legal requirements must be considered. Mining activities require licenses, adherence to mining laws, taxation policies, and compliance with national regulations to avoid legal challenges.

Availability of skilled labor is another factor. Mining operations require engineers, geologists, machine operators, and safety officers to ensure efficient and safe extraction of minerals.

Lastly, environmental impact assessment is crucial. Mining can cause environmental degradation, so measures must be planned to reduce pollution, land degradation, and harm to nearby communities.

10. Suppose you are invited to the National Environmental Meeting to explain on man influence on global climate change. Explain three causes of the problem and suggest four possible measures to be applied.

One major cause of global climate change is deforestation. Cutting down trees reduces the absorption of carbon dioxide from the atmosphere, leading to increased greenhouse gases and rising global temperatures.

Another cause is burning of fossil fuels such as coal, oil, and natural gas. These fuels release large amounts of carbon dioxide and other greenhouse gases during combustion, contributing significantly to global warming.

Industrial activities also contribute to climate change. Industries emit gases such as carbon dioxide and methane, which trap heat in the atmosphere and alter global climate patterns.

One important measure to reduce climate change is afforestation and reforestation. Planting trees helps absorb carbon dioxide from the atmosphere and restores degraded ecosystems.

Another measure is the use of renewable energy sources such as solar, wind, and hydroelectric power. These sources produce little or no greenhouse gases compared to fossil fuels.

Environmental education is also essential. Educating people about climate change encourages responsible behavior such as energy conservation and environmental protection.

Lastly, international cooperation is necessary. Climate change is a global problem, so countries must work together to reduce emissions, share technology, and enforce international environmental agreements.