312/1

GEOGRAPHY

PAPER 1

EMBU NORTH EVALUATION EXAM

JULY /AUGUST 2018

MARKING SCHEME

1.a)   Main branches of Geography

- ✓ Human Geography
- ✓ Physical Geography.

1x2= 2 mks

b)   Reasons for teaching Geography.

- ✓ Enables students to enter careers e.g survey.
- ✓ Sensitizes students on environment conservation.
- ✓ Equips students with skills like observation/drawing.
- ✓ Promotes international understanding.
- ✓ Helps in time management.

1 x 3 = 3mks

2. a)   Weather forecasting

- ✓ Prediction of the future state /conditions of the atmosphere of a given place within specific period.

1 x2 = 2mks

b)   Importance of weather forecasting.

- ✓ Enables farmers to plan their farming calendar.
- ✓ Helps people plan on suitable clothing for the day.
- ✓ Influences house designs.
- ✓ Planning military activities.
- ✓ Planning of games /sporting activities.
- ✓ Control landing and taking off the air craft
- ✓ Determine fishing habitats

3 x 1 = 3mks

3.a)   Rock classification

- ✓ Mode of formation.
- ✓ Physical/chemical characteristics
- ✓ According to age.
- ✓ Their texture.

$$3x1 = 3mks$$

b)   Sources of sedimentary rocks

- ✓ Remains of living organisms.
- ✓ Precipitates of soluble materials.
- ✓ Pre-existing rocks.

$$2x\ 1 = 2mks$$

4.a)   Dyke and sill

- ✓ Dyke is formed when magma intrudes through vertical or inclined lives of weakness and solidifies while a sill forms when magma intrudes through a horizontal line of weakness and solidifies.

$$1\ x\ 2= 2mks$$

b)   Volcanic plateus in Kenya.

- ✓ Athi kapiti
- ✓ uasin Gichu
- ✓ Laikipia
- ✓ Yatta
- ✓ Kinagop

$$1x3 = 3mks$$

5.a)Weathering factors

- ✓ Temperature changes
- ✓ Gradient/ slope of land
- ✓ Vegetation in the region
- ✓ Amount of moisture. $3\ x\ 1 = 3mks$

b)   Features of weathering

- ✓ Granitic tors.
- ✓ Insel bergs.
- ✓ Karst features/Stalactites, stalagmites, limestone pillar, limestone caves, grikes, clints

- ✓ Rock blocks
- ✓ Exfolication domes

<div align="right">Any 2 x 1 = 2mks</div>

SECTION B

6. a) i) Convert the scale of the map to statement scale.

    1cm represents 0.5km 2 x 1 = 2mks

ii)   Latitudinal extent of the area covered by the map.

    0^030's to 0^045'South. 2mks

iii)   The approximate height of God Puro hill

    4401 – 4449 metres. 2mks

b. (i)   The length of the all weather loose surface road.

    7.9 – 8.1 (km) 2x 1 = 2mks

ii)   The bearing and direction of the trigonometric station 130T 93 from the spotheight in grid square 7144

    $114.5^0 – 116.5^0$ 2mks

    Direction south west. 1mk

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

- ✓ The highest point on the map is 5980 feet/lowest point 3900ft.
- ✓ The south west part of area covered by the map is hilly characterized by close contours.
- ✓ The area slopes from the south Eastern towards the South West.
- ✓ There are numerous hills in the area covered by the map e.g God Puro, God Lwaho, God mony.
- ✓ There are ridges in the south western part of the Map.

<div align="right">4 x 1 = 4mks</div>

e)   Give three social services.

- ✓ Education evidence schools on the map.
- ✓ Administrative service evidence chief's camp.
- ✓ Religious service – churches
- ✓ Health evidence by hospitals.

<div align="right">3 x 1 = 3mks</div>

ii)   Economic activities carried out in the area covered by the map.

- ✓ Trade evidence markets e.g misesi,
- ✓ Transport evidence roads.
- ✓ Industry – evidence flour milling.
- ✓ Brick making – brick works factory.
- ✓ Cotton farming – cotton store in Nyaliech.

3 x 1 = 3 mks

Road c18

Kodura Forest reserve

District boundary

Building
forest
Boundary
Road

1mL
1mL
1mL
1mL

04

40 39 38 37 36 35 34 33 32 31 30

80 81 82 83 84 85 86 87 88 89 90

7. a)   State three factors which influence the distribution of vegetation in Kenya.

   ✓ Topographical factors.
   ✓ Edaphic (soil) factors.
   ✓ Climate factors
   ✓ Biological factors.
   ✓ Anthropogenic factors.   3 x 1 = 3mks

b)   Name three lowland forests in Kenya along the coastal region of Kenya.

   ✓ Shimba Hills forest.
   ✓ Witu forest.
   ✓ Arabukoko sokoke forest.   3 x1 = 3mks

c) i)   Name the temperature grasslands marked

        E – Steppe   1mk

        F – Downs   1mk

        D- Prairies   1mk

ii)   Describe the characteristics of the vegetation found in the shaded regions marked G.

   ✓ The trees form three distinct layers /canopies at different heights.
   ✓ The trees are tall in height.
   ✓ They have climbers e.g Lianas.
   ✓ The forest has many trees species per square mile.
   ✓ The forest has limited undergrowth.
   ✓ The vegetation is evergreen.
   ✓ The trees have broad leaves.
   ✓ Trees are ever green
                        4 x 1 = 4mks

c. iii)   Apart from grasslands marked E, F and D. Mention any other grasslands vegetation in
   the world.

   ✓ Mountainous grasslands
   ✓ Tropical savannah grasslands   2 x 1 = 2mks

d) Explain the roles vegetation ether in influencing global warming and climate change.

   ✓ The burning of vegetation for examples trees produce carbon (IV) oxide which increases
     temperatures through the green house effect.

✓ The decomposition of vegetation under moist conditions produce methane gas which leads to global warming.
✓ Vegetation uses carbon(IV) oxide for manufacture of food which helps in reduction of carbon content in the atmosphere.

<div align="right">3 x 2 = 6mks</div>

e) State the ways in which they will identify different plants.

✓ By looking at the leaf structure
✓ By looking at the branch structure
✓ By looking at the trunk sizes and height.

<div align="center">2 x 1 = 2mks</div>

ii) Apart from identifying different types of plants mention two other activities they had to conduct during the field study.

✓ Taking notes
✓ Sketching of maps
✓ Collecting and labeling samples
✓ Asking questions.
✓ Filling in questionnaires.

<div align="center">2 x 1 = 2mks</div>

8.a) i) Aridity and desertification

✓ Aridity is the state of the land being deficient moisture leading to scarcity vegetation and soil fertility while desertification is encroachment of large areas of barren land covered with sand.   2 x 1 = 2mks

ii) Physical causes of aridity

✓ Insufficient moisture – Rainfall is less than 250mm P.a
✓ Relief barriers – leeward side of mountains become arid.
✓ High temperatures – high rates of evaporation.
✓ Dry winds from lands brining a drying effect.
✓ Cold ocean currents cause premature condensation.
✓ Continentallity/distance from large water bodies - areas far in the interior are arid.
<div align="center">3 x 2 = 6 mks</div>

b. i)   Two process of wind erosion.

1.   Deflation – loose materials are lifted and blown away by wind.

2.   Abrasion – load carried by wind collide with desert surface wearing the surface.

3.   Attrition - Load carried collides with itself becoming progressively smaller and with desert/surface wearing the surface.

                                                                        2 x 2 = 4mks

ii)   Describe the formation of a mushroom block.

- ✓ A mushroom is a massive rock with a broad, smoothed and rounded top and narrow bottom.
- ✓ Formed from a homogenous rock of uniform hardness.
- ✓ Wind abrasion from the heavier materials near the ground.
- ✓ Results in intensive undercutting at the base of the vertically homogenous rock.
- ✓ The top of the rock undergoes slow polishing and smoothening.

                                                                        4 x 1 = 4mks

c)   State three causes of soil degeneration.

- ✓ Poor land practices like over cultivation.
- ✓ Poor cultivation techniques.
- ✓ Heavy rainfall.
- ✓ Drought.

                        `   3 x 1 = 3 mks

ii)   Explain three soil conservation methods.

- ✓ Maintenance of soil fertility like crop rotation, mixed farming, chemical fertilizers, mulching.
- ✓ Afforestation and re-afforestation.
- ✓ Control of bush fires.
- ✓ Regulation of livestock numbers.
- ✓ Practicing proper farming teaching like terracing, contour ploughing strip cropping, planting shelter belts planting cover crops.
- ✓ Construction of cut-off drains.
- ✓ Construction of dams and weirs.
- ✓ Construction of artificial water ways.

                                                                        3 x 2 = 6mks

9.a(i)   What is a coast.

A strip of land bordering the sea /ocean.   2x1=2mks

ii)   Shape of the coast depending on rocks.   (explain)

1.   Hard rocks resist wave erosion and give rise to highlands coasts with features little cliffs and healand,

2.   Soft rocks are less resistant to wave erosion leading to sea inlets e.g bays.

3.   Highly founded rocks will be eroded by hydraulic action producing features such as caves, stacks and stumps.

4.   Limestone areas are subjected to solution erosion to produce karst landscape along the coasts.   2x 2 = 4mks

b)   Characteristics of fiord coast

✓ Formed from deep glacial trough.
✓ Deep with very steep sides.
✓ Deeper landward and shallow sea wards.
✓ They lie below sea level.
✓ Have islands on the seaward side.

3 x 1 = 3mks

c)   Ocean islands

✓ Earths movements result to formation of cracks/faults on the floor of the ocean.
✓ Magma flow through the crack onto the ocean floor.
✓ Continued eruption increases magma material on the floor which rises to near sea level.
✓ Localized uplift of the ocean floor rises the volcanic material to be exposed.
✓ Exposure is further done during low tides to form islands.

4 x 1 = 4mks

d)i)   Causes of ocean currents

✓ Wind blowing over the surface of the ocean.
✓ Rotation of the earth .
✓ Shape of the land masses.
✓ Difference in temperatures of ocean waters.   4 x 1 = 4mks

ii)   Benefits of coastal landforms

✓ Coastal features from the scenery which attract tourists who bring foreign exchange.
✓ Recreation e.g sports fishing
✓ Coral reefs are a source of raw material for cement making.
✓ The form transport highways .
✓ Lowland coasts provide good sites for development of settlement.
✓ Oceans provide a source of food - fish.
✓ Mangrove vegetation in mudflats are used for timber and fuel production.

                                                        4x 2 = 8mks

10.a) (i)   An iceberg

A large mass of ice which has broken off from icesheet and partially submerged in water.

                                        2 x 1 = 2mks

ii)   Speed of glacier.

✓ Gradient slope.
✓ Season – faster in summer than winter due thawing.
✓ Friction of the glacier – amount of friction is greater on the sides of the valleys.
✓ Thickness and weight of the glacier.   3 x 1 = 3mks

b(i)   Features of glaciated highlands

✓ Arête
✓ Hanging valley
✓ Cirque
✓ Rock basin.

                                        3x1 = 3mks

ii)   Formation of pyramidal peak.

✓ They accumulates in cracks/ hollows of a mountain side.
✓ They exerts pressure on crack/ hollows.
✓ Plucking processes enlarge hollows and more ice collects in them.
✓ Freeze - thaw process enlarges the cracks, moving ice plucks off loose rocks materials from the basin thus enlarging it.
✓ Nivation eats into back walls of the basin making them recede into the mountain side.
✓ Steep sided knife edged ridges separate the basins.
   * Three or more of these ridges /Aretes converge at the mountain top forming a jagged peak known as pyramidal peak.
   NB: * point to be mentioned to score five marks.

                                        5 x 1= 5mks

c) Diagram explaining the formation of a crag and tail.

✓ Formed when hard resistant rock lies in the path of the moving ice, rock experiences a lot of glacial erosion/ abrasion on the upstream windward side forming the crag while the leeward side downstream experiences deposition forming the tail.
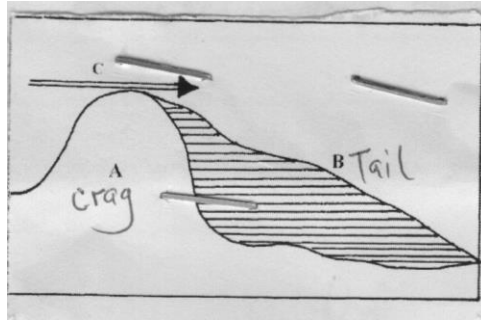

diagram 2mks explanation 2 = 4 mks

d) Two ways in which glaciations of highlands is an economic benefits to man.

✓ Hanging valleys forms water falls.
✓ Essential for the formation of HEP.
✓ Site for winter games e.g skiing
✓ Catchment for rivers.
✓ Fords are natural habours for commercial activities.
✓ Highlands features attract tourists – foreign exchange.

Any 2 well explained points   2 x 2 = 4mks

e) Field study route map.

✓ Identify the direction to face.
✓ Help find features.
✓ Help estimate distance
✓ Estimate time to be taken.   2 x = 2mks

ii) Two problems to face in the study.

✓ Rough terrain
✓ Accidents like falling rocks
✓ Fatigue.
✓ Getting lost in the area
✓ Attach/fear of wild animals

2 x 2 = 2mks