**NAME………………………………………….ADM NO…………CLASS……………**

**312**

**GEOGRAPHY**

**FORM THREE**

**TIME:2. 30HRS**

**END OF TERM II**

**INSRTUCTIONS**

**ANSWER ALL QUESTIONS IN SECTION A IN THE SPACES PROVIDED**

**IN SECTION B ANSWER QUESTION SIX(6) AND ANY OTHER TWO QUESTIONS**

**SECTION A: (25MARKS)**

**ANSWER ALL QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED**

**1(a) Give two reasons why hardwood tress species in Keya are in danger of extinction (2mks)**

* High demand for hardwood has led to over exploitation
* Population pressure on land has led to increased cutting of trees to provide land for farming & settlement
* The time taken for the hardwood trees to mature does not match the rate at which they are being exploited **( Any 2x1=2marks)**

**(b) State three ways in which softwood forest in Kenya differ from those of Canada (3mks)**

 - Softwood forest in Kenya are mainly planted while those in Canada are mainly natural

 - Softwood forests in Canada are more extensive than those in Kenya

 - Softwood trees species in Kenya are exotic while those in Canada are indigenous

 - There is a wider variety of softwood tree species in Canada than is in Kenya

**(Any 3x1=3 Marks )**

**2. (a) Name two conditions that are necessary for the formation of petroleum (2mks)**

- Presence of sedimentary rocks

- Presence of non-porous roc/ cap rock

-Presence of pressure to compress organic materials

-Presence of porous rocks

**(Any 2x1=2Marks )**

**(b) List three ways in which open cast mining affects the environment (3mks)**

- It leaves behind open ugly craters/ dereliction

- It cause air water pollution & noise pollution

- Water collects in the open craters forming breeding ground for mosquitoes/ pests

- Destruction of biodiversity (plants &animals

 **( Any 3x1=3marks )**

**3. (a) Name three types of soil according to texture**

- Loam /loamy

-clay/clayey

- Sandy **(3x1=3mks)**

**(b) List any two methods used is soil erosion control**

- Construction of gabions

- Construction of check dams

- A fforestation/ re-a fforestation

- filling gullies

- Construction of cut -off drains

- Terracing

- Practices appropriate methods of farming planting cover crops/ mulching contour ploughing/ strip cropping /crop rotation

 **(Any 2x1=2mks)**

**4.(a) Differentiate between weather and climate (2mks)**

- Weather is the atmospheric conditions of a place over a short period of the time usually 24hrs while climate is the average conditions of a given place over a long period of time, usually 30-35 yrs **(1x2=2mks)**

**(b) List any three characteristics of modified equatorial climate (3mks)**

- Rainfall throughout the year

-Rainfall total between 100mm-1600mm heavy/ high rainfall

-Rainfall mainly in the afternoon

-Rain is accompanied by thunder

-Temperature range between 200-260/ moderate temperatures

- There is high humidity

- Double maximum rainfall

**(Any 31x=3mks)**

**5. (a) What is meant by the term environment (2mks)**

- Refer to external conditions that surround living things (**1x2=2mks)**

**(b) State three effects of the rotation of the earth (3mks)**

- Causes day and night

- Causes difference of one hour between meridians 150 a part

- It causes deflection of wind and ocean tides **(3x1-3mks)**

**SECTION B (75 MARKS**

**ANSWER QUESTION SIX (6) AND ANY OTHER TWO QUESTIONS**

**SECTION B**

**Answer question 6 and any other two from this section**

6. a) The table below shows the quantity of minerals produced in Kenya in tones between years 2001 and 2003. Use it to answer questions (a) (i) and (ii)

i)

|  |  |  |  |
| --- | --- | --- | --- |
| Mineral  | 2001 | 2002 | 2003 |
| Soda ash | 297789 | 304110 | 352560 |
| Flousphar  | 11885 | 85015 | 80201 |
| Salt  | 5664 | 18848 | 21199 |
| Others | 6093 | 7000 | 4971 |
| Totals  | 321431 | 407973 | 458931 |

1. **Using the square root method, draw proportional circles to represent the above information. (7mks)**

Use the scale 1cm rep 250

* Square roots

2001 = $\frac{\sqrt{321431}}{}$ = 566.95

2002 = $\frac{\sqrt{407973}}{}$ =638.73

2003 = $\frac{\sqrt{458931}}{}$ = 677.44 (**1mk for all the sqr roots)**

* Scale: 1cm represents 250
* Radius:

2001 = 2.3cm

2002 = 2.6cm

2003 = 2.7cm  **(2mks for all radii)**

**Proportional circles showing quantities of minerals produced in Kenya in tones between 2001-2003 (1 mk for the title)**



* Each circle with radius indicated **3x1mk=3mks. Total = 7mks**
1. **Calculate the average annual production of soda ash over the 3 years period. (2mks)**

297789+304110+352560

3

 =318,153 tonnes (**1x2mks=2mks)**

1. **Calculate the total mineral production for the year 2003**
* 352560+80201+21199+4971 = 458931 **(1x1mk=1mk)**
1. **Make two conclusions from your proportional circles. (2mks)**
* Year 2003 had the highest minerals production during the 3 years period.
* Year 2001 had the lowest minerals production during the 3 years period.
* Soda ash was the highest mineral produced in the three years.
* Other minerals accounted for the last amount of minerals production in the three years period. **(Any 2x1mk=2mks)**

**b) Explain three ways in which gold mining has contributed to the economy of South Africa. (6mks)**

* It earns foreign exchange when exported the other countries. Foreign exchange is used to clear foreign debts.
* It offers employment to many South African people raising their standards of living.
* It has led to widespread urbanization contributing to formation of witwaters rand conurbation (\*an urban area in South Africa must be mentioned to score)
* It has formed a broad market for other industries e.g. engineering, fost wear, electrical and construction industries.
* It has led to improvement of infrastructure and social amenities e.g. roads, schools, hospitals, railways
* It has led to development of agriculture. People living in the urban areas need to be fed hence more food production. **(Any 3x2mks=6mks)**

**c) State three negative effects of mining on the environment. (3mks)**

* Leads to land dereliction due to open pits left on land and heaps of rock waste litter dumped on land.
* Leads to environment pollution – air, water, land and noise.
* Leads to biodiversity due to destruction of vegetation
* It causes soil degradation by loosening the soil which makes it vulnerable to agents of erosion. **(any 3x1mk=3mks)**

d**) Students from Nyati Secondary school carried out a field study on a quarry near their school.**

**i) State two objectives of the study. (2mks)**

* To find out the types of rocks in the query
* To find out the uses of the stones extracted from the quarry.
* To find out the effects of quarrying in the environment.
* To find out the problems experienced by the workers in the quarry.
* To find out how the stores extracted from the quarry are transported from the quarry to the users. **(any 2x1mk=2mks)**

**ii) State two problems they may have encountered. (2mks)**

* Fatigue
* Accidents e.g. falls
* Bad weather e.g. heavy downpour
* Difficulty in walking on rocky surfaces.
* Attack by dangerous animals e.g. snakes **(any 2x1mk=2mks)**

**7. (a)(i) What is vulcanicity? (2mks)**

- It is the process through which gaseous liquid/ molten rock/ solid r materials are forced into the earth’s crust or are ejected onto the surface **(1x2=2mks)**

**(ii) Name three intrusive volcanic features (3mks)**

-Dykes

-Loccolith

- Batholith

-lapolith

-Phacolith

-sill **(Any3x1-3mks )**

(**ii) Describe how the hot spring is formed**

* Rainfall enters the crustal rocks through cracks/ fissures
* The water reaches a zone of hot igneous rocks
* The water is super heated
* The supper heated water changes into vapour
* The vapour under high pressure forces its way up heating the ground water
* This water flows out continuously to form hot springs **(Any 5x1=5mks)**

**(b)(i ) Name the fold mountains found in the following continents**

 - Africa- Atlas

 - Cape ranges

- Asia- Himalayas

-North America- Rock/ Appalachian

-South America- Andes **(Any 4x1=4mks)**

 **(ii) Explain the formation of an over thrust fold**  **(5mks)**

* Layers of rocks of the earth’s crust are subjected to compressional forces
* Intense folding result in the formation of over fold
* With increase pressure the over fold results to the formation of recumbent fold
* When pressure is very great, a fracture occurs along the axis in the recumbent fold producing a thrust plane
* The upper part of the recumbent fold slides forward over the lower part along the plane resulting to the formation of an over thrust fold

 **(Any 5x1=5mks)**

**(c) (i)What are earth quakes? (2mks)**

- Sudden earth movements which cause vibrations within the crust **(1x2=2mks)**

 **(ii) Name two types of earthquakes (2mks)**

* Primary /push waves/P-waves
* Secondary/shear waves/ S-waves
* Longitudinal waves/L-waves **(Any 2x1=2mks)**

**(iii) State any two ways in which the earth’s crust is affected by earthquakes (2mks)**

* Earth quakes cause lateral vertical displacement of rocks
* They cause raising and lowering uplifting and warping of parts of the sea floor
* They cause raising/ lowering of land
* They cause landslides/ stumps
* They lead to faulting of the crust
* They lead to volcanic eruptions

 **(Any 2x1=2mks)**

**8. (a)Name three types of coast (3mks)**

- Coral coast

-submerged coast

-Emerged coast **( 3x1=3mks)**

**(b) Using well labeled diagrams, Describe the formation of stump in the sea (6mks**)

- Caves develop on both sides of headland due to wave erosion

- Two caves meet and opening occurs

- The head land becomes an oral

-Continuous erosion collapses the root to arch leaving a pillar standing called stacks

- The stack is further eroded to a low remnant called stump which under the water



 **Text – 3Marks Diagram 3 Marks = 6 Marks**

**(c) (i) Outline for conditions favouring coral growth (4mks)**

- Plenty supply of planktons

- Temperature ranging 200-290/ warm

- clear salty water

- Shallow water with a depth of less than 60m

-submerged conditions even at low tides

- Clear & well oxygenated water **(Any 4x1=4mks)**

**(ii) Explain three ways in which coral contributes to the economic development of Kenya (6mks)**

* Source of raw material for cement industry
* Marine life boost tourism industry which earn country foreign exchange
* Coral reef prevent sharks country to the beach making the beaches save
* Provide stones which are used in building industry
* Coral stones are extracted and sold as ornaments

**( Any 3x2=6mks )**

**(d) (i) Give three causes of ocean currents (3mks)**

- Difference in ocean water density/ salinity

- Difference in ocean water temperature

- winds blowing over the ocean

- Shape of coastal land mass

- Rotational of the earth **( Any 3x1=3mks )**

(**ii) Name three types of tides**

* Perigean
* Apogean
* Neap
* Spring

 **( Any 3x1=3mks )**

**9. a) i) What is a desert. (2mks**)

* It is an area of land which receives little rainfall (less 250mm per annum) and has scanty or no vegetation. **(1x2=2mks)**

**ii) Name two types of desert surfaces. (2mks)**

* Stony desert/reg/serir
* Sandy desert/evg/koum
* Rocky desert/Hamada **(Any 2x1mk=2mks)**

**b) Explain three factors that influence the development of deserts. (6mks)**

* Increased temperature which is accompanied by excessive evaporation.
* Prolonged drought or very low rainfall
* Existence of low ocean currents which makes the onshore winds dry.
* Presence of high mountain which block rain bearing winds causing a rain shadow effect.
* Remoteness of land in the interior of the continent far away from the direct influence of the sea (contintavity)
* Location of an area in the region of anticyclones where the prevailing winds are descending and diverging
* Human activities e.g. deforestation, overgrazing and overdrawing of underground water resources. **(any 3x2mks=6mks)**

**c) i) Apart from zengen, name two other features formed by wind erosion. (2mks)**

* Mushroom block
* Ventifacts
* Yardangs
* Deflation hollows
* Rock pedestal
* Millet seeds **(any 2x1mk=2mks)**

**ii) With the aid of well labeled diagrams, describe the formation of zeugen**.

* The landscape is made up of horizontal alternating layers of hard and soft rocks.
* Weathering opens joints and cracks on the top resistant layer.
* Wind abrasion erodes the opened joints while deflation removes the eroded materials.
* The processes continues until the soft layer is reached leading to the formation of a ridge and furrow landscape. The ridges formed from the hard resistance rock are the zeugen.

(must be mention to score maximum points)



**iii) State three processes of wind transportation in the deserts. (3mks)**

* Suspension
* Saltation
* Surface creep **(3x1=3mks)**

**d) State two factors influencing wind deposition in the deserts. (2mks)**

* Nature of the desert surface
* Presence of obstacles
* Strength and the direction of the wind
* Variation in weather conditions
* The amount of load carried. **(any 2x1=2mks)**

**10. a) i) Define underground water. (2mks)**

* This is the water stored in rocks (aquifer) between the earth surface. **(1x2=2mks)**

 **ii) State three sources of underground water. (3mks)**

* Rain
* Melt water
* Surface water storages
* Magmatic water/plutonic water. **(any 3x1=3mks)**

**iii) State three levels of saturation of ground water. (3mks)**

* Zone of non-saturation
* Zone of intermittent saturation
* Zone of permanent saturation **(3x1=3mks)**

**b) i) What is an artesian basin. (2mks)**

* It is a source shaped depression consisting of a layer of permeable rock sandwiched between two impermeable rocks and the whole system forms a syncline. **(1x2mks=2mks)**

**ii) Describe three ways in which springs are formed. (6mks)**

* Hill side spring
* Formed where a permeable rock lies above an impermeable one on a hill and water comes out at the junction the two rock layers.
* Dyke spring
* Formed where an igneous dyke cuts across a layer of permeable rock. Ground water on the upslope side is trapped causing water table to rise making it exposed to the surface leading to a spring.
* Vauclusian spring
* Formed on a hill or escarpment where limestone rock overlies an impermeable layer. Limestone rock becomes saturated with water and a spring emerges where the limestone rock meets the impermeable layer on the hillside.
* Valley spring
* Formed where water table intersects the surface along the side of the valley. **(type 3mks, explanation 3mks total = 6mks)**

**c) i) What is a Karst scenery**

* This is a limestone region with unique features formed as a result of action of water. **(1x2mks=2mks)**

ii) State two factors which influence the development of a Karst scenery. (2mks)

* The surface rock and the rock below should be hard and well jointed e.g. limestone, chalk or dolomite
* The climate should be hot and humid to facilitate chemical weathering.
* The water table should be far below the surface to allow underground features to form. **(any 2x1mk=2mks)**

**iii) The diagram below shows underground features in a Karst scenery. Use it to answer he question that follows**.



**Name the features labeled A, B, C (3mks)**

A – Cave/egverm

B – Stalagmite

C- Stalactite **(3x1=3mks)**

**d) State two significance of Karst scenery. (2mks)**

* Features in a karst scenery e.g. caves, attract tourists
* Limestone rock is used in the manufacture of cement.
* Limestone blocks are used for building
* Limestone regions are very good for grazing especially sheep
* Large villages called line settlements form at the line of vauclusian springs.
* Limestone landscape discourage settlements due to the ruggedness of the surface caused by clints and grikes.
* Limestone landscape lacks surface water due to presence of swallow holes. This discourages settlements. **(any 2x1mk=2mks)**