KWAZULU-NATAL PROVINCE

EDUCATION

REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY

COMMON TEST

JUNE 2024

MARKS: 150

TIME: 3 hours

This question paper consists of 17 pages.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of THREE questions:

   SECTION A

   QUESTION: 1 CLIMATE and WEATHER & GEOMORPHOLOGY (60 MARKS)

   QUESTION: 2 RURAL AND URBAN SETTLEMENTS (60 MARKS)

   SECTION B

   QUESTION: 3 MAP SKILLS AND CALCULATIONS (30 MARKS)

2. Answer ALL THREE questions in the answer book provided.
3. ALL diagrams are included in the ANNEXURE.
4. Leave a line open between subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number your answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of your ANSWER BOOK.
8. Where possible, illustrate your answers with labelled diagrams.
9. Write clearly and legibly.
10. You may use a magnifying glass.
11. The unit of measurement must be given in the final answer, where applicable, e.g. 10km, 4°C, east.

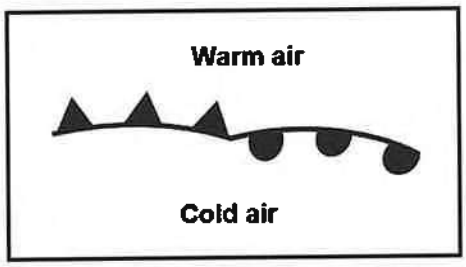
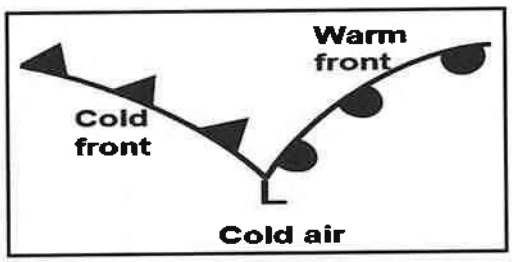
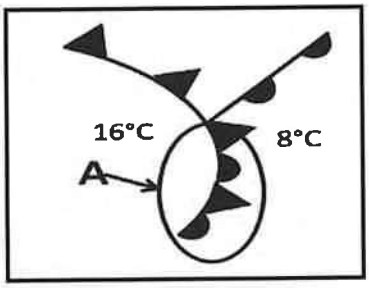
SPECIFIC INSTUCTIONS AND INFORMATION FOR SECTION B

12. A 1 : 50 00 topographic map 3126DD QUEENSTOWN and a 1 : 10 000 orthophoto map 3126DD NOOITGEDACHT are provided.
13. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.
14. Marks will be allocated for steps in calcuations.
15. you must hand in the topographic and orthophoto map to the invigilator at the end of this examination session

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QUESTION 1: CLIMATE and WEATHER & GEOMORPHOLOGY

1.1 Choose the word/term from COLUMN B that completes the statement in COLUMN A. Write only Y or Z next to the question numbers (1.1.1 to 1.1.7) in the ANSWER BOOK, e.g. 1.1.8 Z.

	COLUMN A	COLUMN B
1.1.1	A … *front* is an area where cold polar air mass meets warm tropical air masses leading to the development of mid latitude cyclones.	**Y** moisture **Z** polar
1.1.2	Mid-latitude cyclones occur throughout the year but affects South Africa mostly in …	**Y** summer. **Z** winter.
1.1.3	The wind that drives the mid-latitude cyclone is referred to as the …	**Y** westerlies. **Z** easterlies.
1.1.4	The various stages of development of a mid-latitude cyclone are referred to as …	**Y** cyclosis. **Z** cyclogenesis.
1.1.5	The wave stage below develops because of… 	**Y** frictional drag. **Z** wind shear
1.1.6	The mid latitude-cyclone below is in the … stage. 	**Y** mature **Z** occlusion
1.1.7	A characteristic of the occlusion stage at **A**, shown below, is when the …  (i) warm air has been uplifted. (ii) wind is veering. (iii) cold air has been uplifted. (iv) cold front catches up with the warm front.	**Y** (ii) and (iii) **Z** (i) and (iv)

(7 x 1) (7)

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1.2 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A-D) next to the question numbers (1.2.1 to 1.2.8) in your ANSWER BOOK. e.g. 1.2.9 D.

1.2.1 This type of river is associated with high rainfall areas:

A Perennial
B Periodic
C Exotic
D Episodic

1.2.2 ... rivers are found mostly in the western half of South Africa.

A Perennial
B Periodic
C Exotic
D Episodic

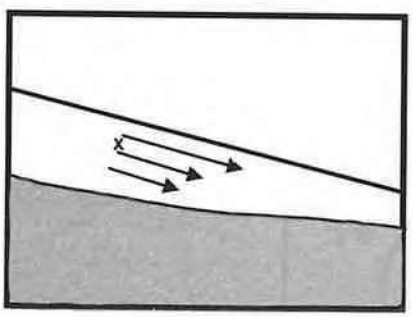
1.2.3 ... rivers originate in a high-rainfall region and flow through a dry region.

A Perennial
B Periodic
C Exotic
D Episodic

1.2.4 ... rivers only cut through the water table in the dry season.

A Perennial
B Periodic
C Exotic
D Episodic

1.2.5 **X** illustrates a ... flow.



A base
B turbulent
C sheet
D laminar

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1.2.6 The ability of rock to allow water to pass through:

A Evaporation
B Permeability
C Porosity
D Precipitation

1.2.7 TWO factors that will result in a lower rate infiltration

(i) Drizzle
(ii) Thunderstorms
(iii) Steep gradient
(iv) Gentle gradient

A (i) and (ii)
B (ii) and (iii)
C (iii) and (iv)
D (i) and (iv)

1.2.8 A lower rate of infiltration will result in a:

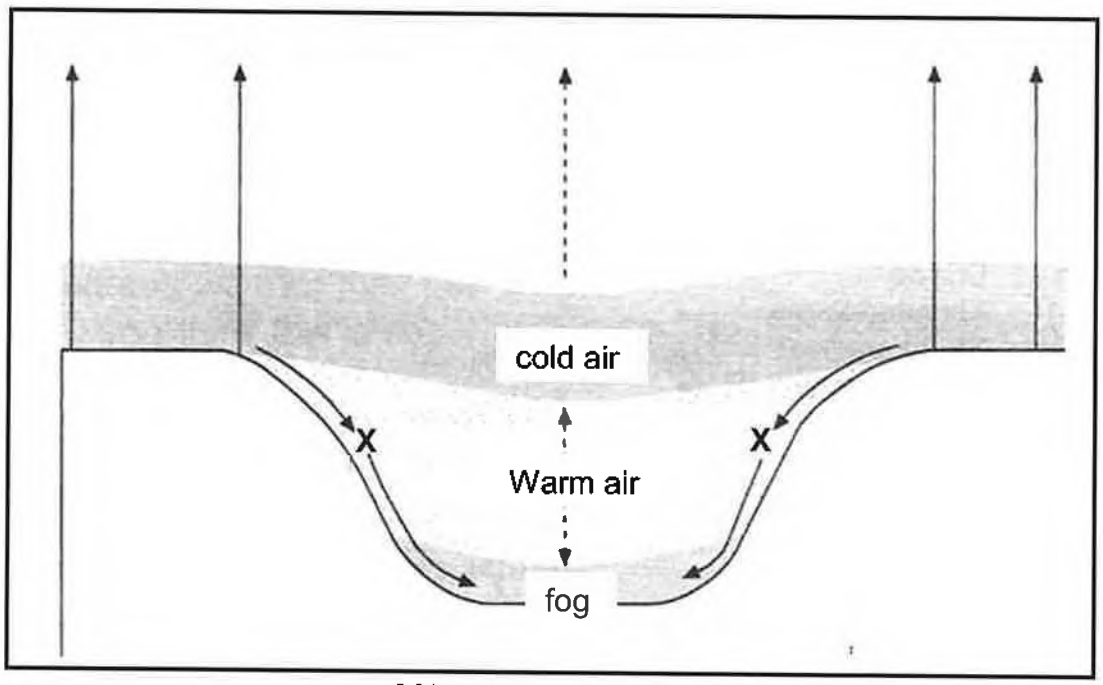
(i) higher stream order
(ii) higher drainage density
(iii) higher water table
(iv) higher soil moister content

A (i) and (ii)
B (ii) and (iii)
C (iii) and (iv)
D (i) and(iv)

(8 x 1) (8)

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1.3 Study the sketch on the formation of fog in a valley.



SOURCE: http:\\www.revisiongeography.climate.co.za

1.3.1 Name the type of fog that has formed in this valley. (1 x 1) (1)

1.3.2 Provide ONE atmospheric condition that will be conducive to the formation of the type of fog mentioned in QUESTION 1.3.1. (1 x 1) (1)

1.3.3 Name wind **X** that occurs mainly at night in the valley. (1 x 1) (1)

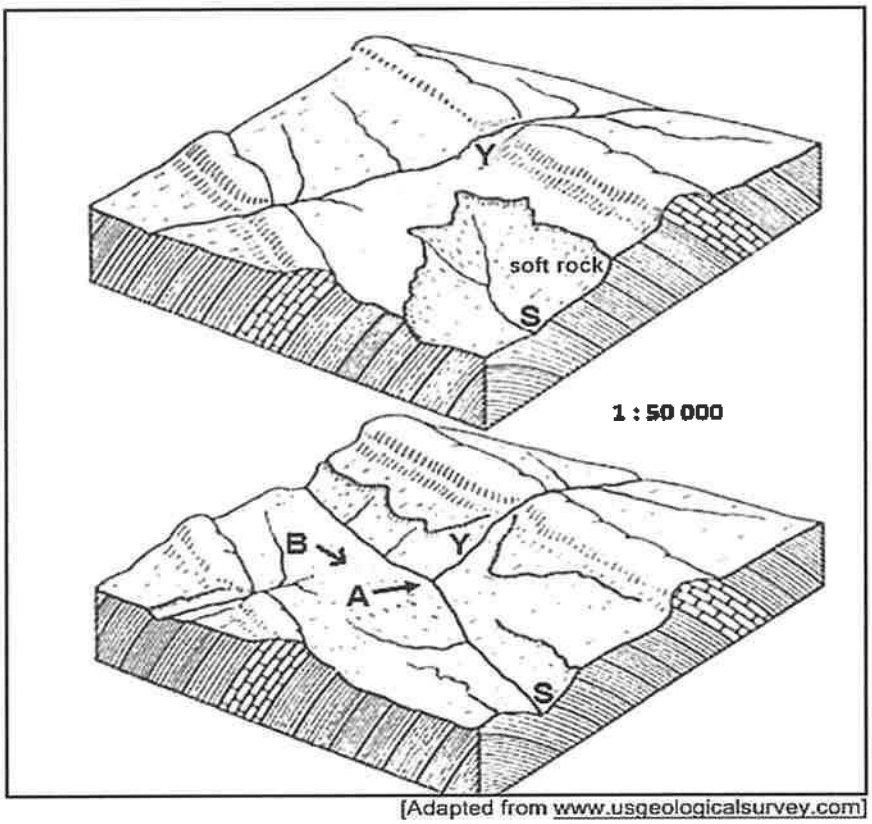
1.3.4 Why does the wind mentioned in QUESTION 1.3.3 move downwards? (1 x 2) (2)

1.3.5 Discuss the role that the wind mentioned in QUESTION 1.3.3 would play in the formation of fog. (2 x 2) (4)

1.3.6 Suggest the negative impacts that the presence of fog would have on people living in a valley. (3 x 2) (6)

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1.4 Refer to the sketches that indicate the river capture process.



[Adapted from www.usgeologicalsurvey.com]

1.4.1 Match streams labelled **S** and **Y** with:

a) captor stream

b) captured stream (2 x 1) (2)

1.4.2 Name the feature labelled **A** and **B** that result from river capture. (2 x 1) (2)

1.4.3 Describe the erosion process associated with river capture. (1 x 1) (1)

1.4.4 State TWO reasons for the rivers eroding at a faster rate. (2 x 1) (2)

1.4.5 What effect will river capture have on the volume of water and erosive ability of the captor stream? (2 x 2) (4)

1.4.6 Evaluate the effect of river capture on the ecosystem of river **Y**. (2 x 2) (4)

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1.5 Refer to the extract on catchment and river management.

A RIVER OF POLLUTION FLOWS THROUGH OUR LAND

The Olifants River is on the Southern Africa's most important river catchments. The river is critical to the economies of both South Africa and Mozambique. The 30 dams along the course supply three provinces with water in times of drought. Ten million people rely on this river for water.

The water from the Olifants River irrigates farms in western Mpumalanga and powers Eskom's coal-fired power stations in the area. The river flow through Limpopo's platinum belt, supplying water to valley that otherwise would be dry, the river cuts through the Drakensburg irrigating farms in the Lowveld, providing water to the Kruger National Park and finally joining the Limpopo River in Mozambique.

The above-mentioned activities have had a negative impact on the quality of water in the river. Management strategies implemented so far have proven to be ineffective, this puts the water of the Olifants River in danger of being declared too contaminated (polluted) to be used, strategies need to be put in place to improve the quality of water in the river in order to ensure a sustainable source of water.

[Adapted from https://mg.co.za/article/2017-04-13-00-ariver-of-sewage-chemicals-metals-flow-through-out-land/]

1.5.1 Define the concept *river management*. (1 x 2) (2)

1.5.2 According to the extract, how many provinces rely on the Olifants River for water? (1 x 1) (1)

1.5.3 Quote TWO pieces of evidence from the extract showing how water from the Olifants River is used (2 x 1) (2)

1.5.4 Suggest a negative impact Eskom's coal-fired power stations would have on the Olifants River. (1 x 2) (2)

1.5.5 In a paragraph of approximately EIGHT lines, explain FOUR strategies that could be implemented so that the Olifants River becomes a sustainable source of water. (4 x 2) (8)

TOTAL: [60]

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QUESTION 2: RURAL AND URBAN SETTLEMENT

2.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) next to the question Numbers (2.1.1 to 2.1.8) in the ANSWER BOOK, e.g. 2.1.9 A

2.1.1 The exact physical landscape that is occupied by a farm is known as the …

A. site.
B. location.
C. situation.
D. space.

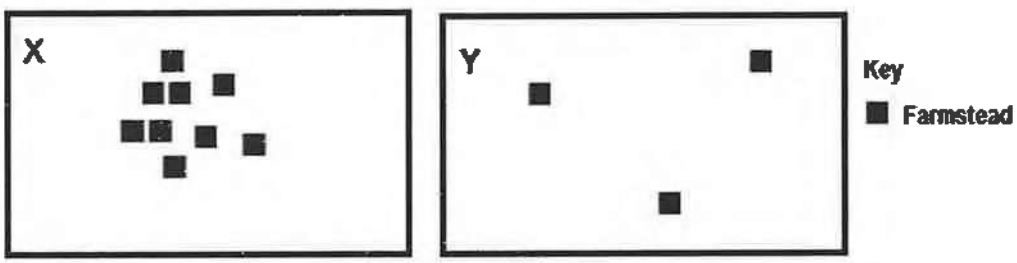
2.1.2 The relative location of one place in relation to another place is referred to as …

A. site.
B. relative distance.
C. exact location.
D. situation.

2.1.3 The choice of site for the location of a farm is influenced by ...

A. population size.
B. relief.
C. finance.
D. markets.

Refer to the patterns of rural settlements (**X** and **Y**) to answer QUESTIONS 2.1.4 to 2.1.6



2.1.4 The social advantage of settlement **Y** is …

A. safety and security.
B. using technology.
C. that a local market is available.
D. lots of privacy.

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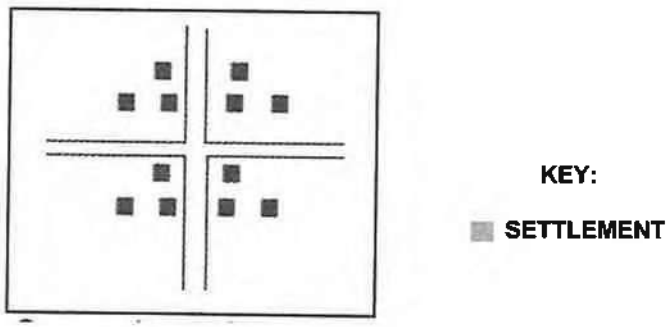
2.1.5 Settlement pattern **X** is classified as a nucleated settlement due to the ...

A. farm plots being close together.
B. distance away from the market.
C. farmstead being close together.
D. availability of flat land.

2.1.6 An economic disadvantage of settlement **X** is ...

A. greater privacy.
B. the potential for small profits.
C. the high cost of buying equipment.
D. independence.

Refer to the sketch below of the shape of a settlement to answer QUESTION 2.1.7 AND 2.1.8.



2.1.7 The shape of the settlement is ...

A. linear.
B. dispersed.
C. crossroads.
D. round.

2.1.8 The main reason for the development of the settlement is ...

A. access to transport.
B. a gap in the mountain.
C. access to water.
D. a physical barrier. (8 x 1) (8)

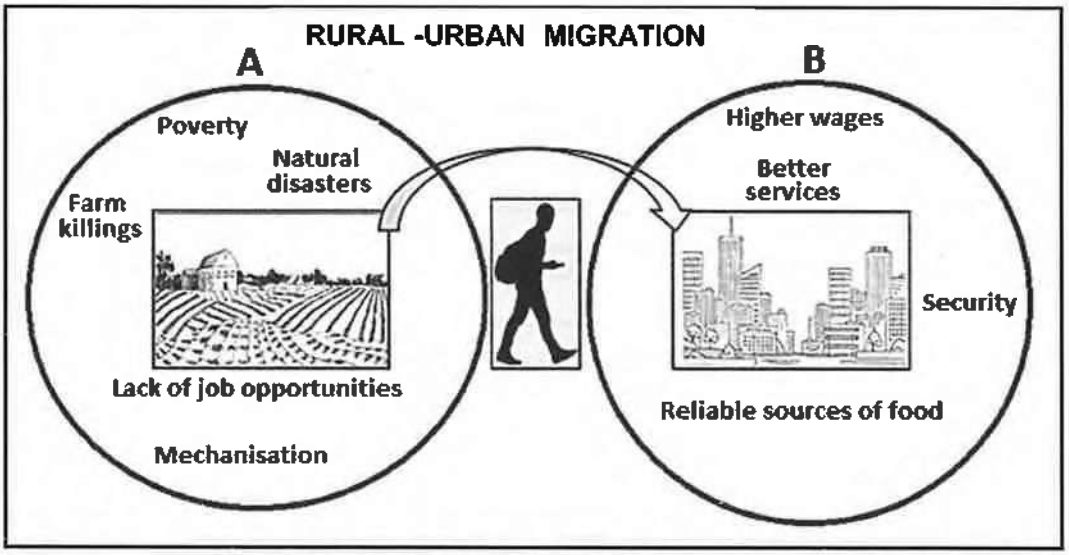
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2.2 Choose the word/term from COLUMN B that completes the statement in COLUMN A. Write only **Y** or **Z** next to the question numbers (2.2.1 to 2.2.7) in the ANSWER BOOK, e.g. 2.2.8 **Z**.

	COLUMN A	COLUMN B
2.2.1	The physical growth of the urban areas is referred to as …	**Y** urban expansion **Z** natural growth
2.2.2	The uncontrolled expansion of urban areas is referred to as ...	**Y** urban sprawl **Z** urban growth
2.2.3	The increase in the absolute number of people in urban areas is known as …	**Y** urban decay **Z** urban growth
2.2.4	The process by which an increasing percentage of the population living in urban areas is known as …	**Y** urbanization **Z** rate of urbanization
2.2.5	The multiple nuclei model of land-use has …	**Y** one focal point **Z** many focal points
2.2.6	The minimum number of customers needed to make a business profitable is known as …	**Y** sphere of influence **Z** threshold population
2.2.7	The maximum distance that people are prepared to travel to buy goods or services is known as …	**Y** range **Z** urban field

(7 x 1) (7)

2.3 Refer to the sketch below on rural-urban migration.



[Adapted from file:///vector-farm-field-sketch-engraving-drawing/stockistockcitysketch]

2.3.1 Define the concept *rural-urban migration.* (1 x 2) (2)

2.3.2 State one environmental push factor in **A** that results in the movement of people from **A** to **B**. (1 x 1) (1)

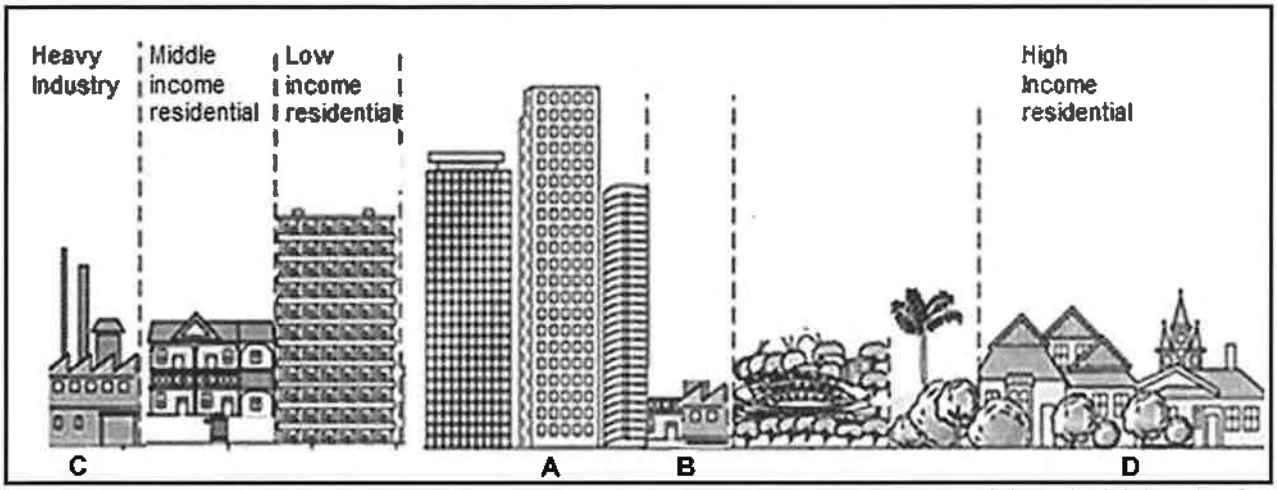
2.3.3 How does rural-urban migration result in rural depopulation? (1 x 2) (2)

2.3.4 What is the negative social impact of rural-urban migration on settlement **A**? (1 x 2) (2)

2.3.5 In a paragraph of approximately EIGHT lines, discuss sustainable measures that can be introduced in rural areas to reduce rural-urban migration. (4 x 2) (8)

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2.4 Refer to the sketch below on urban land-use zone.



[Adapted from: search?q=urban+land+use+zones&tbm= isch&tbs=rimg]

2.4.1 Refer to land-use zone **A**

a) Name the land-use zone. (1 x 1) (1)

b) State TWO characteristics visible in the sketch of land-use zone **A.** (2 x 1) (2)

c) Discuss TWO reasons why land-use zone **A** is no longer attractive as a location for many businesses. (2 x 2) (4)

2.4.2 Refer to the land- use zone **B** which is called the transition zone

a) Why is the transition zone ideal for the location of light industries? (1 x 2) (2)

b) Suggest ONE reason for the transition zone having high land values. (1 x 2) (2)

2.4.3 Explain why land-use zone **C** and land-use zone **D** are not compatible. (2 x 2) (4)

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2.5 Refer to the photograph below on informal settlement.



[Source: www.sabcnews.com]

2.5.1 Define the concept *informal settlement*. (1 x 2) (2)

2.5.2 What evidence in the photograph indicates that this is an informal settlement? (1 x 1) (1)

2.5.3 Give TWO economic reasons for the development of informal settlements. (2 x 1) (2)

2.5.4 State TWO basic needs that people who live in most informal settlement do not have easy access to. (2 x 1) (2)

2.5.5 How will the river impact the informal houses in the vicinity of **A** when there is heavy rainfall? (2 x 2) (4)

2.5.6 Explain TWO measures that local municipalities could implement to reduce the growth of informal settlement like **A**. (2 x 2) (4)

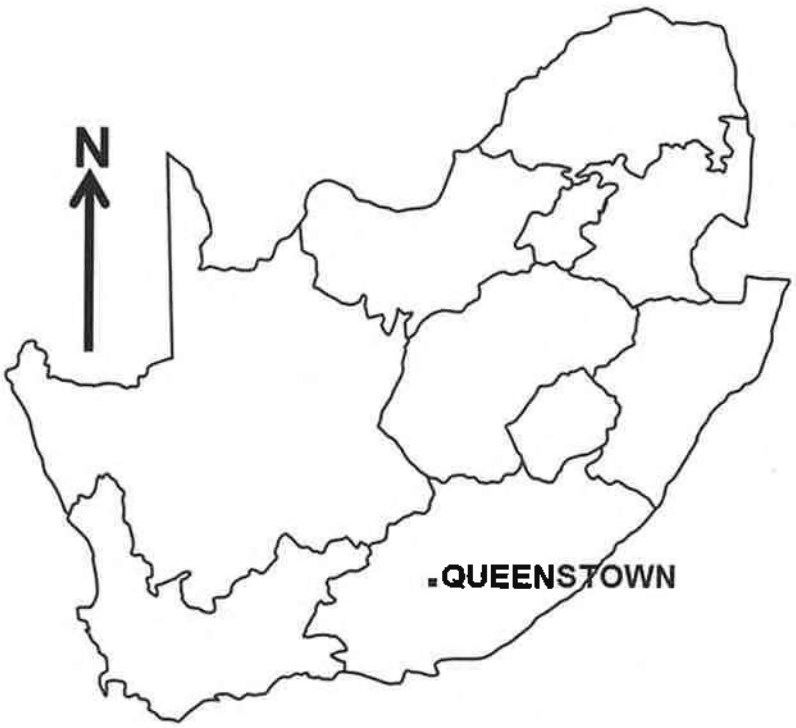
TOTAL: [60]

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SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON QUEENSTOWN



Coordinates: 31°54'S; 26° 53'E

Queenstown (officially known as Komani) is a town in the Eastern Cape in South Africa. The town lies on the banks of the Komani River which forms part of the Great Kei river system and has a refreshing climate and an abundant water supply from the surrounding rugged mountains.

The area's annual average temperature is 18,29°c which is 2,93% lower than the average for South Africa. Queenstown generally receives approximately 90,83 millimetres of precipitation and has 134 rainy days annually.

Winters are short, cold, dry and windy; it is mostly clear year-round.

[Adapted from https://en.wikipedia.org/wiki/queenstown]

The following English terms and their Afrikaans translations are shown on the topographical map:

ENGLISH	AFRIKAANS
Diggings	Uitgrawings
River	Rivier

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3.1 MAP SKILLS AND CALCULATIONS

3.1.1 Queenstown is a ... in the Eastern Cape in South Africa.

A. city
B. metropolis
C. village
D. town (1 x 1)(1)

3.1.2 The scale of 1:10 000 shows a ... area and ... detail as it is a larger scale than 1:50 000

(i) larger
(ii) smaller
(iii) less
(iv) more

A (i) and (iii)
B (i) and (iv)
C (ii) and (iii)
D (ii) and (iv) (1 x 1)(1)

3.1.3 The contour interval on the topographic map is ... metres.

A 20
B 10
C 5
D 50 (1 x 1)(1)

3.1.4 Calculate the area covered by the orthophoto map as demarcated in Red/black on the topographic map in the km². Use the following measurements if the length on the map is 4,2cm and the breadth on the map is 3.8 cm. (3 x 1)(3)

[Formula: **Area = Length (L) x Breadth (B)]**

3.1.5 Calculate the straight-line distance in metres (m) between point **7** in block **D2** and point **6** in block **D4** on the orthophoto map.

Formula: **Actual Distance = Map distance x Map scale** (2 x 1)(2)

3.1.6 If one has to hike from point **6** in block **D4** to point **7** in block **D2**, one would be negotiating a ... slope. (1 x 1)(1)

3.1.7 Determine the man-made drainage feature located at 31°49'46"S; 26°47'23"E on the topographical map. (1 x 1)(1)

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3.2 MAP INTERPRETATION

3.2.1 The altitude shown by point **7** in **D2** on the orthophoto map is a ...

A. contour line.
B. spot height.
C. bench mark.
D. trigonometrical station . (1 x 1)(1)

3.2.2 Identity the environmental issue shown by the area **I** in block **A2** on the topographical map. (1 x 1)(1)

3.2.3 Discuss TWO possible solutions that can be implemented to overcome the environmental issue identified in QUESTION 3.2.2 (2 x 2)(4)

3.2.4 Determine the direction of flow of the Lesseyton River (block **D1**) (1 x 1)(1)

3.2.5 Explain ONE reason for your answer to QUESTION 3.2.4 (1 x 2)(2)

3.2.6 The drainage pattern formed by the river system in block **C5** is ...

A radial.
B trellis.
C dendritic.
D rectangular. (1 x 1)(1)

3.2.7 Explain ONE reason for your answer to QUESTION 3.2.6 (1 x 2)(2)

3.3 GEOGRAPHICAL INFORMATION SYSTEM (G1S)

3.3.1 Define the concept *data layer.* (1 x 2)(2)

3.3.2 How will the drainage layer encourage crop farming in the area? (1 x 2)(2)

3.3.3 Is the topographical map of QUEENTOWN a vector or raster data? (1 x 1)(1)

3.3.4 Give ONE reason for your answer to QUESTION 3.3.3. (1 x 1)(1)

Resolution refers to the degree of detail and clarity of an image.

3.3.5 Explain why the orthophoto map of QUEENSTOWN has a high spatial resolution. (1 x 2)(2)

TOTAL SECTION B: [30]

GRAND TOTAL: 150

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KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

FINAL

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY

MARKING GUIDELINES

COMMON TEST

JUNE 2024

MARKS: 150

TIME: 3 hour

This marking guidelines consists of 10 pages.

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QUESTION 1

1.1

1.1.1 Z ✓
1.1.2 Z ✓
1.1.3 Y ✓
1.1.4 Z ✓
1.1.5 Y ✓
1.1.6 Y ✓
1.1.7 Z ✓

(7 x 1) (1)

1.2

1.2.1 A ✓
1.2.2 B ✓
1.2.3 C ✓
1.2.4 A ✓
1.2.5 D ✓
1.2.6 B ✓
1.2.7 B ✓
1.2.8 A ✓ (8 x 1) (8)

1.3

1.3.1 Radiation ✓ (1 x 1) (1)

1.3.2 Cloudless/clear sky ✓
Calm/windless ✓
Cold temperatures at night time/Temperature below dew point ✓
[ANY ONE] (1 x 1) (1)

1.3.3 Katabatic ✓ (Wind) (1 x 1) (1)

1.3.4 At night, air cools as a result of terrestrial radiation and sinks due to gravity ✓✓
Cold air becomes heavy and dense and sinks✓✓ (1 x 2) (2)
[ANY ONE]

1.3.5 This cold air sinks to the valley floor ✓✓
If the temperature drops to reach dew point (above 0°C) condensation occurs ✓✓ (2 x 2) (4)

1.3.6 It will cause visibility problems ✓✓
Visibility problems could increase crime rates ✓✓
Increased traffic congestion ✓✓
It can cause motor vehicle accidents ✓✓
Pedestrians/cyclists are at risk of being hit by motor vehicles ✓✓
If it mixes with pollutants it can cause smog, that can affect human health (accept only **ONE** example of health condition that is affected)✓✓ (3 x 2) (6)
[ANY THREE]

1.4

1.4.1 a) S ✓
b) Y ✓ (2 x 1) (2)

1.4.2 A Elbow of capture ✓
B Wind gap ✓ (2 x 1) (2)

1.4.3 Headward ✓ (1 x 1) (1)

1.4.4 Higher rainfall causing increased headward erosion ✓
Larger stream volume increase erosion ✓
S is flowing through softer rock ✓
S has a steeper gradient/lower altitude ✓
[ANY TWO] (2 x 1) (2)

1.4.5 Volume of water increase in rivers ✓✓
The erosive ability increase in rivers ✓✓ (2 x 2) (4)

1.4.6 Aquatic organism perish (destroyed) since the supply of water is reduced. ✓✓
Food chains and food webs are disrupted and the ecosystems are thrown into a state of imbalance/ecosystems will be disturbed ✓✓ (2 x 2) (4)

1.5

1.5.1 The use of water sources in a sustainable way ✓✓ (1 x 2) (2)
[concept]

1.5.2 3 ✓ (Provinces) (1 x 1) (1)

1.5.3 30 dams along the course supply 3 provinces with water ✓
Powers Eskom's coal-fired power station ✓
Supplying water to valleys ✓
Irrigating farms ✓
Providing water to the Kruger National Park ✓
[ANY TWO] (2 x 1) (2)

1.5.4 Water will be polluted (accept examples) ✓✓
Quality of the water decreases. ✓✓
It raises the temperature of the water. ✓✓
It will influence the aquatic ecosystem negatively (accept examples) ✓✓
Negative impact on biodiversity. ✓✓
[ANY ONE] (1 x 2) (2)

1.5.5 Create a buffer zone✓ to prevent development too close to the river. ✓
Implement legislations✓ to discourage pollution of the river. ✓
Issue fines for illegal dumping✓ to prevent the pollution of the river. ✓
Monitoring /testing the quality of the water✓ to ensure it is suitable for domestic and industrial use. ✓
Educate farmers on sustainable farming methods (accept examples). ✓✓
Educating people/awareness campaigns/ ✓ to prevent dumping and pollution of rivers (accept examples) ✓
Encourage or promote the planting of trees✓ to reduce surface run-off or soil erosion. ✓
Protect natural vegetation✓ to reduce surface run-off or soil erosion. ✓
Promote recycling of waste water before releasing back into river. ✓✓
Conserve wetlands✓ to preserve the quality of the water. ✓
[ANY FOUR (one mark for a factor plus one mark for a qualifier)] (4 x 2) (8)

INSTRUCTION FOR PART MARKING – MAXIMUM FOUR MARKS
Learners must be awarded **ONE** mark for only stating a factor.

QUESTION 2

2.1

2.1.1 A ✓
2.1.2 D ✓
2.1.3 B ✓
2.1.4 D ✓
2.1.5 C ✓
2.1.6 B ✓
2.1.7 C ✓
2.1.8 A ✓ (8 x 1) (8)

2.2

2.2.1 Y ✓
2.2.2 Y ✓
2.2.3 Z ✓
2.2.4 Y ✓
2.2.5 Z ✓
2.2.6 Z ✓
2.2.7 Y ✓ (7 x 1) (7)

2.3

2.3.1 Refers to the movement of people from farms to cities ✓✓ (1 x 2) (2)
[Concept]

2.3.2 Natural disasters ✓ (1 x 1) (1)

2.3.3 It decreases the number of people in the rural areas ✓✓
People leaving rural areas increases rural depopulation ✓✓
[ANY ONE] (1 x 2) (2)

2.3.4 The young people are more likely to move to the cities leaving behind a large older population. ✓✓
Family units are broken, e.g. when parents leave children with grandparents to work in urban areas. ✓✓
Increase in crime e.g. farm killings ✓✓
Abandoned buildings resulting in ghost town ✓✓
Reduced service delivery (accept examples)✓✓
[ANY ONE] (1 x 2) (2)

2.3.5 Meeting the basic needs/RDP ✓✓
Comprehensive Rural Development program/Agenda 21 ✓✓
Provide quality services e.g. schools ✓✓
Upgrade infrastructure to improve accessibility ✓✓
Industrial development/industrial decentralization to create more employment ✓✓
Host special events ✓✓
Development of game parks/ecotourism/promote tourism ✓✓
Develop tourist accommodation such as bed and breakfast ✓✓
Improve salaries ✓✓
Government grants/incentives to support farmers✓✓
Uplifting farming communities ✓✓
Development of agricultural schools ✓✓
Create employment opportunities ✓✓
Improve access to capital for farmers✓✓
Skills training for farmers ✓✓
Speed up land reform ✓✓
[ANY FOUR] (4 x 2) (8)

2.4

2.4.1 a) CBD ✓ (1 x 1) (1)

b) It has the tallest buildings ✓
It has a high building density ✓
Centrally located ✓ (2 x 1) (2)
[**ANY TWO**]

c) High rentals have forced businesses to relocate to other commercial areas with lower rentals and more space. ✓✓
Landlords/owners do not refurbish/maintain buildings that force businesses to relocate to more modern parts of the city ✓✓
The CBD has become susceptible to crime which discourages customers ✓✓
The large number of informal traders is unattractive for business ✓✓
Traffic congestion forces consumers to shop elsewhere and decreases business ✓✓
There is a lack of parking space and a shortage of parking garages which discourages businesses to the CBD ✓✓
The CBD has decreased in accessibility because of urban expansion which impacts negatively on businesses ✓✓
Associated with pollution (noise, air and land) which creates an unpleasant/unhealthy environment ✓✓
Inhabited by immigrants/vagrants ✓✓
[ANY TWO] (2 x 2) (4)

2.4.2 a) Close to local market (CBD) ✓✓
Close to labour force ✓✓
Does not require large space ✓✓
Light industries can occupy multi-storey buildings ✓✓
Produces less air, water and noise pollution ✓✓
[ANY ONE] (1 x 2) (2)

b) It is the future expansion area for the CBD. ✓✓
Allows for redevelopment and renovation increasing land value ✓✓
[ANY ONE] (1 x 2) (2)

2.4.3 Pollution from industrial areas repels high income residential zones (accept examples but award marks for only **ONE** type of pollution)✓✓
Heavy industries are not aesthetically pleasing for people in high income residential areas. ✓✓
Influx of traffic congestion near heavy manufacturing land-use zones does not suit high income residential zones. ✓✓
Heavy industries will result in decrease in land values of high income residential areas ✓✓
[ANY TWO] (2 x 2) (4)

2.5

2.5.1 These are illegally built settlements by the poor using as variety of available material. ✓✓
[CONCEPT] (1 x 2) (2)

2.5.2 Limited evidence of planning ✓
Variety of building material used for construction. ✓
Lack of basic services. ✓
Lack of infrastructure ✓
Shacks are clustered ✓
Lack of waste management ✓
[ANY ONE] (1 x 1) (1)

2.5.3 Unemployment ✓
Low paying jobs ✓
Poverty ✓
High cost of formal housing/rentals ✓
Occupying vacant land at no cost ✓
Develops close to place of employment ✓
Limited budgets for low cost housing ✓ (2 x 1) (2)
[ANY TWO]

2.5.4 Safe drinking water ✓
Proper shelter ✓
Electricity ✓
School ✓
Employment ✓
Sanitation ✓
Health care ✓
Refuse removal ✓
Planned roads ✓
[ANY TWO] (2 x 1) (2)

2.5.5 Heavy rainfall will cause the river to overflow its banks flooding the informal settlement. ✓✓
Mud slide/floods would destroy/wash away homes ✓✓ (2 x 2) (4)

2.5.6 Relocate informal settlement dwellers to areas where self-help schemes can be built. ✓✓
Provision of land for building formal houses. ✓✓
Provide site and service plots ✓ ✓
Provide RDP houses to those living in informal settlements ✓✓
Strict legislation on preventing the growth of informal settlements ✓✓
[ANY TWO] (2 x 2) (4)

3.1 MAP SKILLS AND CALCULATIONS

3.1.1 D ✓ (1 x 1) (1)

3.1.2 D ✓ (1 x 1) (1)

3.1.3 A ✓ (1 x 1) (1)

3.1.4 Formula: length x breadth
(4,2 x 0,5) x (3,8 x 0,5)
= 2,1 km ✓ x 1,9 km ✓
= 3,99 km² ✓ (3 x 1) (3)

3.1.5 Formula: Actual distance = Map distance x map scale
9,5cm x 100 ✓ (Range 9.4 to 9.6)
= 950m ✓ (Range 940 to 960) (2 x 1) (2)

3.1.6 Convex slope ✓ (1 x 1) (1)

3.1.7 Reservoir ✓ (1 x 1) (1)

3.2 MAP INTERPRETATION

3.2.1 B ✓ (1 x 1) (1)

3.2.2 Soil erosion ✓ (1 x 1) (1)

3.2.3 Afforestation/encourage vegetation growth on steep slope ✓✓
Terracing of steep slopes ✓✓
Contour ploughing ✓✓
Strip cultivation with alternate crops in the same area ✓✓
Stone walls/anti-erosion walls to trap water run-off and soil. ✓✓
Refilling of the eroded areas ✓✓
[ANY TWO] (2 x 2) (4)

3.2.4 South ✓ (1 x 1) (1)

3.2.5 The tributaries joining the Lesseyton River form 'Vs' pointing south hence the river is flowing in the same direction. ✓✓
The river is flowing from high ground **(Spot height 1287m D1**) to low ground (**Spot height 1270 D1**) ✓✓
[ANY ONE] (1 x 2) (2)

3.2.6 C ✓ (1 x 1) (1)

3.2.7 The tributaries join the main river at acute angles. ✓✓
The tributaries resemble the branches of a tree ✓✓
[**ANY ONE]** (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATON SYSTEM

3.3.1 A layer of information (based on a theme) ✓✓ (1 x 2) (2)
[**CONCEPT]**

3.3.2 Supply water for irrigation of crops ✓✓
There is no need for water infrastructure like pipelines/furrows/canals. ✓✓
The layer will supply information on water supply for the purpose of cultivation ✓✓
[ANY ONE] (1 x 2) (2)

3.3.3 Vector ✓ (1 x 1) (1)

3.3.4 The map is made up of points, lines and polygons ✓ (1 x 1) (1)

3.3.5 The orthophoto map has a higher degree of clarity and details of images. ✓✓
The orthophoto map has a better quality image. ✓✓
The orthophoto has a larger scale. ✓✓
Large scale maps show more detail and better resolution. ✓✓
Many small pixels ✓✓
[ANY ONE] (1 x 2) (2)

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