Name : ………………… Adm. No. : ……………………..

School : ………………… Sign : ……………………..

 Date : …………………….

312/1

GEORGRAPHY

PAPER

FORM FOUR ENTRANCE MOCKS - 2013

TIME: 2 ½ HOURS

KILUNGU DISTRICT- FORM FOUR ENTRANCE MOCKS - 2013

Instructions to candidates

1. The paper has two sections: A and B
2. Answer all questions in section A
3. in section B answer questions 6 and any other two questions
4. All answers must be written in the answer booklet provided

Section A

1. (a) State two theories associated with the origin of the earth and solar system(2mks)

(b) State three effects of revolution of the earth (3mks)

1. (a) Give two components of soil (2mks)

 (b) The diagram below shows a simple soil profile. Name the horizontal A, B, C

 (3mks)

Diagram

1. (a) Give two ways through which mineral occur ( 2mks)

 (b) Explain two factors influencing the exploitation of minerals (4mks)

1. (a) Give three processes through which the atmosphere is heated (3mks)

 (b) State two factors that influence insolation received by earth (2mks)

1. (a) Differentiate between Earthquakes and Earth tremors (2mks)

(b)State two human causes of Earth quakes (2mks)

Section B

1. (a) Study the map of Nkubu (1:50,000) sheet 1222/2 provided and answer the following questions:
2. Measure the length of Mitunguu – Meru all – weather ( loose service) road in the north – East corner of the map. Give your answer in KMs. (2mks)
3. Calculate the area of the forest to the west of easting 40. Give your answer in square KM. (2mks)
4. Give two man made features found on grid square 4186 (2mks)
5. Give six figure grid reference of a trigonometrical station (other) to the East of Rune swamp (2mks)

(b) Draw a rectangle measuring 12cm by 8cms to represent the area bounded by easting 54 and 60 and Northings 95 and 99.

On it show the following features

* A swamp
* River Mariaria
* Quarry
* Meru – Mitunguu road (5mks)

(c) (i) Citing evidence from the map. Give three economic activities carried out in the area covered by the map (3mks)

 (ii)Explain two factors which have influenced the distribution of settlement in the area covered by the map (4mks)

(iii) Describe the relief of the area covered by the map (5mks)

1. (a) (i) Define mass wasting (2mks)

 (ii) Name three forms of slow mass wasting (3mks)

(b)State two conditions which may influence occurrence of land slides (2mks)

(c) Explain four factors which cause soil creep (8mks)

(d)Explain five effects of mass wasting on physical and human environment (10mks)

1. (a) (i) Define term Artesian basin (2mks)

(ii) State four factors influencing the development of Karst scenery (4mks)

(b) (i) Give four underground features inKarst scenery (4mks)

(ii) Describe briefly how the following features in Karst scenery are formed:

* Polge (3mks)
* Doline (3mks)

 (c) (i) Give three sources of ground water (3mks)

 (ii) Explain three significance of resultant features in limestone areas to human activities (6mks)

1. (a) What is river capture? (2mks)

(b) (i) State three types of meanders at a lower course of a river (3mks)

(ii) State three factors influencing the rate of river erosion (3mks)

(c ) (i) Give three processes of river erosion (3mks)

(ii) Describe four processes through which a river transports its load (8mks)

(d) Explain three negative influences of rivers on human activities (6mks)

1. (a) (i) Give two ways through which ice moves outwards from the area of accumulation (2mks)

(ii) State three factors influencing glacial erosion (3mks)

(b) (i) The diagram below shows types of moraine carried by glacier. Name the parts labeled W, X, Y. (3mks)

Diagram

(ii) Describe two ways through which glacial erosion takes place (4mks)

(c ) Explain three positive significance of glaciations to human activities (6mks)

 (d) Students of Kusumek Sec. School are to carry out a field study on snow capped Mt. Kenya

(i) State two ways in which the students would prepare themselves for the field study (2mks)

(ii) Give three methods of recording the data collected (3mks)

(iii) State three problems they are likely to face in the course of field study (2mks)

Geo 312/1

Confidential

The teacher should provide a map of Nkubu sheet 1221/2

Incase this is not available, get an alternative map and test on the following:

1. Measuring distance on the map
2. Calculating area on the map
3. Locating places on the map using six figure grid references
4. Identity economic activities on the map
5. Identifying factors influencing settlement on the map
6. Describing the relief of the map

KILUNGU DISTRICT- FORM FOUR ENTRANCE MOCKS - 2013

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GEORGRAPHY

PAPER 1

MARKING SCHEME

1. (a) Two theories associated with the origin of the earth and solar system
* Nebular cloud theory
* Passing star theory (2 x 1 = 2mks)

(b) Three effects of revolution of the earth

* Causes changes in the position of midday sun at different times of the year
* Varying lengths of day and night
* Causes the four seasons
* Causes lunar eclipse (any 3 x 1 = 3mks)
1. (a) Giving two components of soil
* Water or moisture
* Air or gases
* Inorganic matters (minerals)
* Organic matters (humus) (any 2 x 1 = 2mks)

 (b) A- Topsoil

 B – Subsoil

 C – Weather material (3 x 1 = 3mks)

1. (a) Giving two ways through which mineral occur
* Veins and lodes
* Beds and seams
* Weathering products
* Alluvial or places deposits (any 2 x 1 = 2mks)

 (b) Explaining two factors influencing the exploitation of minerals

* The value of minerals – The minerals that are of high demand and economic value nay be mined at high cost because they fetch high prices in the world market
* The quality or ore – High grade ore are more economical to exploit than low grade ores
* The size of the mineral deposit – The mineral reserve must be big enough to justify the cost of mining and expensive equipment
* Method of mining – The method of mining will be dictated by the mode of occurrence of the ore.
* Capital – Mining requires huge capital outlay hence investors are normally sourced from developed countries.

Any 4 x 1 = 4mks

Accept any other relevant answer.

1. (a) Giving three processes through which the earth is heated
* By radiation
* By conduction
* By convection (3 x 1 = 3mks)

 (b) State two factors influencing insolation

* Distance from the sun
* Altitude of the sun in the sky
* Length of the day and night
* Any absorption substance in the atmosphere ( any 2 x 1 = 2mks)
1. (a) Earthquakes are the shaking or trembling of rocks on the surface caused by shock waves that originate from either crust or manfle whereas Earth tremors are minor Earthquakes (2mks)

(b)Stating two human causes of Earth quakes

* Underground nuclear tests
* Construction of large reservoirs
* Moving trains
* Explosives used in queries (any 2 x 1 = 2mks)
1. (a) (i) Length of Mitunguu – Meru all – Weather roads is 5.1km

(ii) 49.5km2 ± 0.5 (49 – 50sqkm)

(iii) Dispensary

* Cattle dip
* School
* Road(s)
* Settlements (any 2 x 1 = 2mks)

 (iv) Six figure grid reference of trigonometrical station (other) is 567976

(b) Diagram

Correct measurement (rectangle) = 1mk

Road = 1mk

Swamp = 1mk

River mariara = 1mk

Quarry = 1mk (5mks)

(c) (i) Citing evidence, give three economic activities

* Trade – shops / market
* Transport – all weather roads/ dry weather roads, main, falks, other tracks/ footpaths
* Crop growing / coffee growing/ evidence coffee factory / coffee research foundation/ farmers co-operative society
* Quarrying – quarry
* Cattle rearing – dairy / cattle dip any 3 x 1 = 3mks \*No evidence, no mark

 (ii)Explaining two factors which have influenced the distribution of settlement

* Forest – there are no settlement in the forest because the area has been gazatted / government policy
* There are many settlement to the East of Easting 50 because of gentle slopes making easy for construction of houses/ agricultural activities/ economic activities
* There are few settlement to the SW past of the area covered by the map because of steep slopes making construction of houses difficult / discourage activities
* There are many settlements around Nkubu town because there are social and economic activities which attract settlement
* There are dense settlement to the North of Northing 90 because of dense road network for easy movement of goods and services to the market.

Any 2 x 2 = 4mks

Accept any other relevant answer.

(iii) Describing the relief of the area covered by the map

* There are gentle slopes to the SE/ NE of the are covered by the map
* There are steep slopes to the SW around Kiroone area
* There are hills in the area covered by the map e.g. thunguru hill
* The highest point is just above 2620m/ lowest point is slightly below 940m
* The land generally slopes from SW to SE
* There are many rivers valleys
* There are many interlocking spurs e.g. to the SE

Accept any other relevant answer (5mks)

1. (a) (i) Define mass wasting (2mks)

Mass wasting is he down slope movement of rocks / weathered materials due to the influence of force of gravity

(ii) Three forms of slow mass wasting

* Soil creep
* Scree creep / Talus creep
* Rock creep
* Solifluction (any 3 x 1 = 3mks)

(b)State two conditions which may influence occurrence of land slides

Amount of precipitation in the area, and extend of saturation

The gradient / slope of the land

Human activities such as mining, construction

Occurrence of earth quakes/ volcanic eruption (any 2 x 1 = 2mks)

(c) Explain four factors which cause soil creep

* Alternate heating and cooling – Soil particles expand when heated and contract when cooled, theirs cause soil particles to shift in position
* Alternate wetting and drying – Cause soil particles to break away from each other, and stick together when wet, on drying they become loose and tend to move away from each other.
* Removal of soil downslope – It triggers off the movement of soil upslope downslope by force of gravity
* Rain water – As rain water enters into the soil, it may drag individual soil particles along, causing them change in position ( any 4 x 2 = 8mks)
1. (a) (i) Artesian basin – is a saucer shaped depression which consists of a layer of permeable rock that is sand witched between two layers of impermeable rocks

(ii) Four factors influencing the development of Karst scenery

* The rock should be hard and well jointed
* The surface rock and rock beneath should be limestone, chalk or dolomite
* Water table should be deep below the surface
* The climate should be hot and humid ( any 4 x 1 = 4mks)

(b) (i) Giving four underground features in limestone areas

* Caves and caverns
* Stalac tites
* Stalagmites
* Limestone pilar (any 4 x 1 = 4mks)

(ii) Describing how the following features in Karst scenery are formed

* Polge
* Doline

Polge

* Formed when several uvalas collapse leading to depression
* The depression is broaden by water action and formation of partly by tectonic forces which cause it to sink
* The flat flood may be filled with water from a temporary lake
* Stream may emerge from one side of the polge and disappear into a sink hole ( any 3 x 1 = 3mks)

Doline

* Several small hollows emerge in Karst landscape
* Water start acting on points of convergence of joints on the surface
* The points of convergence are widened as solution process continues until the rock is completely dissolved
* A continuous rounded or elliptical depression called doline is formed (any 3 x 1= 3mks)

(c) (i) Three sources of ground water

* Milting water
* Lake and sea water
* Rain water
* Magmatic water ( any 3 x 1 = 3mks)

 (ii) Explaining three significance of resultant features in limestone areas to human activities

* Features in Karst scenery e.g. grikes clints are beautiful to look and hence attract tourist which in turn bring foreign exchange
* Limestone rocks are used in building and constructions
* Limestone is raw material in cement manufacturing hence promote building and construction industry
* Limestone landscape is rugged hence discourage settlement (any 3 x 2 = 6mks)
1. (a) What is river capture – river capture if the diversion of the head waters of the weak rivers into the system of the adjacent powerful river (2mks)

(b) (i) Three types of meanders at a lower course of a river

* Incised meanders
* Ingrown meanders
* Intrenched meanders ( any 3 x 1 = 3mks)

(ii) Three factors influencing the rate of erosion

* Gradient and velocity
* Volume of water
* Nature of bedrock
* Nature and amount of load ( any 3 x 1 = 3mks)

(c ) (i) Give three processes of river erosion

* Solution
* Corrosion
* Attrition
* Hydraulic action (any 3 x 1 = 3mks)

(ii) Describing four processes through which a river transports its load

* Suspension – light and insoluble materials are transported downstream in form of mixture. They float on the surface of water
* Saltation – large materials are moved by water in a series of hops and jumps
* Traction – heavy materials like boulders are pushed and rolled along the bed by hydraulic action (force of gravity)
* Solution – the load is dissolved in water and transported downstream ( D= 4, E=4)

(d) explaining three negative influences of rivers on human activities

* Floods when river floods property and human life are lost
* Water borne diseases – river water can be a medium of spreading diseases e.g. bilharzias, malaria
* Habitat of dangerous animals’ e.g. crocodiles, hippos, which kill people and livestock
* Wide rivers valleys are barriers to transport and communication among communities living both sides of the rivers ( any 3 x 2 = 3mks)
1. (a) (i) – Plastic flowage
* Basal slip

(ii) three factors influencing glacial erosion

* The speed of glacier
* Availability of debris
* Thickness and weight of ice
* Nature of underlying rocks ( any 3 x 1 = 3mks)

(b) (i) Types of moraine

 W- Medial moraine

X- Lateral moraine

Y- Terminal moraine

(ii) Describing two ways through which glacial erosion takes place

Abrasion

* rock debris embedded in the glacier acts as a tool for scratching and polishing rock surfaces
* As the materials are being dragged over the underlying rocks are eroded by grinding process (2mks)
* Plucking
* Ice at the base and sides of glacier freezes onto rocks
* Melt water gets into cracks becomes frozen
* Rocks embedded in ice is under stress as the glacier is moving forward
* This causes part of the rock to break off in a process called plucking ( any 1 = 2mks)

(c ) Three positive significance of glaciations

* Some glacial lakes are route ways which enhance transportation of goods and people
* Outwash plains, boulder clay plains are fertile and thus enhance agriculture
* Sand from out wash plains are used for building and construction
* Waterfall from hanging valleys are used for generation of H.E.P
* Fishing- the sheltered waters in the fiords provide suitable breeding ground for fish
* Glaciated highlands attract tourist who bring foreign exchange
* Glacial erosion exposes minerals making it easy for exploitation (accept any other relevant answer)

(d) (i) Preparation

* Seeking permission from relevant authorities
* Conduct reconnaissance
* Assembling necessary tools
* Preparation of work schedule
* Dividing themselves into groups (any 2 x 1 = 2mks)

(ii) Methods of recording date

* Tape recording
* Note taking
* Labeling samples
* Filling in questionnaires
* Sketching diagrams ( any 2 x 1 = 2mks)

(iii) Two problems students are likely to encounter

* Bad weather e.g. rain/ snowfall
* Difficulty in climbing steep slopes
* Attack by wild animals
* Thick forest difficult to penetrate

(any 2 x 1 = 2mks)

Accept any other relevant answer