END TERM 2 EXAMINATION

JULY/AUGUST 2025

FORM THREE

GEOGRAPHY PAPER 1

MARKING SCHEME

1. **(a) Name two planets without satellites revolving around them.**
   - ✓ Mercury
   - ✓ Venus — 2×1 = 2 marks

   (b) State three characteristics of the sun.
   - ✓ Produces its own light
   - ✓ Made up of hot gases
   - ✓ Rotates on its own axis in an anticlockwise direction
   - ✓ Has very high surface temperatures/approximately 6000^0C
   - ✓ Radiates solar energy
   - ✓ Planets revolve around it — 3×1 = 3 marks

2. **(a) Identify the instruments used to measure the following weather elements.**

   (i) Humidity
   - ✓ Hygrometer — 1×1 = 1 mark

   (ii) Wind direction
   - ✓ Wind vane — 1×1 = 1 mark

   (b) State three factors considered when siting a weather station.
   - ✓ It should be open place away from buildings and trees
   - ✓ The ground should be relatively flat/gentle sloping
   - ✓ The area should be free from flooding
   - ✓ It should be properly fenced
   - ✓ The area should have a wide view in order to measure the elements. — 3×1 = 3 marks

3. **(a) What is earth movement?**
   - ✓ This is the displacement of crustal rocks due to tectonic forces. — 1×2 = 2 marks

(b) Give three causes of earth movements.

- ✓ Magma movement within the crust/vulcanicity
- ✓ Gravitational force
- ✓ Convectional currents in the mantle
- ✓ Isostatic adjustment 3×1 = 3 marks

4. (a) Give two forms of landslides.

- ✓ Slumping
- ✓ Debris slide
- ✓ Debris fall
- ✓ Rock slide
- ✓ Rock fall 2×1 = 2 marks

(b) State three negative effects of mass wasting on the environment.

- ✓ Landslides may lea to loss of lives when lives are buried by rock debris
- ✓ Landslides can cause damage to property
- ✓ Landslides may cause rivers to change their courses reducing water volume downstream
- ✓ Mass wasting causes land dereliction
- ✓ Mass wasting facilitates soil erosion 3×1 = 3 marks

5. a) i) What is a soil profile? (2mks)

Vertical arrangement /cross section of different layers of soil from the surface to the bedrock.

ii) Name one components of soil. (1mk)

- ✓ Soil air.
- ✓ Soil water .
- ✓ Soil organic matter/humus .
- ✓ Soil inorganic matter/minerals

iii) Differentiate between soil structure and soil texture. (2mks)

- ✓ Soil structure refers to the way the soil particles are grouped together into larger particles **while** soil texture is the size of the individual soil particles.

OR

- ✓ Soil texture is the grouping /arrangement of soil particles /aggregates **while** soil texture refers to the size of soil particles /degree of fineness or coarseness of soil particles.

6. Study the map of Mumias 1:50,000 (sheet 101/2) provided and answer the following questions.

(a) (i) Name two map sheets to the eastern part of Mumias.

- ✓ Bungoma
- ✓ Bunyala
- ✓ Yala 2×1 = 2 marks

(ii) Give six-figure grid reference of Buhuyi dam in the northern part.

- ✓ 568413 1×2 = 2 marks

(iii) What is the bearing of Mungabo school from Tingolo school?

- ✓ 050^0 or $N50^0E$ 1×2 = 2 marks

(b) (i) Give the general direction of flow of river Nzoia.

- ✓ South west 1×2 = 2 marks

(ii) Identify three human made features in grid square 5037.

- ✓ Settlement
- ✓ All weather road loose surface
- ✓ Motorable track
- ✓ Footpath/other tracks 3×1 = 3 marks

(c) Identify three types of natural vegetation in the area covered by the map.

- ✓ Woodland
- ✓ Scrub
- ✓ Scattered trees
- ✓ Riverine trees
- ✓ Papyrus swamp vegetation
- ✓ Thicket 3×1 = 3 marks

(d) Describe the relief of the area covered by the map.

- ✓ The land is generally dissected by many river valleys
- ✓ The area along river Nzoia has a wide valley
- ✓ There are islands along river Nzoia
- ✓ The lowest altitude is 1200m/highest altitude is 1368m
- ✓ There are several spurs
- ✓ The land is gently sloping 5×1 = 5 marks

(e) Citing evidence from the map, identify economic activities carried out in Mumias.

- ✓ Transport – presence of many roads e.g. C533
- ✓ Communication – telephone line along road C533
- ✓ Trade – presence of markets e.g. Mayoni/shops 3×2 = 6 marks

7. (a) (i) Differentiate between minerals and rocks.

- ✓ A mineral is an inorganic substance with a definite chemical composition that occurs naturally on or beneath the earth's surface while a rock is an aggregate of mineral particles.

1×2 = 2 marks

(ii) State five characteristics of minerals.

- ✓ Mineral have different degrees of hardness
- ✓ Minerals differ in texture
- ✓ Minerals have specific colours
- ✓ Minerals have lustre
- ✓ Minerals have different degrees of tenacity
- ✓ Some minerals aggregate into distinct crystal shapes
- ✓ Minerals differ in streak. 5×1 = 5 marks

(b) Describe how igneous rocks are formed.

- ✓ Magma from the interior of the earth escapes through lines of weakness / faults / cracks in the crystal rocks.
- ✓ On reaching the surface of the earth, the magma spreads as it cools to form volcanic/extrusive igneous rocks
- ✓ Sometimes magma may be under low pressure and hence fail to reach the surface
- ✓ Magma cools and solidifies inside the crust to form intrusive/plutonic igneous rocks.

6×1 = 6 marks

(c) Give two examples of each one of the following categories of sedimentary rocks.

(i) Mechanically formed rocks.

- ✓ *Sandstone*
- ✓ *Grit*
- ✓ *Shale*
- ✓ *Boulder clay*
- ✓ *Mudstone*
- ✓ *Siltstone* 2×1 = 2 marks

(ii) Chemically formed rocks.

- ✓ *Travertine*
- ✓ *Gypsum*
- ✓ *Rock salt*
- ✓ *Flint* 2×1 = 2 marks

(d) Explain the significance of rocks to the economy.

- ✓ In some rocks form spectacular/fascinating features that are of tourist attractions thus earning foreign exchange.
- ✓ Some rock types act as water reservoirs storing underground water that can be harnessed for domestic and industrial uses
- ✓ Rocks provide parent materials for formation of rich soils (through weathering) that are used for crop farming.
- ✓ Some rocks are used in building and construction e.g. *phonolites*
- ✓ Minerals and other valuable substances may be extracted from rocks and used to earn income as well as sources of raw materials for industries.
- ✓ Some rocks are sold in quarries hence sources of income to and improve their living standards

4×2 = 8 marks

8. (a) (i) State three causes of faulting.

- ✓ earth movements causing tension within rocks
- ✓ earth movements causing compression within rocks
- ✓ faulting can occur when rocks shear
- ✓ vertical movement in the rocks cause rocks to fracture. 3×1 = 3 marks

(ii) Differentiate between a normal fault and a reverse fault.

- ✓ a normal fault is caused by tensional forces while reverse fault is caused by compressional forces
- ✓ in a normal fault, the upthrow moves away from the downthrow while in a reverse fault, the upthrow rides over the downthrow.

2×2 = 4 marks

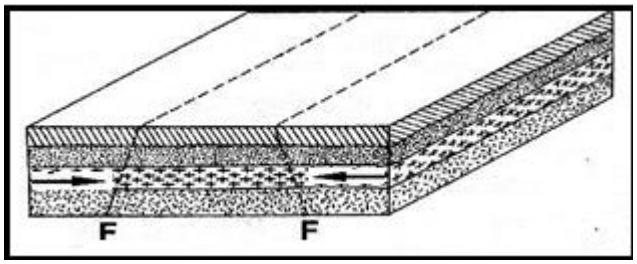
(b) (i) A part from rift valley, give two other relief features formed due to faulting.

- ✓ Tilt block

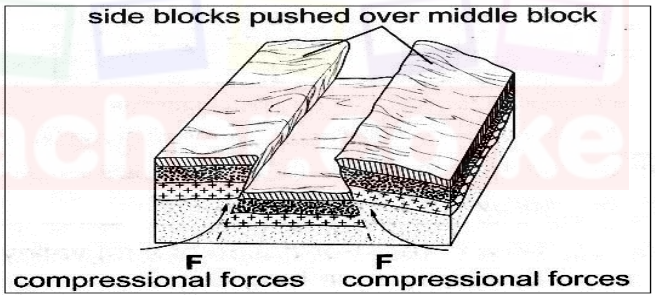
- ✓ Escarpment/scarp slope
- ✓ Block mountain/horst
- ✓ Fault steps 2×1 = 2 marks

(ii) With the aid of diagrams, describe how compressional forces can lead to formation of a rift valley.

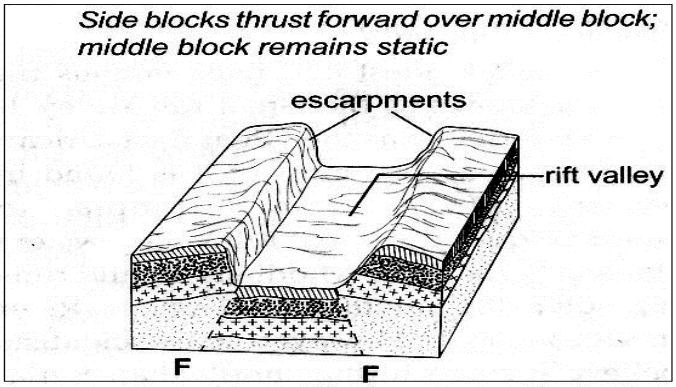
- ✓ When layers of crustal rocks are subjected to compressional forces, lines of weakness occur and forms adjacent reverse faults



- ✓ Continued compression pushes out/thrusts the outer blocks over the central/middle block to form the floor of the rift valley.



- ✓ The steep fault scarps on either side of the outer blocks are further worn out by denudation (erosion, mass wasting, and transportation) to form gentle slopes.



Text – 5 marks Diagrams – 3 marks

(c) Explain four effects of faulting on drainage.

- ✓ Uplift of the landscape/ back tilting may cause rivers to reverse their direction of flow.

- ✓ Vertical faulting across a river may cause a change in the base level resulting in the formation of a waterfall.
- ✓ Faulting can cause a river to flow along its fault lines leading to formation of fault-guided drainage pattern.
- ✓ Some rivers may disappear into the ground through a fault forming underground streams.
- ✓ Faulting may expose underground water leading to formation of springs.
- ✓ Basins/depressions resulting from faulting may be filled with water to form lakes.

4×2 = 8 marks

9. **(a) (i) What are ocean tides?**

- ✓ Ocean tides are periodic rise and fall in the level of ocean waters as a result of the gravitational attraction of the sun and the moon. 1×2 = 2 marks

(ii) Name two ocean currents along the western coast of Africa.

- ✓ Benguela
- ✓ Guinea
- ✓ Canary 2×1 = 2 marks

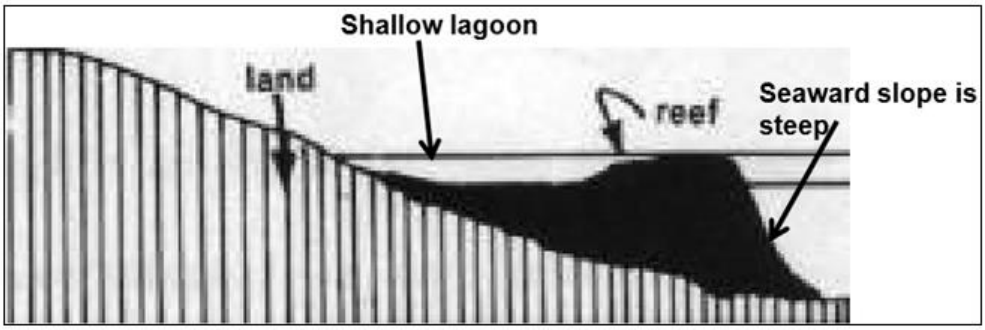
(b) State three factors that determine the rate of coastal erosion.

- ✓ duration of exposure of coast to wave erosion
- ✓ degree of exposure of the coast to wave erosion
- ✓ nature of materials transported by waves
- ✓ structure/nature of the coastal rocks
- ✓ nature/strength of the waves 3×1 = 3 marks

(c) With the aid of labeled diagrams, describe the formation of the following coastal features:

(i) Fringing reef

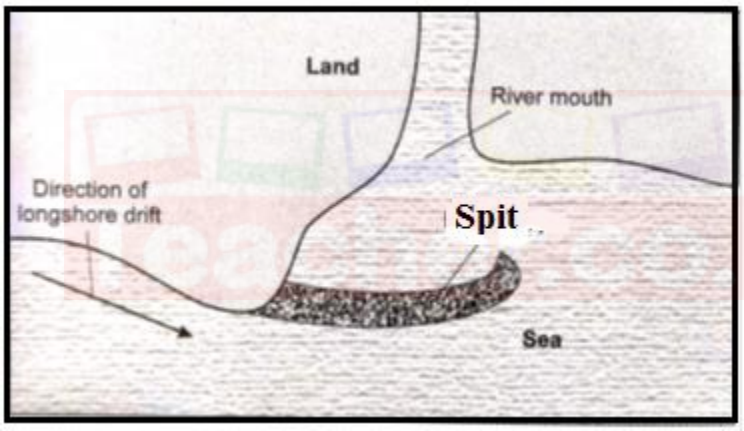
- ✓ This is a platform of coral which forms when coral polyps start building a reef near the shore.
- ✓ The reef extends seawards where the building is faster because of more food and the water is clearer.
- ✓ As the reef builds seawards, it encloses a shallow lagoon with the coast.



Text – 3 marks Diagrams – 2 marks

(ii) Spit

- ✓ The movement of materials by the longshore drift is halted by a headland and the materials piled up/deposited in the sea/ocean water.
- ✓ This continues until they bulge out with the accumulation growing towards the sea



Text – 3 marks Diagrams – 2 marks

(d) Explain the significance of oceans to human activities.

- ✓ Presence of oceans modifies climatic conditions of an area through land and sea breezes.
- ✓ Oceans provide rich grounds for subsistence and commercial fishing.
- ✓ Ocean tides and waves can be harnessed to produce tidal power.
- ✓ Oceans are natural habit for marine life/ Biodiversity conservation.
- ✓ Provides cheap free water ways to transport goods and services across continents.
- ✓ Oceans provide sites for a variety of recreational activities e.g. water skiing, cruising sport fishing and tourism.
- ✓ Oceans provide grounds for navy/ military activities
- ✓ Ocean water can be distilled to provide fresh water for domestic use
- ✓ Ocean water provide grounds for scientific/ educational research 4×2 = 8 marks

10. (a) (i) Give two classifications of deserts according to the nature of their surfaces.

- ✓ Stony/Reg/Serir
- ✓ Sandy/Erg
- ✓ Rocky/Hamada 2×1 = 2 marks

(ii) Name three hot deserts in the world.

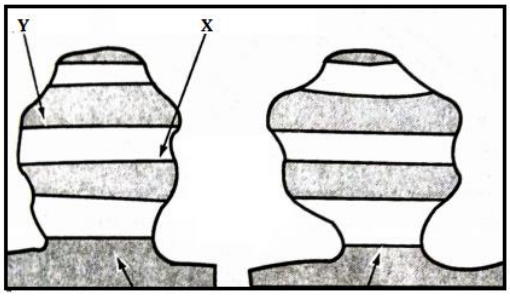
- ✓ Sahara
- ✓ Arabian Desert
- ✓ Iranian
- ✓ Syrian Desert
- ✓ Kalahari Desert
- ✓ Great Victoria Desert 3×1 = 3 marks

(b) State three factors that influence wind transportation in deserts.

- ✓ Strong winds transport more, and heavier materials and for longer distances compared to a weak wind.
- ✓ Intervening obstacles e.g. rock outcrops/desert vegetation on the path of a prevailing wind reduces its speed causing the wind to drop some of its load.
- ✓ Light particles such as fine dust is easily picked up by wind and blown to far distances/heavier load e.g. rock boulders are less picked by wind or pushed/rolled for shorter distances.
- ✓ Areas where the surface is covered by vegetation/ a water mass, the sand particles are bound together. This reduces the ability of wind to pick and transport these particles.
- ✓ Periodic changes in weather sudden short rains may interfere with transportation**.**

3×1 = 3 marks

(c) The diagrams below show the formation of a feature of wind erosion in an arid area. Use it to answer the questions that follow.



(i) **Name the parts labeled X and Y.**

- ✓ ***X*** – Resistant rock
- ✓ **Y** – Less resistant rock 2×1 = 2 marks

(ii) **Describe how the feature is formed.**

- ✓ It forms when a mass of rock with alternating layers of resistant and less resistant (heterogeneous) rocks lie horizontally in the path of wind ladened with weathered material
- ✓ The less resistant layers are heavily eroded by wind abrasion as the wind-borne materials knock on them compared to the resistant rock layers that undergo little erosion
- ✓ This differential erosion result in the formation of an irregular rock mass with protruding layers of resistant rocks alternating with layers of less resistant rocks called a rock pedestal or gour.

5×1 = 5 marks

(d) Members of your class plan to conduct a field study in an arid area in northern Kenya.

(i) State three characteristics of arid areas they are likely to observe during the study.

- ✓ Lack or has few vegetation or plant covers
- ✓ Large tracts of land covered with sand, rocks and stones
- ✓ No surface drainage
- ✓ There are dry river valleys
- ✓ Steep sided valleys/depressions 3×1 = 3 marks

(ii) Identify four features of water erosion in arid areas you are likely to study.

- ✓ Wadis/dry valleys
- ✓ Pediments
- ✓ Pediplains
- ✓ Inselbergs
- ✓ Mesas and buttes
- ✓ Gorges 4×1 = 4 marks

(iii) What problems are you likely to experience during the study?

- ✓ Large study area to inadequately cover
- ✓ Weather constraints e.g. very high temperatures from scotching sun would delay data collection
- ✓ Rugged terrain to navigate would delay the study
- ✓ Accidents in the field would delay/end the study prematurely 3×1 = 3 marks