

MARKING SCHEME

1. a. Define statistics (2mks)

Statistics refer to facts and figures collected and arranged in a systematic manner.

2x1=2mks

- b. Give three uses of statistics (3mks)

-it is vital for planning at local and national levels

-it helps in predicting future trends such as changes in the price level of major crops

-it is useful to show changes through time eg imports of machinery over the past five years

it is useful in making comparison and identify spatial relationships between geographical phenomena like rainfall amounts and population distribution 1x3=3mks

2. a) Identify the two types of photographs (2mks)

-Ground photographs

-Aerial photographs

- b) State three advantages of using photographs as a technique of recording data (3mks)

-Photographs are easy to take

-Photographs are less time consuming in that one only needs to focus on the object being photographed

-Photographs shows physical features such as the appearance of a landscape or economic activities taking place

-Photographs are easily accessible

3. a) Name two areas where gold is mined in South Africa (2mks)

-Witwatersrand

-Lydenburg

-ogendaalrus

- b) State three types of minerals (3mks)

● **Metallic minerals**

● **Non-metallic minerals**

- **Energy minerals**
4. a) State two factors that influence the distribution and types of natural forests. (2mks)
- **Climate**
 - **Altitude**
 - **Soils**
 - **Human activities**
- b) State three problems facing the growth of softwood forests in Canada.
- **Periodic forest fires destroy large areas**
 - **The harsh, cold conditions do not allow trees to mature quickly**
 - **The northern parts are inaccessible in winter (3mks)**
5. (a) Differentiate between a reconnaissance and a working schedule? (2mks)
- A reconnaissance is a short visit conducted before the actual day of study while a working schedule is a timetable of activities to be followed on the day of study**
- (b). Give three importance's of a working schedule
- **To ensure proper time management and reduce the tendency of wasting time.**
 - **To ensure that no important area will be inadequately covered or forgotten**
 - **It ensures that the one carrying out the study remains on course i.e does not deviate to irrelevant areas.**
 - **It is a pointer of how much time will be required for the study. (3mks)**

SECTION B.

Answer question 6 and any other two questions in this section

6. The table below shows the distribution of minerals in a country X in tonnes. Study it carefully and answer the questions that follow.

al/Year		
nd		
r		
L		

- Draw proportional divided circles to represent the above data using a scale of 1cm represents 4 tonnes.

$$\text{Radius} : \frac{\sqrt{64}}{\sqrt{100}} = \frac{8}{10}$$

2012

$$\text{Trona} = \frac{25}{64} \times 360 = 140.6^{\circ} \frac{1}{2}$$

$$\text{Gold} = \frac{15}{64} \times 360 = 84.4^{\circ} \frac{1}{2}$$

$$\text{Oil} = \frac{10}{64} \times 360 = 56.25^{\circ} \frac{1}{2}$$

$$\text{Diamond} = \frac{9}{64} \times 360 = 50.6^{\circ} \frac{1}{2}$$

$$\text{Copper} = \frac{5}{64} \times 360 = 28.125^{\circ} \frac{1}{2}$$

2013

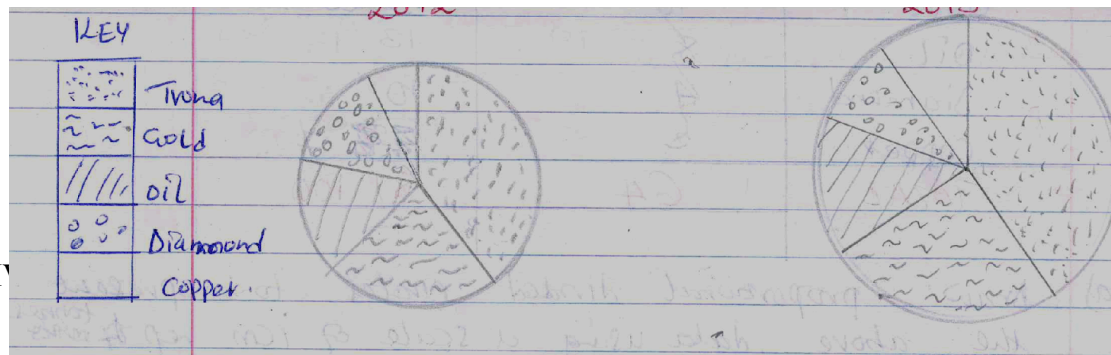
$$\frac{40}{100} \times 360 = 144$$

$$\frac{25}{100} \times 360 = 90^{\circ}$$

$$\frac{15}{100} \times 360 = 54^{\circ}$$

$$\frac{10}{100} \times 360 = 36^{\circ}$$

a) PROPORTIONAL DI
X IN TONNES



2012

2013

MARK AWARDING

T= 1mk

Calculations – 5mks

Key – 1mk

Correct scale $\frac{1}{2} \times 2 = 1\text{mk}$

Correct drawn sectors – $2 \times 2 = 4\text{mks}$

Total – 12mks

b) Name two other ways in which the above data can be represented. (2mks)

- i) **Comparative bar graph**
- ii) **Compound/cumulative bar graph**
- iii) **Divided rectangles.**

c) State two advantages and two disadvantages of using proportional divided circles to represent data.

Advantages

- i) **They give clear comparisons of total values of data.**
- ii) **They give a good visual impression.**
- iii) **Can be combined with other methods on the same maps home aiding in data analysis.**

d) Identify 3 methods of mining. (3mks)

- **Open cast mining**
- **Underground mining**
- **Alluvial mining/placer method.**

e) State two uses of diamonds. (2mks)

- **Cutting metals**
- **Polishing metals**
- **For making jewellery**
- **For cutting glass.**

f) State four economic benefits of mining to the economy of South Africa. (4mks)

- **It earns the country foreign exchange which is used as a means of paying international debts.**
- **It offers employment to many people raising their standard of living.**
- **It has led to widespread urbanization contributing to the formation of the withwatersland conurbation.**

- **It has led to the development of modern infrastructure e.g. roads, railways and social amenities.**

- 7 (a) i) Define agro-forestry. (1mk)
-Its land use practice where there is growing of trees and crops on the same of land and at the same time
- (ii) List two species of indigenous hardwood forest trees in Kenya. (2mks)
-The meru oak
-Elgon olive
-Elgon teak
-Camphor
-Mvuli
Mangroove
- (b) Give the differences in the exploitation of softwood forests in Kenya and Canada under the following sub-headings;
- i) Distribution of forests; (1x 2= 2mks)
- **In Kenya, softwood forests are found mainly in the highlands while in Canada they are found both in highland and lowland areas.**
 - **In Kenya, softwood forests cover a small percentage of the total land area while in Canada they cover large tracts of land.**
- ii) Transportation (1x 2= 2mks)
- **In Kenya, logs are transported by road/trucks while in Canada transport is mainly by water by rivers.**
 - **In Kenya, transportation is expensive while in Canada it is cheap.**
- (c) Name four reserves found in coastal region of kenya (4mks)
- g) **Shimba hill**
 - h) **Sarabuko-sokoke forest reserves**
 - i) **Boni/dondori forests**
 - j) **Kaya forests**
 - k) **Mangrove forests**
- (d) (i) what is forest conservation (2mks)
- it is the protection of forests against over-exploitation and misuse by man
- (ii) State four significance of forestry in Kenya (4mks)
-provision of wood fuel e.g. charcoal, firewood and sawdust
-for building and construction materials such as timber , poles and boards.

- trees act as wind breakers
- for protection of catchment areas for ecological conservation
- production of industrial raw materials e.g. rubber, latex and weaving materials

- (e) Explain four factors that favour the exploitation of softwood forests in Canada. (8mks)
- Winters are mild and rivers are ice free in British Columbia making it possible to transport logs throughout the year
 - The fast flowing rivers with plenty of waters provide adequate water for the processing of wood.
 - There is high demand for forests products within Canada and U.S.A
 - Availability of water from the rivers for processing of timber into pulp and paper
 - location of industries along the coastline of the Pacific ocean thus easing the exportation of the products to U.S.A , Europe and Japan
- 4 x 2 =8mks

8. a) list three types of fieldwork (3mks)

Fieldwork research
Field excursion/ Field Trip
Field study

- b) Students from your school carried out a field study in a market.

- i) list down the normal pattern that the fieldwork procedure takes (5mks)

- identify the topic of study
- statement of objectives
- formulation of hypothesis
- prepare for the fieldwork
- conduct the actual study

NB/ THE ORDER MUST BE FOLLOWED

- ii) Give five activities the students will require to do before going for the fieldwork (5mks)

- Seek permission from authorities
- Conduct a reconnaissance
- Adjust objectives and hypothesis
- Choose suitable methods of data collection
- Assemble necessary tools
- Prepare a working schedule
- Divide the students into groups

- iii) State three objectives of the study (3mks)

- To find out which types of goods are sold in the market.
- To find out sources of the goods sold in the market.
- To find out the challenges encountered in marketing of the goods.

N/B: Award any relevant correctly stated objective.

- iv) List three problems they are likely to encounter during the study(3mks)

- Inadequate data.
- Advance weather conditions e.g. rainfall

- **Fatigue**
- **Mechanical breakdown of vehicles.**
- **Sickness team member/researcher.**

v) Prepare a working schedule to be used during the study (4mks)

5.00A.M- 5.30AM -arrival
5.30A.M-8.30AM -travelling
8.30AM-9.30AM -breakfast
9.30AM-10.30AM -instructions and dividing into groups
10.30AM-12.00PM - field study in the food market.
12.00- 1.00PM -interviewing the trader.
1.00PM-2.00PM - lunch
2:00PM- 4:00PM - travelling back to the school

Or any other well organized schedule

vi) List two follow-up activities that the students could have been involved in (2mks)

- Discussing and comparing notes in groups**
- Group secretaries make a presentation in class**
- Compiling the reports**
- present the data in tables,graphs e.t.c**

9. a. i. Define the term mining. (2 mks)

It's the extraction of valuable minerals from the ground.

ii. State three ways in which minerals occur. (3 mks)

- **As veins and lodes**
- **Beds and seams**
- **Weathering products**
- **Alluvial/placer deposits**

b. i. State and explain 4 factors that influence the occurrence and exploitation of minerals. (8 mks)

- **Value of the mineral**
- **Transport costs**
- **Labour availability**
- **Political factors**
- **Capital availability**
- **Size of the mineral deposits**
- **Demand for the mineral/market factors**
- **Quality of the ore**
- **Level of technology**

Well explained points 4 x 2 = 8mks

ii. Explain any two methods employed in underground mining.

- **Shaft method – vertical shafts are sunk into the earth's crust and connected to horizontal**

tunnels in order to reach the mineral.

- **Drift/Adit method** – horizontal tunnels are dug into the hill or valley sides to reach the mineral.
- **Solution method** – pipes are sunk at great depths to the mineral deposits eg. sulphur. Super heated water is directed through the pipes to dissolve the mineral, which is then pumped to

the surface.

- **Drilling method** – wells are dug and oil or gas are extracted. 2 x 2 = 4mks

c. i. State 4 effects of mining in the environment. (4 mks)

- **Leads to land dereliction.**
- **Collapse of underground mines may lead to heavy casualties/loss of human lives and destruction of property.**
- **Pollution of soil, air and water.**
- **Mining activities interfere with the local water table.**

ii. Highlight 4 problems facing mining in Kenya. (4 mks)

- **Extraction and processing of some minerals pollute the environment.**
- **Inadequate capital for mineral exploitation.**
- **Lack of skilled personnel limits mineral exploration.**
- **Mining activities are mainly in the hands of foreign companies who repatriate the profits to their home countries.**
- **Competition from developed countries.**
- **Shortage of power/energy for mining activities.**

10. a. i. Define the term forest. (2 mks)

A forest is a collection of trees of one or more species growing naturally or planted by human beings in an area

ii. Explain five uses of forests and forest products in Kenya.

- **Forests prevent the soil from erosion.**
- **Provision of raw materials for various industries.**
- **Source of fuel.**
- **Source of food – sericulture and apiculture are practiced in forests.**
- **Provide employment opportunities and are a source of revenue.** (5x2=10 mks)

Award well explained points.

b. i. Outline any 4 problems facing forestry in Kenya. (4 mks)

- **Over exploitation and illegal logging.**
- **Destruction of forests by drought, fires, pests and diseases.**
- **Massive deforestation due to encroachment into forest lands.**
- **Poor forest management and conservation practices.**

ii. Highlight five forest conservation measures commonly used in Kenya. (5 mks)

- **Creation of forest reserves.**
- **Agro-forestry and silviculture.**
- **Encouraging afforestation and reafforestation practices.**

- **Use of alternative sources of energy and energy saving devices.**
 - **Employment of forest warders who protect forests from illegal exploitation.**
- (5x1=5 mks)**

c. State four characteristics of soft wood forests in Canada.

- **Trees are conical in shape**
- **Trees occur in pure strands**
- **Trees grow tall and straight 30 – 40 metres**
- **Trees bare cones**
- **Forest are evergreen**
- **Forest have no undergrowth**
- **Trees have thick barks.**

4 x 1 = 4mks