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PREPARATORY EXAMINATION

GRADE 12

GEOGRAPHY P1

SEPTEMBER 2026

MARKS: 150

GEOGRAPHY P1
12781B

TIME: 3 HOURS

This question paper consists of 15 pages.

X05

N4

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections.

   SECTION A
   QUESTION 1: CLIMATE AND WEATHER (60)
   QUESTION 2: GEOMORPHOLOGY (60)

   SECTION B
   QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES (30)

2. Answer ALL THREE questions.
3. ALL diagrams are included in the question paper.
4. Leave a line between subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number the questions correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Draw fully labelled diagrams when instructed to do so.
9. Answer in FULL SENTENCES, except when you have to state, name, identify or list.
10. Units of measurement MUST be indicated in your final answer, e.g. 1020 hPa, 14 °C and 45 m.
11. You may use a non-programmable calculator.
12. You may use a magnifying glass.
13. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

14. A 1:50 000 topographic map 2329BB LOUIS TRICHARDT and a 1:10 000 orthophoto map 2329 BB LOUIS TRICHARDT are provided.
15. The area demarcated in RED/BLACK on the topographical map represents the area covered by the orthophoto map.
16. Show ALL calculations. Marks will be allocated for steps in calculations.
17. You must hand in the topographical map and the orthophoto map to the invigilator at the end of this examination session.

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Geography P1 2 FS/September 2026
Grade 12 Prep. Exam

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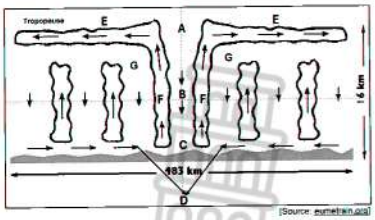


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SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: CLIMATE AND WEATHER

1.1 Study the cross-section of a tropical cyclone below.



[Source: eumetrain.org]

1.1.1 State the air pressure at **A**.

1.1.2 Identify area **B**, which represents the centre of a tropical cyclone.

1.1.3 Is the air pressure high or low at **C**?

1.1.4 Indicate the direction of the air movement at **D**.

1.1.5 In which direction does the air circulate in the system above in the Southern Hemisphere?

1.1.6 Identify the area at **F**, a ring that surrounds the calm centre of the storm.

1.1.7 Which letter on the sketch of a tropical cyclone above indicates the strongest winds and the heaviest rainfall?

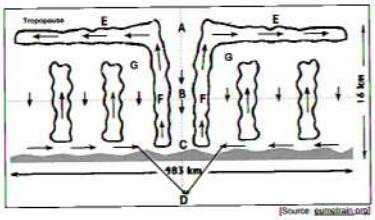
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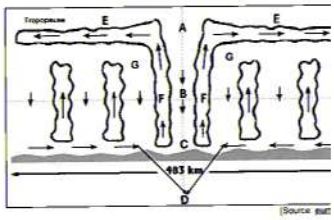
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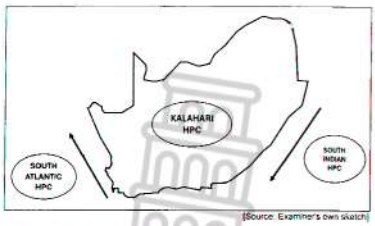
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1.2 Refer to the diagram below, which illustrates three high-pressure cells that influence the climate of South Africa.

Choose the pressure cell that best suits the statements in QUESTIONS 1.2.1 to 1.2.8. You may select a pressure cell more than once.



[Source: Examiner's own sketch]

1.2.1 Produces clear skies and dry conditions over the interior during winter.

1.2.2 When this pressure cell ridges behind a cold front, the weather along the front intensifies.

1.2.3 When this cell is close to South Africa, moist winds reach the coast.

1.2.4 Air from this air pressure cell sinks and heats adiabatically, which causes the lower layers to be warmer than those above.

1.2.5 Responsible for the advection of cool, dry wind over the interior in summer.

1.2.6 Also known as a blocking high.

1.2.7 It may deflect mid-latitude cyclones away from the coast in summer.

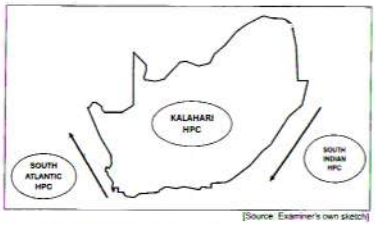
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(8 x 1) (8)

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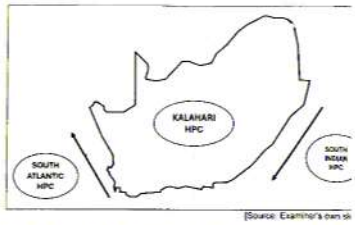
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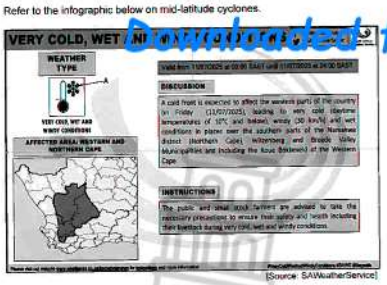
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1.3 Refer to the infographic below on mid-latitude cyclones.



[Source: SAWeatherService]

1.3.1 Why is the Western Cape particularly likely to be influenced by mid-latitude cyclones during winter? (1 x 2) (2)

1.3.2 Explain the role of the polar front in the formation of mid-latitude cyclones. (1 x 2) (2)

1.3.3 Identify the type of precipitation shown at point **A** in the infographic. (1 x 1) (1)

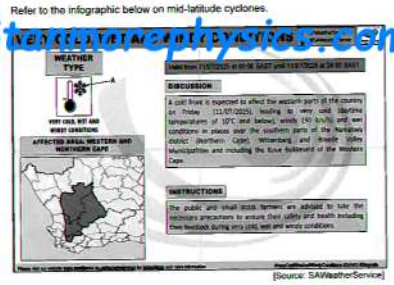
1.3.4 Describe how mid-latitude cyclones lead to the weather conditions mentioned in the infographic. (3 x 2) (6)

1.3.5 Outline the necessary precautions that the public and livestock farmers should take to ensure their safety. (2 x 2) (4)

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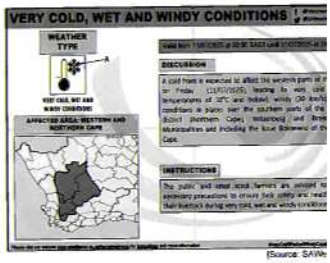
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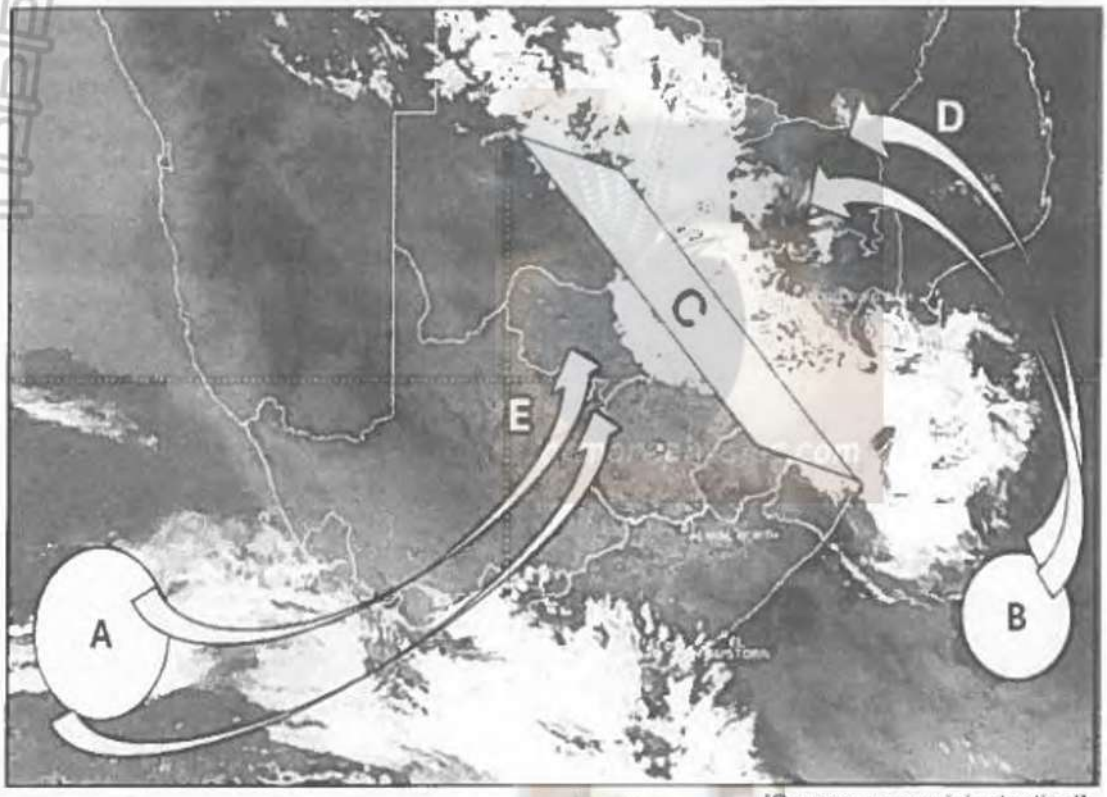
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1.4 Refer to the photograph below of line thunderstorms.



[Source: www.visiontactical]

1.4.1 Define the term *mo* (1 x 1)

1.4.2 How does the *i* contribute to the de (1 x 2)

1.4.3 Explain how heav front. (1 x 2)

1.4.4 Account for the diffi winds at **D** and **E** o (2 x 2)

1.4.5 Explain why there i at **C**. (1 x 2)

1.4.6 What are the pos thunderstorms? (2 x 2)

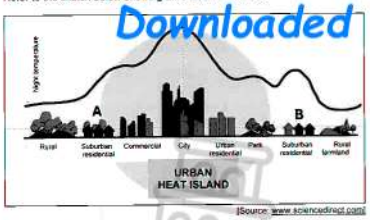
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1.5 Refer to the sketch below showing an Urban Heat Island.



[Source: www.sciencedirect.com]

1.5.1 Explain the concept of an *urban heat island*. (1 x 2) (2)

1.5.2 How will higher temperatures affect the inhabitants of the city? (1 x 1) (1)

1.5.3 **A** and **B** on the sketch are both suburban residential areas.

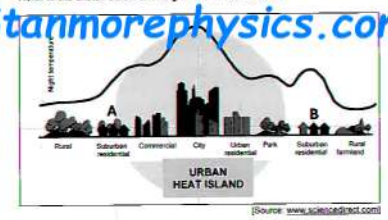
Account for the temperature differences between **A** and **B**. (2 x 2) (4)

1.5.4 Write a paragraph of approximately eight lines and explain why the heat island effect is more concentrated at night over a city. (4 x 2) (8)
[60]

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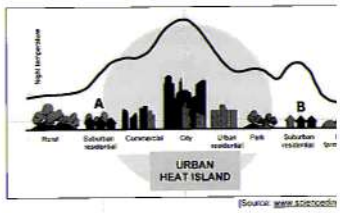
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QUESTION 2: GEOMORPHOLOGY

2.1 Choose the correct geographic word(s)/term from those given in brackets.
Write only the word(s)/term next to the question numbers (2.1.1 to 2.1.8)
in the ANSWER BOOK, for example, 2.1.9 water table.

2.1.1 The collection area of rainwater in lakes, rivers, and reservoirs.
(Catchment area/Water sources)

2.1.2 The point at which a tributary joins a river.
(Confluence/Converging point)

2.1.3 Water enters the stream channels from groundwater sources in the drainage basin. (Water table/Base flow)

2.1.4 An area of higher ground between two rivers in the same drainage system. (Interfluve/Watershed)

2.1.5 A bubbling, uneven flow of water. (Laminar flow/Turbulent flow)

2.1.6 The lateral flow of water in the soil zone. (Infiltration/Through flow)

2.1.7 The ability of rocks to let water pass through.
(Porosity/Permeability)

2.1.8 Water that flows on the surface after it rains. (Run off/Channel flow)

(8 x 1) (8)

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2.2 Refer to the cross-section of a meander below.

Study the statements in question numbers 2.2.1 to 2.2.7 and choose whether they are suitable for **slope A** or **slope B** of a meander as in the sketch below.

Write only the answer next to the question numbers. You may choose an option more than once.

2.2.1 The slope where deposition occurs.

2.2.2 This slope has fast-flowing water.

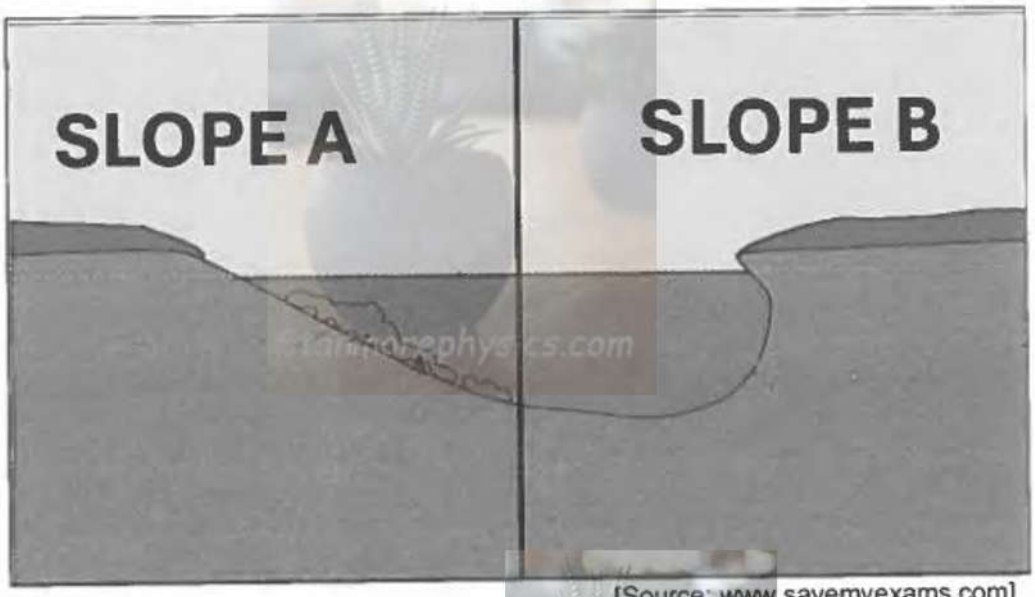
2.2.3 It is known as a slip-off slope.

2.2.4 It is known as a river cliff.

2.2.5 Erosion is dominant here.

2.2.6 Fertile soil can be found on this slope.

2.2.7 Could eventually lead to a meander neck. (7 x 1)



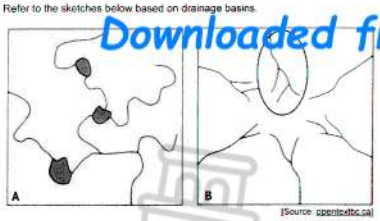
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2.3 Refer to the sketches below based on drainage basins.



[Source: openlextbc.ca]

2.3.1 Identify drainage patterns **A** and **B**. (2 x 1) (2)

2.3.2 What is the stream order of the circled stream in sketch **B**? (1 x 1) (1)

2.3.3 Describe the characteristics of drainage pattern **B**. (1 x 2) (2)

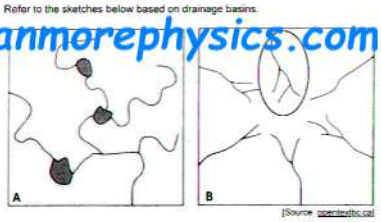
2.3.4 Explain why the streams in drainage pattern **A** are arranged in an irregular order. (2 x 2) (4)

2.3.5 Describe factors that could have led to the high drainage density in drainage pattern **B**. (3 x 2) (6)

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10
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[Source: openlextbc.ca]

2.3.1 Identify drainage patterns **A** and **B**. (2 x 1) (2)

2.3.2 What is the stream order of the circled stream in sketch **B**? (1 x 1) (1)

2.3.3 Describe the characteristics of drainage pattern **B**. (1 x 2) (2)

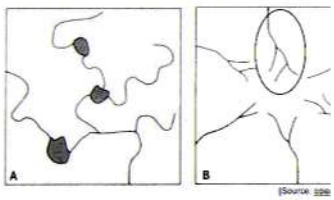
2.3.4 Explain why the streams in drainage pattern **A** are arranged in an irregular order. (2 x 2) (4)

2.3.5 Describe factors that could have led to the high drainage density in drainage pattern **B**. (3 x 2) (6)

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Geography P1
Grade 12 Prep Exam
10
FS/Septem

2.3 Refer to the sketches below based on drainage basins.



[Source: ope

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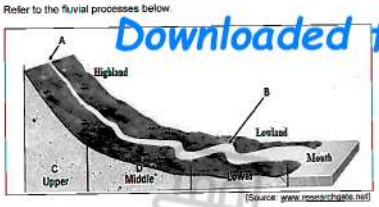
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2.4 Refer to the fluvial processes below.



[Source: www.researchgate.net]

2.4.1 What is a *longitudinal profile* of a river? (1 x 2) (2)

2.4.2 How does the gradient at **A** influence the velocity of water in a stream? (1 x 1) (1)

2.4.3 Provide TWO reasons why rapids develop at **C** (upper course). (2 x 2) (4)

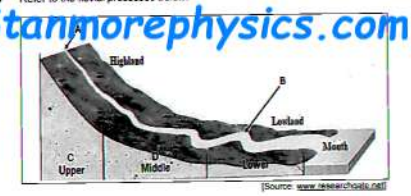
2.4.4 Explain how the fluvial processes change the shape of the valley at **D** (middle course). (2 x 2) (4)

2.4.5 Discuss the importance of the fluvial feature/landform labelled **B** to agriculture. (2 x 2) (4)

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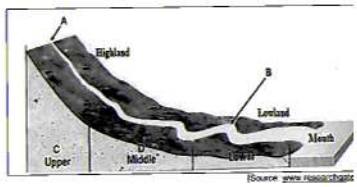
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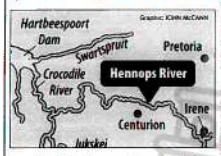


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2.5 Refer to the extract and sketch below on catchment and river management.

Tshwane's Hennops River turns green: algal blooms signal a growing environmental crisis

By Tamsin Metelerkamp and Ethan van Diemen



A section of the Hennops River, which flows through the City of Tshwane Metropolitan Municipality in Gauteng, has turned green due to algal blooms following recent flooding in the area. The river, which serves as a water source and recreational area for residents, is at risk of becoming a symbol of pollution and environmental neglect.

Speaking to Daily Maverick, Johnston said: 'Upstream, there's a lot of agriculture going on, you know, all those pesticides, the phosphates, the nitrates, the butcheries, where they have the chicken coops and things like that, and then when they spray to clean all the chicken poop off the floor, it goes down into the river. Everything goes down into the river. So, the issue is hugely complex.'

The phenomenon, known as eutrophication, is described by the CSIR as 'nutrient enrichment that may lead to an increase in harmful algae in an aquatic system', often resulting from agricultural runoff and wastewater discharges.

Asked about the safety risk posed by the water, he said: 'The department does not encourage any form of water contact sports in most rivers in Gauteng province due to elevated levels of microbial contaminants. South Africans must not engage in water contact sports in any rivers in Gauteng province and must never consume untreated water from these systems.'

[Adapted from dailymaverick.co.za]

2.5.1 Explain why there is a need to study river and catchment management. (2 x 1) (2)

2.5.2 Refer to the sketch map in the extract and identify one town responsible for polluting the Hennops River. (1 x 1) (1)

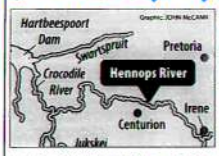
2.5.3 How has pollution of the river affected the natural life in and around the river? (2 x 2) (4)

2.5.4 In a paragraph of not more than eight lines, suggest sustainable strategies that could be implemented to manage the pollution in the Hennops River. (4 x 2) (8)
[60]

TOTAL SECTION A: 120

Geography P1 12 FS/September 2026
Grade 12 Prep. Exam

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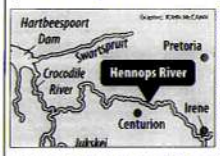
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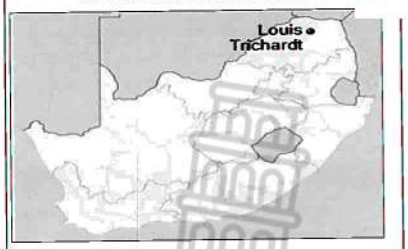


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SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON LOUIS TRICHARDT



Louis Trichardt is a town in Limpopo, South Africa. It is at the foot of Songozwi, in the Soutpansberg mountains, and the centre of the Makhado Local Municipality, which comprises 16,000 km² with a population of 270,000 (2001).
Louis Trichardt is situated in a fertile region where litchis, bananas, mangoes and nuts are produced.
The N1 National Road runs through the town. Louis Trichardt is 437 kilometres from Johannesburg and one hour's drive from the Zimbabwean border at Beitbridge.
Louis Trichardt's name was changed to Makhado, but it was changed back to Louis Trichardt. [2] Elim, Tshikota and Madombidzha townships surround the town in all directions. Its common languages are Tshivenda, Xitsonga, Afrikaans and English.

[Adapted from Wikipedia.org]

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

ENGLISH	AFRIKAANS
Diggings	Delwerye/Uitgrawings
River	Rivier
Estate	Landgoed
Nature Reserve	Natuurreservaat

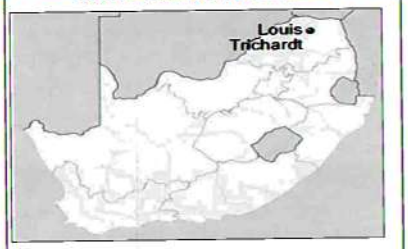
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13
FS/September 2026

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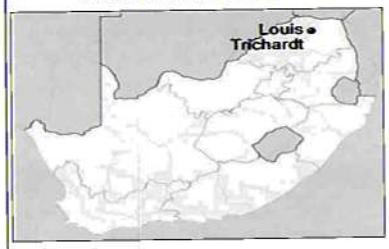
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Geography P1
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13

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3.1 MAP SKILLS AND CALCULATIONS

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 (3.1.1 to 3.1.2) in the ANSWER BOOK, e.g., 3.1.1 E.

3.1.1 The distance from Louis Trichardt to Johannesburg is ...

A 1 600 km.
B 437 km.
C 400 km.
D 2 700 km. (1 x 1) (1)

3.1.2 The national road that runs through the town is the ...

A N1.
B N3.
C N4.
D N5. (1 x 1) (1)

3.1.3 Calculate the true bearing of trigonometric beacon **96** in block **E4** from spot height **1047** in block **F1**. (1 x 2) (2)

3.1.4 Calculate the total area of the section marked **1** on the orthophoto map in square kilometres.

Show all calculations. (5 x 1) (5)

3.1.5 What is the purpose of the area marked **1** on the orthophoto map? (1 x 1) (1)

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Grade 12 Prep. Exam

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3.2 MAP INTERPRETATION

Choose the word(s) given in brackets that will make the statement correct. Write only the word(s) next to the question numbers (3.2.1 to 3.2.3) in the ANSWER BOOK.

3.2.1 The area marked **2** on the orthophoto map is a (forest/ maize farm). (1 x 1) (1)

3.2.2 The feature marked **3** on the orthophoto map is a (dam/ soccer field). (1 x 1) (1)

3.2.3 The landform represented by the line marked **A** on the topographic map is a (spur/valley). (1 x 1) (1)

3.2.4 In which direction is the river flowing in block **K10**? (1 x 1) (1)

3.2.5 Discuss the characteristics of the drainage pattern marked **B** on the topographic map. (1 x 2) (2)

3.2.6 Explain why the sewage works in blocks **G8** and **H8** are not ideally located. (2 x 2) (4)

Refer to the orthophoto map.

3.2.7 Which area, **4** or **5**, will experience higher temperatures at night? (1 x 1) (1)

3.2.8 Provide a reason for your answer in QUESTION 3.2.7. (1 x 1) (1)

3.3 GEOGRAPHIC INFORMATION SYSTEMS

Choose the word(s) given in brackets that will make the statement correct. Write only the word(s) next to the question numbers (3.3.1 to 3.3.2) in the ANSWER BOOK.

3.3.1 A polygon indicating a specific land-use is classified as (vector/raster) data. (1 x 1) (1)

3.3.2 (Query/Attribute) is a request for specific information from a spatial database. (1 x 1) (1)

3.3.3 Identify TWO data layers that have been integrated in block **A1/B1** on the topographic map. (2 x 1) (2)

3.3.4 Explain the importance of data layering. (2 x 2) (4)

TOTAL SECTION B: 30
GRAND TOTAL: 150

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Grade 12 Prep. Exam

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TOTAL SECTION B:
GRAND TOTAL: 1

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Department of Education
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PREPARATORY EXAMINATION

GRADE 12

GEOGRAPHY P1

SEPTEMBER 2026

MARKS: 150

MARKING GUIDELINES

This marking guideline consists of 10 pages.

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SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: CLIMATE AND WEATHER

1.1

1.1.1 High

1.1.2 Eye

1.1.3 Low

1.1.4 Convergence

1.1.5 Clockwise

1.1.6 Eyewall

1.1.7 G/F

(7 x 1) (7)

1.2

1.2.1 Kalahari HPC

1.2.2 South Atlantic HPC

1.2.3 South Indian HPC

1.2.4 Kalahari HPC

1.2.5 South Atlantic HPC

1.2.6 South Indian HPC

1.2.7 South Atlantic HPC

1.2.8 South Indian HPC



(8 x 1) (8)

1.3 1.3.1
- The northward migration of the ITCZ
- They follow the apparent migration of the sun
- Subtropical high moves north, allowing westerlies from the subpolar low to dominate.
  (Westerly wind belt moves north)
  (ANY ONE) (1 x 2) (2)

1.3.2 Midlatitude cyclones form along the polar front due to the strong temperature gradient (strong temperature differences) and instability. (1 x 2) (2)

1.3.3 Snow (1 x 1) (1)

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1.3.4
- **Cold weather** is brought by cold air behind the cold front.
- **Wet conditions,** cold air forces the warm air to rise rapidly, and condensation occurs to great heights. Strong convection is taking place, and cumulonimbus clouds form.
- **Windy conditions** due to the differences in air densities and pressure differences created by the fronts. Steep pressure gradient between the cold and warm fronts.

(3 x 2) (6)

1.3.5
- Evacuate low-lying areas to protect them against floods.
- Keep livestock in barns to protect them against the cold.
- People should stay indoors for protection against the cold, wind, and rain.
- Monitor weather updates, especially regarding potential impacts like flooding or strong winds.
- Avoid unnecessary travel during hazardous conditions.
- Ensure animals have access to windbreaks, dry bedding, and suitable shelter from rain and wind.
- Ensure water sources are accessible and not frozen.
- Have a plan in place for potential flooding or other emergencies, including evacuation routes for livestock.

(ANY TWO) (2 x 2) (4)

1.4 1.4.1 A zone where the north easterlies and the south westerlies meet.
(Concept) (1 x 1) (1)

1.4.2 During summer, the inversion layer is positioned above the escarpment.
Moist air from the Indian Ocean flows into the interior, causing rainfall. (1 x 2) (2)

1.4.3
- Warm, moist air is forced to rise because it is less dense.
- As the air rises, it cools to its dew point. Condenses into cloud droplets, forming thick (cumulonimbus) clouds.

(1 x 2) (2)

1.4.4
- North easterlies draw moisture from the warm Indian Ocean, particularly the Mozambique Channel, hence they are warm and moist.

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- South westerlies originate over the cold South Atlantic Ocean, picking up minimal moisture, hence they are cold and dry. (2 x 2) (4)

1.4.5
- As a result of the uplift and condensation of warm, moist air.
- The cool air lifts the warm air, which cools adiabatically.
- As the warm air rises, it expands and cools, forming clouds.
- The eastern side of the front is often warmer, leading to greater evaporation and cloud formation.
- (EXPLANAION ON FRONTAL UPLIFT)

(Any ONE) (1 x 2) (2)

1.4.6
- Replenish water in dams.
- Relief from drought in the interior.
- The heat and the pressure from the lightning turn nitrogen in the air into natural fertiliser for soil.
- Enough water for natural vegetation (biodiversity;ecosystems)

(2 x 2) (4)

1.5 1.5.1 The temperature in the city is warmer than in the surrounding rural area.
(Concept) (1 x 2) (2)

1.5.2
- Increase in discomfort.
- Exacerbated heat stress and deaths during heat waves.
- Heat stroke and respiratory problems

(ANY ONE) (1 x 1) (1)

1.5.3 **At A:**
- The temperatures are lower because of the cooling effect of trees.

At B
- Experiencing higher temperatures because there is no vegetation.
- Artificial surfaces generate more heat.

(ANY TWO. Must refer to both A and B) (2 x 2) (4)

1.5.4
- It is cooler, so the air becomes denser and sinks.
- Less heat results in a decrease in turbulence.
- Vertical dimension decreases, and the inversion layer is closer to the surface.
- The heat island is more dome-shaped, and pollutants are more concentrated.
- The dome is denser and shallower.
- The trapped heat is more concentrated over the CBD area.

(4 x 2) (8)

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- Artificial surfaces (concrete, buildings, pavement) absorb heat during the day and release it at night.
  (ANY FOUR. Must mention fact and qualifier.)

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QUESTION 2: GEOMORPHOLOGY

2.1
2.1.1 catchment area
2.1.2 confluence
2.1.3 base flow
2.1.4 interfluve
2.1.5 turbulent flow
2.1.6 through flow
2.1.7 permeability
2.1.8 run off (8 x 1) (8)

2.2
2.2.1 Slope A
2.2.2 Slope B
2.2.3 Slope A
2.2.4 Slope B
2.2.5 Slope B
2.2.6 Slope A
2.2.7 Slope B
(7 x 1) (7)

2.3
2.3.1 **A**: Deranged
B: Radial (2 x 1) (2)

2.3.2 2nd order stream (1 x 1) (1)

2.3.3
- Found in areas with dome-like structures
- Streams radiate from a central point
- Resembles the spokes of a wheel
- Tributaries follow the slope downwards and drain in all directions

(ANY TWO) (1 x 2) (2)

2.3.4
- The topsoil has been scraped off during glaciation, and only bare rocks are present.
- The melting of glaciers leads to irregular elevation of the land.
- Collection of water in low areas forms many lakes.

(ANY TWO) (2 x 2) (4)

2.3.5
- Steep slopes will promote high run-off and less infiltration.
- Increase in precipitation results in high run-off.
- Soil with high moisture will result in low infiltration and high run-off.
- Areas with little vegetation cover will have little infiltration and high run-off.
- Low porosity and low permeability will lead to high run-off.

(ANY THREE) (3 x 2) (6)

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2.4 2.4.1 Side view of the river from source to mouth (1 x 2) (2)

2.4.2 **A** is a steep slope; water flows at a high velocity. (1 x 1) (1)

2.4.3
- High velocity enhances the river's erosive power.
- The uneven riverbed at **A** causes the water to tumble and churn.
- The uneven riverbed, combined with the high velocity of the water, leads to turbulent flow.
- Turbulent flow is a key characteristic of rapids.

(ANY TWO) (2 x 2) (4)

2.4.4
- Lateral erosion (due to an increase in discharge) will widen the banks of the river.
- Downward erosion (due to abrasion) will deepen the river-bed.

(must explain how processes change the shape) (2 x 2) (4)

2.4.5
- Meanders can be used for the transportation of agricultural products.
- The slip off slopes in meanders provides fertile soil for farming.
- Water can be used for irrigation and for livestock to drink.
- The gentle, flat terrain is typically easier to work with for planting and harvesting.

(ANY TWO) (2 x 2) (4)

2.5 2.5.1
- Store water and protect it for future use.
- To reduce discharge and recycle harmful agricultural run-off.
- Agricultural purposes, e.g., crop farming.
- To ensure access to water for industrial purposes, e.g., to cool the machines in factories, it is also a vital part of production.
- Control the flow of water to reduce the chances of flooding.
- To ensure constant use of water for domestic purposes.
- To ensure water for recreation, e.g., water sports.
- To have access to water for the generation of hydroelectricity.
- To preserve natural vegetation.
- To preserve biodiversity.

(ANY ONE) (1 x 2) (2)

2.5.2
- Pretoria
- Irene
- Centurion

(ANY ONE) (1 x 1) (1)

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2.5.3
- It has resulted in eutrophication
- Loss of biodiversity
- Decline in the overall health of the river
- Death of aquatic species
- Disrupting food webs

(ANY TWO) (2 x 2) (4)

2.5.4
- Educate the public on water conservation.
- Awareness campaigns on catchment management
- International cooperation to manage rivers that flow in more than one country.
- Wetlands must be conserved.
- Legislation to control what is discharged into rivers.
- Legislation to control the pollution of underground water.
- Impose fines on industries that pollute the river.
- Vegetation must be maintained in areas close to rivers.
- Monitor the quality of water
- Avoid construction of settlements along the river

(ANY FOUR) (4 x 2) (8)

[60]

TOTAL SECTION A: 120



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SECTION B

QUESTION 3

3.1	3.1.1	B	(1 x 1)	(1)
	3.1.2	A	(1 x 1)	(1)
	3.1.3	72° (71°- 73°)	(1 x 2)	(2)
	3.1.4	Area = L x B L = 1.8 cm√ x 0.1 (range 1.7–1.9) B = 1.9 cm √ x 0.1 (range 1.8–2.0) 0.18 km√ x 0.19 km√ 0.0324 km² 0.0306 km²– 0.038 km²	(5 x 1)	(5)
	3.1.5	It is a recreational area/sports grounds	(1 x 1)	(1)
3.2	3.2.1	Forest	(1 x 1)	(1)
	3.2.2	Dam	(1 x 1)	(1)
	3.2.3	Spur	(1 x 1)	(1)
	3.2.4	Southwest	(1 x 1)	(1)
	3.2.5	• Tributaries join the mainstream at acute angles • Found in areas where rocks have uniform resistance to erosion • Resembles the branches of a tree	(1 x 2)	(2)
	3.2.6	• It is located next to the river waste might spill into the river. • Pollutants in sewage can be toxic to aquatic organisms, affecting their health. • Excess nutrients from sewage can lead to algal blooms in the river. • Water quality degradation can make rivers unsuitable for recreation, such as swimming and fishing. • During heavy rain, combined sewer systems can overflow, discharging untreated sewage directly into rivers, causing significant pollution. **(ANY TWO)**	(2 x 2)	(4)
	3.2.7	Area 5	(1 x 1)	(1)
	3.2.8	• It is a built-up area • More heat generating/artificial surfaces **(ANY ONE)**	(1 x 1)	(1)

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3.3

3.3.1 Vector (1 x 1) (1)

3.3.2 Query (1 x 1) (1)

3.3.3
- Roads: Representing the road network.
- Buildings: Showing the locations and outlines of structures.
- Land Use: Depicting different land cover types.
- Drainage: Representing rivers, lakes, and other water bodies.
- Topography

(ANY TWO) (2 x 1) (2)

3.3.4
- It enables users to focus on specific aspects of the data, overlay.
- Users can derive meaningful insights from spatial relationships.
- Data layers capture data at the point of origin, ensuring accuracy.
- By providing a standardised structure, data layers minimise errors and redundancies in data collection and analysis.
- Clear overall info of the block. Taking everything into account to get a clear picture/information of the area.

(ANY TWO) (2 x 2) (4)

TOTAL SECTION B: 30
GRAND TOTAL: 150

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