**END OF TERM 3 EXAMINATIONS 2022**

**FORM 3**

**GEOGRAPHY PAPER TWO.**

**MARKING SCHEME**

***Instructions.***

***This paper contain TWO section A and B. answer all questions in Both sections.***

***In a separate booklet provided.***

**SECTION A.**

1. a. What is mining? (2mks)
* ***Mining refers to all attempts to extract valuable minerals either solid, liquid or gases from the earth surface.***

b. State three factors influencing the occurrence of minerals. (3mks)

* ***Veins and lodes***
* ***Beds and seam***
* ***Weathering products***
* ***Alluvial or place deposits***
1. a. Name two indigenous softwood trees species. (2mks)
* ***Podo***
* ***Cede/ Juniper***
* ***Africa pencil***

b. Give three factors that favour the growth of Natural forests on the slopes of Mt. Kenya. (3mks)

* ***The area receives heavy rainfall over 1000mm.***
* ***The area has deep fertile volcanic soils.***
* ***The steep slopes discourage human activities.***
* ***The area is gazette forest reserve hence settlement is prohibited.***
1. a. What is sampling? (2mks)
* ***Sampling is the process by which a representative portion of the phenomena under research is selected for analysis.***

b. Give three main types of sampling techniques. (3mks)

* ***Random sampling***
* ***Systematic sampling***
* ***Stratified sampling.***
1. a. List two open cast methods of mining. (2mks)
* ***Stripping***
* ***His slope boring***

b. What are the effects of dereliction of land during mining? (3mks)

* ***Waste of agricultural land***
* ***Ugliness of the land***
* ***Heath and accident hazards.***
1. a. A student was requested to pick out fourteen numbers randomly from a set of numbers. She picked 20, 37, 1, 66, 42, 12, 6, 15, 12, 42, 100, 3, 82, and 42. Calculate:

i. The mean of the data. (2mks)

  ***= 20 + 37 + 1 + 66 + 42 + 12 + 6 15 + 12 + 42 + 100 +3 + 82 + 42***

 ***= 480***

 ***14***

 ***Mean = 34.3***

ii. The mode of the data. (1mk)

 ***42 occur thrice***

iii. The median of data. (2mks)

 = ***1 , 3, 6 ,12, 12, 15, 20, 37, 42, 42, 42, 66, 82, 100***

***Median = 20 + 37***

 ***2***

 ***= 57***

 ***2***

 ***= 28.5***

**SECTION B.**

1. a. The table below shows hypothetical data of minerals production in Tanzania in tones. Use it to construct proportional divided circles.

|  |  |
| --- | --- |
|  | **Quantity in tonnes** |
| **Minerals**  | 1998 | 1999 | 2000 |
| Graphites  | 200 | 490 | 930 |
| Fluorspar  | 30 | 255 | 450 |
| Soda ash | 270 | 300 | 350 |
| Diamond  | 500 | 870 | 1270 |
| Total  | 1000 | 1915 | 3000 |

***Square root. scale***

***1998 1cm rep 10 tonnes***

***Total √1000 =31.6 radius***

 ***32 1998 = 3.2 cm***

***1999 1999 = 4.4 cm***

***Total √1915 = 43.76 2000= 5.5cm***

 ***44***

***2000***

***Total √3000 = 54.8***

 ***55***

***Calculations of percentages and angles.***

***Years 1998***

***Graphite = 200 x 100 = 20% = 20 x 360 =72O***

 ***1000 100***

***Floursper = 30 x 100 = 3% = 3 x 360 = 10.8O***

 ***1000 100***

***Soda ash = 270 x 100 = 27% = 27 x 360 = 97.2O***

 ***1000 100***

***Diamond = 500 x 100 = 50% = 50 x 360= 180O***

 ***1000 100***

***Year 1999***

***Graphite = 490 x 100 = 25.6 = 25.6 x 360 = 92.2O***

 ***1915 100***

***Floursper 255 x 100 = 13.3% = 13.3x 360= 47.9O***

 ***1915 100***

***Soda ash = 300 x 100 = 15.7% = 15.7 x 360= 56.5O***

 ***1915 100***

***Diamond = 870 x 100 = 45.4% = 45.4 x 360 = 16.34O***

 ***1915 100***

***Year 2000***

***Graphite = 930 x 100 = 31% = 31 x 360 = 111O***

 ***3000 100***

***Floursper = 450 x 100 = 15% = 15 x 360 = 54O***

 ***3000 100***

***Soda ash = 350 x 100 = 11.7% = 11.7 x 360 = 42.1O***

 ***3000 100***

***Diamond = 1270 x 100 = 42.3% = 42.3 x 360 = 152.3O***

 ***3000 100***



b. State three advantages of proportional divided circles. (3mks)

* ***Individual contributions made by each component in the circles can be made at glance.***
* ***Components of the same circle can be compared easily.***
* ***They can be used to show many commodities.***
* ***They create a good visual impression.***
1. a. State four factors influencing exploitation of minerals. (4mks)
* ***value of the minerals***
* ***size of the mineral deposits***
* ***the quality of ore***
* ***methods of mining***
* ***technology***
* ***capital***
* ***market***
* ***transport cost***

b. Describe how drilling method occur in mining. (3mks)

* ***Drilling is commonly used in exploiting petroleum and natural gas.***
* ***Here boring wells are used to reach mineral deposits.***
* ***Petroleum is then brought to the surface either under its own pressure or by pumping.***

c. The map below show location of mineral in East Africa, use it to answer questions c (i) diagram.

i. Name the minerals found in areas marked J, K, L and M. (4mks)

* ***J – Tin***
* ***K – Salt/ limestone***
* ***L – Coal***
* ***M - Diamond***

ii. Describe the process of Trona in Lake magadi. (4mks)

* ***Trona is separated from water by being put on large sieves like trays.***
* ***Trona is washed to remove mud and salt.***
* ***After drying Trona is heated in big cylinder and it breaks into small particles of sodium carbonate.***
* ***Soda ash is allowed to cool.***
* ***It is then ground weight and packed into paper bags.***

d. Your class intend to carry out a field study of mining of Trona in Lake Magadi.

i. State four reasons why it is important to conduct a reconnaissance. (4mks)

* ***To familiarize the researcher with area of study.***
* ***It introduces the researcher to the authority and responded.***
* ***Help the researcher to identify methods of data collection.***
* ***It enables the researcher to determine the suitability of the area of study.***
* ***Help to identify any problem.***

ii. Give three items to be included in the working schedule for the study . (3mks)

* ***Time for departure***
* ***Time to spend in the study***
* ***Time for lunch***
* ***Time to end the study.***

e. State three benefits of Trona to the economy of Kenya. (3mks)

* ***Led to the growth of Madagi town***
* ***Led to the development of social amenities.***
* ***Has stimulated the development of infrastructure.***
* ***The company has provided employment to many***
1. a. What is forestry? (2mks)
* ***Forestry is the science of developing or cultivating forests.***

ii. Apart from tropical hardwood forest name two other types of natural forest. (2mks)

* ***Temperate hardwood forests***
* ***Coniferous forest***

iii. State the problems experienced in exploitation of tropical hardwood forest. (5mks)

* ***Trees take long time to mature***
* ***Different tree species are clustered in one area.***
* ***Trees mature at different times.***
* ***Trees trunks are huge.***
* ***Trees are heavy bulky***.

b. List the characteristics of planted forests in Kenya. (5mks)

* ***Trees appears in rows.***
* ***Trees have same species.***
* ***Trees are mainly softwoods.***
* ***They have little or no undergrowth.***
* ***They take time to mature.***
* ***Mainly located in highlands areas.***

c. Explain three factors that favour forestry in Canada. (6mks)

* ***The bottoms valley along the coast form a a suitable sites for location of paper mills clay for smoothening paper surface.***
* ***There are many rivers with waterfalls suitable for generation of H.EP for use in the industries.***
* ***Low temperature in the highland discourages settlement leaving forestry as the only land use.***
* ***The land is rugged with thin soil that discourages agriculture.***
* ***High precipitation favour growth of forests.***

d. Give five measures that the government has taken to conserve and manage forests in Kenya. (5mks)

* ***It has inacted laws to prohibit the cutting of trees without licence.***
* ***It has established forests research stations to conduct research on their species.***
* ***It encourage people to use alternative sources of energy.***
* ***Tree planting programmes drawn during rainy seasons.***
* ***Forests are protected by establishing forests guards.***

e. Form four students in your school carried out a field study on the forestry within the county.

i. Give reasons they had to prepare a working schedule. (3mks)

* ***It gives ample time to each activity.***
* ***It reduces tendency to time wastage.***
* ***It provide estimate of the time required for the study.***
* ***It provides a basis for evaluating field work.***
* ***It provide a framework that guides the reasercher.***

ii. What the problems likely to be encountered during the field study. (2mks)

* ***The researcher may fall sick.***
* ***The respondents may become uncooperative.***
* ***Language barrier between the researcher and the responded.***
* ***Transport problems***
* ***Environmental constraint e.g. heavy rainfall.***