



NATIONAL SENIOR CERTIFICATE EXAMINATION  
MAY 2022

**GEOGRAPHY: PAPER I**  
**MARKING GUIDELINES**

Time: 3 hours

200 marks

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**These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.**

**The IEB will not enter any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.**

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Marks must be awarded in line with:

- the specific content of the marking guidelines or the generic level descriptors for the question
- the specific skills defined in the marking guidelines or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

Marks must be awarded **POSITIVELY**:

- Marks are awarded for correct / valid answers.
- Credit is given for valid answers that go beyond the scope of the syllabus referring to your senior sub-examiner or examiner as appropriate.
- Marks are awarded when candidates clearly demonstrate what they know and can do.
- Marks are not deducted for errors.
- Marks are not deducted for omissions.
- Answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

Rules must be applied consistently, e.g., in situations where candidates have not followed instructions or in the application of generic level descriptors.

Marks should be awarded using the full range of marks defined in the marking guidelines for the question; however, the use of the full mark range may be limited according to the quality of the candidate responses seen.

Marks awarded are based solely on the requirements as defined in the marking guidelines.

Marks should not be awarded with grade thresholds or grade descriptors in mind.

When marking higher-order questions please use the essay coding system to make the moderation process more consistent, fair and easier.

### **Geography Essay Coding**

**E** – Excellent

**G** – Good

**F** – Fair

**V** – Vague

**R** – Repetitive

**I** – Irrelevant

QUESTION 1      INTEGRATED QUESTION: THE GEOGRAPHY OF THE KING CETSHWAYO DISTRICT			
1.1      Climate concepts			
Complete the following questions by selecting the correct answer in each instance. Write the number of the question and the letter corresponding to your answer, e.g., 1.1.0 A.			
1.1.1	The force exerted by the atmosphere by virtue of its weight on any surface. A      Air pressure B      Anabatic flow C      Cyclone D      Ridge	A	Air pressure
1.1.2	Berg winds blow mainly in winter due to ... A      the position of the ITCZ. B      the low-pressure trough. C      the anticyclone over the interior. D      tropical cyclones over the Indian Ocean.	C	The anticyclone over the interior.
1.1.3	A low-pressure system that spins off independently from the main planetary circulation. A      Cut-off low B      Thermal low C      Low-pressure trough D      Coastal low	A	Cut-off low.
1.1.4	The strong, often persistent and dry south-easterly wind that blows on the South African coast from spring to late summer. A      Line thunderstorms B      Urban heat island C      Cape Doctor D      Urbanisations	C	Cape Doctor
1.1.5	Line showing the regions either having less than, or more than the average rainfall in South Africa. A      500 mm isohyet B      1013 hPa Isobar C      120 knot winds isopleth D      25 °C isotherm	A	500 mm isohyet

1.1.6	The Western Cape has a ... climate due to its warm summers and wet winters. A continental B Mediterranean C maritime D tropical	<b>B</b>	<b>Mediterranean</b>
<b>1.2 Mid-latitude cyclones</b>			
Study Figure 1, a synoptic image of a front passing by the KZN coast.			
1.2.1	Name anticyclone A.	<b>South Atlantic anticyclone</b>	
1.2.2	Name front B.	<b>Cold front</b>	
1.2.3	What type of cloud would you find at front B?	<b>Cumulonimbus</b>	
1.2.4	Name the line at C.	<b>Isobar</b>	
1.2.5	Describe how anticyclone A influences seasonal rainfall and mid-latitude cyclones over South Africa.	<ul style="list-style-type: none"> <li><b>In Summer</b> moves further south, pushing dry and cooler air into the interior, meeting moist air creating thunderstorms</li> <li><b>Winter:</b> moves north, allowing MLC to pass over and bring rain to the SWC. Interacts with the interior high keeping the interior dry.</li> </ul>	<p><b>Credit must be given for reasonable and relevant alternative descriptions.</b></p> <p><b>1 to 2 marks</b> for a simple description that shows general knowledge and understanding.</p> <p><b>3 to 4 marks</b> for a developed description that covers the content thoroughly.</p>
1.2.6	Explain how a mid-latitude cyclone is formed.	<ul style="list-style-type: none"> <li><b>Mid-latitude cyclones form at the polar front when the temperature difference between two air masses is significant.</b></li> <li><b>These air masses blow past each other in opposite directions.</b></li> <li><b>Coriolis effect deflects winds.</b></li> <li><b>The winds strike the polar front at an angle.</b></li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative explanation.</b></p> <p>Candidate to show an understanding of how an MLC is formed at the polar front.</p> <p><b>1 to 2 marks</b> for a simple explanation that shows general knowledge and understanding.</p>

		<ul style="list-style-type: none"> <li>• Warm and cold fronts form next to each other.</li> <li>• The warm air at the cold front rises and creates a low-pressure cell.</li> <li>• Winds rush into the low pressure and create a rising column of air.</li> <li>• The air twists, rotating anticlockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.</li> <li>• Since the rising air is moist, rain or snow falls.</li> </ul>	<b>3 to 4 marks</b> for a developed explanation that covers the content thoroughly.
1.2.7	What is the economic benefit of mid-latitude cyclones for South Africa?	Rainfall to the Western Cape that aids industry and agriculture.	Concept of the effect of the MLC on SA weather and economy.
1.2.8	Assess the impact that a mid-latitude cyclone could have on shipping.	<ul style="list-style-type: none"> <li>• High winds will cause high waves.</li> <li>• Ships cannot go into port.</li> <li>• Ships would have to anchor.</li> <li>• Ships might be damaged.</li> <li>• People might get hurt or killed.</li> <li>• Loss of products overboard.</li> <li>• Delays in delivery of goods.</li> </ul>	<p><b>Credit must be given for reasonable and relevant alternative answers.</b></p> <p>Candidate must show an understanding of the impact of a mid-latitude cyclone.</p> <p><b>1 to 2 marks</b> for a simple assessment that shows general knowledge and understanding.</p> <p><b>3 to 4 marks</b> for a developed assessment that covers the content thoroughly.</p>
1.2.9	Send a message to a ship captain outlining TWO weather conditions they could expect as the front moves over them.	<ul style="list-style-type: none"> <li>• High winds</li> <li>• Rain</li> <li>• Possible snow</li> <li>• Increased pressure</li> <li>• Backing wind (change in wind direction)</li> <li>• Thunderstorms</li> <li>• Cold temperatures</li> </ul>	<p><b>Credit must be given for reasonable and relevant alternative answers.</b></p> <p>Candidate must show an understanding of the weather conditions as a cold front passes overhead.</p>

			<b>1 mark</b> for a simple answer that shows general knowledge and understanding. <b>2 marks</b> for a developed answer that covers the content thoroughly.
<b>1.3 Urban studies</b>			
Study Figure 2, a topographical map extract of the Empangeni Region.			
1.3.1	Name the street patterns at <b>D</b> and <b>E</b> .	D – Grid iron E – Planned irregular	
1.3.2	Identify the land-use zone labelled <b>F</b> .	Industrial	
1.3.3	Provide a reason for your answer to Question 1.3.2.	<b>Any one of the following</b> <ul style="list-style-type: none"> <li>• Large buildings</li> <li>• Railway infrastructure</li> <li>• Good road access</li> <li>• Flat land</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative answer.</b>
1.3.4	The settlement of Ngwelezana is rapidly expanding, and most of the new developments are informal housing.		
(a)	Explain what an <i>informal settlement</i> is.	A place where people live and build temporary shelters, often followed by more permanent houses. Sometimes informal settlements are supplied with water, electricity, etc.	Candidates are free to develop their own approach to the question and responses will vary. This does not have to be a textbook explanation.
(b)	Describe TWO daily socio-economic issues faced by people in informal settlements.	<ul style="list-style-type: none"> <li>• Lack of job opportunities</li> <li>• No industries</li> <li>• Lack of services</li> <li>• Lack of infrastructure</li> <li>• Often more crime.</li> </ul>	<b>Credit must be given for reasonable and relevant alternative descriptions.</b>  They must show an understanding of an informal settlement.  <b>1 mark per concept</b> for a simple description that shows general knowledge and understanding. <b>2 marks per concept</b> for a developed description that covers the content thoroughly.

			<p><b>MAX 2 marks</b> if only ONE issue is covered.</p> <p><i>Do not credit generic problems.</i></p>
(c)	Using TWO pieces of evidence, explain why Empangeni is an example of an apartheid-planned settlement.	<ul style="list-style-type: none"> <li>• The river acts as a natural buffer.</li> <li>• One main road from the main part of town to Ngwelezana.</li> <li>• Road structure seems organic or unplanned irregular.</li> <li>• Sewerage works are close to settlement.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative explanation.</b></p> <p>An understanding of apartheid city planning must be evident.</p> <p><b>1 mark per concept</b> for a simple explanation that shows general knowledge and understanding.</p> <p><b>2 marks per concept</b> for a developed explanation and covered the content thoroughly.</p> <p><b>MAX 2 marks</b> only ONE area is covered.</p>







1.4 Urban hierarchies			
Refer to Figure 3, an enlarged image of the area highlighted in blue on Figure 2, showing some of the businesses found in Empangeni.			
State whether the following statements are True or False. Write only the number of the question and whether it is True or False, e.g., 1.4.0. False.			
1.4.1	Standard Bank has the largest range.	TRUE	
1.4.2	Shoprite provides higher-order goods.	FALSE	
1.4.3	Ritchie Ford needs a small threshold population.	FALSE	
1.4.4	Shoprite has the smallest sphere of influence.	TRUE	
1.4.5	Market area is the type of customer that would shop at Shoprite.	FALSE	
1.5 Urban settlements			
1.5.1	What is Mbonambi's population?	Between 105 000 and 108 000	
1.5.2	Which municipality is most affected by urban sprawl?	uMhlathuze (Richards Bay)	Candidate must show an understanding of the growth of rural population without economic opportunity, i.e., no secondary or tertiary development.
1.5.3	Discuss TWO issues that cities experience as they grow.	<ul style="list-style-type: none"> <li>Infrastructure capabilities</li> <li>Water supply</li> <li>Electricity connections</li> <li>Overcrowding</li> <li>New development</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative discussion.</b></p> <p><b>1 mark per concept</b> for a simple discussion that shows general knowledge and understanding.</p> <p><b>2 marks per concept</b> for a developed discussion that covers the content thoroughly.</p> <p><b>MAX 2 marks</b> if only ONE issue is covered.</p>



1.6 Secondary and tertiary sectors			
1.6.1	How is a balance of trade calculated?	The balance of trade (BOT) is defined as the country's exports minus its imports.	
1.6.2	Why is the tertiary sector the largest in terms of GVA?	It includes wholesale and retail trade, tourism and communications. Now South Africa is moving towards becoming a knowledge-based economy, focusing on technology, e-commerce, financial and other services.	Candidate must show an understanding of how the economy and its sectors are broken down.
1.6.3	Explain why Richards Bay focuses on the export market.	This is due to the location and the access to the harbour.	
1.6.4	Give TWO ways in which the development of the secondary sector will help to improve the employment levels and the trade balance of a region.	<ul style="list-style-type: none"> <li>• Development of the link industries</li> <li>• Can use semi-skilled and unskilled labour</li> <li>• More products for export</li> <li>• More foreign income.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative answer.</b></p> <p><b>1 mark per concept</b> for a simple answer that shows general knowledge and understanding.</p> <p><b>2 marks per concept</b> for a developed answer that covers the content thoroughly.</p> <p><b>MAX 2 marks</b> only ONE way is covered.</p>
1.7 Strategies for Industrial development			
Read the following article about the development of the IDZ near Richards Bay.			
1.7.1	Match the descriptions in Column B to the terms in Column A. Write only the lower-case letter of the question and the upper-case letter corresponding to your answer in your Answer Book, e.g. (f). H.		
(a)	Supply chains	<b>G</b>	A system of producing a product or service from the very beginning stage to the final delivery to end-users.
(b)	Industrial development zone	<b>D</b>	A purpose-built industrial estate geared for export-orientated manufacturing industries.
(c)	Infrastructure	<b>A</b>	Facilities and systems that support the sustainable functionality of households and firms.

(d)	Telecommunications	<b>E</b>	Communication over a distance by cable, telegraph, telephone or broadcasting.
(e)	Renewable energy	<b>B</b>	Energy derived from replenishable sources.
1.7.2	Discuss TWO ways in which the RBIDZ influences economic development in the King Cetshwayo District.	<ul style="list-style-type: none"> <li>Provides jobs</li> <li>Opens market areas</li> <li>Specialised product development</li> <li>More money in regions</li> <li>Helps develop linked industries</li> <li>Grows the supply chain.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative discussion.</b></p> <p>An understanding of the impact of an IDZ on a region must be shown.  <b>1 mark per concept</b> for a simple discussion that shows general knowledge and understanding.  <b>2 marks per concept</b> for a developed discussion that covers the content thoroughly.  <b>MAX 2 marks</b> if only ONE way is covered.</p>
1.7.3	Discuss TWO challenges that could hinder the economic development in the King Cetshwayo District.	<ul style="list-style-type: none"> <li>Humid climate</li> <li>Hilly landscape</li> <li>Unskilled labour force</li> <li>COVID-19: economic and social</li> <li>Land expropriation</li> <li>Economic instability, RSA downgrading</li> <li>World economic slowdown</li> <li>International competition</li> <li>Far from world markets</li> <li>Lack of product</li> <li>Variable exchange rate</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative discussion.</b></p> <p><b>1 mark per concept</b> for a simple discussion that shows general knowledge and understanding.  <b>2 marks per concept</b> for a developed discussion that covers the content thoroughly.  <b>MAX 2 marks</b> if only ONE challenge is covered.</p>
1.7.4	Name THREE factors that favour industrial development in the KZN region.	<ul style="list-style-type: none"> <li>Large labour force</li> <li>Good infrastructure</li> <li>TWO major harbours</li> <li>One major airport</li> <li>Close to major market Gauteng</li> </ul>	<p><b>Credit must be given for reasonable and relevant alternative answers.</b></p> <p>The candidate can just list if the wording makes sense.  They cannot just put one word down that has no context.</p>

		<ul style="list-style-type: none"> <li>• Closest to the East market China.</li> <li>• Good water supply</li> </ul>	
<b>1.8</b>	<b>Catchment and River management</b>		
1.8.1	Choose the underlined words in Fact File 3 and match each of the following definitions below. Write only the number of the question and the correct term, e.g. (f). surface area.		
(a)	Bodies of water usually found where rivers meet the sea.	<b>Estuary</b>	
(b)	The area from which rainfall flows into a river system.	<b>Catchment area</b>	
(c)	An area where a river rises.	<b>The source</b>	
(d)	The point where the river enters the ocean.	<b>The mouth</b>	
(e)	The lower limit for an erosion process along a river course.	<b>Base level of erosion</b>	

1.8.2	Essay Question				
<ul style="list-style-type: none"><li>Please DO NOT tick when marking an essay – this confuses the checkers. Rather underline valid and appropriate points and use the code system.</li></ul>		<table><tr><td><b>GEOGRAPHY ESSAY CODES</b>  E – Excellent G – Good V – Vague R – Repetition I – Irrelevant F – Fair</td><td><b>CONTENT:</b>   Underline relevant points if correct   Circle incorrect points  <b>EVIDENCE:</b>  ( ) Bracket evidence</td></tr></table>		<b>GEOGRAPHY ESSAY CODES</b>  E – Excellent G – Good V – Vague R – Repetition I – Irrelevant F – Fair	<b>CONTENT:</b>   Underline relevant points if correct   Circle incorrect points  <b>EVIDENCE:</b>  ( ) Bracket evidence
<b>GEOGRAPHY ESSAY CODES</b>  E – Excellent G – Good V – Vague R – Repetition I – Irrelevant F – Fair	<b>CONTENT:</b>   Underline relevant points if correct   Circle incorrect points  <b>EVIDENCE:</b>  ( ) Bracket evidence				
You are asked to write a report for the King Cetshwayo District to outline the importance of the Mhlathuze River to the region. (Use source material)					
Describe the major characteristics of the Mhlathuze River. Include stream order, drainage density and stream pattern.		<ul style="list-style-type: none"><li>The river has a 4<sup>th</sup> stream order.</li><li>It has a high to medium stream density.</li><li>It is in a high rainfall region.</li><li>It has a dendritic stream pattern.</li><li>It is a permanent river.</li><li>Inverted pear-shaped basin.</li></ul>			
Discuss the importance of the river system to the people living in the area.		<ul style="list-style-type: none"><li>Provides water to drink.</li><li>Provides water for irrigation.</li><li>Water for industries.</li><li>Flat land to settle.</li><li>Fertile soil to farm.</li></ul>			

<p>Explore why managing a river system is important for socio-economic development.</p>	<ul style="list-style-type: none"> <li>• Clean water leads to healthy populations.</li> <li>• Flood can cause damage, and this could hamper development.</li> <li>• Unclean water costs money to clean.</li> <li>• Reduces malnutrition and incidence of child mortality.</li> <li>• Helps with food security.</li> <li>• Healthy ecosystems and for human survival itself.</li> <li>• It is also central to the production and preservation of a host of benefits and services for people.</li> <li>• More certainty and efficiency in productivity.</li> <li>• Excessive withdrawals of river flows could disrupt access.</li> <li>• Pollution from industrial and agricultural activities could affect health.</li> <li>• Can reduce or increase land value.</li> <li>• Eutrophication resulting from nutrient loadings.</li> <li>• Humans could add to flooding and could lead to broken infrastructure, injury and death.</li> </ul>	
<p>Discuss the impact that a dam has on a river system. (Positive and negative)</p>	<ul style="list-style-type: none"> <li>• Provides recreation</li> <li>• Increases water supply</li> <li>• Helps with flood control</li> <li>• Disrupts ecosystems</li> <li>• Floods good land</li> <li>• Creates migration</li> <li>• Floods homes of people settled in the area.</li> </ul>	

Criteria	Level 3 Excellent – Good	Level 2 Satisfactory	Level 1 Poor
<b>Writing skills</b> <ul style="list-style-type: none"> <li>Take into consideration structure and presentation.</li> <li>Use of brief introduction and conclusion.</li> <li>Logical discussion and use of subheadings.</li> </ul> <b>[4 marks allocated to this component]</b>	Suitable introduction and conclusion. Sophisticated, coherent and structured writing. Subheadings and paragraphs have been effectively used. The report is concise, well-structured and succinct.	Introduction and conclusion present, although not ideal. Attempts to adhere to subheadings and use of paragraphs. Report deviates from the point in places and lacks brevity.	Writing is weak and almost unintelligible. No introduction or conclusion provided. No use / adherence to subheadings. Long sentences, poor grammar and ineffective use of paragraphs. The report is repetitive. Bullet points may have been used. <i>1 = must be awarded for any form of written attempt / effort</i>
	<b>4 marks</b>	<b>3 marks</b>	<b>2–0 marks</b>
<b>Content knowledge</b> <ul style="list-style-type: none"> <li>Correct use of geographical terminology and concepts.</li> <li>Adherence to topic and subheadings.</li> </ul> <b>[12 marks allocated to this component]</b>	Response thoroughly assesses the relevant content and detailed discussion of the topic. An effective and sustained evaluation with a sound conclusion. Response is well founded in detailed exemplar knowledge and strong conceptual understanding of the topic. Examples used are appropriate and integrated effectively into the response. Good usage of geographical terminology and concepts. An appropriate number of facts presented per subheading. Min of 2 points for every sub-heading will earn candidate 10 marks. Extension work will provide a further 2 marks.	Response demonstrates some knowledge and understanding. Some relevant content. Response is broadly evaluative in character, comprising some explanatory or narrative content and a conclusion. Response develops from secure base of knowledge and understanding with the use of examples. An overview / general discussion of key issues. Displays a fair understanding of the topic however displays some inaccurate or vague in some of their discussions. Basic usage of geographical concepts and terminology. 60–50% of required facts presented per subheading. 1 point per sub-heading, or 2 points provided and only 2 paragraphs.	Response makes a few general points about the topic. A descriptive response comprising a few simple points. Knowledge is basic and understanding may be poor and lack relevance to the question set. Digression from the topic. Weak grasp of concepts and terminology. Isolate and generic elements of understanding and knowledge. Superficial / poor discussion. Almost no relevant facts / subheading.
	<b>12–9 marks</b>	<b>8–5 marks</b>	<b>4–0 marks</b>
<b>Supporting evidence – analysis and understanding</b> <ul style="list-style-type: none"> <li>The ability to analyse and evaluate the topic is assessed in this category.</li> <li>Reference made to case study material / fact file / source material provided.</li> <li>If appropriate, reference must be made to familiar / local or other examples.</li> </ul> <b>[4 marks allocated to this component]</b>	The candidate is able to argue and evaluate appropriately. There is strong evidence of accurate application of understanding and evidence provided. The report demonstrates the understanding and integration of relevant case study / fact file / source material into the context of the report. Looking for evidence of unpacking content and high-order integration.	Superficial links made to case study / fact file / source material. Although reference to supporting examples has been made, it is not clear that the candidate has a good understanding of the example / case study material. Supporting evidence does not always relate appropriately to the subheading or context of the discussion. Discussion lacks depth.	Limited to no reference made to case study / fact file / source material. Examples not provided. Has little to no geographical meaning. Little analysis or understanding. Demonstrates minimal understanding of the topic.
	<b>4 marks</b>	<b>3 marks</b>	<b>2–0 marks</b>

QUESTION 2 CLIMATE, WEATHER AND GEOMORPHOLOGY			
2.1 Tropical cyclones			
2.1.1	Provide the correct term(s) to complete the following sentences.		
(a)	The centre of the typhoon is known as the ...	eye	
(b)	At this point the conditions are ...	calm and/or clear	
(c)	The area of most destruction is known as the ...	eye wall	
2.1.2	Explain why the city of Naga will be most severely affected.	<b>Any ONE of the following</b> <ul style="list-style-type: none"> <li>It is in the direct path of the storm.</li> <li>The eye will pass over it.</li> <li>The leading quadrant will pass over it.</li> </ul>	Concept question, Candidate must understand that region in direct path of the storm will be affected.
2.1.3	List three requirements for a typhoon to form.	<ul style="list-style-type: none"> <li>Very low pressure</li> <li>Warm ocean (26 °C)</li> <li>Humid conditions</li> <li>Steep pressure gradient</li> <li>Upper-air divergence</li> <li>Coriolis force</li> </ul>	This is a direct textbook concept.
2.1.4	Describe TWO hazards experienced when the typhoon makes landfall.	<ul style="list-style-type: none"> <li>Strong and damaging winds</li> <li>Storm surge</li> <li>Heavy rainfall leading to flooding</li> <li>Coastal flooding</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative description.</b> <b>1 mark per hazard</b> for a simple description that shows general knowledge and understanding. <b>2 marks per hazard</b> for a developed description that covers the content thoroughly. <b>MAX 2 marks</b> if only ONE hazard is covered.

## 2.2 Subtropical anticyclones and associated weather conditions

2.2.1	Name anticyclone <b>G</b> .	Interior/ Continental / Kalahari	
2.2.2	Explain why anticyclone <b>G</b> causes clear winter conditions over the interior.	<ul style="list-style-type: none"> <li>The anticyclone brings descending air over the interior that causes the air to be clear and calm.</li> <li>Anticyclones create an inversion layer that prevents any moisture from getting into the interior.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative answer.</b></p> <p>Candidate must show an understanding of the effect of the anticyclone over SA.</p>
2.2.3	Draw a diagram to explain why pollution in South Africa becomes more concentrated during winter.		
<p>Sinking/descending air from anticyclone</p> <p><b>Inversion Layer</b></p> <p>Pollution is trapped under the inversion layer</p> <p>This will be in place for most of the winter and be close to the ground and therefore increase in concentration.</p>			<ul style="list-style-type: none"> <li><b>1 mark</b> position of the inversion layer.</li> <li><b>1 mark</b> showing trapped pollution.</li> <li><b>1 mark</b> for the drawing.</li> <li><b>1 mark</b> for anticyclone air movement.</li> </ul>



### 2.3 Subtropical anticyclones and associated weather conditions

	Select the bold term(s) that will make the statements TRUE. Write only the letter and the corresponding term, for example: (g) lightning.		
	Line thunderstorms occur in <b>(a) summer / winter / autumn</b> over the interior. They form at a <b>(b) moisture / cold / warm</b> front that forms due to the <b>(c) low-pressure trough / coastal low / tropical low</b> . These storms are known as <b>(d) tropical cyclones / monsoons / line thunderstorms</b> . They are formed due to the meeting of warm moist air from the <b>(e) south-west/ north-east / north</b> and the cool dry air pushed inland by the <b>(f) South Atlantic / South Indian / Kalahari</b> high pressure.	<b>(a) summer</b> <b>(b) moisture</b> <b>(c) low-pressure trough</b> <b>(d) line thunderstorms</b> <b>(e) north-east</b> <b>(f) South Atlantic</b>	

### 2.4 Fluvial Terminology

Choose a description from Column B that matches a term in Column A. Write only the letter next to the corresponding number, e.g., 2.4.0. H.

2.4.1	Interfluve	<b>G</b>	High-lying area between tributaries.
2.4.2	Exotic streams	<b>D</b>	A river that originates in a humid region but flows through an arid region.
2.4.3	Traction	<b>F</b>	The scooting and rolling of particles along a riverbed.
2.4.4	Aggradation	<b>H</b>	When a riverbed is raised due to the accumulation of sediment in the channel.
2.4.5	Overland flow	<b>A</b>	A combination of direct channel precipitation and surface run-off.

## 2.5 Fluvial processes

Complete the table below. Write only the number and the missing term, e.g., 2.5.0. lower.

2.5.1		<ul style="list-style-type: none"> <li>• Middle / Mature</li> </ul>	
2.5.2		<b>Any ONE of the following</b> <ul style="list-style-type: none"> <li>• Waterfall</li> <li>• Rapid</li> <li>• Pothole</li> </ul>	
2.5.3		<b>Any ONE of the following</b> <ul style="list-style-type: none"> <li>• Oxbow lake</li> <li>• Meander</li> <li>• Yazoo junction</li> <li>• Back marsh</li> <li>• Flood plain</li> </ul>	
2.5.4		Deposition	
2.5.5		High	

## 2.6 Fluvial processes (continued)

Study Figure 10, the cross-section of a meander showing the different velocities across the channel.

2.6.1	Explain the term laminar flow.	<p>This describes the flow when the water is flowing smoothly or calmly.</p> <p>Water particles stay within their layer and move along the stream at that level. This structure is often possible because there are minimal rocks or other physical barriers in these types of streams.</p>	<p>Candidates are free to develop their own approach to the question and responses will vary. This does not have to be a textbook explanation.</p>
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2.6.2	Provide the correct unit for the flow rate of a river.	Cumec	
2.6.3	Name the banks labelled H and I.	H: Slip-off slope I: Undercut	
2.6.4	Why does deposition occur at H?	This is because the river slows down at this point and runs out of energy.	
2.6.5	Name one stage in which this feature could occur.	Middle or lower	
2.6.6	How does a river channel affect stream velocity?	An explanation of one of the following: <ul style="list-style-type: none"> <li>• Bed roughness – which influences the amount of friction – and whether the flow is laminar or turbulent.</li> <li>• Shape of the channel – including depth/width ratio and the gradient of the bed.</li> </ul>	<b>Credit must be given for reasonable and relevant alternative answers.</b>
2.6.7	Why do humans modify natural river channels?	<b>Any one of the following:</b> <ul style="list-style-type: none"> <li>• Improve navigation</li> <li>• Alter the velocity of the river in flood management schemes.</li> <li>• Prevent vertical erosion.</li> <li>• Prevent lateral erosion</li> <li>• Protect farmland, settlements or transport routes.</li> <li>• The construction of flood-relief channels parallel to the main channel.</li> <li>• Construction of dams.</li> </ul>	<b>Credit must be given for reasonable and relevant alternative answers.</b> <b>1 mark</b> for a simple answer that shows general knowledge and understanding. <b>2 marks</b> for a developed answer that covers the content thoroughly.
2.6.8	Examine TWO ways in which urban development changes how rainwater moves through a drainage basin.	Possibilities include: <ul style="list-style-type: none"> <li>• May be more surface storage, as rainwater cannot drain away due to impermeable surfaces.</li> <li>• Little infiltration of rainfall due to impervious concrete surfaces, increasing run-off.</li> <li>• Small soil storage, as little rainwater will filter downwards from the surface.</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative examination.</b> <b>1 mark per concept</b> for a simple examination that shows general knowledge and understanding.

		<ul style="list-style-type: none"><li>• Altered overland flow of rainfall due to drainage channels and gutters.</li><li>• More run-off due to surfaces.</li></ul>	<p><b>2 marks per concept</b> for a developed examination that covers the content thoroughly. <b>Max 2 marks</b> only ONE way is covered.</p> <p><i>Do not accept reference to dams and reservoirs.</i></p>
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QUESTION 3 RURAL AND URBAN SETTLEMENT AND ECONOMIC GEOGRAPHY OF SOUTH AFRICA			
3.1 Rural settlement			
3.1.1	Choose ONE bold word from each mind map box that best describes the settlement in the photograph. Write only the letter of the question and the term, e.g. (g) megalopolis.	(a) village (b) round (c) in the thermal belt (d) dry point (e) farming (f) subsistence	
3.1.2	Discuss TWO push factors that cause rural depopulation in this type of settlement.	<ul style="list-style-type: none"> <li>• Economic migration – to find work or follow a particular career path.</li> <li>• Social migration – for a better quality of life or to be closer to family or friends.</li> <li>• Political migration – to escape political persecution or war.</li> <li>• Environmental – to escape natural disasters such as flooding.</li> <li>• Overpopulation.</li> <li>• Few jobs.</li> <li>• Low wages.</li> <li>• Intolerance towards a certain cultural group.</li> <li>• Active religious persecution.</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative discussion.</b> <b>1 mark per concept</b> for a simple discussion that shows general knowledge and understanding. <b>2 marks per concept</b> for a developed discussion that covers the content thoroughly. <b>Max 2 marks</b> only ONE factor is covered.

3.1.3	Discuss TWO ways in which rural depopulation will impact a settlement like this one.	<ul style="list-style-type: none"> <li>• Older population left behind.</li> <li>• Businesses close due to dwindling population.</li> <li>• Facilities such as hospitals and schools close.</li> <li>• Farms run out of workers.</li> <li>• Lack of money in the area.</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative discussion.</b> <b>1 mark per concept</b> for a simple discussion that shows general knowledge and understanding. <b>2 marks per concept</b> for a developed discussion that covers the content thoroughly. <b>MAX 2 marks</b> only ONE way is covered.
<b>3.2 Urban settlement issues</b>			
3.2.1	What is the link between unemployment and food gardens?	There are more food gardens in Johannesburg where the unemployment is at its highest.	<b>Credit must be given for a reasonable and relevant alternative answer.</b> <b>1 mark</b> for a simple answer that shows general knowledge and understanding. <b>2 marks</b> for a developed answer that covers the content thoroughly.
3.2.2	Discuss TWO benefits food gardens provide in an urban area.	<ul style="list-style-type: none"> <li>• Source of food</li> <li>• Possible employment</li> <li>• Food security</li> <li>• Helps combat urban heat island</li> <li>• Possible linked-industry development</li> <li>• Creation of skills</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative discussion.</b> <b>1 mark per concept</b> for a simple discussion that shows general knowledge and understanding. <b>2 marks per concept</b> for a developed discussion that covers the content thoroughly. <b>MAX 2 marks</b> only ONE benefit is covered.

3.2.3	How can urban farming improve the food security of a country?	<ul style="list-style-type: none"> <li>• More people will have access to food.</li> <li>• A potential source of income.</li> <li>• Closer to the market area.</li> <li>• Reducing pressure on limited farmland.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative answer.</b></p> <p><b>1 mark</b> for a simple answer that shows general knowledge and understanding.</p> <p><b>2 marks</b> for a developed answer that covers the content thoroughly.</p>
3.2.4	Gauteng has some of the highest levels of urbanisation.		
(a)	Explain <i>levels of urbanisation</i> .	<ul style="list-style-type: none"> <li>• the percentage of the total population living in urban areas.</li> </ul>	<p>Candidates are free to develop their own approach to the question and responses will vary. This does not have to be a textbook explanation.</p>

(b)	What impact will high levels of urbanisation have on a region?	<ul style="list-style-type: none"> <li>• Greater poverty.</li> <li>• Local governments unable to provide services for all people.</li> <li>• Concentrated energy use leads to greater air pollution with significant impact on human health.</li> <li>• Automobile exhaust produces elevated lead levels in urban air.</li> <li>• Large volumes of uncollected waste create multiple health hazards.</li> <li>• Urban development can magnify the risk of environmental hazards such as flash flooding.</li> <li>• Pollution and physical barriers to root growth promote loss of urban tree cover.</li> <li>• Animal populations are inhibited by toxic substances, vehicles, and the loss of habitat and food sources.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative answer.</b></p> <p><b>1 mark</b> when response is a simple answer that shows general knowledge and understanding.</p> <p><b>2 marks</b> for a developed answer that covers the content thoroughly.</p>
<b>3.3 Agriculture sector</b>			
3.3.1	Name ONE country that exports sugar to South Africa.	Brazil United Arab Emirates Swaziland Mozambique	Candidate can just name a country.
3.3.2	Name two sugar-producing provinces in South Africa.	<ul style="list-style-type: none"> <li>• KwaZulu-Natal</li> <li>• Mpumalanga</li> <li>• Eastern Cape</li> </ul>	



3.3.3	Analyse TWO reasons to support local sugar producers.	<ul style="list-style-type: none"> <li>• Creates more jobs.</li> <li>• Helps growth of linked industries.</li> <li>• More money into the economy.</li> <li>• Grows the business and helps the community around the producers.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative analysis.</b></p> <p><b>1 mark per concept</b> for a simple analysis that shows general knowledge and understanding.</p> <p><b>2 marks per concept</b> for a developed analysis that covers the content thoroughly.</p> <p><b>MAX 2 marks</b> only ONE reason is covered.</p>
3.3.4	Explain TWO ways in which the government could aid the agricultural sector.	<ul style="list-style-type: none"> <li>• Provide better funding</li> <li>• Education and skills training</li> <li>• Import tariffs</li> <li>• Better international trade deals.</li> <li>• Low-interest loans</li> <li>• More open-market share.</li> </ul>	<p><b>Credit must be given for a reasonable and relevant alternative explanation.</b></p> <p><b>1 mark per concept</b> for a simple explanation that shows general knowledge and understanding.</p> <p><b>2 marks per concept</b> for a developed explanation and covered the content thoroughly.</p> <p><b>MAX 2 marks</b> only ONE way is covered.</p>

3.4 Informal Sector			
3.4.1	Explain the following terms.		
(a)	<i>Economies of scale</i>	A proportionate saving in costs gained by an increased level of production.	Candidates are free to develop their own approach to the question and responses will vary. This does not have to be a textbook explanation.
(b)	<i>Food-insecure</i>	A household-level economic and social condition of limited or uncertain access to adequate nutritious food. Hunger is an individual-level physiological condition that can result from food insecurity. Not providing enough nutritious food for the population of a region.	Candidates are free to develop their own approach to the question and responses will vary. This does not have to be a textbook explanation.
3.4.2	Why are there many informal traders in informal settlements?	<ul style="list-style-type: none"> <li>These are the areas where their customers are.</li> <li>Large retailers mostly do not have shops here due to lack of market.</li> <li>The informal economy sustains livelihoods of impoverished populations.</li> <li>Easier to set up in these areas.</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative answer.</b> <b>1 mark</b> for a simple answer that shows general knowledge and understanding. <b>2 marks</b> for a developed answer that covers the content thoroughly.
3.4.3	Outline TWO differences between a spaza shop and a street trader.	<b>Spaza shop:</b> this will have a permanent structure or shop. <b>Street trader:</b> <ul style="list-style-type: none"> <li>usually has a makeshift structure like a gazebo or in the open. Needs to pack up every day.</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative answer.</b> Candidate must show an understating of the difference. <b>1 mark if they only explain one and not the other.</b>

3.4.4	Name TWO daily struggles faced by a street trader.	<ul style="list-style-type: none"> <li>• Police and security regulations: stopping them from trading.</li> <li>• Confiscation of goods.</li> <li>• Exposed to the weather.</li> <li>• Exposed to crime.</li> <li>• Market and price fluctuations.</li> <li>• Strong competition.</li> <li>• Very long working hours.</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative answer.</b>
3.4.5	Analyse TWO ways in which the government could aid the informal sector through the NDP.	<ul style="list-style-type: none"> <li>• Provide small, low-interest loans.</li> <li>• Upskill people.</li> <li>• Provide areas to trade.</li> <li>• Provide safety regulations.</li> <li>• Protect the trade.</li> <li>• Remove barriers to trade.</li> <li>• Provide funding from government.</li> <li>• Help with marketing and branding (promotional material such as in construction, CIBD, brochures, signage, etc.)</li> <li>• Technology support (software procurement, installation, point of sale, etc.)</li> <li>• Stock, raw materials, supplies, etc.</li> </ul>	<b>Credit must be given for a reasonable and relevant alternative analysis.</b>  <b>1 mark per concept</b> for a simple analysis that shows general knowledge and understanding. <b>2 marks per concept</b> for a developed analysis and covered the content thoroughly. <b>MAX 2 marks</b> only ONE way is covered.

**Total: 200 marks**