EXAMINATIONS COUNCIL OF ESWATINI

Eswatini General Certificate of Secondary Education

Geography (6890)

Examination Report for 2023

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EGCSE GEOGRAPHY

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General Comments

The number of candidates increased from 7400 in 2022 to 8513 in 2023.

Popular questions were Questions 1,3 and 6 while Question 2 was least popular.

Question 1 was a high scoring question, and the lowest scoring was Question 2.

Sub questions 2(a) (iii), 5(b)(ii) were a serious challenge with very few candidates scoring marks.

2(a)(iv), 2(c), 3(b) (ii), 4(b)(ii), 5(b)(i), and 6(c) were misinterpreted by the candidates.

Rubric cases increased this year with some candidates answering all questions or answering two questions in one theme instead of one question from each theme. Time was well managed by the candidates, as they were able to answer all three questions.

It was noted that candidates tended not to utilise the resources provided in the question paper. In most cases they ignored the resource given hence ended up giving general answers.

The following terms or key words proved to be a challenge to the candidates: features, affect, ageing, location, trend, and distribution.

Some candidates did not give an example for the case studies in part (c).

Comments on specific questions

THEME 2: THE PHYSICAL WORLD

Question 1

(a) Study Fig. 1, which shows an active volcano.

   (i)   Define an active volcano.

   Some candidates were unable to define an *active* volcano instead defined a volcano.

   Expected response:

   Volcano that erupts frequently/now and then.

(ii) **Name the parts of the volcano marked A and B shown in Fig. 1.**

This question was fairly answered although a few candidates had a challenge with identifying part B, which they identified either as a dyke or magma chamber. Spelling mistakes were common such as crate/crest/creator for crater.

Expected responses:

A Crater
B Vent/pipe

(iii) **Identify three volcanic hazards that are shown in Fig. 1.**

Generally, the question was well done as most candidates were able to identify the volcanic hazards. A few lost marks by referring to hazards not shown in Fig. 1, such as mudflows and destruction of buildings.

Expected responses:
- Falling ash
- Lava flow
- Smoke/Volcanic cloud
- Poisonous gases

(iv) **State four ways in which people can limit the impacts of volcanic eruptions.**

This question was generally well answered, candidates were familiar with different ways of limiting the impacts. Some candidates stated ways of limiting impacts of earthquakes instead of volcanoes, especially when referring to buildings.

Expected responses:
- Warning through prediction instruments/ creating awareness
- Evacuation/relocation
- Post recovery plans
- Redirecting lava flows
- Dropping concrete slabs on lava flow
- Spraying water on lava flows
- Constructing dams to trap lava/ mudflows
- Rescue and emergency personnel
- Restricting settlements
- Stock piling emergency supplies

(b) Study Fig. 2 which shows the distribution of major earthquakes

(i) Describe the distribution of the earthquakes shown in Fig. 2.

Candidates had a challenge with describing distribution. They seem not to understand the meaning of distribution as they would describe how an earthquake is formed. They also have a challenge with cardinal points as they would mix up East and West of South America. In some instances, the answers given were vague such as middle of Atlantic Ocean, east of a plate instead of a continent, and east or west of the map, which did not score.

Expected responses:

- Mid Atlantic Ocean
- Southern Europe
- East Asia/Japan/New Zealand Southern Asia/Malaysia/Indonesia
- East Africa/East African rift valley/NW Africa/West of South America/ West of North America
- Pacific Ring of Fire
- Along plate boundaries

(ii) Explain two hazards associated with earthquakes.

The question was generally well answered. Most candidates were able to state the hazards. A few, though, did not understand the meaning of the term hazard.

Expected responses:

- Destruction of buildings – people become homeless
- Dams collapse – leading to flooding
- Power lines break causing fires and interruption of essential services
- Spread of diseases – lack of clean water and bursting of sewer pipes
- Landslides occur – alter natural landscapes/destroy buildings, farmland
- Loss of lives – people killed by collapsing buildings
- Damage to roads/rail/ports – limiting emergency services
- Tsunami – destruction of property/death of people
- Destruction of fields and food storages – food shortage
- Eruption of volcanoes – any explained possible hazard of volanoes

(c) Many people continue to live in areas affected by volcanoes. For an area you have studied explain three reasons why people continue to live in areas affected by volcanoes.

Candidates were able to explain the reasons they only had a challenge with giving the correct examples.

Expected responses:

Example: Any area affected by volcanoes e.g. Mt Fuji, Mt Merapi

- Fertile volcanic soils – for high agriculture yield
- Availability of minerals – exploited which provides jobs/ income for the country
- Geothermal electricity – for domestic and industrial use
- Tourist attraction – which brings income to the country
- Hot springs – for leisure / promotes tourism
- Prediction instruments – give people confidence they will be evacuated before eruption
- Volcanologists/ researchers/employment opportunities – have to live there to study the volcanoes/ source of income
- Pressure of living space – other areas already densely populated
- Sentimental attachment/ancestral ties – difficult to move because always lived there/relatives buried there
- Poverty - lack of resources to relocate
- Caldera lakes – source of water and fish for food
- Volcanic mountains are forested – promotes lumbering industry
- Dormant volcanoes - not likely to erupt

   3 @ 2 marks (1 mark for stating reason, 1 mark for explanation)

   Reserve 1 mark for example

Question 2

(a) Study Fig. 3, which shows an instrument found at a weather station.

   (i) Name the instrument shown in Fig. 3.

   This question was fairly done by candidates. However, some candidates confused this instrument with a hygrometer.

Expected response:

Six's thermometer/ Maximum and minimum thermometer

(ii) Identify the features marked X and Y in Fig. 3.

This was generally challenging to candidates as liquid X was identified a s alcohol and part Y as a stopper or kink. This was common amongst those candidates that identified the instrument as a hygrometer.

 Expected response:

Liquid **X** – Mercury

Part **Y** – Index

(iii) Describe how the instrument shown in Fig. 3 measures temperature.

A very challenging question for most candidates. they were not able to describe how this instrument works. During their description they would confuse the maximum and the minimum thermometers. Some steps were partly described or not mentioned at all e.g. making reference to alcohol expansion without stating what will happen to the mercury. Also, some, who had a challenge identifying the parts, could describe properly how the instrument works.

 Expected responses:

- Increase in temperature – alcohol in the left arm expands, while some of the alcohol in the right arm evaporates into the space in the bulb,
- The expanding alcohol on the left is then able to push the mercury up the right arm,
- Mercury pushes the index which is left at the maximum temperature reached.
- When the temperature cools, the alcohol in the left arm contracts some of the vapour in the right bulb turns back to liquid,
- the mercury then moves up the left arm pushing the metal index to indicate the minimum temperature reached.

(iv) Identify four factors that affect the climate of a place.

Candidates misinterpreted this question, as they would refer to factors that cause climate change such as deforestation, release of greenhouse gases etc. Some referred to elements of weather such as temperature, rainfall and humidity, which did not score. Some of the responses were

general such as wind instead of prevailing winds. Some similar factors were often repeated such as latitude and distance from the equator and altitude and height above sea level.

Expected responses:

- Latitude
- Altitude
- Aspect
- Distance from the sea
- Prevailing winds/ local winds
- Ocean currents
- cloud cover

(b) Study Photograph A (Insert), which shows a weather instrument.

(i) Identify four features of the weather instrument shown in Photograph A.

Identifying the features of this instrument was a challenge to most candidates. The responses were general such as: made of wood instead of wooden frame, gold coloured and made of glass. Some gave the features of an aneroid barometer such as pointer instead of pointer with pen. A few candidates identified the instrument as a Stevenson screen.

Expected responses:

- Collapsible drum/partial vacuum/little air inside
- Rotating drum
- Recording pen
- Recording chart
- Spring/lever system
- Wooden frame/glass box.

(ii) Explain two reasons why this instrument is kept in a Stevenson screen.

The question was poorly done as candidates would just describe features of a Stevenson screen instead of stating the reasons for keeping the instrument inside the screen. Most of the reasons were not well explained, i.e. linking the reason to the feature.

Expected responses:

- To reflect sun's rays – painted white
- To avoid absorption of heat/ insulation – made of wood
- Adequate ventilation / louvered sides
- Prevent influence of ground heat – raised 121cm above ground surface
- Protection – from bad weather/ animals
- Insulation from Sun's rays – double board roofing

(c) The climate of an area has an impact on people and the environment. For an area of hot desert you have studied, explain three negative impacts of the climate on the people.

Candidates seemed to miss the key term *climate* thus they also gave impacts that are not climatic such as poverty, lack of vegetation, sandy and fertile soils etc. which did not score. Candidates also lost marks by giving wrong examples where there are no deserts. Areas in Eswatini such as Lavumisa and Hlane were often given.

Expected responses:

Example: An area of hot desert, Sahara, Namib, Kalahari etc.

- Little rainfall/ drought – People have to move in search of water and food for themselves and their livestock/shortage of food and water for domestic use.
- High temperatures – leads to high evaporation rates thus water shortage for the people and livestock/ leads to skin diseases.
- Sandstorms – sand covers transportation routes disrupting communications/ affects water quality/ may bury infrastructure in villages and towns/ affects visibility for land and air transport.
- Lack of cloud cover – results in very cold nights causing discomfort
- Dry winds – high evaporation rates thus shortage of water/ decline in crop yields
- Low humidity – can lead to skin irritation/ throat and lung problems.

    3 @ 2 marks (1 mark for stating reason, 1 mark for explanation)

    Reserve 1 mark for example

Question 3

(a) Study Photographs B and C(Insert), which show two methods of irrigation used in Eswatini.

(i) Define the term irrigation.

Fairly answered by candidates as the definition was known.

Expected response:

Artificial watering of crops

(ii) Identify the methods of irrigation shown in Photographs B and C.

A majority of candidates were able to identify one of the two methods. They lost marks by giving general answers such as overhead, surface irrigation without being specific.

Expected response:

B – Centre pivot/spray/sprinkler

C – Furrow

(iii) Describe three advantages of using irrigation.

The question was poorly answered by candidates. Their responses leaned more on advantages of farming in general, rather than on irrigation. Those who misinterpreted the question gave responses such as easy to use, makes work easier, takes a short time. However, most candidates mentioned higher yields or increased yield.

Expected responses:

- Crops can be grown in dry areas
- Crops can be grown throughout the year
- Allows multi cropping
- Extends area that can be cultivated
- Increases yield
- Crops quickly reach maturity
- Cools stressed plants/prevents wilting during hot days

(iv) **State four problems that can be encountered when attempting to increase the area under the area under irrigation.**

This question was misinterpreted by most candidates. They gave problems that result from the use of irrigation like soil erosion, soil compaction, salinisation etc. In some cases, candidates just gave general statements without stating specifically how these are a problem e.g. need for machinery instead of high cost of machinery, availability of capital instead of lack of capital.

Expected responses:

- Scarcity of water sources
- Salty ground water
- High evaporation rates
- Competition for water from other users
- Lack of capital for irrigation infrastructure construction/high cost
- Adverse relief

(b) Study Photograph D (Insert), which shows a method of clearing land for agriculture.

(i) **With the aid of Photograph D and your own knowledge, describe four ways by which land is prepared for agriculture**.

Candidates did well in this question. They were familiar with how land is prepared for agriculture. Most got the total marks.

Expected responses:

- Movement of people from area/resettlement
- Clearing of vegetation using bull dozers/heavy chains/ traditional tools
- Removal of large rocks
- De-stumping
- Burning of vegetation and stumps
- Terracing/levelling
- Soil testing
- Construction of irrigation infrastructure
- Drainage of marshy areas
- Fencing
- Ploughing/harrowing/tillage
- Application of fertilizers/lime /manure

(ii) Explain two problems encountered in the clearing and preparation of land for agriculture.

This was fairly answered though some candidates could not properly develop their points.

Expected response:

- Capital shortage – to buy equipment to be used for clearing

- Resettlement of people – high cost of relocation

- Unreliable climatic conditions – limits the choice of crops

- Dense forests – difficult and high cost to clear

- Maintenance of machinery leads to high costs

- Lack of technical knowledge – to do the work efficiently

- Steep slopes/rocky terrain – high cost of removing rocks/ levelling

- Dangerous animals – may harm workers

- Soil problems –acidic/alkaline/salty/infertile

(c) Sugar cane is one of the cash crops grown in Eswatini.

For an area you have studied, explain three physical factors that favour the growing of sugar cane.

A majority of candidates ignored the key word *physical* hence they also gave economic and social factors such as use of agrochemicals, use of fertilizers, availability of machinery. The factor 'gentle slope' was poorly developed with general points such as easy to grow crops, prevents soil erosion instead of allows easy use of machinery. Reference to high temperatures was common instead of warm temperature. In their development, the effect of warm temperature was often mixed up with the effect of lots of sunshine hours. This being a case study, candidates were expected to give specific factors not factors/conditions necessary such as 'it needs fertile soils" instead it should be "availability of fertile soils" or, there should be availability of water instead of presence of adequate water supply.

Expected responses:

Example: An area of sugar cane growing – Mhlume, Big Bend, Simunye, Siphofaneni etc.

- Gentle undulating land – allows easy use of machinery/ easy installation of irrigation systems

- Fertile/loam soils – lead to high yields

- Warm temperatures (22^0C -32^0C) – increases the level of growth

- Adequate water supplies – from the rivers and dams for irrigation

- Lots of sunshine hours – increase sucrose levels.

3 @ 2 marks (1 mark for stating reason, 1 mark for explanation)

Reserve 1 mark for example

Question 4

(a) Study Fig. 4, which shows the number of tourists visiting the African countries between 1980 and 2010.

(i) What was the total number of tourists in the year 1990?

The question was fairly answered by candidates. The following led to a loss of marks: failure to use correct units (thousands) hence they gave 280 instead of 280 000, poor graph reading skills; hence they gave the answer as 256 000 (as if each interval is 5000 not 1000)

Expected response:

280 000/ 280 thousands

(ii) Identify the country which:

A had 65 000 tourists in 2000

B doubled its number of tourists from 2000 to 2010

Most had a challenge with identifying country A but scored for country B.

Expected response:

A Zimbabwe

B South Africa

(iii) Describe the trend or pattern of total tourist numbers from 1980 to 2010 shown in Fig. 4.
Candidates had a challenge with this question. They could not use the relevant or correct words for describing a trend or pattern instead they were using comparison terms such as more, less or higher which did not score marks. Some just described the pattern of individual countries instead of the total tourist numbers.

Expected response:
- Generally, increases/fluctuates
- It increases from 1980 to 1990
- Decreases from 1990 to 2000
- Increases from 2000 to 2010

(iv) Suggest four reasons for the trend in international tourism between 2000 and 2010.

Fairly done though marks were lost by concentrating on individual countries such as South Africa hence they gave responses such as the 2010 world cup.

Expected response:

- Affluence/higher wages
- Increase in leisure time
- Paid leave for workers
- Cheaper and safe /reliable airlines
- Large investment in airline capacity
- Marketing/advertising oh holiday hotspots/ package tours
- Easy booking through internet
- RETOSA
- Large number of retired people
- Increase in development of infrastructure of tourist attractions/ ecotourism

(b) Study Fig. 5 which shows the location of the Royal Science and Technology Park in Eswatini.

(i) Using Fig. 5 describe four factors that may have influenced the location of the Royal Science and Technology Park.

Candidates failed to take note of the key word *location* in the question which required the use of terms such as near, next to, close by etc. They were expected to pick or lift the answers from the Fig. 5, but they interpreted the resource. Some candidates misinterpreted the RSTP with game parks such as Malolotja hence they gave responses such as easy arrival of tourists at the airport.

Expected responses:

- Near Matsapha airport
- Near the University of Eswatini
- Near the Mbabane Manzini highway/MR 3/MR 9
- Next to the Matsapha Industrial Estate
- Near reserved land
- Edge of Manzini city/open space

(ii) Explain two benefits of science and business parks for a country.

This was a challenging question to candidates. Seems like some candidates had no clue what science and business parks are.

Expected responses:

- Improves the use of technology – which stimulates economic growth
- Encourages innovation – development of new products
- Promotes global competitiveness – people are empowered with international technological skills
- Promotes collaboration networking – sharing of ideas
- Improved standard of living – there are state of the art facilities
- Employment opportunities – for highly skilled labour

(c) Tourism has advantages and disadvantages for a country. For an area you have studied, explain three economic advantages brought by tourism.

Candidates lost marks by giving non-economic factors such as cultural exchange. The factors given were poorly developed. Candidates had a challenge with giving an example of an area of tourism instead gave examples of countries.

Expected response:

Example: An area of tourism – Ezulwini, Durban, Cape Town etc.

- Locals get jobs – as they serve tourists in hotels/tour guides etc./improves standard of living.
- Government gets taxes – from tourist providing facilities which helps to improve the country's infrastructure.
- Promotes sale of handcraft – as tourists buy a lot of handcrafts
- Skills acquisition – as locals gain knowledge on skills/empowered to start their own businesses.
- Increase in sales for farmers – have to produce more to cater for tourists facilities.
- Development of infrastructure and services – locals also benefit from these.
- Foreign exchange – tourists bring valuable foreign currency.

3 @ 2 marks (1 mark for stating reason, 1 mark for explanation)

Reserve 1 mark for example

Question 5

(a) Study Fig. 6 which shows part of a city in an LEDC.

(i) What does CBD stand for?

The question was fairly answered save for a few who wrote Commercial Business District.

Expected response:

Central Business District

(ii) State two characteristic features of buildings in the CBD.

This was well answered by candidates as most scored full marks. A few lost marks by referring to features of the CBD in general instead of buildings e.g. traffic congestion and pollution.

Expected response:

- Tall/skyscrapers
- Modern designs
- Mixture of old and new
- Different heights
- Flat roofs
- Multi coloured
- Signage on walls
- Mainly glass
- High density

(iii) Using Fig. 6, give three reasons for the location of the area of low-income housing.

The reasons were poorly stated by candidates, they just stated 'for work, or for transport without stating where the relative location of the zone was i.e. near industries for work or near river for water supply.

Expected response:

- Closer to industries for work
- Next to railway line for transport
- Near river for water supply
- Closer to sugar plantations for work
- Close to CBD for proximity to work
- Land might be cheaper due to proximity to railway

(iv) State four features shown in Fig. 6 which prevented the city from expanding northwards.

Most candidates were able to identify the features that have prevented the expansion of the city.

Expected response:

- Thick dense forest
- Rocky highland
- Swamp
- Sugar plantations

(b) Study Fig. 7, which shows the Burgess concentric model of a city.

(i) Using Fig. 7, identify the land use zones labelled 1, 2, 3 and 4.

This was fairly answered by candidates. However, zone 1 was often referred to as the Commercial Business District, and zone 4 was confused with zone 5 which is high income residential.

Expected response:

1 – CBD

2 – light industrial zone/transitional/inner city

3 – Low-income residential

4 – Middle-income residential

(ii) Explain two reasons for the development of concentric land use zones in a city.

This was a very challenging question to most candidates as most did not score even a mark in this question. Candidates just described the function of each zone.

Expected response:

CBD develops at centre – original growth point/transport routes meet there

Industrials area near the CBD – to supply goods to the shops

Low-income residential area – next to industrial area for ease of access to work

High-income residential area outskirts of town – can afford to travel/ peaceful Environment

Efficient public transport and affluence – allow people to live far from the CBD

(c) **The growth of squatter settlements results in problems. For an area you have studied, explain three problems resulting from the growth of squatter settlements.**

The question was generally well answered by candidates. Some had a challenge with giving the relevant example of an area of squatter settlement.

Expected response:

Example: An area of squatter settlement – KaKhoza, Mangozeni etc

- High rate of crime – due to high rate of unemployment.
- Pollution (air/water/litter) – leads to faster spread of diseases.
- Poor sanitation – due to open drains, leading to diseases.
- Fire can spread easily – houses are congested and made from flammable material.
- High infant mortality rate – due to poor sanitation and health facilities.
- Overcrowding – faster spread of diseases.
- Lack of social services – leading to congestion/overcrowding.
- Lack of electricity – leading to illegal connections.
- Lack of clean water supply – spread of diseases.
- Insecure residential status – as they may be removed anytime.

    3 @ 2 marks (1 mark for stating reason, 1 mark for explanation)

    Reserve 1 mark for example

Question 6

(a) Study Fig. 8, which shows a model of population change over time.

(i) What is the name of the model shown in Fig. 8?

Most candidates had a challenge with naming the model. They gave responses such as Democratic model, or just transition model, and line graph.

Expected response:

Demographic Transition Model

(ii) Using Fig. 8, state two stages that experience a decline in the total population.

Candidates failed to interpret the provided resource; they used their background knowledge to answer the question. Most got one mark for identifying one of the two stages.

Expected response:

- Stage 1
- Stage 5

(iii) Describe the changes that have taken place in the birth rate, death rate, and total population in Stage 2.

Candidates failed to describe the changes. They instead just referred to the status such as birth rate is high, instead of **remains** high/constant, or death rate is low instead of **decreases/declines** rapidly.

Expected response:

- Birth rate remains high/constant/slight decline
- Death rate rapidly declines
- Total population rapidly increases

(iv) Suggest four reasons for the low birth rate in Stage 4.

This question was fairly done by candidates. Some lost marks by repeating the same point e.g. use of contraceptives and use of condoms.

Expected responses:

- Improved women status/women are now career oriented
- High living standard
- Education
- Effective family planning
- Delayed marriages
- Population policy
- Reduction in the value of children's work
- Increased desire for material possessions
- Legalised abortion

(b) Study Photograph E (Insert), which shows an urban area.

(i) Using Photograph E (Insert) identify four reasons for rural to urban migration.

Candidates were expected to focus on pull factors that are found in urban areas. Some gave even push factors hence they lost marks. Candidates were also expected to show that the factors have

improved in the urban area compared to rural area. e.g. health facilities are also available in rural areas but in urban areas they are more and better.

Expected response:

- Job opportunities/better salaries

- Increased number of recreational facilities

- Improved infrastructure /ease of transport

- Increased access to health care/ hospitals

- Increased access to educational facilities/ better schools/universities

- City lifestyle

(ii) Explain two problems encountered in urban areas as a result of high migration.

The question was generally well answered by candidates. Most scored the maximum marks. However, some candidates referred to overpopulation instead of overcrowding.

Expected response:

- Overcrowding – faster spread of diseases
- Unemployment – few job opportunities than the job seekers
- Overuse of water resources – leading to water shortages
- High rate of crime and prostitution – because of high rate of unemployment
- Poor sanitation –due to lack of clean water and waste disposal facilities
- Spread of disease – lack of sanitation
- Lack of social services – due to the high influx of migrants
- Traffic congestion – may lead to road accidents, delays
- Cultural conflicts – may lead to crime and deviance

(c) An ageing population is a problem for most MEDCs. For an area you have studied, explain three reasons why some MEDCs are worried about having a large ageing population.

Most candidates failed to understand this question. They missed the key word 'ageing' thus they ended up giving problems caused by a high population in a country such as high rate of unemployment/ high crime rate, increased pollution etc. Candidates also lost a mark for example by giving an example of areas in LEDCs.

Expected response:

Example: an area in an MEDC

- Higher taxation – in order to pay social grants for the ageing population.

- Lack of innovative work force – which leads to stagnation of technological industries.

- Lack of labour force – results in importation of labour

- Underuse of youth facilities – which will result in some being closed.

- Government expenditure increases – as it has to take care of the ageing / pension.

- Hard to defend country – as there will be few youth to join the army

- Lack of markets – elderly spend less on commodities.

    3 @ 2 marks (1 mark for stating reason, 1 mark for explanation)

    Reserve 1 mark for example

EGCSE GEOGRAPHY

> ## Paper 6890/02
> ## Geographical Skills

Key Messages

- It is essential that candidates study the map carefully before deciding their answers. For example, looking beyond the area in question can often help with interpreting the landscape such as through contour line labels.

- Candidates should pay particular attention to the map key. This will help improve the accuracy of their responses in map work.

- Both teachers and candidates are reminded that interpretation and analysis are basic skills in this paper. Candidates should refrain from merely copying out figures or information from the resources and using these as their answers.

- Use comparative words to make contrasts or describe differences when required.

- When asked to compare or make judgements, use terms such as higher, lower, rather than just listing statistics.

- If comparing statistics, it is important to use paired data rather than one set on its own.

- If a question refers to a figure, e.g. 'Support your decision with evidence from Fig. 5 and Table 5.' check you are using the resources that a question refers you to.

- Read questions carefully and identify the command word e.g. describe, explain, suggest etc. then answer the question as the command word requires.

- Care is needed when the question refers to physical features, natural features or human features, facilities and services (**see Question 1 b**) **(ii), and f)**

- In photograph questions candidates should focus on what can be seen in the photograph in relation to the question rather than speculating on what cannot be seen (**see question 2 c)**

- Good answers focused closely on the questions asked and were often very concise.

- Candidates must always follow the chronological order when they are describing a process (see **Question 5 b) (iii), 5 d) (ii)**).

- Candidates should ensure that all parts of the questions are attempted and especially those completed on the data resources provided (**see Question 3. b) (i)**).

- Many of the questions are based on resources such as photographs and diagrams. Candidates should study these carefully before attempting the questions and ensure that they refer to them in their responses.

- Examiners can usually decipher rushed handwriting, but skills papers often include numerical answers and candidates need to ensure that they write digits clearly. Units should also be included.

- Similarly graph plots are best carried out with a sharp pencil so that the exact point is clear and if the candidate wishes to change their response this can be done more easily.

- Candidates need to follow instructions, i.e. answering only one question in Section C, either **Question 5 or Question 6**.

- Candidates should use data from the figures, tables and graphs given in the question to support their statements rather than just using general statements.

- Hypotheses questions require candidates to give their own opinion by taking a stand first before giving any supporting evidence. Candidates must note that there is **no 'partially agree' or 'to some extent'**, it's either agree, disagree, correct, incorrect, true or false.

- When answering Hypotheses questions that ask whether you agree or disagree, always give your opinion at the beginning of your answer before any supporting evidence. Do not just copy out the hypothesis, even if you agree with it.

General comments

The number of candidates who sat for the 2023 examination saw a slight increase from 7145 in 2022 to just over 8500. Most points for teachers to consider, when preparing candidates for future questions, relate to misunderstanding or ignoring command words and the importance of experiencing fieldwork – even if it is only in the school grounds or simulated in the classroom.

Section B was poorly done by most centres in this examination, and this points to misconceptions that emanate from how basic concepts are handled, i.e., deforestation, thermal power, rural settlements and population pyramids. Some candidates, whilst not performing as consistently across the paper, did make a genuine attempt on some sections of the paper, enabling the paper to differentiate effectively between candidates of all abilities.

In some centres there were instances of rubric infringement that were observed in which the candidates did not follow the instructions, especially in Section C. Centres are advised to stick to the instruction to attempt **either Question 5 or 6** in this section, not both. There is evidence that attempting both questions within the stipulated time compromises their performance in this section and invariably the entire component. Candidates of higher ability scored well on the more challenging sections requiring explanation and

judgement, especially regarding hypotheses. Most candidates answered **Question 6** more successfully than **Question 5**. They should be encouraged to answer more succinctly and perhaps give more thought to their answers. The most important points for teachers to bear in mind, when preparing candidates for this section of the paper, relate to misunderstanding or ignoring command words, and to the use of appropriate fieldwork techniques and equipment.

Question 6 (b) (iv) required candidates to suggest improvements in the study to make the results more reliable. This type of question, or a similar question suggesting possible weaknesses, is usually set on this paper and is an area which centres should practise with candidates. However, centres should refrain from developing a series of generic improvements which may apply to all fieldwork, as such suggestions tend to be vague and not worth credit.

Comments on Specific Questions

Section A

This section was comparable with previous sessions, testing a range of geographical skills and map-work applications. There were some excellent responses to **Question 1,** and thus a great improvement in attempting this question from a majority of centres, as some candidates scored above 20 marks of the 25 total, and some candidates were better prepared which was pleasing to see as the map contained a lot of information, particularly in the key, which was handled quite well by most candidates.

Question 1
The map extract is for Rusape (Zimbabwe). The scale is 1: 50 000. Fig. 1 shows the position of some features in the map extract.
(a) Identify the following features shown in Fig. 1:
     (i) feature A;

     Candidates were expected to identify the feature, and the common response was correct.

     Expected response:

     Dam

     (ii) the type of road B;

     Most candidates were unable to identify the correct road type. The common response was a narrow-tarred road which could not score.

Expected response:

Wide tarred road

(iii) feature C;

Some candidates gave the name of the river Rusape and thus alone could not score.

Expected response:

(Rusape) River

(iv) relief feature D;

Some candidates lost marks as they were lifting from the key indiscriminately.

Expected response:

Spot height

(v) feature E;

Common responses focused on the voltage (33KV) which could not score.

Expected response:

Power line

(vi) feature F;

The common response was an indication of lifting directly from the key without the use of the legend for correct identification.

Expected response:

Aerodrome Landing Area

(vii) source of water at G.

Some candidates were deceived by the R and gave rapid which was incorrect.

Expected response:

Reservoir

(b) (i) What is the general direction of flow of the Rusape river?

Candidates were misled by the direction of the river name and thought it was north east which could not score.

Expected response:

South West (SW) / South South West (SSW)

(ii) Identify any two physical river features along the course of the Rusape river.

In this part question some candidates had misguided responses such as braiding, a well, dam and ox-bow lakes.

Expected responses:

Rapids, meanders, waterfall, braided channels (eyots and islets), confluences, tributary

(c) Give the 6-figure grid reference of the road bridge over the tributary of the Rusape north east of the Chindukuru township in grid square 0347.

The common response was 04548**5** which did not score.

Expected response:

045484

(d) (i) What is the height of the peak of the hill in grid square 1142?

Most candidates got the height correctly, but they couldn't score due to leaving out units (metres)

Expected response:

1521.6m

(ii) Measure the grid bearing from the trigonometrical station in grid square 1142 to the Peak of the Runyange hill in grid square 0441.

Common responses were glaringly incorrect e.g. 280°, 270°, 110°

Expected response:

259°-261°

(iii) On Fig. 2, using labelled arrows, mark the position of:

- **the railway line**
- **the wide tarred road**
- **the river east of the wide tarred road**

Most candidates could not use arrows to show the positions however they used simple lines. In some cases, the lines would even penetrate and overlap to the interior of the shown earth's crust. Some arrows would face upwards. The correct approach would be to have arrows facing downwards and placed on the earth surface where the said features are.

(e) (i) Measure the distance along the road from the bridge over the Mezi river in grid square 9447 to where the road crosses the 33KV power line in grid square 9851.

Common responses were inaccurate. Some used incorrect units such as 6.1 km or 6.3 km when the answer was supposed to be given in metres since the answer to (e)(i) would be needed for the calculation in (e)(ii).

Expected response:

6100- 6300 metres

(ii) The height of the bridge is at 1290m and the point where the road crosses the 33Kv power line is at 1410m above sea level.

Calculate the gradient along this part of the road.

Calculating the gradient seems a major challenge with most centres. A majority of candidates could not compute the gradient. They had problems with the formula for calculating gradient, substituting the variables correctly and expressing the gradient in ratio form. As a result, some candidates managed to calculate only the VI.

Expected response:

Gradient = VI/ HE

$$\text{Gradient} = \frac{1410m - 1290m}{6200m}$$

$$= \frac{120m}{6100m \text{ or } 6200 \text{ or } 6300m}$$

$$= \frac{1}{51} \text{ or } \frac{1}{52} \text{ or } \frac{1}{53}$$

OR = 1 in 51 or 1 in 52 or 1 in 53

(f) Name three services found in Rusape town.

When naming the services, weaker candidates named facilities that provide these services. Some failed to interpret the symbols and those could not score.

Expected responses:

- Medical/health care
- Postal/posting
- Communication/mailing
- Safety and security/law enforcement/crime prevention/policing.
- Entertainment /recreation/sporting
- Hospitality/accommodation
- Transportation

(g) (i) On Fig. 3, shade the grid square where there is least surface drainage.

Either an incorrect square or part of the correct square would be shaded by some candidates, which could not score.

Expected response:

Shading of grid square 0642/far right of Fig. 3

(ii) Suggest two factors which promoted the growth of Rusape town.

Factors that promoted the growth of Rusape town as shown on the map.

This part question was confused by candidates who focused on facilities and services offered in the town.

Excellent responses focused on both physical and economic factors.

Expected responses:

- Gentle undulating land
- Water supply/river source
- Mining/quarrying/Quarry
- Route focus/many roads/road networks.

Section B

This was the most challenging part of the paper for some centres.

Question 2

Study Fig. 4 (Insert), which shows a forested area and a deforested area.

(a) Define the term *deforestation*.

Candidates failed to define the term deforestation properly. Reference was made to the mere cutting down of trees without mention of the scale or the extent of this human activity.

Expected response:

Large scale/massive cutting down of trees/forests without replacement.

(b) Identify three causes of deforestation shown in Fig. 4.

Identification of causes of deforestation as shown in Fig.4.

Candidates failed to pick causes from the source given. Responses were degenerated to general statements based on knowledge without reference to Fig.4.

Expected responses:

Those referred to in the INSERT, as a source:

- Cattle ranching
- Mining
- Plantation crops
- Construction of highways or roads

(c) Use Fig. 4 to describe the benefits of a forested area to the following:

This part question was fairly done.

 Expected responses:

Soils – are stabilised /shielded from heavy rains

Water cycle – Evapo-transpiration adds water to air for convectional rainfall

Wildlife – Forests act as habitat/ provides shelter to wildlife

Rivers – water is clean and made usable for drinking

Question 3

(a) Study Table 1, which shows renewable energy and non-renewable energy sources in an LEDC.

(i) Define a *renewable energy* source.

The definition of renewable energy source was a challenge as seen in the various expressions used by candidates. In some cases, they would even repeat the stem of the question or refer to recycling of materials instead of energy sources.

Expected response:

Sources of energy that can be replenished/reused/used over and over again without being finished or depleted/infinite

(ii) Use Table 1 to complete the pie graph in Fig. 5.

The completion of the pie chart was disappointing given that the other sectors had been done for the candidates to then complete the two missing. Most candidates did not follow the already laid down order of shading, some used their own key, with incorrect sectors. Pie graphs need to be completed in the order given in the key.

 Expected responses:

Solar – 5/100 X 360° = 18°

Hydro-electricity – 4/100 X 360° = 14.4°

(b) Study Fig. 6 (Insert), which shows a coal fired power station.

   (i) Name the features marked X and Y.

For **X**, most candidates failed to write the correct spelling of the word chimney. Common wrong responses were: smoke pipe/steam. Y was confused with generator.

Expected responses:

 X – Chimney/stack

Y – Turbine

(ii) State three negative impacts of the smoke on people and the environment.

Most candidates were able to identify the negative impacts of smoke in general but not particular to the people and the environment. They made statements such as global warming, climate change, greenhouse effect/gases as separate points yet they have the same meaning**.**

NB: Of note here is that candidates were expected to give negatives impacts on the people (P) and environment (E) in the following proportions 1P/2E or 2P/1E.

Expected responses:

On people:

- respiratory diseases/suffocation/lung or heart
- diseases: eye allergies or irritations
- visual pollution/ impaired vision/smog

    On the environment:
- acid rain/ deforestation/loss of biodiversity
- thermal water pollution
- visual pollution
- global warming/air pollution/climate change

Question 4

The general performance on this question was above average, however, the population pyramids proved challenging for some centres.

(a) Study Fig. 7, which shows the distribution of huts in a rural settlement.

  (i) Name the settlement pattern shown in Fig. 7.

The settlement pattern in Fig. 7, was confused by weaker candidates for dispersed pattern however most candidates identified it correctly, though a few gave nuclear which could not score.

  Expected response:

Nucleated/clustered/grouped

  (ii) Describe the distribution of the huts shown in Fig. 7.

The description was a bit of a challenge for some candidates due to failure to interpret the contour

interval and deciphering the terrain using the pattern of contour lines.

Expected responses:

- Away from river/area of flood level

- Near/close/along streams

- At the foot of the hill/mountain range.

- On gentle undulating land.

- Away from swamps or marshy area

(iii) Give one reason for the lack of huts in parts of the area shown in Fig. 7.

Most candidates were able to give correct and most appropriate responses.

Expected response:

- Rugged terrain/steep slopes/hilly or mountainous area
- Flood plains/area liable to flooding
- Scarcity of natural resources e.g. water, fuel or firewood.
- Swamps or marshy area.

(b) Study Fig. 8 (Insert), which shows the population structure of a country and its main city.

(i) What is the percentage of males aged 10-14 years for the country?

Candidates lacked the level of precision required and did not give the units of measurement (%).

Expected response:

7.6 – 7.8 %

(ii) What is the total percentage of the 0-4 years age groups for the city?

Candidates again could not be precise and did not give the units of measurement (%).

Expected responses:

10.3 – 10.5%

(iii) List three differences between the population structure of the country and its main city.

This part question proved challenging to some candidates who could not contrast or make differences between the two pyramids. Some picked individual cohorts, whilst others highlighted changes in each sex, ignoring the other. Candidates were lacking in the use of comparative statements.

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Expected responses:

- Country has many young people, city has fewer
- Country has a smaller independent population/economically active, whilst city has more.
- Country has a high dependency ratio, while city has a low dependency ratio
- Country has a higher life expectancy than the city/country has older/ageing people

Section C

Centres need to realise the significance of fieldwork for candidates to be better prepared for this part of the paper. Candidates will still be expected to show that they know how fieldwork equipment is used and apply appropriate fieldwork techniques even if they have only limited opportunity for fieldwork within the centre. For example, **Questions 5 (b) (iii), 5 (d) (i) and 5 (d) (ii), 6 (a) (ii) and 6 (a) (iii)** focused on specific equipment and techniques commonly used in fieldwork. Centres are encouraged to carry out basic fieldwork with candidates, especially using simple techniques that can be done on the school site or in the local area.

Of the two questions, Question 5 proved to be more of a challenge for candidates than Question 6.

Question 5

Generally, this was the least attempted question by candidates. The main reason for this question being inaccessible to candidates from most centres was unfamiliar equipment and their use in geographic enquiry. In particular, the equipment for the measurement of bed load and the gradient along a river.

A group of students investigated the size of the bed load and the gradient along part of the Komati River.

The students decided to test the following hypothesis:

Hypothesis 1: *The size of the bed load decreases downstream.*

Hypothesis 2: *The gradient of the river decreases downstream.*

(a) Before conducting the investigation, the teacher suggested that they should first carry out a pilot survey in a local stream next to the school.
  (i) List two advantages of doing a pilot survey.
    This question was fairly done by those candidates that attempted this question even though some confused a pilot survey with an actual survey.

Expected responses:

- To test out equipment for ease of use
- To familiarise oneself with the area of study/check suitability of the area of study/to avoid surprises.
- To minimise mistakes during the actual study
- To save time during the actual study

(ii) Suggest two precautions to be considered by the students when choosing the stream for the investigation.

This part question was poorly done by those candidates that failed to understand the word precautions from the stem of the question. These gave responses such as dividing themselves into groups.

Expected responses:

- Avoid flooded rivers/the river volume must be low
- The water level must be knee high/shallow
- The river must be free from dangerous animals
- Speed of flow must be low/avoid intimidating rivers
- Avoid slippery rocks
- Avoid working on polluted river waters

(b) To investigate Hypothesis 1: The size of the bed load decreases downstream, the students chose three sites (A, B and C) at 100m intervals. Site A is upstream, and Site C is downstream. At each site they selected and measured the size of six pebbles. The results of the investigation are shown in Table 2.

(i) Suggest the best sampling method to select pebbles at each site.

The question was fairly well done except for those candidates that took the choosing of sites at 100 metres as a hint and suggested systematic sampling, yet the question meant pebbles.

Expected response:

Random sampling

(ii) Use the information from Table 2 to complete the bar graph for Site A on Fig. 9.

This part question was fairly well done. responses that could not be credited were incorrect heights, shading, bar width and spacing.

Expected responses:

Correct height pebbles 3 = 24mm, 5= 25mm, 6= 21mm, shading same as that which has been done for Site A, bar width = 2 squares, bar spacing = 2 squares.

(iii) Describe how the students could have measured the size of the bed load.

This was amongst the more challenging part questions and was thus poorly done. The possible reason for such a performance was failure to identify the specific bed load to be measured, the pieces of equipment to be used and how they are used to accurately measure bed load.

Expected responses:

A chronological response was expected from candidates.

1. Identifying the bed load/pebble/stone/rock
2. Identify the instrument to be used and how it would be used: pebbleometer, Vernier Callipers, tape measure or a ruler.
3. Description of how the size of the bed load could be measured with emphasis on the long axis.
4. How the readings are taken/read off and recorded, with units (mm or cm)

(c) Write a conclusion to the investigation on Hypothesis 1: *The size of the bed load decreases downstream*. Use evidence from Table 2 and Fig. 9.

Most candidates were able to take the correct stand. Data as supporting evidence was lacking. If provided, it showed no pattern, trend or was without units. Others gave one instead of the two pieces of evidence.

Expected responses:

The hypothesis is true/correct/accepted

Evidence from Table 2

- The pebble size totals from site A (135mm), site B (98mm) and Site C (39mm) show a decline in size.

- The average totals from site A (22.5mm), site B (16.3mm) and site C (6.5mm) which shows a decline in average size.

Evidence from Fig. 9

- Generally, the average height of bars shows a decrease in height from site A (22.5mm), site B (16.3mm), site C (6.5 mm).

(d) The students further investigated Hypothesis 2: The gradient of the river decreases downstream. Fig. 10 shows how the students measured the gradient at each of the three sites, A, B and C.

(i) Using Fig.10 and your own knowledge, name two pieces of equipment used for measuring the gradient.

This part question was fairly done with some candidates successfully identifying the two pieces of equipment used to measure the gradient of a river along a given strip.

Expected responses:

- Ranging poles/pegs/sticks/rods
- Clinometer/protractor with a string
- Tape measure.

(ii) Describe how the students measured the gradient of a river.

Again, this part question was poorly done, and most responses lacked the chronological order in which measurements are taken.

Expected responses:

In chronological order

1. Measurement of the 10 m transect **along** the stream using a tape measure
2. Insertion of one ranging pole upstream and another one downstream at ten metres interval
3. Align the clinometer/or protractor with a string from the pole downstream with the line of sight upstream

(e) The students recorded the results of their measurements as shown in Table 3.

Calculate the average gradient for sites A and C.

The calculation of the average gradient was quite easily done by most candidates.

Correct expected responses:

Site A – 3.5/3.45°

Site B – 2.5/ 2.45°

(f) Write a conclusion to the investigation on Hypothesis 2: *The gradient of the river decreases downstream.* **Use evidence from Table 3.**

Again, candidates would give incomplete or irrelevant evidence to support their conclusions.

Expected responses:

Hypothesis is correct/true/accepted

Evidence

- Sites A (upstream) and C (downstream) in any reading shows a decrease in gradient or slope in degrees.
- The average gradient from site A (3.5°), site B (2.9°) and site C (2.5°) shows a decrease/fall in steepness or slope in degrees.

Question 6

This was the most popular of the two questions in this section.

Students investigated traffic flow along a main road near an industrial area.

The students decided to investigate the following hypothesis:

Hypothesis 1: *The volume of traffic is higher in the early morning and late afternoon.*

Hypothesis 2: *There are more trucks passing through the main road than other types of vehicles.*

(a) To investigate Hypothesis 1, the students decided to conduct a traffic count along the main road at three sites A, B, and C.

(i) What is an industrial area?

Generally, this part question was poorly done. Most candidates gave a definition of an industrial estate which is an area zoned/set aside and planned for industrial growth or development. Some candidates repeated the stem of the question.

Expected response:

It is an area occupied by or whose land uses and primary function is based on various industrial divisions, may include primary, secondary, tertiary and quaternary.

(ii) Describe what the students would need to consider before carrying out their traffic count

Most candidates mistook this question for a pilot survey, and thus it was poorly done.

Expected responses:

This being the planning stage of the investigation, candidates were to consider the following aspects:

- Deciding on the site/sites/getting a map of the area
- Organising their tasks
- Splitting into groups/pairs/ groupings
- Deciding on points to survey
- Deciding on start and finish times
- Getting permission from the local authority/municipality

(iii) State two challenges that the students might have faced during the investigation.

Weaker responses were generally made vague by making incomplete statements such as weather conditions without indicating how it might become a challenge.

Expected responses:

- Adverse/bad weather
- Many cars moving at high speed and at the same time
- Student error during the counting
- Accidents on the roads/along the road
- Disturbances from vehicles and pedestrians

(b) At each site they counted the traffic for 10 minutes using tally marks.

The results are shown in Table 4.

(i) Give three advantages of using the tally method.

This part question had excellent responses from most centres. A few candidates simply wrote 'easy' which could not score.

Correct expected responses:

- Easy to add or total
- Counting is faster/quick/saves time
- Easy to read and analyse
- Enable vehicle classification
- Minimises errors

(ii) Use the information in Table 4 to complete Fig. 11 for Site C. Add information for 0700 – 0710 hrs and 1700 – 1710 hrs.

A majority of candidates were able to correctly plot the bars.

0700 – 0710: 110

1700 – 1710: 120

The challenge with some candidates was inconsistency in the spacing in-between the bars and the shading with five squares separating the bars and shading of diagonal lines slanting/sloping to the right as per the two completed bars.

(iii) Write a conclusion to Hypothesis 1: *The volume of traffic is higher in the early   morning and late afternoon.* **Use evidence from Table 4 and Fig. 11.**

Most responses correctly stated that Hypothesis 1: is true/correct/accepted. Supporting evidence varied in quality. Responses needed to compare traffic volume in the early morning against midday and late afternoon against midday rather than lifting of unqualified figures from the different sources.

Expected responses:

- Hypothesis is true/correct/accepted

Evidence

- In the early morning all three sites (A = 100, B = 90, C = 110) have a higher number of vehicles/traffic volume than midday
- Late afternoon all three sites (A = 110, B =102, C = 110) have a higher number of vehicles than midday
- In Site C taller bars (110 for early morning and 120 for late afternoon) have a higher number of vehicles than midday 1100-1110 = 50 and 1500-1510 = 40)

- The total number of vehicles for early and late afternoon is 632 (much higher than the total number of midday vehicles at 270).

(iv) Suggest three ways the investigation could be improved to make the results more reliable.

Better responses managed to suggest improvements in the investigation that would make the results more reliable. Weaker responses could only develop generic improvements that apply to all fieldwork investigations. These were vague and could not score.

Expected responses:

- Compare results from the different groupings
- Increase the time of taking readings
- Increase the number of sites along the main road
- Extend the investigation to other roads besides the main road
- Carry out the investigation under different weather conditions
- Carry out the investigation at different times i.e. days in the week, in the month, year
- Use secondary data for comparison from either the municipality, police station or the internet

(c) To test Hypothesis 2: *There are more trucks passing through the main road than other types of vehicles***, the students decided to record the vehicles passing through each site according to type.**

The results of the investigation are shown in the pictogram, Fig. 12.

(i) Using the pictogram shown in Fig. 12, calculate the total number of trucks and cars counted.

A majority of candidates were able to use the key effectively to come up with correct calculations. Weaker candidates made errors from misreading the key and made wrong calculations.

Expected responses:

Trucks: 400

Cars: 260

(ii) The students presented the data for each site using block bae graphs. Fig. 13 shows the data for each Site A. Complete Fig. 14 for Site C.

Strong responses were able to make the calculations and mark the divisions correctly. Weaker responses could not get the calculations correctly and marked incorrect divisions. This part question was the most challenging in this question. The main challenge was converting the raw data into percentages.

Expected responses:

Cars = 70/260 x 100% = 27% (first division plotting)

Minibuses = 90/ 260 x 100% = 35%+ 27%= 62% (second division plotting)

Trucks = 100/260 x 100%= 38%

(d) Write a conclusion to Hypothesis 2: There are more trucks passing through the main road that other types of vehicles. Use evidence from Fig. 12, Fig. 13, and Fig. 14.

Most responses correctly stated that Hypothesis 2: was correct/true/accepted. There were some challenges from weaker responses on the use of supporting data to support the hypothesis even though they had correctly taken a stand. Responses needed to compare the number of trucks on any of the three sites against any other type of vehicle (cars and minibuses) rather than just quoting the statistics with no interpretation.

Expected responses:

- Hypothesis is correct/true/accepted

Evidence

- **Fig.12** – In all sites A, B and C there are more trucks passing through the main road than any other form of vehicle comparing figures from the table below.
- **Fig.13** – Site A has a higher percentage of trucks, with 40%, minibuses 27% and cars 33%.
- **Fig.14** – Site C has a higher percentage of trucks 38%, minibuses 35% and cars the least with 27%.
- Comparing vehicle totals; trucks have 400, cars 260 and minibuses 250 (truck totals much higher than cars and minibuses).

Site	Cars	Minibuses	Trucks
A	10	80	144
B	90	80	180
C	70	90	100