ISESE
FORM TWO EXAMINATION
GEOGRAPHY MARKING GUIDE

SECTION A (15 MARKS)
Answer ALL questions

1. **@ 01 mark = 10 marks**

I	ii	iii	Iv	V	vi	vii	viii	ix	x
D	C	C	B	B	B	C	A	C	C

2. **@ 01 mark = 05 marks**

i	ii	Iii	Iv	v
C	D	E	F	A

SECTION B (70 Marks)
Answer ALL questions in this section

3. a. The relief is highland ranging from in altitude between 1140m and 1300m (grid reference 836845) above the sea level which indicate plateau. Also the land is genelary sloping north – east to western and southern part where by north eastern part is mostly elevated land while western southern part is lowland plateau with many streams and seasonal swamps. **2 mark**

b. The highest point on the given map is 1300m, grid reference 835846 and its direction is north east **1 mark**

c. The general direction of slope of and is decreasing from north east through central part to the west and south**1 mark**

d. Scale 1:50,000 to change it into statement scale
1cm equal to 50,000cm
1km = 100,000cm
X = 50,000cm

$$\frac{1km \times 50{,}000cm}{100{,}000\ cm} = \frac{100{,}000cm\ x}{100{,}000cm}$$

X=0.5km
1cm represent 0.5km
6.2cm=? X
X=6.2km
Then 1cm = 0.5 km
6.2cm = X

$$\frac{6.2cm \times 0.5km}{1cm} = 3.1km$$

The total distance is 3.1km × 2 = 6.2km
Note Multiply by 2 because the distance of travelling car was turn back **3. mark**

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(e) $Gradient = \frac{Vertical\ increase}{Horiontal\ increase}$

$Gradient = \frac{1300m - 1160m}{16cm} = 140m$

Then apply map scale 1cm = 0.5km

$\frac{140m}{16cm \times 0.5km}$

Gradient = 140m/8km

Ikm = 1000m

Gradient =140m/8000m = 1/57

Gradient = 1 in 57 **3 mark**

4. a) **2 marks**

Continental landforms	Oceanic landforms
i. Features found on the mainland or islands above sea level. ii. **Mount Kilimanjaro** (Volcanic mountain), **The Sahara Desert** (Basin/Plain).	Features found on the seabed beneath the ocean surface **The Southwest Indian Ridge**, **The Guinea Basin**.

(b)**Formation of the Great Rift Valley @ 1.5 marks = 03 marks**

The Great Rift Valley in East Africa was formed through tectonic processes involving the following two distinct methods:

i. Tensional Forces (The Displacement Theory)

When the Earth's crust is pulled apart by tensional forces, parallel faults or cracks develop. The central block between these faults sinks or subsides relative to the side blocks. This subsided middle section forms a long, narrow depression known as a **Graben** or Rift Valley.

ii. Compressional Forces

In some instances, lateral pressure (compression) pushes the Earth's crust inward. This causes the side blocks to be pushed up over the central block. As the central block is forced downward or held in place while the sides rise, a deep valley is formed between the uplifted masses.

(c) (i) **Plateau:** An elevated flat-topped area (tableland) that rises abruptly above the surrounding land on at least one side. It is characterized by high altitude and often steep cliffs (escarpments).**WHILE Plain:** A broad area of relatively flat or low-lying land with very little relief. Unlike plateaus, plains are generally found at lower altitudes and lack the steep, elevated edges of a tableland. **03 marks**

(ii) Human Settlement: Plains vs. High Plateaus 02 marks

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Human settlements are more densely concentrated on plains than on high plateaus for several geographical and economic reasons:

i. **Ease of Infrastructure and Construction:** Plains possess flat or gently undulating terrain, which makes the construction of transport networks (roads, railways) and buildings significantly cheaper and easier than on the rugged or steep edges of high plateaus.

ii. **Agricultural Productivity:** Plains often consist of deep, fertile alluvial soils deposited by rivers. Additionally, the flat terrain facilitates large-scale irrigation and mechanized farming, whereas high plateaus may have thinner soils and harsher, cooler climates that limit crop variety.

5. (a) The theory described in the statement is the **Big Bang Theory**. **1.5 mark**

(b) **The Concept of Big Bang Theory** The Big Bang Theory is the leading cosmological explanation for how the universe began. It suggests that approximately 13.8 billion years ago, the entire universe was concentrated into a **singularity**—a point of infinite density and intense heat.

The "Bang" does not refer to a conventional explosion but rather a **rapid expansion** of space itself. As the universe expanded, it began to cool down, allowing energy to convert into subatomic particles and eventually atoms. Over billions of years, gravity pulled these materials together to form stars, galaxies, and all known celestial structures. The theory is supported by key evidence such as **Redshift** (galaxies moving away from us) and **Cosmic Microwave Background Radiation** (the afterglow of the initial heat). **04 mark**

(c) **Critique of the Theory** While widely accepted, the Big Bang Theory faces several scientific critiques and unanswered questions: **@ 1.5 marks = 4.5 mark**

- The theory does not explain *what* existed before the expansion or what triggered the initial event.
- Standard Big Bang expansion does not explain how distant parts of the universe could have exchanged heat to reach this equilibrium so quickly.
- The theory relies heavily on the existence of dark matter and dark energy to explain the current rate of expansion and galactic movement, yet neither has been directly observed or fully understood.

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6. **(a) Photograph Division**

i. Foreground: This part is dominated by a high concentration of **plastic bottles, containers, and various solid waste** scattered across the sandy shore.

ii. Middle ground: This part is dominated by the **shoreline where the water meets the land**, showing a continuation of the debris line along the coast and the calm surface of the sea.

iii. Background: This part is dominated by **arid, sandy hills or dunes** under a clear blue sky, with faint mountain ranges visible in the far distance. **@ 1mark = 3 marks**

(b) Environmental Problem Identification

(i) Identify the problem: The problem depicted is **Marine Pollution** (specifically **solid waste/plastic pollution** in a coastal environment).**01 mark**

(ii) Evidence from the photograph: @ 1mark = 2 marks

1. The presence of hundreds of **non-biodegradable plastic bottles** and synthetic containers strewn across the beach.
2. Accumulations of **processed wood scraps and assorted litter** washed up along the high-tide mark, indicating the water is carrying significant amounts of waste.

(c) Fieldwork Risks and Mitigation Dangers @ 1 mark = 2 marks

- **(i) Physical injury from sharp objects:** The site contains broken plastics, metal scraps, or potentially hidden glass that can cause cuts or punctures.
- **(ii) Health hazards/Infections:** Debris often harbors bacteria, medical waste, or chemical residues that could be harmful if touched or inhaled.

Mitigation @ 1 mark = 2 marks

- **(i) Protective Gear:** Students should be required to wear **heavy-duty gloves and thick-soled boots** to protect hands and feet from sharp materials.
- **(ii) Safety Protocols:** Implement a strict **"no-touch" policy** for unidentified objects and provide hand sanitizer or portable washing stations for use immediately after the activity.

7. (a)Rock A: Igneous Rock.
Rock B: Sedimentary Rock.
Rock C: Metamorphic Rock. **3mark = @ 1 mark**

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(b)Rock B is a sedimentary rock formed through the deposition and lithification of sediments. The shells and fragments (fossils) were trapped between layers of sediment over a long period during the rock formation process. **2mark**

(c)The process is called metamorphism. The limestone was subjected to high temperature and pressure (likely from volcanic activity or tectonic movements), causing it to change its physical and chemical properties into a new rock (Marble). **2mark**

(d)Importance of rocks

i. Tourism: Features like the Kopjes in Serengeti attract tourists. **3mark= @ I mark**

ii. Mining and Construction: Rocks provide building materials (like gravel/aggregates) and gemstones.,,

8. (a) Mention that temperature decreases with height (Normal Lapse Rate: 6.5℃ per 1000m). **1.5mark**

(b) Troposphere. **1mark**

Characteristics: i. Contains water vapor/clouds;

ii. Contains oxygen for respiration.

iii. Temperature decrease with increase of altitude**2mark**

(c) (i) **Stratosphere**. **1mark**

(ii) - Reducing use of CFCs (aerosols/refrigerants),

-planting trees

- reducing industrial pollution. **3mark**

(d) Decrease in Oxygen (O2) and increase in Carbon Dioxide (CO2), leading to an enhanced greenhouse effect/global warming. **1.5mark**

9. **(a) Definition of Coral Reefs**

Coral reefs are underwater structures or ridges made of calcium carbonate (limestone) secreted by tiny marine organisms known as **coral polyps**. **2mark**

(b) Main Types of Coral Reefs @ 1mark = 3 marks

There are three primary types of coral reefs, typically classified by their physical structure and distance from the shore:

i. **Fringing Reefs:** These are the most common type. They grow directly from the shoreline or are separated from the coast by a very shallow, narrow lagoon. They form a "fringe" along the coast of islands or continents.

ii. **Barrier Reefs:** These run parallel to the coastline but are separated from the shore by a wide, deep lagoon. The "barrier" acts as a protector for the shoreline against heavy waves. The Great Barrier Reef in Australia is the most famous example.

iii. **Atolls:** These are circular or horseshoe-shaped reefs that surround a central lagoon. They usually form when a volcanic island sinks beneath the sea level, but the coral continues to grow upward toward the surface.

(c) Conditions Necessary for Growth . (Any four points @ 0.5 mark = 2 marks)

Coral polyps are very sensitive organisms and require specific environmental conditions to thrive:

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i. **Warm Water Temperature:** Corals generally require sea temperatures between **20°C and 30°C**. They do not grow well in cold water.
ii. **Shallow Water:** They need to be in water less than **50 meters deep** so that sunlight can reach the *zooxanthellae* (algae) that live inside the coral and provide them with food through photosynthesis.
iii. **Clear, Saline Water:** The water must be salty and free of sediment (silt/mud). Muddy water blocks sunlight and can smother the polyps.
iv. **Strong Wave Action:** Corals need oxygenated water and a constant supply of microscopic food, which is brought to them by the movement of waves and currents.
v. **Solid Substrate:** There must be a firm, rocky surface on the sea floor for the coral larvae to attach to and begin building their colonies.

(d) Measures to Conserve and Protect Coral Reefs. **(Any three points @ 1mark =3 marks)**
Given the human activities observed (fishing and tourism), the following measures are essential:

i. **Banning Destructive Fishing Methods:** Strictly prohibiting the use of dynamite fishing or beach seine nets which physically shatter the reef structures and kill non-target marine life.
ii. **Establishing Marine Protected Areas (MPAs):** Creating "no-take zones" or marine parks where fishing and certain tourist activities are regulated to allow the reef ecosystem to regenerate without human interference.
iii. **Pollution Control and Waste Management:** Preventing the discharge of untreated sewage and industrial chemicals into the ocean. Reducing land-based runoff (siltation) from coastal construction and farming is also vital to keep the water clear for coral growth.

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SECTION C(15 marks)
Answer question **number ten (10)** in this section

10. In desert environments, wind erosion is a powerful geological force, primarily through the processes of **abrasion** (sandblasting) and **deflation** (removal of loose particles). Here are six main landforms created by wind erosion:

1. Mushroom Tables (Rock Pedestals)
These are pillar-like rocks with a wide top and a narrow base, resembling a mushroom. They form because wind-borne sand is heavier and more concentrated near the ground (usually within 1 meter). As a result, the lower part of the rock is eroded much faster than the upper part, leaving a "table" top.

2. Zeugens
Zeugens are ridge-and-furrow landforms that develop in areas where horizontal layers of hard rock lie on top of softer rock. When the wind finds cracks in the hard top layer, it eats away at the soft rock beneath, creating long, parallel trenches (furrows) separated by flat-topped ridges (zeugens).

3. Yardangs
Similar to zeugens, yardangs are also ridges of rock. However, they form in areas where layers of hard and soft rock are arranged **vertically** (perpendicular to the ground) and parallel to the direction of the prevailing wind. The wind carves out the softer rock into long corridors, leaving the hard rock standing as sharp, streamlined ridges.

4. Ventifacts

These are small rocks or pebbles that have been polished, pitted, or faceted by the constant "sandblasting" effect of wind-blown sand. If the wind blows consistently from one direction, it creates a flat, smooth face on the rock. If the wind direction changes or the rock shifts, it may develop multiple smooth faces and sharp edges.

5. Deflation Hollows

A deflation hollow is a large depression or "basin" in the desert floor. This occurs when the wind blows away loose, dry, and fine-grained particles (sand and dust) from a specific area. Over time, the surface is lowered. In some cases, the wind digs deep enough to reach the water table, creating a fertile spot known as an **oasis**.

6. Inselbergs

Inselbergs (from the German word for "island mountain") are isolated, steep-sided rock hills or small mountains that rise abruptly from a flat desert plain. They are the remnants of an original plateau that has been eroded over millions of years. The surrounding softer material is stripped away by wind and water, leaving these hard, resistant rock "islands" standing alone.

CONCLUSION : Consider any relevant conclusion

MARKS ALLOCATION

Introduction .....1.5 marks

Main body…..... 2 marks @ x 6 = 12 marks

Conclusion..... 1.5 marks

Total marks..... 15 marks

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INTERSECONDARY SCHOOLS EXAMINATION SERIES
ISESE TIME TABLE
FORM TWO PRE NECTA SERIES 01
13th July – 18th July 2026

DATE	SUBJECT(S)
13th July	HISTORY + B.STUDIES
14th July	BIOLOGY + ENGLISH
15th July	CHEMISTRY + HTM
16th July	PHYSICS + KISWAHILI
17th July	MATHEMATICS + GEOGRAPHY
18th July	COMPUTER SCIENCE

GHARAMA

*** SOMO MOJA KWA KIDATO KIMOJA = 20,000/= KWA MUHULA MZIMA

*** FULL SET KWA KIDATO KIMOJA (KWA MASOMO 11 TU) = 150,000/= KWA MUHULA MZIMA

ZINGATIA :-

*** GHARAMA ZA MITIHANI HUPANDA KADRI PRE-NECTA SERIES ZITAKAVYOKUWA ZINAENDELEA KUFANYIKA HIVYO LIPIA MAPEMA ILI KUEPUKA USUMBUFU

*** PRE-NECTA SERIES ZITAKUWA ZAIDI YA 10

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