Term 2 - 2023

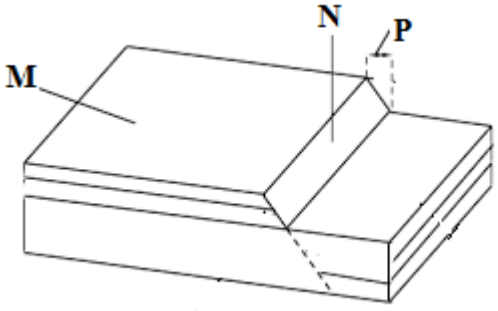
GEOGRAPHY

MARKING SCHEME FORM FOUR

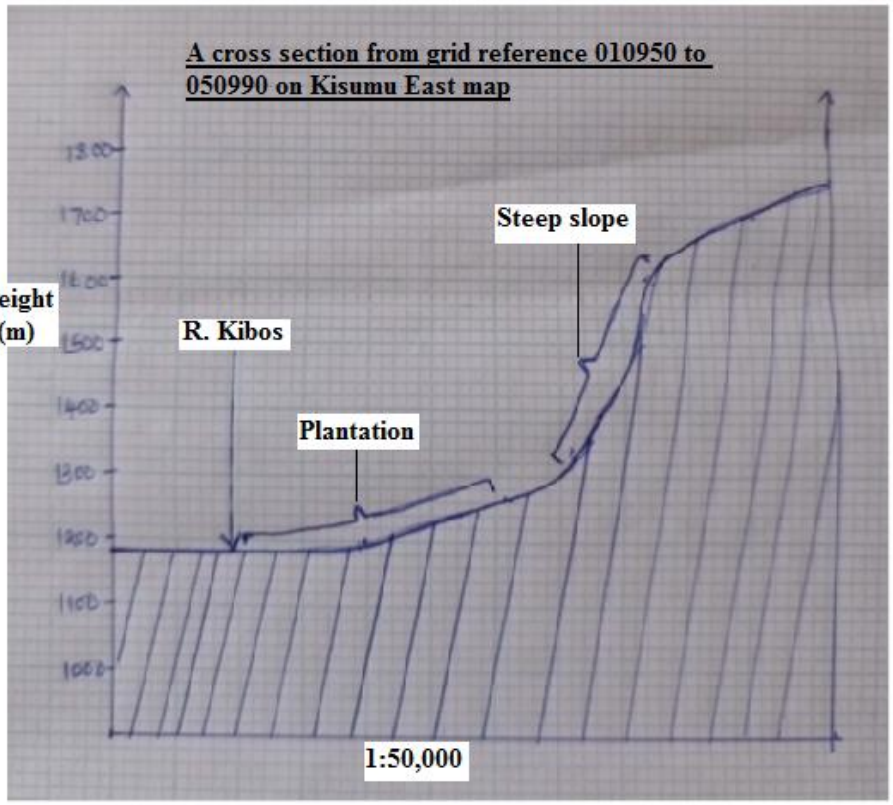
312/1

TERM TWO

2023

1. (a)	**What is an eclipse?** ▪ This is a shadow cast on earth or moon by a heavenly body that comes between the sun and the earth or the moon.	1×2=2 marks
(b)	**State three characteristics of comets.** ▪ They have a head and long tail ▪ The heads are made of dust, rock and frozen gases ▪ The tails are made of gases pointing away from the sun ▪ Their orbits are oval in shape ▪ Their orbits cross orbits of the planets	3×1=3 marks
2. (a)	**Name two examples of prevailing winds found in the northern hemisphere.** ▪ North East trade winds ▪ South West winds/Westerlies ▪ North East polar winds/Easterlies	2×1=2 marks
(b)	**Give three ways in which sea breezes influence the adjacent land.** ▪ Lowers temperature of adjacent land ▪ May increase rainfall ▪ Increased humidity ▪ Moderate diurnal range of temperature	3×1=3 marks
3. (a)	**The diagram below shows some features that result from faulting. Use it to answer questions (a) and (b).**  **Identify the parts marked M and P.** ▪ M – Upthrow ▪ P – Heave	2×1=2 marks
(b)	**Name three examples of the feature marked N in Kenya.** ▪ Elgeyo Marakwet ▪ Nandi ▪ Kikuyu ▪ Nyandarua/Aberdares	

	• Nyando • Kedong • Nguruman	3×1=3 marks
4. (a)	**Give two ways in which wind transports its load in arid areas.** • Suspension • Saltation • Surface creep/Rolling	2×1=2 marks
(b)	**State three factors that encourage wind erosion in desert areas.** • Presence of loose unconsolidated materials • Occurrence of strong winds/desert storms • Absence of vegetation cover	3×1=3 marks
5. (a)	**Identify two types of glaciers** • Valley glacier • Cirque glacier • Piedmont glacier • Ice sheet/Continental glacier/Ice cap	2×1=2 marks
(b)	**Describe how glacial erosion occurs through plucking process.** • Ice freezes into the cracks within the rocks • The cracks are enlarged leading to disintegration of the rocks • The rocks are pulled off and carried by moving ice.	3×1=3 marks
6. (a)	**Study the map of Kisumu East 1:50,000 (sheet 116/2) provided and answer the following questions.** **(i) What is the four figure grid reference of Bonjoge school?** • 0498	1×2=2 marks
	(ii) Measure the length of the road B 25/3 from trigonometrical station SKP 21 eastwards. Give your answer in kilometres. • 6.8±0.1 Km	1×2=2 marks
	(iii) Give three types of natural vegetation found in the area covered by the map. • Woodland • Scrub • Scattered trees • Papyrus vegetation	3×1=3 marks
(b)	**(i) Give the altitude of the highest point within Nyando escarpment.** • 1872 metres	1×1=1 mark
	(ii) Identify two human-made features in grid square 0194. • Settlement • All weather road • Motorable track • Bridge • Power transmission line • Plantation	2×1=2 marks
(c)	**Using a vertical scale of 1cm to represent 100 metres;** **(i) Draw a cross section from grid reference 010950 to 050990.**	



Title – 1 mark
Y – axis labeled – 1 mark
Horizontal – 1 mark
Start point/end point – 1 mark

(ii) On the cross section, mark and name the following;

- River Kibos - 1 mark
- Sugar cane plantation - 1 mark
- Steep slope - 1 mark

(iii) Calculate the vertical exaggeration of the cross-section.

- $VE = \frac{VS}{HS}$

$= \frac{1:10,000}{1:50,000}$

$= 5$ times

1×2=2 marks

(d) **Citing evidence from the map, explain three factors that favour trade in area covered by the map.**

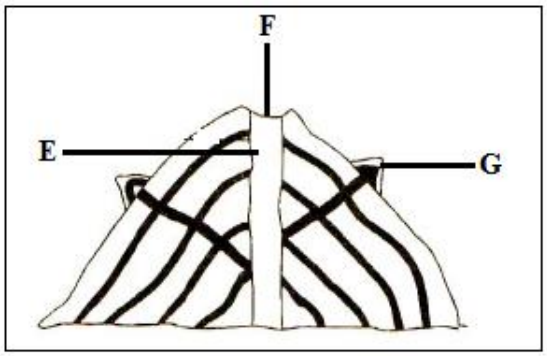
- Well-developed road and railway network e.g. road B 25/3 facilitating faster/ cheap means of transporting goods to the market.
- Large population indicated by dense settlement provides a large ready market/ high demand for the goods.
- Many market centres e.g. Rabuor and Chiga market.
- Security provision indicated by police stations/lines which ensure safety of goods and traders

3×2=6 marks

7. (a) **(i) What is a rock?**

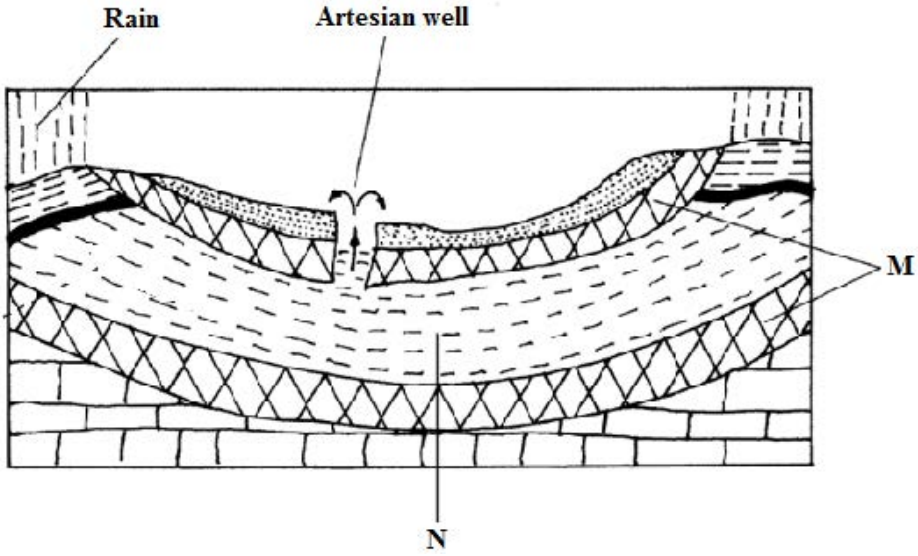
- This is an aggregate of mineral particles forming part of the earth's crust.

1×2=2 marks

	(ii) Give three characteristics of igneous rocks. · They are crystalline in nature · They are glassy in appearance · They are massive · Have no fossils	3×1=3 marks
(b)	**(i) Identify two categories of mechanically formed sedimentary rocks.** · Arenaceous · Argillaceous · Rudaceous	2×1=2 marks
	(ii) Name two major areas covered by metamorphic rocks in Kenya. · Nyika plateau · Lake Victoria basin	2×1=2 marks
(c)	**Describe the formation of rocks through the following processes;** **(i) Desiccation** · Lake water is heated and evaporates due to high temperatures · Minerals are left behind in the lake · With time the minerals accumulate in layers · Lower layers are compressed and hardened to form rocks called evaporates	4×1=4 marks
	(ii) Dynamic metamorphism · Existing rocks are subjected to high pressure caused by compressional forces · Rocks are changed in their physical appearance and character · New minerals are formed	4×1=4 marks
(d)	**Explain four significance of rocks to the economy of Kenya.** · Rocks such as phonolites and sand are used as building materials · Some rocks form beautiful features that attract tourists earning foreign exchange to the country · Rocks weather to form rich soils for agriculture · Some rocks provide reservoir for storing underground water which can be harnessed for domestic use · Some rocks contained valuable minerals which are extracted · Rocks such as limestone provide raw materials for cement manufacturing	4×2=8 marks
8. (a)	**(i) Define earth movements.** · Displacement/shifting of the crustal rocks due to tectonic forces	1×2=2 marks
	(ii) Give two causes of horizontal earth movements. · Magma movement within the crust · Convectional currents in the mantle	2×1=2 marks
(b)	**The diagram below shows a composite cone. Use it to answer the questions that follow.** 	

	(i) Identify the parts labeled E, F and G. · **E –Pipe/ Main Vent** · **F** – Crater · **G –Parasitic cone/Conelet**	3×1=3 marks
	(ii) Describe how a composite cone is formed. · Due to the earth movements the rocks of the crust were disturbed leading to formation of a vent/ a central hole. · Violent vent eruption first ejected solid materials /pyroclasts which settled around the vent. · A successive eruption ejected huge masses of acidic/intermediate lava which cooled and solidified over the layer of pyroclasts to form a layer of lava. · The magma in the vent solidified, followed by a period of calm. · When another eruption occurred, the pressure inside caused the solidified magma in the vent to break into pieces which were thrown out settling to form another layer of pyroclasts. · A mass of lava followed and spreads over the pyroclasts. · This process is repeated several times resulting in the formation of a volcanic cone with alternating layer of pyroclasts and lava.	8×1=8 marks
(c)	**Members of your class are planning to carry out a field study on vulcinicity within the floor of the Kenyan rift valley.** **(i) Name three places your likely to visit.** · Menengai caldera · Mt Longonot · Mt Suswa · Lake Bogoria · Ol Karia geothermal plant	3×1=3 marks
	(ii) State four reasons why it is necessary to conduct a pre-visit to the area of study. · To design a working schedule for the study · To formulate relevant objectives and hypothesis for the study · Help in identifying appropriate tools and equipment for the study · To identify the location of features in the study area · To familiarize with the authorities in the study area · Helps in identifying likely problems during the study	4×1=4 marks
	(iii) Give three problems your likely to experience during the study. · Some students may get injured during the study · Heavy rainfall may disrupt the study · Inaccessibility of some areas due to jungle environment/steep slopes/rugged landscape · Breakdown of school bus · Attack by wild animals	3×1=3 marks
9. (a)	**(i) Name three major oceans on the earth's surface.** · Atlantic · Pacific · Indian · Arctic	3×1=3 marks

	(ii) State three characteristics of ocean currents. ▪ Warm currents flow from the equatorial region pole wards ▪ Cold ocean currents flow from the polar waters towards the tropics ▪ Cold currents are commonly found on the western coasts ▪ Warm ocean currents are found along eastern coasts of continents	3×1=3 marks
(b)	**Describe the following processes of wave erosion** **(i) Hydraulic action.** ▪ ***Compressed air action***; a wave breaks on the rock face pushing air into the cracks. The air is compressed the crack widens. As the wave retreats, pressure is released air expand explosively. This enlarges the crack. The process is repeated causing the rocks to shatter ▪ ***Direct wave force***; large amounts of water crush against the rock face, the force of water weakens and breaks up the rock	6×1=6 marks
	(ii) Solution ▪ Soluble minerals are dissolved by chemical reaction of water ▪ Dissolved minerals are carried away in solution weakening the rocks	2×1=2 marks
(c)	**Describe how a blowhole is formed.** ▪ Formed where there is a joint running from the back of the roof of a cave to the surface ▪ Wave erosion through solution and hydraulic action enlarges the joint ▪ Weathering act on the joint from the surface ▪ A vertical hole or shaft develops connecting the surface and the roof of the cave below ▪ The opening is known as blowhole	5×1=5 marks
(d)	**Explain three significance of oceans to human activities.** ▪ Areas near oceans experience high rainfall supporting agriculture ▪ Oceans are used to transport heavy and bulky goods from one place to another ▪ Ocean tides are used to generate electricity ▪ Marine life is used for education and research ▪ Oceans provide sites for recreational activities such as swimming/surfing/sport fishing	3×2=6 marks
10. (a)	**(i) What is underground water?** ▪ Water which exists below the surface of the earth	1×2=2 marks
	(ii) Give three ways in which springs form. ▪ Where a permeable rock lies on top of an impermeable rock on a hill side ▪ Where a dyke cuts across a layer of permeable rock ▪ Where a limestone rock is underlain by impermeable rock ▪ Where water enters well-jointed rocks on a hill	3×1=3 marks
(b)	**The diagram below shows artesian basin and related features. Use it to answer the questions that follow.**	

	 **(i) Identify the parts labeled M and N.** ▪ **M –** Impermeable rock ▪ **N –** Aquifer	2×1=2 marks
	(ii) State two problems associated with artesian wells. ▪ Over-exploitation due to population pressure thus reducing what is available. ▪ Global warming has led to high evaporation rates reducing underground water sources. ▪ Pollution from agro-chemicals has led to a lot of chemicals in the water that percolates to the ground. ▪ Destruction of water catchments areas interferes with hydrological cycle and reduced the amount of rainfall thus reduced underground water	2×1=2 marks
(c)	**Describe how the following features are formed.** **(i) Stalactites** ▪ They form through deposition of drops of water containing calcium bicarbonate that has seeped through joints and crevices in limestone rocks ▪ The calcite in calcium bicarbonate is deposited due to evaporation and release of carbon(iv) oxide in water ▪ Drops of calcium bicarbonate therefore crystallise and then deposited at the roof of the cave ▪ The process is repeated over time with more crystals of calcium bicarbonate being formed ▪ A column of limestone grows from the roof of the cave downwards as crystals accumulate to form a stactite.	5×1=5 marks
	(ii) Dolines ▪ Rainwater dissolves CO_2 in the atmosphere to form weak carbonic acid ▪ Weak carbonic acid reacts with calcium carbonate on the limestone joints to form small hollows (sink holes) ▪ Solution process dissolves the blocks of rocks between the hollows ▪ The hollows merge to form small basin ▪ Further solution enlarges the basin to form a large basin called	

	doline	5×1=5 marks
(d)	**You carried out a field study on a karst landscape.** **(i) Give three reasons why there were few respondents in the area of study.** ▪ Rocky surface discourage settlement ▪ Thin soils discourage agriculture hence few settlement ▪ Inadequate water supply limit settlement ▪ Rugged surface hindering construction of transport lines	3×1=3 marks
	(ii) State three follow up activities you had after the field study. ▪ Displaying photographs/samples ▪ Discussing the findings ▪ Analyzing the information collected ▪ Writing/presenting reports ▪ Further research or reading on the topic	3×1=3 marks