**JINJA JOINT EXAMINATIONS BOARD**

**MORK EXAMINATIONS 2019**

**MARKING GUIDE**

**P250/1 GEOGRAPHY**

**GUIDELINES FOR IMPRESSION MARKING**

**00= Completely irrelevant Answer.**

**01-08= Rudimentary Answer**

**09-11 = ‘O’level Answer**

**12-14=Basic ‘A’level Answer**

**15-17= Good but not out standing Answer**

**18-20= Very good Answer**

**21-25= Excellent Answer**

**SECTION A MAP WORK**

1. (i) Grid reference is 850912 (01 marks)

(ii) Drainage feature is lake kariya (01 marks)

(b). Reduced sketch map of katunguru by 50% between Eastings 70 and 85 and Northings 75and 90showing two physiographic features, rivers kafu and Rutanda, all weather loose road.

**C) (i)**

* **New scale**

1:50,000x50%

1/50,000x50/100 method 01

1:100,000 Answer 01

* Vertical interval=Diference between any two consecutive contours

Eg 3300-3200 method 01

=100 feet method 01

(ii). **Relief of the area.**

* Hilly /upland in the south /S.E.
* Low lands in the north/western
* Conical hills in S.E,s
* Saddles/cols in S.E,s
* Broad valleys in the west, North
* Gentle slope in the central
* Spurs in the S.E. etc (06 marks)

**(d).** Relation ship between communication

* Communication routes on gentle slopes
* Road bridges Constructed across river bridges
* Steep slopes are avoided by communication routes **2\*2=04marks**

**Total- 25 marks**

**COMPULSORY PHOTOGRAPHIC INTERPRETATION QUESTION**

1. **(a)A land scape sketch of photography showing three relief features and three land use types.**

**MI = 03marks**

**RF= 03marks**

**LU = 03 marks**

**Total = 09 marks**

**b). The relationship between relief and land use;**

* Trees/forestry on steep slopes and low land areas in foreground.
* Agriculture/crop cultivation on Gentle slopes.
* Settlements on Gentle slopes.
* Road constructed on Gentle slopes.

**3\*2=06marks. (06mks)**

**C) problems;**

* Soil erosion due to steep slopes In the back ground.
* Difficulty in construction of roads due to steep slopes in back ground.
* Wild animals due to think forests in middle ground.
* Pests and diseases due to forests.
* Limited land for agriculture due to forests, steep slopes.
* Flooding due to low lying area in middle, foreground.
* Limited settlements due to steep slopes etc.

Problem **04mks**

**Evidence 04mks (08mks)**

**(d) Areas;**

* Kandoa district of Tanzania.
* South- western Uganda in Kigezi/ Kabale area.
* Central region of Uganda in Buganda, Jinja.
* Kabarole.

Area =**01mks**

**Reasons;**

* Presence of broad valleys
* Existence of undulating landscape.
* Settlements exists in valley.
* Planted forests in low lands.

Reasons **01mks 2mks**

**TOTAL 25mks**

**SECTION B:**

1. **Examine the relevance of Wegner’s theory of conditional drift in explaining the present day position of continents.**

* Candidates are expected to define continental drift ie movement of continental blocks relative to one another across the surface of the earth to their present position to create continents and ocean basins eg S.American Africa, and oceans like pacific etc
* Candidates are expected to give the underlying assumption in Wegner’s theory of continental drift.
* The theory is based on rifting and drifting off land masses.
* The theory assumes that there was one giant sialic landmass a super continent known a Pangaea located near the present day south pole, surrounded by a huge ocean panthalassa.
* During the pre-cambrian period **(about 250 MYBP**),the Pangaea began drifting north wards. Pangaea broke into two: laurasia which drifted north wards to form the northern continents and Gondwana land which remained in the south to form the southern continents.

The two were separated by a narrow sea- the Sea of Tethys/universal sea before further drifting into separate continents.

* About 135 MBYP Gondwana land and laurasia drifted north wards. And Tethys sea became closed up in the east laurasia split into Eurasia and America while Gondwana land split into Africa, S.America, india, Australia and Antaractica.

During drifting the oceans between continental blocks became wider forming present day ocean basins.

* In the north, Eurasia drifted east wards while N. America drifted west wards. In the south, Africa moved to attain its present position astride the equator, india drifted north eastwards to join Eurasia, South America drifted west ward and north ward towards the equator to join N.America, Australia drifted east wards away from antaractica in about 65 MYBP.

**EVIDENCES**

**Relevance of the theory:**

* Jig saw and visual fit- there is a close fitting jig saw puzzle on the continental coast lines across the Altlantic ocean ie east coast of south America and west coast of Africa have good visual fit- each fits into another,not only at surface but also at 2000m depth.
* Geometric fit, that the west coastline of Africa and the eastern coastline of south America fit almost exactly on each other if rotated through an angle of 570with 400N and 300W.
* Matching geology/similar rock bearing minerals which look continuous eg the gold bearing rocks of W. Africa (Ghana) and S. America (Guyana), the coal baring rocks of Eurasia and North America (Appalachians).
* Similar oil bed –oils bed of Brazil are similar to those of Angola.
* Glacial evidence. Thick deposits at tillite, a fossilized glacial moraine in eastern Brazil, Paraguay and Argentina are exactly like those of southern Africe and Australia implying that the continents at one time were too close.
* Similar sedimentary basins. Along part of Eastern Brazil coast,s, en Nigeria and Cameroon,similar sedimentary rock sequences exist and lower beds of these basins match exactly on both continents.
* Similarities in plant and animal species eg in Australia and South Africa, and South America.
* Palaeo magnetic evidence. In India,Australia,south America the magnetized properties in the magnetized rocks no longer point in the North-South direction as it should be suggesting that during the course of drifting rocks were twisted and changed direction.
* Existence of laterites in N.America and Europe proves that these continents experienced tropical climatic conditions for laterites to form.
* Existence of coral reefs in green land Britain, N.America and yet these form in hot climatic conditions.
* Salt evaporates/ beds in cold parts of USA, Britain,Germany and Russia yet salt evaporates occur in the tropics
* Proximity of continental blocks to the North pole than South pole.

**Impressional marking (25 mks)**

1. **A)** Describe the processes which have led to the formation of sedimentary rocks.

* Sedimentary rocks are composed of deposited minerals or rocks.
* Fragments or sediments produced by mechanical and chemical weathering of pre-existing rocks or by organic action.
* Weathered material is transported by erosional agents ie water, ice,and wind and later deposited in layers on either dry land, valleys or under water in oceans, layers can be holizontal, gental or steep.

**Characteristic of sedimentary rocks.**

* Contain fossils of dead plants and animals.
* They have layers ie stratified.
* Non- crystalline in nature.
* Layers are separated by bedding planes of cementing materials.
* Strate are either horizontal, gentle or steep.

**Process of formation.**

* Weathering of igneous rocks, erosion and transportation.
* Deposition of sediments by wind, water or ocean waves.
* Stratification of deposited materials.
* Compression of stratified Material by over lying weight .
* Compaction of the layer.
* Consolidation of the layers.
* Comentation of laid down layers.
* Transformation of sediments into sedimentary rocks

**Formation of sedimentary rocks can be mechanical, chemical and organic**

* Mechanically formed or physically formed sedimentary rocks: result from drying and consolidation of sand, mad, clay eg sandstones, madstone, clay stone, slate etc.
* Chemically formed, formed from evaporation or precipitation of solutions salt eg dolomite, rock salts.
* Organically formed- formed from remains of once living plants and animals/fossils eg limestone, coal, natural gas, crude oil

**Max-15mks. 15**

**b). Explain the importance of sedimentary rocks to East Africa.**

* Sedimentary rocks widely occur in East Africa around the coastal region and lake shores
* Sedimentary rocks overly areas of metarmophic and igneous rocks eg plateau areas of E.Africa

**Economic importance positive & negative**

**Positive:**

* Rich agricultural lands of lake shore areas of East Africa, Delta areas of rivers eg Rufigi, Ruvuma, Tana.
* Mineral deposits being mined/ prospected eg limestone at Hima, Bamburi, gypsum in Tanga, oil around lake Albert,Coal southern, Tz.
* Construction works eg sand used for building, construction industry.
* Clay works eg pottery /craft industry.
* Flat land scape good for linestock rearing.
* Tourist attraction eg coralreefs, at the coast.
* Good fishing grounds.
* Reseach works.
* Good shelter.

**Each point 01 marks**

**Max 6mks**

**Negative**

Continuous deposits leads to young soils, unproductive for agric in short run eg rift valley region northern Kenya.

Wast land due to course sedimentary deposits.

Leaching to loss of soil fertility, any slight use lead to poor siols.

Very fine silt and clay materials are non- porus leaching into water logging or acidic siols.

Hinders marine fishing .

Hinders navigation.

**Each point 01mk**

**Max 04mks**

**Total 25mks**

1. **Examine the relevance of Darwin’s theory to the understanding of the formation of coral land forms in East Africa.**

* Candidates should explain what coral- land forms are; their various types, distribution in E.Africa and mode of formation with reference to Darwin’s theory.
* Coral land forms are features or rock platforms which result from continued deposition and accumulation of shells or skeletons of marine organisms called coral polyps.
* The coral polyps and landforms are found off the coast of East Africa, Indian ocean islands.
* The nature of coral landforms formed depends on the position and shape of the landmass on which they have accumulated.

Coral land forms include: atolls formed. around volcanic island; barrier and fringing reefs formed on the continental shelfs.

**Conditions for growth and development of corals should be brought out eg**

* Good climate involving warm temps of tropical climate between 20-300c ideal for growth of polyps.
* Salty, oxygenated sea water.
* Shallow continental shelf (depth between 25-600metres)for penetration of sun light..
* Clear, silt-free and stable/calm water.
* Presence of solid rock bed along the coast upon which coral reefs grow.
* Availability of planktons as food.
* Sea-level changes caused sub-mergence of the coast and encourage coral deposition.
* Prensence of continental shelf, oceanic ridges and volcanic islands off the coast on which corals grow.

**Process of formation**

* Coral land forms from when coral polyps die.
* Skeletons of dead polyps drop and accumulate on the continental shelf .
* With continued accumulation of skeletons overtime, there follows compression, compaction, cementation and consolidation thus coral being transformed into coral reefs.
* Living organisms eg algae help in cementation to form limestone rock -coral reefs.

**Types of coral reefs/land forms:**

* Fringing reefs: coral platforms joined to the coast, extending about one KM wide separated by a narrow and shallow lagoon. Eg in mombasa.
* Barriers reefs: coral platforms separated from the coast by a wide and deep lagoon eg on mayotte island on Indian Ocean.
* Atolls: aring of coral reef sorrounding a fairly deep lagoon but generally broken in places by narrow channels eg at Aldraba 700KM from the East African coast.

**Darwin’s theory (subsidence theory 1842)**

* Presence of a volcano/volcanic island on the sea floor.
* Polyps colonise the edges of the volcano and later form a fringing reef.
* Volcanic island slowly subsided as a result of isostatic- readjustment that followed eruption.
* Such subsidence increases the water depth beyond the level at which coral polyps can servive. subsequently die while some try into grow to keep pace with the changes in water depth.
* The fringing reefs on the franks of volcanic islands grow upwards and outwards into barriers reef and eventually into atoll, when the volcano completely submerged.

**Relevance of the theory:**

* The theory is relevant because there was actual submergence of the East African coastline evidenced by presence of rias and mud flats in submerged coastal areas.
* Also presence of volcanic islands off the East African coast in the indian ocean.

**Impresional marking max 25 mks**

**SECTION C**

1. **Account for the apparent climate changes in east Africa.**

* Candidates are expected to describe or outline the original climatic zones existing in east Africa.ie
* Modified equatorial climate with heavy rain fall throughout the year, high temperatures, extensive cloud cover e.g. L. Victoria basin, south west Uganda in Maramagambo and the narrow coastal strip.
* Tropical, savannah /continental with seasonal rain fall and high temperature.
* Semi arid/arid climate eg North East Uganda, north west and north east Kenya, Ankole-masaka corridor and central Tazania with prolonged draught, little rainfall, high temperature, clear skies ,dry winds.
* Montane climate eg in highland areas with varied climate types ranging from tropical to temperates eg Kilimanjaro, Kenya high lands ,Rwenzori.

**Identify factors for apparent changes**

* Increased industrialization causing increased temperatures in equatorial belts and rain fall reduction e.g L. Victoria basin, kampala, Jinja.
* Deforestation e.g mabira, south west Uganda, Montane areas-causing reduction in rain fall and increased temperatures.
* Swamp reclamation is wide spread in savannah belts, causing increased temperatures and reduced rain fall.
* Over grazing due to over stocking.
* Burning of grass causing extension of desert conditions.
* Over cultivation leading to loss of soil fertility and poor vegetation cover.
* Sinkinig of boreholes leading of fall in water table.
* Urbanization -destruction of vegetation.
* Effect of global warming –reduction in ozone layer.etc

1. **To what extent has the natural vegetation of East Africa been modified by human activities**

Candidates should describe the natural vegetation and modified vegn of East Africa.

Identify the major natural vegetation type and their characteristic in East Africa

The role of man in modifying vegn should be pointed out.

* Natural vegn is that type of plant life that grows naturally in a particular physical environment. It can either be a forest, grassland or scrub.
* Natural forests include tropical rain forests, mangrove and montane forest, E. Africa coast, Kilimanjaro, Rwenzori, mt.Kenya.
* Savannah woodland and grasslands cover areas of Northern Uganda weastern Tanzania, Southern Tanzania etc. they are xterized by medium height trees, thorny trees, drought resistant trees, shading leaves during the dry season etc.
* Scrubs occur in northern, N. En Uganda, Nn Tanzania etc due to rainfall below 5oomm.
* The foregoing natural vegn types have been modified by man’s activities mainly in areas of Kenya Highlands, Kigezi Hiighlands, lake Victoria basin, N.En Uganda. Etc

**Role of man include the following.**

* Clearing forests/ grasslands for / urbanization /industrialization in areas of lugazi, kampala, Nairodi jinja, Dodoma etc
* Lumbering in tropical rainforests :- natural forests/ Trees have been replaced by woodlands and scrubs e.g parts of marabogambo, Bugoma, kibaale etc
* Cutting down trees for fuel or fire wood, charcoal eg kibaale:- Tees have been replaced by seconfary forms of vegn
* Construction of communication network has destroyed the natural vegn types replacing them with tarred surface and dirty roads.
* Animal grazing through nomadism, ranching dairying leads to the disappearance of forests, wood lands and grass land and swamps.
* Wildlife conservation in national parks, forest reserves etc has led to continued existence of forests and grasslands.
* Repeated burning in karamojo, Turkana, masai Nakasongola etc. has lead to destruction of original vegn types which are replaced with scrubs or other poor forms.
* Mining and quarrying in mwadui, kilembe, Tororo, Bamburi etc. destroys the original forests or grass land replacing them with rock waste heaps and open pits or mines.
* Swamps reclamation for agriculture, settlement, dairying etc
* Human interference through afforestation and re-afforestation has led to the introduction of exotic tree species eg pines, Grevillea, robusta, Eucalyptus etc replacing the former grasses and natural trees etc.
* **Cands are expected to point out other factors that have modified the natural vegn.**
* Harsh climatic conditions or the desertification etc has changed the natural vegetation e.g karamaja
* Occurrences of landslides has removed the initial vegn cover exposing rock layers eg on mt. Elgon slopes, kigezi Highlands, Rwenzori stopes, Rwampara Hills etc
* Overgrazing by wild game, brousing, debarking and over trampling have changed the original natural vegn in National parks e.g Queen Elizabeth, masai- mara etc

1. **a) Distinguish between Azonal and Intra-zonal soils.**

* Azonal soils are soils which are young and without a clear soil profile. They are soils which have not been exposed to soil forming processes long enough to develop mature characteristics.
* They are skeletal soils i.e. with shallow profiles and show characteristics of their original parent rock which weathered and resist change.
* They are divided into two groups ie lithosols and regosols.
* They are derived from unconsolidated materials e.g. alluvium, sand, and volcanic ash.
* **Azonal soils include,**
* Scree soils on mt.slopes.
* Mud-flat soils/ marine soils.
* Fluvio- glacial soils e.g. till, outwash sand and gravel and resorted clay laid down in glacial lakes.
* Wind blown soil e.g. sand sheet, dunes and loess
* Lava/ ash soils, cinder (volcanic).

**Factual marking 03 mks**

**Intra-zonal soils**

* Intra-zonal soils occur where special condition of relief or parent rock exert a stronger influence on the resultant soil type than other factors eg climate and vegetation eg bog/peat/gleyed soils in marshy areasof East Africa such as coastal regions, meadow soils in the river flood plains (silt and mud),saline soils in semi- desert areas,

**Factual marking 02 mks 05 mks**

b) **Account for the formation of Azonal soils in East Africa.**

* Weathering of the parent rock leads to formation of screes on mt. slopes, the soils usually show characteristics of their original parent rock and resist change.
* Tectonic deposits of lava through volcanic action leads its formation of lava ash soils, cinder, pumice.
* Materials may be transported elsewhere by high rate of erosion and agents, deposited through wave action leading to formation of marine deposits. The soils here include:
* Mud soils or marine clay soils.
* Wind action leading to the formation of wind blown soils like sand sheets, dunes and loess.
* Glacial action (fluvio-glacial) resulting into the formation of fluvio-glacial soils, sand and gravel and re-sorted clays (deposited in glacial lakes)
* River action leads to formation of alluvial.
* Climate,
* High amount of rainfall causes river floods that lead to deposition of alluvium in the lower course.
* Equally, high rain fall cause erosion on steep slopes and deposition of material in the low lands.
* **Temperature** changes in mt. slopes influence physical weathering thus forming screes.
* Relief, the nature of relief mainly influences erosion of screes on mt. slope and their deposition forming new soils.
* Time lapse; Azonal soils are immature soils and mainly depends upon the short period of time in their formation.
* Human activities like, quarrying and mining leads to the breaking of the parent rock into simpler particles, leave alone dumping of waste material, hence forming Azonal soil.
* Deforestation, bush burning and over grazing expose the parent rock to weathering processes that lead to the formation of young soils.

**Impression marking 20 mks**

**Total 25mks**