



education

DEPARTMENT: EDUCATION  
MPUMALANGA PROVINCE

# Grade 12

## Supplementary Study Material

# Geography



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### INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions.
2. Answer ANY THREE questions of 100 marks each.
3. All diagrams are included in the annexure.
4. Number all your answers in the CENTRE of the line.
5. Leave a line between subsections answered.
6. Start EACH question at the top on a NEW page.
7. Number the answers correctly according to the numbering system used in this question paper.
8. Do NOT write in the margins of the ANSWER BOOK.
9. Encircle the numbers of the questions that you have answered on the cover page of the ANSWER BOOK.
10. Where possible, illustrate your answers with labelled diagrams.
11. Write neatly and legibly.

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- 1.2 Use FIGURE 1.2 which shows the different fluvial processes and characteristics of a drainage basin to assist you to give ONE term for each of the descriptions below. Write only the term next to the question number (1.2.1 – 1.2.5) in the ANSWER BOOK, for example 1.2.6 base flow.
  - 1.2.1 Area where a river gets its water from
  - 1.2.2 Area drained by a river and its tributaries
  - 1.2.3 The point where a tributary meets the main stream
  - 1.2.4 Section of a stream from one bank to the other
  - 1.2.5 High-lying area that separates two drainage basins (5 x 2) (10)
- 1.3 You are a weather detective and you are asked to investigate some of the changing weather patterns southern Africa has been experiencing recently. Use FIGURE 1.3 to assist you to answer the questions below.
  - 1.3.1 What has been causing the floods in Mozambique over the last few years? (1 x 2) (2)
  - 1.3.2 Give TWO reasons why Favio has been classified as an intense tropical storm. (2 x 2) (4)
  - 1.3.3 'Tropical cyclones are not rare in the southwest Indian Ocean.' State and explain TWO factors that favour the formation of cyclones in this area. (4 x 2) (8)
  - 1.3.4 Explain why tropical cyclones seldom reach the coast of South Africa. (2 x 2) (4)
  - 1.3.5 What does the acronym *radar* in the word 'weather radar' stand for? (1 x 2) (2)
  - 1.3.6 Of what value is a weather radar to the following?
    - (a) Weather forecasters (1 x 2) (2)
    - (b) People living close to rivers and coasts (1 x 2) (2)
- 1.4 Geographers discovered many years ago that heat emissions in urban areas affect the climate. Use your knowledge of heat islands and refer to FIGURE 1.4 to answer the questions below.
  - 1.4.1 Explain what is meant by the term *heat island*. (1 x 2) (2)
  - 1.4.2 Which part of the city is experiencing the highest temperature? (1 x 2) (2)

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### SECTION A: CLIMATE AND WEATHER, FLUVIAL PROCESSES AND STRUCTURAL LANDFORMS

Answer at least ONE question from this section.

#### QUESTION 1

- 1.1 Refer to FIGURE 1.1. Four options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) next to the question number (1.1.1 – 1.1.5) in the ANSWER BOOK, for example 1.1.6 A.
  - 1.1.1 Identify the cell labelled G which occurs between 0° – 30° north and south of the equator.
    - A Hadley
    - B Ferrel (mid-latitude)
    - C Polar
    - D Equatorial
  - 1.1.2 The area near the equator where the winds die out is referred to as the ...
    - A polar front.
    - B inter-tropical convergence zone (ITCZ).
    - C doldrums.
    - D inter-tropical front.
  - 1.1.3 Winds associated with the ITCZ are ...
    - A southeast trades.
    - B southeast and northeast trades.
    - C northwesterlies and southwesterlies.
    - D polar easterlies.
  - 1.1.4 A force that influences the speed of winds is called the ...
    - A pressure gradient force.
    - B coriolis force.
    - C geostrophic force.
    - D primary force.
  - 1.1.5 Air rises at the equator and sinks at the poles due to ...
    - A divergence at the equator and convergence at the poles.
    - B divergence at the poles and convergence at the equator.
    - C surplus heat at the equator and a heat deficit at the poles.
    - D surplus heat at the poles and a heat deficit at the equator.

(5 x 2) (10)

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- 1.4.3 State TWO ways in which you think people's lives have been changed by the existence of heat islands. (2 x 2) (4)
- 1.4.4 Give TWO reasons why modern buildings have an effect on heat islands. (2 x 2) (4)
- 1.4.5 Suggest TWO measures that can be taken to reduce high temperatures in the city centre. (2 x 2) (4)
- 1.5 Imagine that you are sailing by boat from the source of the river Blea (K) to the mouth at J. Test your knowledge of fluvial processes and landforms by referring to FIGURES 1.5A, 1.5B and 1.5C to answer the questions below.
  - 1.5.1 Your sail down to the coast is smooth with no obstacles along the way. What type of profile does the River Blea have? (1 x 2) (2)
  - 1.5.2 FIGURE 1.5A shows a cross-section of a valley.
    - (a) Is the cross-section more likely to match the valley at point K or point J (FIGURE 1.5B)? (1 x 2) (2)
    - (b) What is the main type of erosion in this valley and why is this so? (2 x 2) (4)
    - (c) The cross profile provides a geographer with two useful sources of information. Name the TWO sources. (2 x 2) (4)
  - 1.5.3 Refer to FIGURE 1.5C and meet Albert. Explain to Albert what has happened to the river; why it seems to have moved. (Hint: Refer to meanders, erosion, deposition and ox-bow lakes.) (4 x 2) (8)
  - 1.5.4 Pollution of the River Blea is a major problem. State TWO ways in which this will impact on the lives of the people. (2 x 2) (4)
- 1.6 FIGURE 1.6 is a sketch of a slope which must be studied before attempting to answer the questions below.
  - 1.6.1 Identify the slope forms/elements labelled A and D. (2 x 2) (4)
  - 1.6.2 What type of mass movement commonly takes place on slope A? (1 x 2) (2)
  - 1.6.3 State TWO characteristics of slope form/element B. (2 x 2) (4)
  - 1.6.4 Are all four of the slope forms/elements evident in FIGURE 1.6 always visible in all landscapes? Explain your answer, giving TWO reasons. (3 x 2) (6)

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### QUESTION 2

- 2.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (2.1.1 – 2.1.5) in the ANSWER BOOK. Refer to FIGURE 2.1.
- 2.1.1 The weather system illustrated in FIGURE 2.1 is a mid-latitude cyclone. (1 x 2) (2)
- 2.1.2 The front at A is the warm front. (1 x 2) (2)
- 2.1.3 The zone marked B is the warm sector. (1 x 2) (2)
- 2.1.4 The weather system illustrated in FIGURE 2.1 has reached the occlusion stage. (1 x 2) (2)
- 2.1.5 Easterly winds are experienced at C. (5 x 2) (10)
- 2.2 Refer to FIGURE 2.2 illustrating river capture (stream piracy). Choose the correct terms/letters from those given in brackets to make all the statements below TRUE. Write only the terms/letters next to the question number (2.2.1 – 2.2.5) in the ANSWER BOOK.
- 2.2.1 Stream (R/S) is situated higher above sea level. (1 x 2) (2)
- 2.2.2 (Headward/Lateral) erosion will take place at P. (1 x 2) (2)
- 2.2.3 Q is the (misfit/pirate) stream. (1 x 2) (2)
- 2.2.4 Rejuvenation will take place in river (Q/T). (1 x 2) (2)
- 2.2.5 Area U is known as the (wind gap/elbow of capture). (5 x 2) (10)
- 2.3 Refer to FIGURE 2.3 showing the position of the three high-pressure cells over southern Africa that have major effects on the weather and climate. Berg wind conditions are experienced in the vicinity of Uitenhage.
- 2.3.1 (a) Identify the THREE high pressure cells labelled X, Y and Z respectively. (3 x 2) (6)
- (b) Which ONE of the three high-pressure cells mentioned in QUESTION 2.3.1(a) is mainly responsible for the different weather conditions experienced over the South African interior during summer and winter? (1 x 2) (2)
- (c) State and explain ONE difference in the weather conditions experienced during winter and summer over the South African interior by referring to the role played by the high-pressure cell mentioned in QUESTION 2.3.1(b). (3 x 2) (6)

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- 2.5 FIGURE 2.5A illustrates a drainage basin. FIGURE 2.5B shows the three river courses associated with a river system. Examine both diagrams carefully.
- 2.5.1 (a) The drainage basin illustrated in FIGURE 2.5A shows a low drainage density (coarse texture). What does this mean? (1 x 2) (2)
- (b) Give TWO possible reasons why this drainage basin has a low drainage density (coarse texture). (2 x 2) (4)
- (c) Explain why the two factors mentioned in QUESTION 2.5.1(b) will result in a low drainage density (coarse texture). (2 x 2) (4)
- 2.5.2 (a) Identify the THREE main river courses labelled R, S and T in FIGURE 2.5B respectively. (3 x 2) (6)
- (b) Along which ONE of the three courses labelled R, S or T will flooding most likely occur? (1 x 2) (2)
- (c) Explain how the characteristics of the river course mentioned in QUESTION 2.5.2(b) will promote flooding here. (2 x 2) (4)
- (d) Flooding along the river course named in QUESTION 2.5.2(b) can be both a blessing and a curse for the people living on the adjacent flood plain. Explain this statement. (2 x 2) (4)
- (e) State ONE method that can be introduced to reduce flooding along the river course named in QUESTION 2.5.2(b). (1 x 2) (2)
- 2.6 FIGURE 2.6 illustrates a type of mass movement that could occur in region W in FIGURE 2.5A. This type of mass movement could be dangerous if a road had to be constructed here. Refer to both diagrams before answering the questions below.
- 2.6.1 Explain the meaning of the term *mass movement*. (1 x 2) (2)
- 2.6.2 What type of mass movement is illustrated in FIGURE 2.6? (1 x 2) (2)
- 2.6.3 Why do you think people should be made aware of the dangers of this type of mass movement before road construction starts? (2 x 2) (4)
- 2.6.4 State TWO methods that can be used to reduce the dangers associated with the type of mass movement mentioned in QUESTION 2.6.2. (2 x 2) (4)
- [100]**

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- 2.3.2 (a) During which season do berg wind conditions prevail in South Africa? (1 x 2) (2)
- (b) Describe the cloud cover and temperature conditions that exist during the occurrence of a berg wind. (2 x 2) (4)
- (c) Explain why the weather conditions mentioned in QUESTION 2.3.2(b) exist during the occurrence of a berg wind. (2 x 2) (4)
- (d) Name the environmental hazard (danger) that is associated with the development of berg wind conditions. (1 x 2) (2)
- (e) Which weather system is responsible for the termination (ending) of berg wind conditions? (1 x 2) (2)
- 2.4 The South African Weather Service issued the following weather warnings for 26 June 2007. A mid-latitude cyclone was present.
- Gale-force southwesterly winds are expected between Plettenberg Bay and East London, with very rough seas from Lamberts Bay to East London.
  - Very cold and windy conditions are expected in the northern parts of the Eastern Cape.
  - Snowfalls are expected on the northern high grounds of the Eastern Cape and Lesotho.
  - Conditions are favourable for the development and spread of fires over Limpopo, Mpumalanga, Gauteng and the northern parts of KwaZulu-Natal.
- 2.4.1 Why is it important for the South African Weather Service to issue these weather warnings? (2 x 2) (4)
- 2.4.2 Describe the environmental impact this mid-latitude cyclone might have in all the affected regions. (2 x 2) (4)
- 2.4.3 Imagine you are part of a team sent in to assist people affected by this mid-latitude cyclone, what would your plan of action be? (2 x 2) (4)

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### SECTION B: PEOPLE AND PLACES: RURAL AND URBAN SETTLEMENTS, PEOPLE AND THEIR NEEDS

Answer at least ONE question from this section.

#### QUESTION 3

- 3.1 An urban area has different land-use zones and functions. The land value differs in each of these land-use zones. Complete the following descriptions by using the terms provided in the list below. Write only the terms next to the question number (3.1.1 – 3.1.5) in the ANSWER BOOK. Refer to FIGURE 3.1 to assist you.

Central Business District (CBD); transition zone (zone of decay); rural-urban fringe; residential

The same term may be used for more than one answer.

3.1.1 ...	Has a mixture of functions such as commercial, residential, hotels, entertainment
3.1.2 ...	Commercial zone characterised by high-order functions
3.1.3 ...	Land-use zone that covers the largest area in an urban settlement
3.1.4 ...	Land-use zone with the highest land value
3.1.5 ...	Dilapidated zone around the CBD

(5 x 2) (10)

- 3.2 Refer to FIGURE 3.2 which illustrates the dual economy of South Africa's farming activities. Choose the correct letter from those given in brackets to make ALL the statements below TRUE. Write only the letter next to the question number (3.2.1 – 3.2.5) in the ANSWER BOOK.
- 3.2.1 Diagram (A/B) illustrates commercial farming. (1 x 2) (2)
- 3.2.2 Diagram (A/B) will provide food security to South Africa. (1 x 2) (2)
- 3.2.3 Farmers in diagram (A/B) will suffer worse consequences during times of drought. (1 x 2) (2)
- 3.2.4 The implementation of Agenda 21 will be of greater value to farmers in diagram (A/B). (1 x 2) (2)
- 3.2.5 Farmers in diagram (A/B) will make a greater contribution to South Africa's GDP. (5 x 2) (10)

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3.3 Refer to the cartoon in FIGURE 3.3. Read little Cal's story of his family moving from the farm to the city.

- 3.3.1 What term is used to describe the movement of people from farms to cities? (1 x 2) (2)
- 3.3.2 How is this movement likely to impact on food production in rural areas? Explain your answer. (1 x 2) (2)
- 3.3.3 Suggest THREE reasons why Cal's dad moved them to the city. (3 x 2) (6)
- 3.3.4 Why do you think his expectations of the city were not met? (2 x 2) (4)
- 3.3.5 What is a *shanty town*? (1 x 2) (2)
- 3.3.6 What does the following statement tell you about Cal's quality of life: 'I've been provided with an excellent education in the streets'? (2 x 2) (4)

3.4 Read the story below and refer to FIGURE 3.4, which is based on the town of Kano in Nigeria.

People in Kano are cutting down trees and shrubs to meet their demands for fuelwood. About 40 km around Kano has already been stripped of trees. Urban growth has increased pressure on the countryside and city. Farming patterns have been forced to change, where cash crops are grown on soils that are not suitable for them. Subsistence farmers are unable to pay their rent and are forced to leave their land. New landowners are reluctant to farm, as there is a greater demand for money to be made by selling the land for urban development.

- 3.4.1 What are the TWO main reasons for the removal of the trees around Kano? (2 x 2) (4)
- 3.4.2 Describe ONE impact of urban growth on farming. (1 x 2) (2)
- 3.4.3 State THREE negative effects that the removal of the trees will have on the environment. (3 x 2) (6)
- 3.4.4 Suggest TWO ways in which the local community can be encouraged to stop destroying the trees. (2 x 2) (4)

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3.6 Study FIGURE 3.6 which is based on food being a scarce resource before you answer the questions below.

- 3.6.1 On which continent is the highest number of people undernourished? (1 x 2) (2)
- 3.6.2 Discuss TWO physical factors that have given rise to food insecurity in this continent. (2 x 2) (4)
- 3.6.3 Discuss TWO socio-economic factors that have given rise to food insecurity in this continent. (2 x 2) (4)
- 3.6.4 Differentiate between the terms *food insecurity* and *food security*. (2 x 2) (4)
- 3.6.5 At present the world produces more food than it needs. How is it possible that so many people are still undernourished? (2 x 2) (4)
- 3.6.6 Genetically modified crops are planted in many parts of the world. What are *genetically modified crops*? (1 x 2) (2)
- 3.6.7 Name ONE global organisation that will assist to provide less developed countries with food. (1 x 2) (2)

[100]

### QUESTION 4

4.1 Many cities are no longer sustainable units. This is as a result of various problems occurring in cities. FIGURE 4.1 illustrates the cycle of deprivation in a city that results in its becoming an unsustainable unit. Use the clues in FIGURE 4.1 to identify the problems resulting in cities becoming unsustainable units. Write only the phrases provided in the list below next to the question number (4.1.1 – 4.1.5) in the ANSWER BOOK.

poor housing; lack of recreation space; lack of qualifications; low income; poor environment

(5 x 2) (10)

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3.5 Globalisation has resulted in huge challenges being faced by less economically developed countries. Rosa works in a Nike sweatshop. Read her diary entry below and study the map in FIGURE 3.5 to understand this challenge. Answer the questions that follow.

#### Rosa's diary entry of a day in her life

I can hardly keep my eyes open. I must concentrate or I will end up sewing crookedly and the supervisor will yell at me again. I feel so tired because I worked until 2 am last night. I have to push out the Christmas orders, or they will sack me on the spot.

My shoulders are aching, but there is still an hour to go before I take my toilet break for just 10 minutes. I feel so sad leaving my family and friends in the village. I started working when I was just 16, which was five months ago. My pay is just 280 pesos (R40) for a 12-hour day which is hardly enough to pay my rent and to buy lunch. I promised to send money home.

I hate going to my room which only has 3 bunk beds, which I share with 5 others. There are no chairs or wardrobes and I have to hang my clothes on a nail in the wall. I just climb into the bunk bed, too tired to talk to anyone.

I wish I could give up and go home, but I can't. I must earn because there is no work in the village ...

[Adapted from: UK newspapers (2000)]

- 3.5.1 Explain the meaning of the word *globalisation*. (1 x 2) (2)
- 3.5.2 Nike is a *trans-national corporation*. What do you understand by this? (1 x 2) (2)
- 3.5.3 Where is 98% of Nike's footwear manufactured? (1 x 2) (2)
- 3.5.4 Give TWO reasons why these countries were selected for manufacturing. (2 x 2) (4)
- 3.5.5 A large amount of Nike products are sold in Europe. Suggest ONE reason for this. (1 x 2) (2)
- 3.5.6 The Nike factory that Rosa works in is called a sweatshop. What is a *sweatshop*? (1 x 2) (2)
- 3.5.7 Why is Rosa forced to work in the Nike sweatshop? (1 x 2) (2)
- 3.5.8 Give THREE reasons why globalisation has not improved Rosa's life. (3 x 2) (6)

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4.2 Water is a critical resource in South Africa. Refer to FIGURE 4.2 which illustrates estimated water use in South Africa. Choose the correct terms from those given in brackets to make all the statements below TRUE. Write only the terms to the question number (4.2.1 – 4.2.5) in the ANSWER BOOK.

- 4.2.1 Most water in South Africa is used for (agricultural/domestic) purposes.
- 4.2.2 It is projected that the largest increase in water use from 1970 to 2010 will be for (mining and industry/domestic) purposes.
- 4.2.3 The increase in water use in South Africa is mainly as a result of an increase in (population/rainfall) in South Africa.
- 4.2.4 The projected use of water for (mining and industry/maintenance of ecosystems) has hardly changed from 1970 to 2010.
- 4.2.5 The missing projected date in FIGURE 4.2 is (2030/2020). (5 x 2) (10)

4.3 Refer to FIGURE 4.3, which shows an urban settlement – Senzinani – and the land-use zones typical of an urban settlement.

4.3.1 Residential areas are classified according to income. Read the following advertisements that appeared in a major newspaper. The names of the residential suburbs were changed and do not refer to any specific residential suburb in South Africa.

SHONA:	ROSA:	VIOLET:
Spacious 2½-bedroom flat, excellent condition, lovely kitchen, intercom/security system, under-cover parking. Prime position, close to primary school. Private sale. R150 000 or nearest offer.	3 bedrooms, lounge/diningroom, 1½ bathroom, kitchen, outside buildings and large stand. R300 000, negotiable.	House for sale. R950 000 not negotiable. 4 bedrooms, 2 lounges, sunroom, TV room, study, 2 toilets, guest toilet, 2 full bathrooms, diningroom, kitchen, scullery. Large grounds.

- (a) Match each of the advertisements with one of the places (D, E, F or G) in FIGURE 4.3. (3 x 2) (6)
- (b) Give a reason for each of the choices you made in QUESTION 4.3.1(a). (3 x 2) (6)
- (c) Explain the difference in building density, visible in FIGURE 4.3, which exists between low- and high-income residential areas. (2 x 2) (4)

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- 4.3.2 Refer to the power station north of the CBD illustrated in FIGURE 4.3.
- State the TWO physical factors that resulted in the choice of a site for the power station. (2 x 2) (4)
  - With reference to FIGURE 4.3, what environmental problem has resulted from mining activities around Senzinani? (1 x 2) (2)
  - With reference to FIGURE 4.3, what environmental problem do the inhabitants of the middle-income residential area northwest of Senzinani experience? (1 x 2) (2)
  - Give TWO possible solutions to the problem mentioned in QUESTION 4.3.2(c). (2 x 2) (4)
  - Give ONE reason why heavy industries such as the power station and cement factory are located on the outskirts of cities. (1 x 2) (2)
- 4.3.3 Refer to the CBD located in the centre of the settlement illustrated in FIGURE 4.3. The following headline (freely translated) appeared in the *Beeld*:

**SHARP INCREASE IN NUMBER OF EMPTY OFFICES IN CBD**

- What process is being referred to in the headline? (1 x 2) (2)
- State TWO factors responsible for this process. (2 x 2) (4)
- Discuss TWO factors that would attract office workers to work in offices away from the CBD. (2 x 2) (4)
- State ONE location to which many new offices would migrate. (1 x 2) (2)
- With reference to urban renewal projects, describe what can be done to reverse the process identified in QUESTION 4.3.3(a). (2 x 2) (4)

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FIGURE 1.1

FIGUUR 1.1

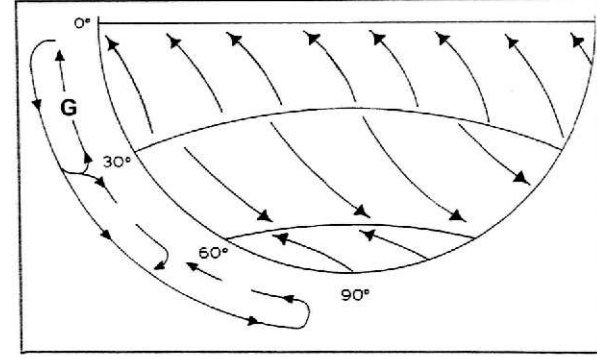
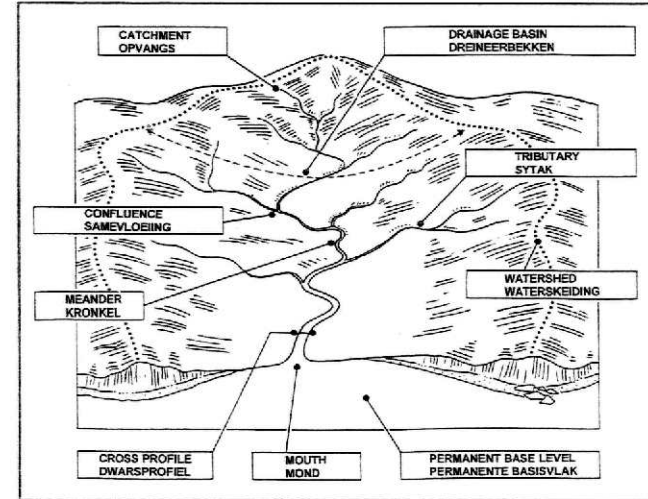


FIGURE 1.2

FIGUUR 1.2



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- 4.4 Industries make a great contribution to South Africa's GDP. South Africa's industries are centralised in four core industrial areas.
- Name South Africa's largest industrial area. (1 x 2) (2)
  - Briefly discuss any TWO factors that promoted industrial development in South Africa. (2 x 2) (4)
  - Briefly discuss any TWO factors that are currently restricting industrial development in South Africa. (2 x 2) (4)
  - Of what importance is industrial growth for the development of South Africa's economy? (2 x 2) (4)
  - Various strategies (measures) have been introduced to decentralise industrial development in South Africa. Name TWO incentives that could convince an industrialist to move his/her industry out of a centralised location. (2 x 2) (4)
- 4.5 One of South Africa's key industrial policies remains its commitment to fostering sustainable industrial development in areas where poverty and unemployment are at their highest. This objective is carried out through the Spatial Development Initiatives (SDI), which focus high-level support in areas where socio-economic conditions require concerted government assistance and where inherent economic potential exists. Certain SDIs are beyond the confines of South Africa's borders where the economic needs of the strategy dictated that the SDI includes part of a neighbouring country. The **Wild Coast Initiative** is one example of an SDI and is a 280 km stretch of Indian Ocean coastline in the Eastern Cape. This SDI is mainly an agri-tourism initiative based in the largely undeveloped Wild Coast of the Eastern Cape. About eleven investment tourism infrastructure, seven forestry and fourteen agricultural projects have been announced.
- What are the key objectives of an SDI? (2 x 2) (4)
  - Give ONE possible reason why the Wild Coast was selected as an SDI. (1 x 2) (2)
  - Name ONE primary activity that the Wild Coast Initiative is focusing on. (1 x 2) (2)
  - Explain why such a large emphasis is placed on tourism infrastructure in the Wild Coast Initiative. (2 x 2) (4)
  - What steps must be put into place to ensure that no socio-economic injustices are done to the local inhabitants of the Wild Coast? (2 x 2) (4)

[100]

GRAND TOTAL: 300

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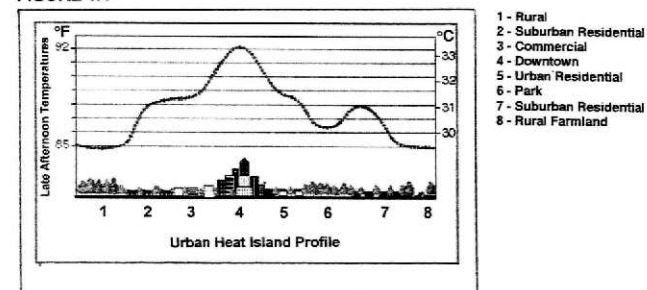
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FIGURE 1.3



FIGURE 1.4



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FIGURE 1.5A FIGUUR 1.5A

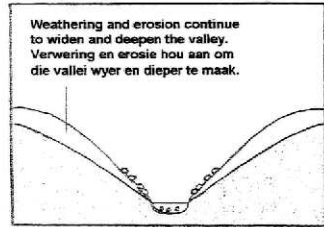


FIGURE 1.5B

FIGUUR 1.5B

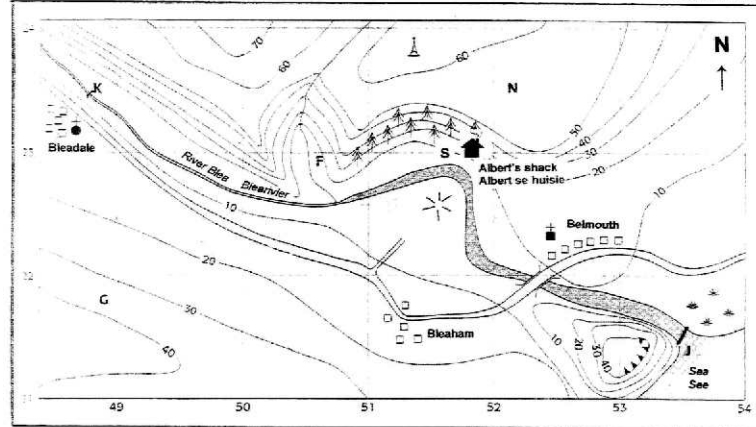
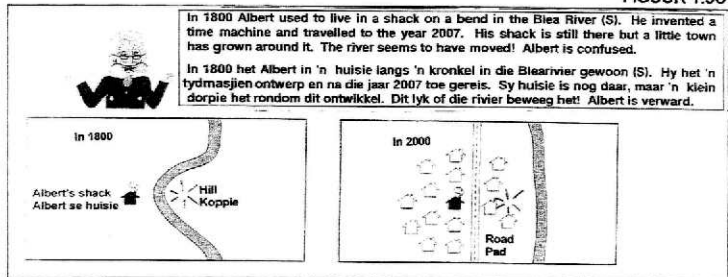


FIGURE 1.5C

FIGUUR 1.5C



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FIGURE 2.3

FIGUUR 2.3

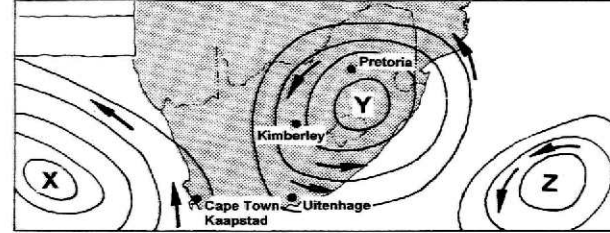


FIGURE 2.5A

FIGUUR 2.5A

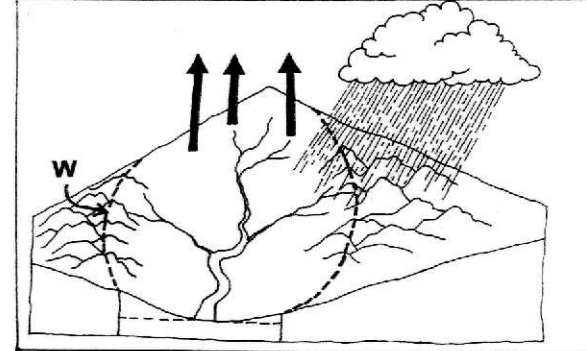


FIGURE 2.5B

FIGUUR 2.5B

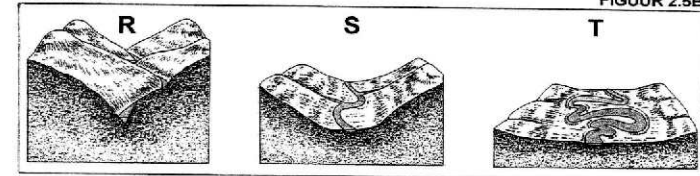
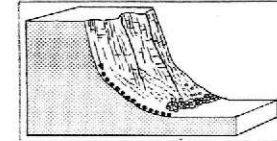


FIGURE 2.6

FIGUUR 2.6



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FIGURE 1.6

FIGUUR 1.6

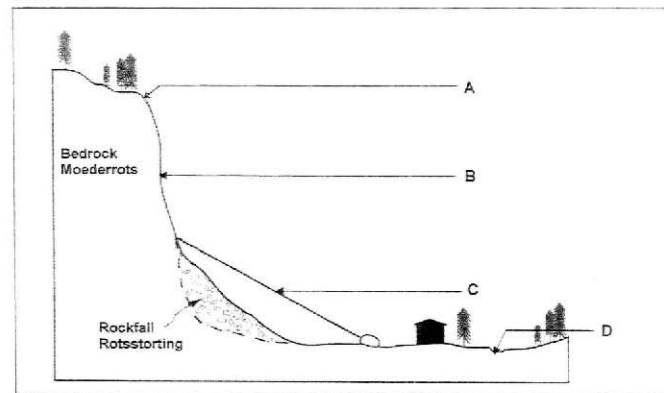


FIGURE 2.1

FIGUUR 2.1

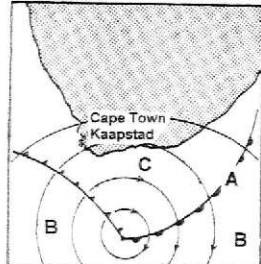
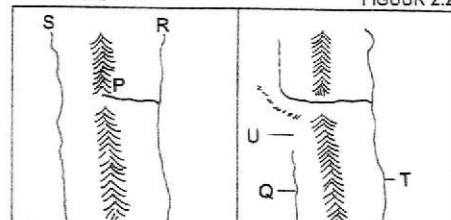


FIGURE 2.2

FIGUUR 2.2



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FIGURE 3.1

FIGUUR 3.1

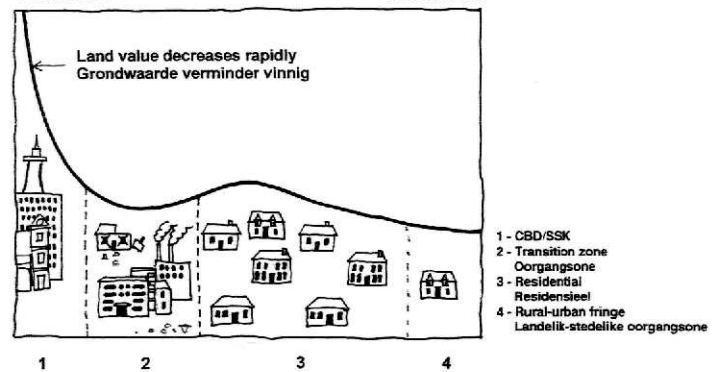
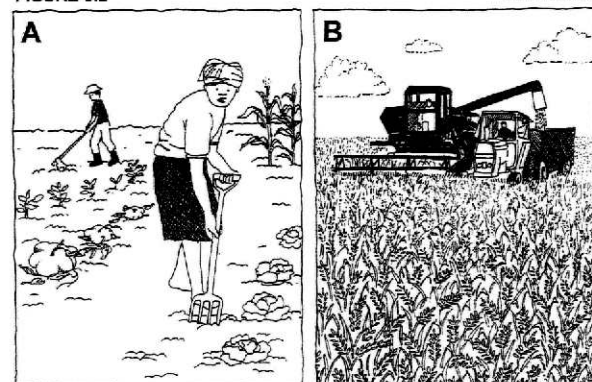


FIGURE 3.2

FIGUUR 3.2



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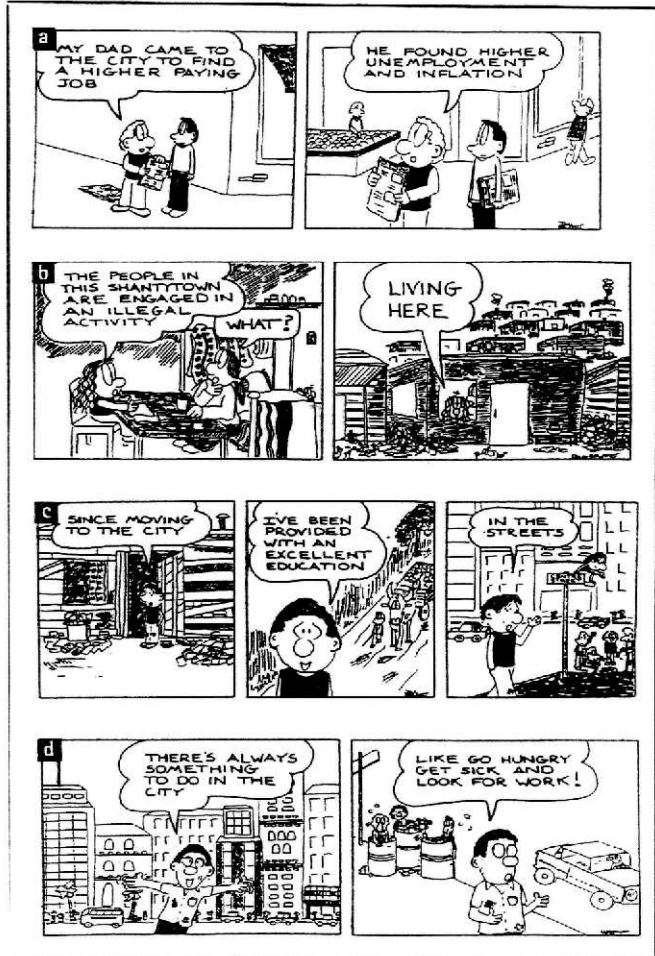


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FIGURE 3.3



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FIGURE 3.6

FIGUUR 3.6

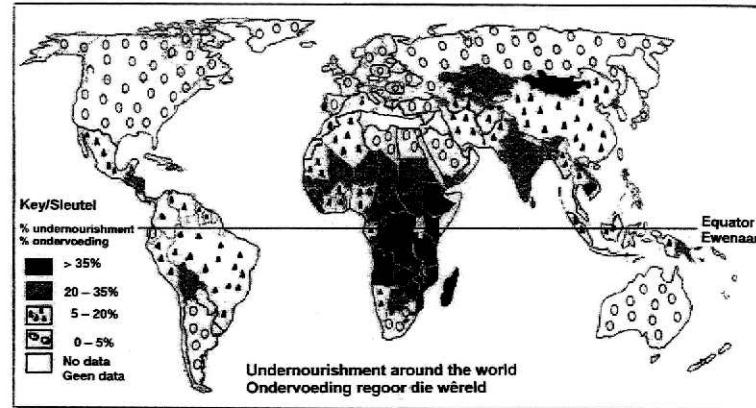
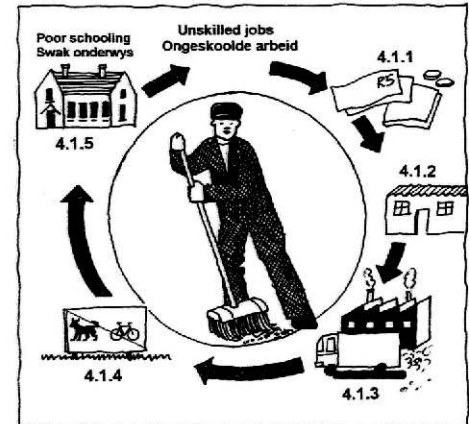


FIGURE 4.1

FIGUUR 4.1



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FIGURE 3.4

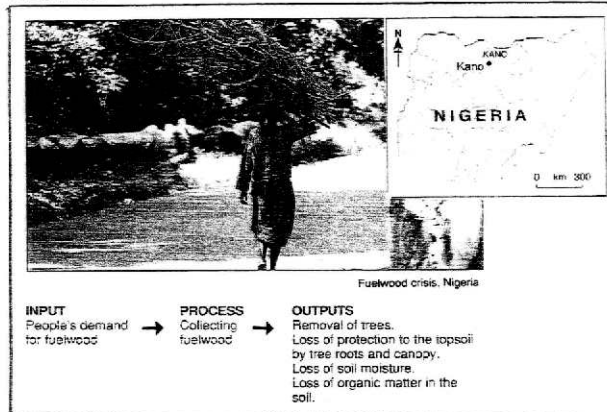
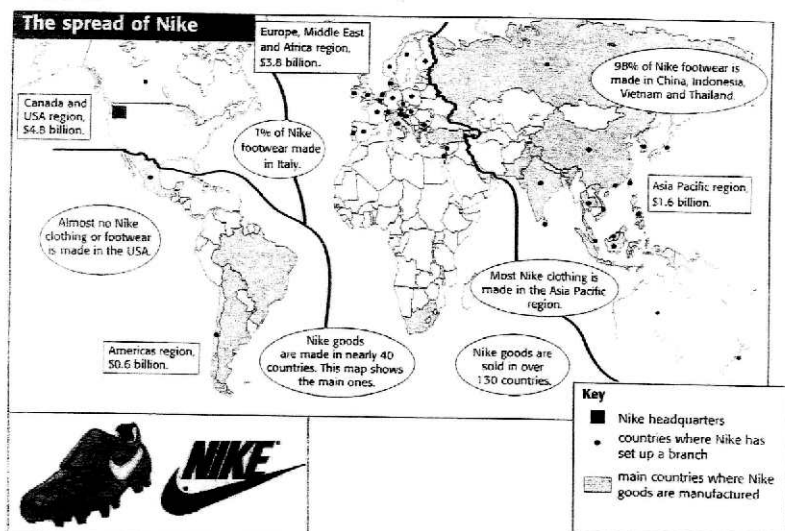


FIGURE 3.5



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FIGURE 4.2

FIGUUR 4.2

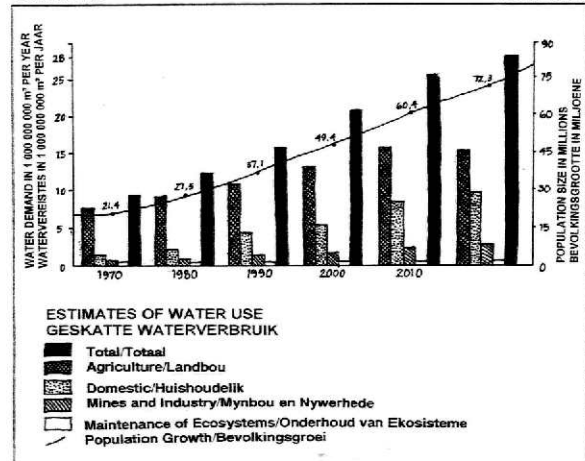
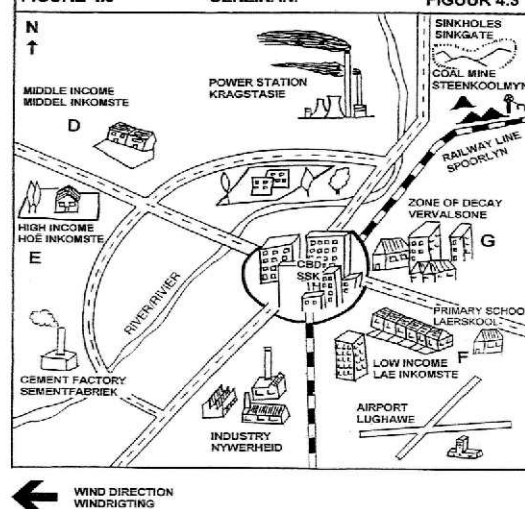


FIGURE 4.3

FIGUUR 4.3



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# Geography Paper 01

## November 2008

### Memorandum

Geography/P1	2	DoE/November 2008
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<b>QUESTION 1</b>		
1.1		
1.1.1 A	Hadley (2)	
1.1.2 C	doldrums(2) OR	
	inter-tropical convergence zone (ITCZ) 2	
1.1.3 B	southeast and northeast trades (2)	
1.1.4 A	pressure gradient force (2)	
1.1.5 C	surplus heat at the equator and a deficit at the poles (2)	5x2=(10)
1.2		
1.2.1	catchment area (2)	
1.2.2	drainage basin (2)	
1.2.3	confluence (2)	
1.2.4	cross profile (2)	
1.2.5	watershed (2)	5x2=(10)
1.3		
1.3.1	Tropical cyclones – or mention Eline/Favio (2)	1x2 = (2)
1.3.2	Surface wind strength between 110 – 210 km/h (2) Very low pressure/±930 hPa (2) Temperature above 27 °C (2) [Any TWO]	2x2 = (4)
1.3.3	- Warm ocean - above 27 °C (2) Needed to provide heat energy and moisture (2) - High evaporation rate (2) For condensation and latent heat to be released (2) - Located between 5° - 30° north / south of the equator (2) As the coriolis force is ineffective at the equator (0° - 5°) (2) - Unstable air (2) Air caused to rise (2) [Any TWO factors + an explanation]	4x2 = (8)
1.3.4	Cyclones dissipate before reaching the coast of South Africa because the conditions necessary to sustain cyclones such as a warm ocean (27 °C) are not there (2) When cyclones reach Madagascar the intensity is reduced by friction (2) and lack of moisture (2) South Africa is located around the 30° latitude which puts it just beyond / too far south of latitudinal range for cyclones (2) [Any TWO or other reasonable answer]	2x2 = (4)
1.3.5	Radio detection and ranging (2)	1x2 = (2)
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Geography/P1	4	DoE/November 2008
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1.5		
1.5.1	Graded profile/concave/smooth (2)	1x2 = (2)
1.5.2 (a)	K (2)	1x2 = (2)
(b)	<u>Vertical/downward erosion</u> (2) Because of fast-flowing water (2) Debris that acts as a cutting tool (2) Bed load rolls over river bed (2) K is in upper course (2) OR <u>Lateral erosion</u> (2) Rounded slopes of valley (2) Valley is widening (2) Symmetrical profile (2) Mass wasting along slopes (2) Middle course (2) [Any ONE]	2x2 = (4)
(c)	Width of a river (2) Depth of a river (2) Fluvial stage of river (2) Rock type/resistance (2) Shape of the valley (2) Gradient of river (2) Could indicate rejuvenation (2) [Any TWO]	2x2 = (4)
1.5.3	A meander is a bend along the course of a river (2) After heavy rainfall the water is fast flowing and cuts/erodes into the outer bank (undercut slope) of a river (2) Meander neck is reduced (2) Water is slow moving on the inner bank (slip-off) resulting in deposition (2) After a period of time when the river cannot negotiate the bend, it will cut through the meander neck (cut off the loop), forming an ox-bow lake (2) Stream will now follow a straight path (2) River will start to meander again (2) The meandering river migrates (2) [Any FOUR]	4x2 = (8)
1.5.4	Contamination of water – cannot be used for domestic purposes (2) Cholera (2) Affects the health of people (2) Reduces food supply from the river (2) Loses scenic beauty (2) Limits recreational activities (2) Reduce income (2) [Any TWO. Accept reasonable answer]	2x2 = (4)
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Geography/P1	3	DoE/November 2008
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1.3.6 (a)	It locates rain or hail (2) Identifies severe storms (2) [Any ONE]	1x2 = (2)
(b)	Gives people warning to vacate dangerous areas / floods (2)	1x2 = (2)
1.4		
1.4.1	An urban area that records higher temperatures than the surrounding rural areas (2) [Concept]	1x2 = (2)
1.4.2	Downtown/CBD/area 4 (2)	1x2 = (2)
1.4.3	Trapped pollutants could result in respiratory problems (2) Use of air-conditioners because of higher temperatures (2) Deterioration of buildings (2) More renovation of buildings such as frequent painting (2) Unpredictable rainfall (2) Increase in health problems/examples related to heat island (2) Increase in stress/discomfort (2) Movement to suburbs/counter-urbanisation (2) [Any TWO. Accept reasonable alternatives]	2x2 = (4)
1.4.4	Modern buildings are made of a lot of glass/steel which results in the Multiple reflection of heat (2) Buildings create a greater surface area which absorbs/reflects heat (2) Buildings are made of concrete which absorbs/reflects more heat (2) Tall buildings trap heat as wind cannot disperse the heat (2) More air conditioners/heaters (2) More buildings therefore less vegetation to play cooling role (2) [Any TWO]	2x2 = (4)
1.4.5	Industrial decentralisation (2) Laws to control/restrict air pollution (2) Reduce building density (2) Introduce open spaces / green belts / parks to absorb carbon dioxide (2) Measures to reduce pollutants / greenhouse gases as they trap heat (2) Public transport to reduce emissions (2) Cleaner fuels (2) Flexi-time (2) Erect green buildings (2) Law enforcement to ensure sustainable units / local agenda 21 (2) [Any TWO. Accept reasonable alternatives]	2x2 = (4)
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Geography/P1	5	DoE/November 2008
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1.6		
1.6.1	A – crest/waxing slope/ridge (2) D – pediment (2)	2x2 = (4)
1.6.2	Soil creep (2)	1x2 = (2)
1.6.3	It is a vertical (very steep) section of rock (2) Erosion is the main activity (2) No deposition of material (2) Rockfalls/mass wasting occurs (2) Rock layers visible (2) Resistant strata (2) [Any TWO]	2x2 = (4)
1.6.4	No (2) Amount of rainfall will determine slope forms (2) Type of underlying rock (2) Rate and type of weathering and erosion varies in different areas (2) Talus can bury the scarp slope (2) Vegetation density differs (2) Mass movement covers certain slope forms (2) Some slopes destroyed by human activities (2) [Any TWO reasons]	3x2 = (6)
[100]		
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#### QUESTION 2

- 2.1  
2.1.1 True (2)  
2.1.2 True (2)  
2.1.3 False (2)  
2.1.4 False (2)  
2.1.5 False (2)

5x2 = (10)

- 2.2  
2.2.1 S (2)  
2.2.2 Headward (2)  
2.2.3 Misfit (2)  
2.2.4 T (2)  
2.2.5 Windgap (2)

5x2 = (10)

- 2.3  
2.3.1 (a) X - South Atlantic (St. Helena) HP (2)  
Y - Kalahari (Continental) HP (2)  
Z - South Indian (Mauritius) HP (2)

3x2 = (6)

- (b) Y / Kalahari (Continental) HP (2)

1x2 = (2)

#### (c) Difference

Summer	Winter
Moist air	Dry air (2)
Cloudy	No clouds (2)
Rainfall	Little/no rain (2)
No frost	Frost at night (2)
Small temp range	Large temp range

[Any ONE difference]

#### Explanation

Inversion above escarpment in summer and lower in winter (2)  
Moist air can reach interior in summer not in winter (2)  
Condensation and cloud cover in summer but limited in winter (2)  
Increased terrestrial radiation during winter night results in very low temperatures at night (2)

[Any TWO for explanation]

3x2 = (6)

- 2.3.2 (a) Late autumn / winter (2)  
(b) Clear sky / no clouds / cloud cover  $\frac{1}{8}$  (2)  
High temperatures (2)  
(c) Air subsides down escarpment / adiabatic heating (2)  
Subsiding air heats up (2)  
Subsiding air does not allow for condensation (2)  
Subsiding air gets drier (2)  
[Any TWO]  
(d) Veld fires (2)  
(e) Mid-latitude cyclone (2)

1x2 = (2)

2x2 = (4)

2x2 = (4)

1x2 = (2)

1x2 = (2)

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- (c) Low rainfall: little surface water to form run-off (2)  
Soft soaking rain: water infiltrates thus little surface water (2)  
Dry soils: absorbs water thus little surface water (2)  
Dense vegetation: retards flow of water resulting in infiltration thus little surface water (2)  
Permeable rock: allows infiltration thus little surface water (2)  
High infiltration rate: reduces surface run-off (2)  
Gentle gradient: slows down flow resulting in infiltration thus little surface water (2)  
Rock resistance: the more resistant the rock the fewer streams will be carved (2)  
High evaporation: less water available to form run-off (2)  
[Any TWO. Must refer to answer in QUESTION 2.5.1(b)]

2x2 = (4)

- 2.5.2 (a) R - Upper/torrent/youthful course (2)

S - Middle/valley/mature course (2)

3x2 = (6)

T - Lower/plain/old age course (2)

1x2 = (2)

(b) T/lower or plain course (2)

(c) Gentle gradient slows down velocity and water spills over banks (2)

Wide, gentle flood plain allows water to spread easily (2)

Large volume of water from tributaries upstream (2)

Deposition of sediments make river shallower (2)

Meander necks are breached to cause floods (2)

[Any TWO]

2x2 = (4)

(d) Flooding can cause damage (2)

Flooding provides fertile silt that is deposited on the flood plain (2)

[Any ONE positive and any ONE negative effect]

2x2 = (4)

(e) Small catchment dams in upper course to release water at intervals into the main stream (2)

Large flood control dams in lower reaches (2)

Raise river banks (levees) artificially (2)

Line rivers with cement to reduce friction and increase velocity (2)

Increase gradient by cutting through meander necks to increase velocity (2)

Increase vegetation/prevent deforestation (2)

[Any ONE]

1x2 = (2)

2.6

2.6.1 The movement of soil down a slope under the influence of gravity (2)

[Concept]

1x2 = (2)

2.6.2 Rockfall (2)

1x2 = (2)

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2.4

- 2.4.1 Prepare for possible damage (2)  
Evacuation procedures can be put in place (2)  
Save lives (2)  
[Any TWO. Accept other logical reasons]

2x2 = (4)

2.4.2 Flooding (2)

Soil erosion (2)

Destruction of natural ecosystems (2)

Loss of natural habitat for animals (2)

Veld fires destroy vegetation (2)

Destruction of coastline (2)

Damage to coastal dunes (2)

Loss of agricultural land (2)

Snow / low temperatures result in loss of live stock (2)

Destruction of infrastructure (2)

Destruction of homes (2)

[Any TWO]

2x2 = (4)

2.4.3 Co-ordinate rescue attempts (2)

Organise air-lifts (2)

Set up emergency services (2)

Provide food and water (2)

Provide health care (2)

Set up shelters (2)

[Any TWO. Accept other logical measures]

2x2 = (4)

2.5

- 2.5.1 (a) Total length of streams is small in relation to the size of the drainage basin (2)

[Concept]

1x2 = (2)

(b) Low rainfall (2)

Soft soaking rain (2)

Dry soils (2)

Dense vegetation (2)

Permeable rock (2)

High infiltration rate (2)

Gentle gradient (2)

Resistant rock (2)

High evaporation rate (2)

[Any TWO]

2x2 = (4)

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2.6.3 Construction loosens rocks and aggravates rockfalls (2)

Increases accidents along the road (2)

Traffic flow slowed down (2)

Damage to motor cars and personal belongings (2)

Expensive to maintain preventative measures implemented (2)

[Any TWO. Accept other logical answers]

2x2 = (4)

2.6.4 Cement barriers along the slope / retaining walls (2)

Slopes covered by nets (2)

Build protective roof over road / tunnel roof (2)

Plant pillars into the soil to stabilise soil (2)

Remove loose rocks regularly (2)

Create controlled rockfalls to remove loose rocks (2)

Regular inspections (2)

Road signs (2)

Restriction of human activities (2)

Plant natural vegetation (2)

Reduce deforestation (2)

Cut and fill of slopes (2)

Drainage and run-off channeling structures (2)

Reinforce rock structures with bolts (2)

Temporary closing of roads (2)

Cementation of slopes (2)

[Any TWO. Accept other logical measures]

2x2 = (4)

[100]

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# Geography Paper 01

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#### QUESTION 3

- 3.1  
3.1.1 Transition zone/Zone of decay / CBD (2)  
3.1.2 Central Business District/CBD (2)  
3.1.3 Residential (2)  
3.1.4 Central Business District/CBD (2)  
3.1.5 Transition zone/Zone of decay (2) 5x2 = (10)
- 3.2  
3.2.1 B (2)  
3.2.2 B (2)  
3.2.3 A (2)  
3.2.4 A (2)  
3.2.5 B (2) 5x2 = (10)
- 3.3  
3.3.1 Rural-urban migration (2) 1x2 = (2)
- 3.3.2 Older people and children are generally left behind on farms and they are not as productive (2)  
Farming land unutilised (2)  
Decreased food production (2)  
[Any ONE] 1x2 = (2)
- 3.3.3 Higher paying jobs (2)  
Better housing and services (2)  
Higher standard of living (2)  
Better social life (2)  
Better education (2)  
Availability of jobs (2)  
Natural disasters such as floods and droughts in rural areas (2)  
Lack of services in rural areas (2)  
Poor infrastructure in rural areas (2)  
Lack of jobs and low salary on farms (2)  
Lack of entertainment in rural areas (2)  
Crime in rural areas (2)  
[Any THREE factors. Push or pull factors. Accept other reasonable answers] 3x2 = (6)
- 3.3.4 Not able to get a job (2)  
Not able to get decent home (2)  
Standard of living was lower (2)  
Experience hunger (2)  
Experience poverty / low wages (2)  
Could not afford to send children to school (2)  
High crime rate (2)  
[Any TWO. Accept reasonable answers] 2x2 = (4)

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- 3.5.4 Cheap labour (2)  
Large labour pool (2)  
Cheap raw material (2)  
Labour laws are not strict (2)  
[Any TWO] 2x2 = (4)
- 3.5.5 Nike products are generally expensive and people in Europe have a higher earning power and can afford to buy the products (2)  
Involvement in sport in Europe (2)  
[Any ONE] 1x2 = (2)
- 3.5.6 A factory where people work under poor conditions and are exploited (2)  
[Concept] 1x2 = (2)
- 3.5.7 No jobs available in her village (2)  
In order to earn income for her family (2)  
[Any ONE] 1x2 = (2)
- 3.5.8 She earns a very low wage (2)  
She is not able to send money home (2)  
She has no leisure time (2)  
Accommodation is very poor (2)  
She is tired all the time (2)  
Work long hours (2)  
She is exploited (2)  
No laws to protect her against exploitation (2)  
No access to labour unions (2)  
[Any THREE] 3x2 = (6)
- 3.6  
3.6.1 Africa (2) 1x2 = (2)
- 3.6.2 Floods – crops are washed away or damaged (2)  
Droughts – low and unreliable rainfall is not suitable for farming (2)  
Decreasing soil fertility – poor farming methods such as monoculture (2)  
Large deserts – land not suitable for farming (2)  
Pests and diseases – reduce production (2)  
[Any TWO or other reasonable answer] 2x2 = (4)
- 3.6.3 High cost of production – cannot afford new technologies (2)  
Rural-urban migration – younger generation doesn't want to work on farms (2)  
HIV/Aids – shortage of labour in rural areas (2)  
Many subsistence farmers – low agricultural output (2)  
Poor farming methods e.g. monoculture leads to low agricultural output (2)  
Low per capita income – no money to buy food (2)  
Limited capital to invest in large-scale commercial farming (2)  
High level of illiteracy impacts negatively on farming practices (2)  
Political instability / war – impacts negatively on farming practices (2)  
[Any TWO or other reasonable answer] 2x2 = (4)

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- 3.3.5 A settlement that is built on an open plot of land, of various materials and does not have basic services / informal settlement (2)  
[Concept] 1x2 = (2)
- 3.3.6 His quality of life has decreased (2)  
Being on the streets means that he is not getting a formal education (2)  
Possibly involved in criminal activities – joined a gang (2)  
Possibly started using substances/drugs (2)  
[Any TWO] 2x2 = (4)
- 3.4  
3.4.1 For fuel wood (2)  
Growth of urban areas / urban expansion (2) 2x2 = (4)
- 3.4.2 It is reducing the amount of land available for farming (2)  
Create increased demand for agricultural production (2)  
Move towards cash crop production / change in farming patterns (2)  
[Any ONE] 1x2 = (2)
- 3.4.3 Topsoil will be more easily eroded (2)  
Loss of soil moisture (2)  
Higher levels of carbon-dioxide (2)  
Higher temperatures (2)  
Loss of organic matter in the soil (2)  
Decrease in soil fertility (2)  
Desertification (2)  
Contribute to ozone depletion (2)  
Reduce oxygen production (2)  
Disrupt food chains / food webs / ecosystems (2)  
[Any THREE. Accept other logical answers] 3x2 = (6)
- 3.4.4 Community education programme (2)  
Provide alternate sources of fuel (2)  
Afforestation (2)  
Declare protected areas, making it illegal to chop down trees / fines (2)  
Allowing individuals to own trees (2)  
[Any TWO] 2x2 = (4)
- 3.5  
3.5.1 Refers to economic, social, political and cultural relations/partnerships across international borders (2)  
[Concept] 1x2 = (2)
- 3.5.2 It has companies all over the world (2)  
[Concept] 1x2 = (2)
- 3.5.3 In China, Indonesia, Vietnam and Thailand (2)  
[Must measure all four] 1x2 = (2)

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- 3.6.4 Food security occurs in countries where people have access to food at all times for a healthy life (2)  
[Concept]  
Food insecurity occurs in countries that have limited access to food which results in malnutrition and starvation (2)  
[Concept] 2x2 = (4)
- 3.6.5 Developed countries produce large amounts of food, which the less economically developed countries cannot afford to import (2)  
Not eating a balanced diet (2)  
Food aid does not always reach the people it is intended for (2)  
Increased demand of agricultural products for bio-fuel (2)  
Resources do not reach people because of war and conflicts (2)  
[Any TWO. Accept other logical reasons] 2x2 = (4)
- 3.6.6 Refers to the modification of crops to make them more resistant to drought and pests, and to have a higher output / high quality seeds developed in laboratories (2)  
[Concept] 1x2 = (2)
- 3.6.7 Food Aid (2)  
UNESCO (2)  
Red-Cross (2)  
World Food programme (2)  
Food and Agricultural Organisation (2)  
Unicef / United Nations Children Fund (2)  
Oxfam / Oxford Organisation for Famine Relief (2)  
US Aid for Africa (2)  
World Health Organisation (2)  
United Nations (2)  
[Any ONE. Accept other reasonable alternatives] 1x2 = (2)  
[100]

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# Geography Paper 01

## November 2008

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<b>QUESTION 4</b>		
4.1		
4.1.1 low income (2)		
4.1.2 poor housing (2)		
4.1.3 poor environment (2)		
4.1.4 lack of recreation space (2)		
4.1.5 lack of qualifications (2)	5x2 = (10)	
4.2		
4.2.1 agricultural (2)		
4.2.2 domestic (2)		
4.2.3 population (2)		
4.2.4 maintenance of ecosystems (2)		
4.2.5 2020 (2)	5x2 = (10)	
4.3		
4.3.1 (a) Shona – F/D/G (2)		
Rosa – D (2)		
Violet – E (2)	3x2 = (6)	
(b) Shona:	In high-rise flat / high density - F (2)	
	Lowest cost - F (2)	
	Close to primary school - F (2)	
	Close to CBD - F (2)	
	Close to employment - F (2)	
	Good condition of apartment – D (2)	
	Urban renewal result in upgrading of buildings - G (2)	
Rosa:	Medium-sized house (2)	
	House has basic amenities (2)	
	Intermediate-cost house (2)	
Violet:	Large house (2)	
	Large plot / ground (2)	
	House has many luxury amenities (2)	
	Highest cost house (2)	
(c) [ONE reason for each choice. Accept other logical reasons]	3x2 = (6)	
Low density - high income as people can afford large stands (2)		
High density - low income as people can only afford small stands or afford housing in high-rise flats (2)	2x2 = (4)	
4.3.2 (a)		
	Close to coal mine (2)	
	Close to river (2)	
	Open space (2)	
	Direction of prevailing winds (2)	
	Away from CBD (2)	
	Away from residential areas (2)	
	[Any TWO]	2x2 = (4)
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Geography/P1	16	DoE/November 2008
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(e)	Modernise/upgrade buildings to meet needs of occupants (2)	
	Facadism – retaining the front and build behind (2)	
	Gentrification – modernise old houses close to CBD (2)	
	Develop obsolete spaces into loft apartments (2)	
	Develop entertainment opportunities in the CBD (2)	
	Demolish buildings to reduce high density (2)	
	Provide open spaces in CBD (2)	
	Develop walkways in the CBD (2)	
	Slum clearance (2)	
	[Any TWO. Accept other]	2x2 = (4)
4.4		
4.4.1	PWW industrial region/Gauteng (2)	1x2 = (2)
4.4.2	Wide variety of minerals provided raw materials (2)	
	Wide variety of agricultural products provided raw materials (2)	
	Availability of flat land (2)	
	Large labour pool to supply workers (2)	
	Large market to sell products (2)	
	Well-developed infrastructure to transport goods (2)	
	Availability of water needed in industrial processes (2)	
	Availability of energy resources to provide much-needed electricity (2)	
	Government support ensures industrial growth (2)	
	[Any TWO. Accept other]	2x2 = (4)
4.4.3	Distance to markets increases the cost of the product (2)	
	Labour costs and strikes slow down industrial development (2)	
	Water shortages mean water must be imported at high cost (2)	
	Pollution puts more strain on the environment (2)	
	Larger industrial output places greater strain on infrastructure (2)	
	Less land available for expansion of industries (2)	
	HIV/Aids aggravates skill shortages (2)	
	Value of the rand increases costs to import and transport goods (2)	
	Power outages (load shedding) – Eskom's inability to provide reliable power (2)	
	[Any TWO. Accept other]	2x2 = (4)
4.4.4	Finished goods are exported and earn foreign income (2)	
	Results in positive balance of trade (2)	
	Provides employment to many people (2)	
	Development of settlements (2)	
	Development of infrastructure (2)	
	Foreign investment (2)	
	Increases GDP (2)	
	[Any TWO. Accept other]	2x2 = (4)
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(b)	Sinkholes/subsidence of earth (2)	
	Air pollution (2)	
	Destruction of natural vegetation (2)	
	Accelerated soil erosion (2)	
	Loss of valuable agricultural land (2)	
	Creation of mine dumps (2)	
	Land and water pollution (2)	
	[Any ONE]	1x2 = (2)
(c)	Air pollution (2)	1x2 = (2)
(d)	Taller stacks/chimneys to release smoke (2)	
	Filters in stacks/chimneys to trap pollutants (2)	
	Restrict industrial activities to day time (2)	
	Laws regulating amount of pollutants that may be released (2)	
	Heavy fines (2)	
	Increase vegetation to absorb carbon dioxide (2)	
	Relocation of power station (2)	
	[Any TWO. Accept other logical solutions]	2x2 = (4)
(e)	Air pollution (2)	
	Noise pollution (2)	
	Bad odours/smells (2)	
	Dangerous activities (2)	
	Cheaper land / large space (2)	
	Bulk transport facilities (2)	
	[Any ONE]	1x2 = (2)
4.3.3 (a)	Commercial / functional decentralisation (2)	1x2 = (2)
(b)	Traffic congestion in CBD (2)	
	Inaccessibility (2)	
	High levels of pollution in CBD (2)	
	High crime rate in CBD (2)	
	Office space expensive in CBD (2)	
	Lack of open spaces (2)	
	Poor state of buildings (2)	
	Lack of parking for customers (2)	
	[Any TWO. Accept other]	2x2 = (4)
(c)	Less traffic / accessibility (2)	
	More peaceful environment (2)	
	Less pollution (2)	
	Modern buildings (2)	
	Less crime (2)	
	Aesthetic appeal / beauty (2)	
	[Any TWO. Accept other]	2x2 = (4)
(d)	Suburbs on outskirts / rural-urban fringe (2)	
	Outlying/Regional shopping centres (2)	
	Outlying malls/walkways (2)	
	Office parks (2)	
	[Any ONE]	1x2 = (2)
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Geography/P1	17	DoE/November 2008
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4.4.5	Government can carry cost of the move (2)	
	Tax rebates (2)	
	Provide land and buildings cheaply (2)	
	Provide transport of goods at reduced cost (2)	
	Provide electricity and water cheaply (2)	
	Provide housing for labourers at a reduced rate (2)	
	Free skills training / development (2)	
	Encourage partnership between private and public enterprises (2)	
	[Any TWO. Accept other]	2x2 = (4)
4.5		
4.5.1	Alleviate poverty (2)	
	Alleviate unemployment (2)	
	Encourage local and international investment (2)	
	Economic sustainability (2)	
	[Any TWO]	2x2 = (4)
4.5.2	The area is undeveloped (2)	
	Huge potential for sustainable development (2)	
	Create job opportunities for local population (2)	
	Promote agri-tourism / eco-tourism (2)	
	Good climate – reliable rainfall (2)	
	[Any ONE]	1x2 = (2)
4.5.3	Agriculture/farming(2)	
	Forestry (2)	
	[Any ONE]	1x2 = (2)
4.5.4	Situated along a coastline (2)	
	Many unspoilt areas are scenic / aesthetic (2)	
	Huge potential for tourism along the Wild Coast (2)	
	Coastal holidays are sought-after (2)	
	Variety of activities can be developed (2)	
	Utilisation of local human resource (2)	
	[Any TWO. Accept other]	2x2 = (4)
4.5.5	Be inclusive of indigenous knowledge systems (2)	
	Consult with local inhabitants (2)	
	Employ local inhabitants in construction phase (2)	
	Employ local inhabitants in newly-developed projects (2)	
	Provide opportunity for entrepreneurship e.g. selling curios (2)	
	Investment opportunities for local inhabitants in businesses (2)	
	[Any TWO. Accept other]	2x2 = (4)
	[100]	
GRAND TOTAL: 300		
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Geography/P2

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### RESOURCES

1. An extract from the topographical map 3227DD, CAMBRIDGE.
2. Orthophoto map 3227DD 24, NAHOON.
3. NOTE: The resource material must be collected by the schools for their own use.
4. A non-programmable calculator may be used.

### INSTRUCTIONS AND INFORMATION

1. Write your EXAMINATION NUMBER and your CENTRE NUMBER in the spaces provided.
2. Answer ALL the questions in the spaces provided on this question paper.
3. You are supplied with a 1:50 000 topographical map, 3227DD, CAMBRIDGE and an orthophoto map of a part of the same area.
4. The topographical map and the orthophoto map must be handed over to the invigilator at the end of the examination session.
5. The following English terms and their Afrikaans translations are shown on the 1:50 000 topographical map.

ENGLISH	AFRIKAANS
Diggings	Uitgrawings
Brickworks	Steenwerke
Caravan park	Karavaanpark
Weir	Stuwal/Keerwal
Sewerage works	Rioolwerke

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Geography/P2

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- 1.7 The stream in block J6 is in the ... course.

- A upper  
B lower  
C middle  
D main

- 1.8 The coastline in block J7 on the topographical map is mainly ...

- A smooth.  
B dry.  
C rocky.  
D sandy.

- 1.9 The feature marked 3 on the orthophoto map is a/an ...

- A excavation.  
B embankment.  
C cemetery.  
D holiday resort.

- 1.10 The location (coordinates) of trigonometrical station number 512 in block H5 is ...

- A 27°55'13"E 32°56'8"S / 27°55,2'E 32°56,2'S.  
B 32°56'8"S 27°55'13"E / 32°56,2'S 27°55,2'E.  
C 32°56'8"E 27°55'13"S / 32°56,2'E 27°55,2'S.  
D 27°55'13"S 32°56'8"E / 27°55,2'S 32°56,2'E.

(10 x 2) [20]

### QUESTION 2

- 2.1 Calculate the area of the feature marked 4 in m<sup>2</sup> on the topographical map. Show ALL the calculations.

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(4)

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Geography/P2

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### QUESTION 1

The following questions are based on the 1:50 000 topographical map, 3227DD, CAMBRIDGE, as well as the orthophoto map of a part of the same area. Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) in the block next to each question (1.1 – 1.10).

- 1.1 The topographical map reference number represents ...

- A 32°N27°W.  
B 32°S27°E.  
C 32°W27°N.  
D 32°E27°S.

- 1.2 The scale of the topographical map (1:50 000) is ... than that of the orthophoto map (1:10 000).

- A 5 times smaller  
B 5 times larger  
C 40 times smaller  
D 40 times larger

- 1.3 The contour interval of the orthophoto map is ...

- A 5 m.  
B 20 m.  
C 10 m.  
D 25 m.

- 1.4 The map projection used on the topographical map is ...

- A Mercator.  
B Lambert.  
C Gauss conform.  
D universal transverse.

- 1.5 The orthophoto map (3227DD 24) depicts the ... section of the topographical map.

- A northern  
B eastern  
C western  
D southern

- 1.6 The exact distance between point 1 and point 2 on the topographical map is ...

- A 21,5 km.  
B 215 km.  
C 2 150 km.  
D 2,15 km.

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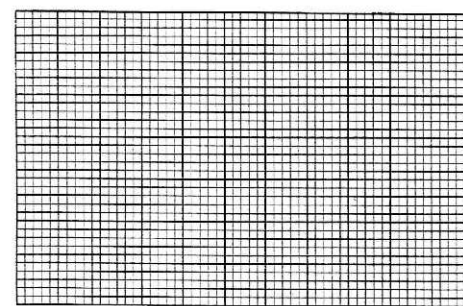
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Geography/P2

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- 2.2 Draw a cross-section from trigonometrical station number 513 in block H1 to spot height 182 in block G3. Use a vertical scale of 1 cm to represent 20 m.



(5)

- 2.3 Calculate the vertical exaggeration of the cross-section you have drawn in QUESTION 2.2 above. Show ALL the calculations.

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(4)

- 2.4 Calculate the gradient between 5 on the topographical map and spot height 148 in block H2. Show ALL the calculations.

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(5)

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- 2.5 Account for the location of cultivated land on this slope between 5 and spot height 148.

(1 x 2) (2)  
[20]

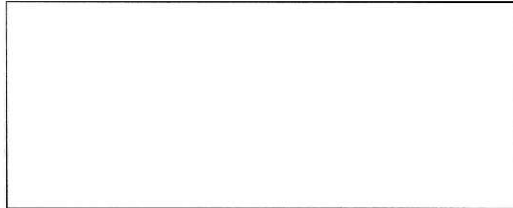
### QUESTION 3

- 3.1 Refer to the orthophoto map.

- 3.1.1 Identify the landform numbered 6 on the orthophoto map.

(1 x 2) (2)

- 3.1.2 Use a labelled diagram to show the flow of air at night in the landform that you identified in QUESTION 3.1.1.



(2 x 2) (4)

- 3.1.3 Name the type of wind/air flow you drew in QUESTION 3.1.2 above.

(1 x 2) (2)

- 3.2 Refer to blocks H7 and H8 on the topographical map.

- 3.2.1 Identify the stream pattern in blocks H7 and H8.

(1 x 2) (2)

- 3.2.2 What is the order of the stream at the point numbered 7 in block H8?

(1 x 2) (2)

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- 3.7 Indicate whether Bonza Bay in block J7 on the topographical map is a high-income or low-income residential area. Give TWO reasons for your answer.

(3 x 2) (6)  
[42]

### QUESTION 4

- 4.1 What is a Geographical Information System (GIS)?

(1 x 2) (2)

- 4.2 Differentiate between *vector data* and *raster data*.

(2 x 2) (4)

- 4.3 Classify the following data as vector or raster.

4.3.1 Image (1 x 2) (2)

4.3.2 Polygons (1 x 2) (2)

- 4.4 Name any TWO components of a GIS.

(2 x 2) (4)

- 4.5 Your friend lives in Nompumelelo and he/she would like to open a business in the area. How could you make use of a GIS in order to ensure the success of his/her business?

(2 x 2) (4)  
[18]

TOTAL: 100

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- 3.3 Identify ONE recreational activity in block J8 on the topographical map that would keep tourists visiting the town of Cambridge.

(1 x 2) (2)

- 3.4 Compare the street pattern at Dorchester Heights in blocks H3/4 and I3/4 to that of Vincent in block J4 on the topographical map in terms of the following:

	DORCHESTER HEIGHTS	VINCENT
Street pattern		
Advantage		
Disadvantage		

(6 x 2) (12)

- 3.5 Name the primary and secondary activities found in block I3 on the topographical map.

Primary: \_\_\_\_\_

Secondary: \_\_\_\_\_

(2 x 2) (4)

- 3.6 Refer to the orthophoto map to answer the questions on Nompumelelo, which is an informal settlement near CAMBRIDGE.

- 3.6.1 Give ONE characteristic of an informal settlement.

(1 x 2) (2)

- 3.6.2 What challenges are posed to the local government by this type of settlement?

(2 x 2) (4)

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# Geography Paper 02

## November 2008

### Memorandum

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DoE/November 2008

#### QUESTION 1

The following questions are based on the 1:50 000 topographical map, 3227DD, CAMBRIDGE, as well as the orthophoto map of part of the same area. Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) in the block next to each question (1.1 – 1.10).

1.1 The topographical map reference number represents ...

- A 32°N27°W.
- B 32°S27°E.
- C 32°W27°N.
- D 32°E27°S.

**B**

1.2 The scale of the topographical map (1:50 000) is ... than that of the orthophoto map (1:10 000).

- A 5 times smaller
- B 5 times larger
- C 40 times smaller
- D 40 times larger

**A**

1.3 The contour interval of the orthophoto map is ...

- A 5 m.
- B 20 m.
- C 10 m.
- D 25 m.

**A**

1.4 The map projection used on the topographical map is ...

- A Mercator.
- B Lambert.
- C Gauss Conform.
- D Universal transverse.

**C**

1.5 The orthophoto map (3227 DD 24) depicts the ... part of the topographical map.

- A northern
- B eastern
- C western
- D southern

**D**

1.6 The exact distance between point 1 and 2 on the topographical map is ...

- A 21,5 km.
- B 215 km.
- C 2 150 km.
- D 2,15 km.

**D**

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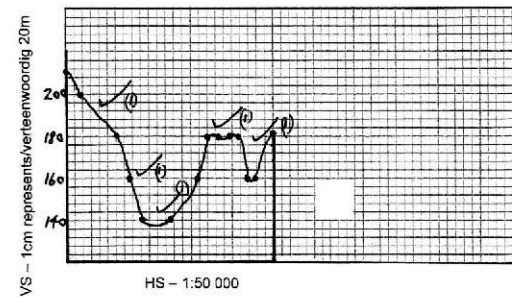
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Geography/P2

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NSC – Memorandum

DoE/November 2008

2.2 Draw an exact cross-section from trigonometrical beacon number 513 in block H1 to spot height 182 in block G3. Use a vertical scale of 1 cm to represent 20 m.



(5)

2.3 Calculate the vertical exaggeration of the cross-section you have drawn in QUESTION 2.2 above. Show ALL the calculations.

$$VE = \frac{VS}{HS} \checkmark$$

$$VS = 1 \text{ cm represents } 20 \text{ m} \\ = \frac{1}{2000} \checkmark$$

$$HS = 1 \text{ cm} : 500 \text{ m} \\ = \frac{1}{50000} \checkmark$$

$$VE = \frac{VS}{HS} \\ = \frac{\frac{1}{2000}}{\frac{1}{50000}} \\ = \frac{1}{2000} \times \frac{50000}{1} \\ = 25 \text{ times } \checkmark$$

(4)

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Geography/P2

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NSC – Memorandum

DoE/November 2008

1.7 The stream in block J6 is in the ... course.

- A upper
- B lower
- C middle
- D main

**B**

1.8 The coastline in block J7 on the topographical map is mainly ...

- A smooth.
- B dry.
- C rocky.
- D sandy.

**C**

1.9 The feature marked 3 on the orthophoto map is a/an ...

- A excavation.
- B embankment.
- C cemetery.
- D holiday resort.

**A**

1.10 The location (coordinates) of the trigonometrical station number 512 in block H5 is ...

- A 27°55'13"E 32°56'8"S / 27°55,2'E 32°56,2'S.
- B 32°56'8"S 27°55'13"E / 32°56,2'S 27°55,2'E.
- C 32°56'8"E 27°55'13"S / 32°56,2'E 27°55,2'S.
- D 27°55'13"S 32°56'8"E / 27°55,2'S 32°56,2'E.

**B**

(10 x 2) [20]

#### QUESTION 2

2.1 Calculate the area of the feature marked 4 (in m<sup>2</sup>) on the topographical map. Show ALL the calculations.

$$\text{Area} = L \times B \checkmark$$

$$\text{Area} = L \times B \checkmark$$

$$L = \frac{1 \text{ cm} \checkmark \times 50\,000}{100} \text{ OR } L = \frac{10 \text{ mm} \checkmark \times 50\,000}{1\,000} \\ = 500 \text{ m} \quad = 500 \text{ m}$$

$$B = \frac{0,3 \text{ cm} \checkmark \times 50\,000}{100} \text{ OR } B = \frac{3 \text{ mm} \checkmark \times 50\,000}{1\,000} \\ = 150 \text{ m} \quad = 150 \text{ m}$$

$$\text{Area} = 500 \text{ m} \times 150 \text{ m} \\ = 75\,000 \text{ m}^2 \checkmark$$

$$\text{Range: } 45\,000 - 110\,000$$

(4)

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Geography/P2

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2.4 Calculate the gradient between 5 on the topographical map and spot height 148 in block H2. Show ALL the calculations.

$$\text{Gradient} = \frac{VI}{HE} \text{ OR } \frac{\text{Height}}{\text{Distance}}$$

$$VI = 180 \text{ m} - 148 \text{ m} \\ = 32 \text{ m} \checkmark$$

$$HE = 2,3 \text{ cm} \checkmark \times 0,5 \text{ km} \quad \text{OR} \quad HE = \frac{23 \text{ mm} \checkmark \times 50\,000}{1\,000} \\ = 1,15 \text{ km} \quad = 1\,150 \text{ m} \quad = 1\,150 \text{ m}$$

$$\text{Gradient} = \frac{32 \text{ m}}{1\,150 \text{ m}} \checkmark$$

$$= \frac{1}{35,94}$$

$$= 1 : 35,94 / 1 \text{ in } 35,94 \checkmark$$

(5)

$$\text{Range: } 1:34,38 - 1:37,50$$

2.5 Account for the location of cultivated land on this slope between 5 and spot height 148.

Flat land / Gentle slope / contours far apart (2)  
Close to water source / irrigation possible (2)  
Fertile soil (2)  
North facing / warmer slope (2)  
[ANY ONE]

(1 x 2) (2)  
[20]

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# Geography Paper 02

## November 2008

### Memorandum

Geography/P2

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DoE/November 2008

#### QUESTION 3

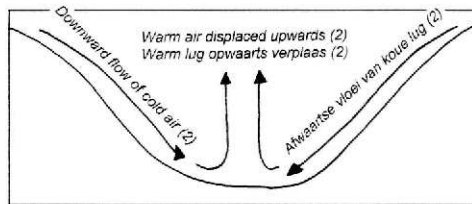
3.1 Refer to the orthophoto map.

3.1.1 Identify the landform numbered 6 on the orthophoto map.

Valley (2)

(1 x 2) (2)

3.1.2 Use a labelled diagram to show the flow of air at night in the landform that you have identified in QUESTION 3.1.1.



[If air flow indicated but not labelled give single marks]  
[Accept plan view]

(2 x 2) (4)

3.1.3 Name the type of wind/air flow you drew in QUESTION 3.1.2 above.

Katabatic wind (2)  
Downslope wind (2)  
Gravity wind (2)  
Mountain breeze (2)  
[ANY ONE]

(1 x 2) (2)

3.2 Refer to blocks H7 and H8 on the topographical map.

3.2.1 Identify the stream pattern in blocks H7 and H8.

Dendritic (2)

(1 x 2) (2)

3.2.2 What is the order of the stream at the point numbered 7 in block H8?

Third order (2)

(1 x 2) (2)

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Geography/P2

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3.6 Refer to the orthophoto map to answer the questions on Nompumelelo which is an informal settlement near CAMBRIDGE.

3.6.1 Give ONE characteristic of an informal settlement.

A settlement that has not been planned (2)  
A settlement built of scrap material (2)  
A settlement occupied mostly by low-income and unemployed people (2)  
Area not cared for (2)  
No / few services (or example) (2)  
No infrastructure (2)  
High housing density (2)  
Small buildings / plots (2)  
Informal economic activities (2)  
[ANY ONE. Accept reasonable answer]

(1 x 2) (2)

3.6.2 What challenges are posed to the local government by this type of settlement?

Demand for running water (2)  
Demand for sanitation (2)  
Demand for infrastructure (2)  
Demand for houses (2)  
Demand for employment opportunities (2)  
Probing crime (2)  
[ANY TWO. Accept reasonable answer]

(2 x 2) (4)

3.7 Indicate whether Bonza Bay in block J7 on the topographical map is a high-income or low-income residential area. Give TWO reasons for your answer.

High-income residential area (2)

REASONS: Next to coast / ocean view (2)  
Next to nature reserve (view) (2)  
Next to river (view) (2)  
Far away from the industries and CBD (2)  
Near the recreational facilities (2)  
Larger houses (2)  
Larger plots / low density (2)  
[ANY TWO REASONS]

(3 x 2) (6)

[42]

#### QUESTION 4

4.1 What is a Geographic Information System (GIS)?

GIS is a computer-based technology and method for collecting, analysing, managing, modelling and presenting geographical data for a wide range of users (2)  
[CONCEPT]

(1 x 2) (2)

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3.3 Identify ONE recreational activity in block J8 on the topographical map that would keep tourists visiting the town of Cambridge.

Hiking (2)  
Camping / Caravan park (2)  
Fishing / angling (2)  
Swimming (2)  
Sailing (2)  
Snorkeling / diving (2)  
Skiing (2)  
Surfing (2)  
[ANY ONE]

(1 x 2) (2)

3.4 Compare the street pattern at Dorchester Heights in blocks H3/4 and I3/4 to that of Vincent in block J4 on the topographical map in terms of the following:

	DORCHESTER HEIGHTS	VINCENT
Street pattern	(Planned) irregular (2) Free pattern (2) [ANY ONE]	Gridiron (2) Block (2) Rectangular (2) [ANY ONE]
Advantage	Free flow of traffic (2) Avoid steep roads (2) Not boring (2) Increase land value (2) Aesthetic (2) Less accidents (2) Cost effective (2) Easy crime control (2) [ANY ONE]	Easy to lay out plots (2) Easy to subdivide (2) Easy to find your way (2) Accessible (2) Easily modified (2) [ANY ONE]
Disadvantage	Get lost easily (2) No focal point (2) Difficult laying out plots (2) Difficulty to subdivide (2) Limited access (2) [ANY ONE]	Wastes time and petrol (2) Traffic congestion (2) Easy to hijack motorists (2) Boring / monotonous (2) Steep roads (2) More accidents (2) Stressful / road rage (2) [ANY ONE]

(6 x 2) (12)

3.5 Name the primary and secondary economic activity found in block I3 on the topographical map.

Primary: crop farming / cultivation (2)  
forestry / woodlands (2)  
fishing (2)  
[ANY ONE]

Secondary: factories / industries / manufacturing (2)

(2 x 2) (4)

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4.2 Differentiate between vector data and raster data.

Vector: Real world is shown by means of points, lines and polygons (2)  
Raster: Real world features shown by means of pixels (2)  
[CONCEPT]

(2 x 2) (4)

4.3 Classify the following data as vector or raster.

4.3.1 Image Raster (2)

(1 x 2) (2)

4.3.2 Polygons Vector (2)

(1 x 2) (2)

4.4 Name any TWO components of GIS.

People / users (2)  
Software / computer programmes (2)  
Data / information / maps / photos (2)  
Applications (2)  
Hardware / computer (2)  
Procedure (2)  
[ANY TWO]

(2 x 2) (4)

4.5 Your friend lives in Nompumelelo and he / she would like to open a business in the area. How could you make use of GIS in order to ensure the success of his business?

Find information about other existing businesses (competition) (2)  
Find the total population in order to analyse the potential market (2)  
Find financial statistics that show growth (2)  
Determine income of people in order to establish whether business will be feasible (2)  
Determine demand for business (2)  
Work out routes for deliveries (2)  
Find ideal location for business (2)  
Determine crime hotspot areas (2)  
[ANY TWO. Any reasonable answers]

(2 x 2) (4)

[18]

TOTAL: 100

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### INSTRUCTIONS AND INFORMATION

1. The question paper consists of four questions.
2. Answer ANY THREE questions of 100 marks each.
3. All diagrams are included in the annexure.
4. Number all your answers in the CENTRE of the line.
5. Leave a LINE between subsections answered.
6. Start each question at the top of a NEW page.
7. Number your answers correctly according to the numbering system used in this question paper.
8. Do NOT write in the margins of the ANSWER BOOK.
9. ENCIRCLE the numbers of the questions that you have answered on the front page of the ANSWER BOOK.
10. Where possible, illustrate your answers with labelled diagrams.
11. Write neatly and legibly.

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- 1.2.4 The landscape is typical of ... regions in South Africa.
  - A humid and hot
  - B dry and hot
  - C humid and cold
  - D dry and cold
- 1.2.5 The landscape is typical in ...
  - A Mpumalanga.
  - B KwaZulu-Natal.
  - C the Northern Cape.
  - D Gauteng. (5 x 2) (10)
- 1.3 Refer to FIGURE 1.3 showing the global distribution of the Earth's pressure belts, planetary wind belts and the tri-cellular circulation of air and answer the questions that follow. The planetary wind system is the result of the coriolis force which causes air to deflect.
  - 1.3.1 (a) What is responsible for the existence of the coriolis force? (1 x 2) (2)
  - (b) How does the strength of the coriolis force change from the equator to the poles? (1 x 2) (2)
  - (c) Explain how the coriolis force results in the planetary wind belts as illustrated in FIGURE 1.3. (2 x 2) (4)
  - 1.3.2 (a) Identify the planetary wind belts labelled A and B respectively. (2 x 2) (4)
  - (b) In which ONE of the planetary wind belts mentioned in QUESTION 1.3.2(a) do mid-latitude cyclones develop? (1 x 2) (2)
  - (c) Taking your answer to QUESTION 1.3.2(b) into account, give the general direction of movement of a mid-latitude cyclone. (1 x 2) (2)
  - 1.3.3 (a) At which position, D, E or F, does one expect to find convectional thunderstorms? (1 x 2) (2)
  - (b) Explain your answer to QUESTION 1.3.3(a). (2 x 2) (4)

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### SECTION A: WEATHER AND CLIMATE, FLUVIAL PROCESSES AND STRUCTURAL LANDFORMS

Answer at least ONE question from this section.

#### QUESTION 1

- 1.1 Refer to FIGURE 1.1. Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (1.1.1 – 1.1.5) in the ANSWER BOOK.
  - 1.1.1 The diagram illustrates conditions that exist during daytime.
  - 1.1.2 The graph illustrates a temperature inversion.
  - 1.1.3 The downward flow of air illustrated in FIGURE 1.1 is known as anabatic air flow.
  - 1.1.4 The zone marked X is the warm thermal belt.
  - 1.1.5 The heat loss is as a result of terrestrial radiation. (5 x 2) (10)
- 1.2 Refer to FIGURE 1.2 showing a landscape found in South Africa. Four options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) next to the question number (1.2.1 – 1.2.5) in the ANSWER BOOK, for example 1.2.6 A.
  - 1.2.1 The landscape illustrated in FIGURE 1.2 is associated with ... rock.
    - A massive igneous
    - B horizontal sedimentary
    - C tilted igneous
    - D tilted sedimentary
  - 1.2.2 Landform P is a ...
    - A mesa.
    - B cuesta.
    - C butte.
    - D tor.
  - 1.2.3 Slope element Z is the ...
    - A crest.
    - B cliff.
    - C talus.
    - D pediment.

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- 1.4 Refer to FIGURE 1.4 showing a satellite image and synoptic weather chart for 26 June 2007. Find the two mid-latitude cyclones labelled P and Q. Carefully read through the weather update and answer the following questions.
  - 1.4.1 (a) Provide evidence from the synoptic chart indicating that P and Q are mid-latitude cyclones. (1 x 2) (2)
  - (b) Which one of the two mid-latitude cyclones, P or Q, is most likely to be older? (1 x 2) (2)
  - (c) Give ONE reason for your answer to QUESTION 1.4.1(b). (1 x 2) (2)
  - 1.4.2 (a) With reference to the satellite image and synoptic weather chart, explain why the Eastern Cape is experiencing rain and very cold conditions. (4 x 2) (8)
  - (b) Which weather condition, not mentioned in the weather report, is clearly visible on the satellite image? (1 x 2) (2)
  - (c) Give ONE reason why it is important for people living in the Eastern Cape to be made aware of the weather conditions mentioned in QUESTION 1.4.2(a). (1 x 2) (2)
- 1.5 The heavy rainfall associated with the mid-latitude cyclone mentioned above, could result in major flooding in all the affected regions. Refer to FIGURE 1.5 showing a flow hydrograph that would be typical of all the affected regions. The mismanagement of drainage basins in the Eastern Cape will change the flow characteristics of many drainage basins in this province.
  - 1.5.1 (a) What is a flow hydrograph? (1 x 2) (2)
  - (b) At what time was the rainfall peak reached? (1 x 2) (2)
  - (c) At what time was the flood peak reached? (1 x 2) (2)
  - (d) Calculate the lag time as indicated in FIGURE 1.5. (1 x 2) (2)
  - (e) Explain why the lag time exists. (2 x 2) (4)
  - 1.5.2 (a) Name TWO ways in which drainage basins are changed through human intervention. (2 x 2) (4)
  - (b) Describe how the mismanagement of drainage basins will change any ONE of the following flow characteristics of river systems in the Eastern Cape: lag time, flood peak, drainage density. (1 x 2) (2)
  - (c) Give reasons why the change that you described in QUESTION 1.5.2(b) will occur as a result of mismanagement of drainage basins. (2 x 2) (4)
  - (d) Explain why it is important to manage drainage basins properly. (3 x 2) (6)

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- 1.6 FIGURE 1.6 illustrates the development of a structural landform associated with massive igneous rock.
- 1.6.1 Identify the landforms labelled **G** and **H** respectively. (2 x 2) (4)
- 1.6.2 Name the original underground igneous landform from which landforms **G** and **H** originated. (1 x 2) (2)
- 1.6.3 Briefly explain how landform **H** develops. (3 x 2) (6) [100]

### QUESTION 2

- 2.1 Refer to FIGURE 2.1, an extract from a synoptic weather chart. Choose the correct term(s) from those given in brackets to make EACH of the statements below TRUE. Write only the term(s) next to the question number (2.1.1 – 2.1.5) in the ANSWER BOOK.
- 2.1.1 The synoptic chart shows typical (winter/summer) conditions.
- 2.1.2 The low pressure (L) north of Cape Town is known as a (coastal low/temperate cyclone).
- 2.1.3 Dew point temperature at Upington is (32 °C/15 °C).
- 2.1.4 Wind direction at Cape Town is (southwest/northeast).
- 2.1.5 Pretoria is experiencing (drizzle/rain). (5 x 2) (10)
- 2.2 Refer to FIGURE 2.2 showing various characteristics/landforms associated with a drainage basin. Identify the characteristics/landforms numbered 2.2.1 to 2.2.5. Choose the correct characteristic/landform from the list given below.
- confluence; watershed; first order stream; river mouth; meander; base flow
- Write down the number of the feature and next to it the correct term. (5 x 2) (10)

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- 2.5 Study FIGURE 2.5 based on fluvial processes and drainage basins. After heavy rainfall in this drainage basin, the river will not reach its discharge peak immediately. This difference in time between the rainfall peak and the discharge peak is known as the lag time.
- 2.5.1 Identify the drainage patterns at **D** and **E** respectively. (2 x 2) (4)
- 2.5.2 Give ONE example of a natural feature that will restrict the river's discharge. (1 x 2) (2)
- 2.5.3 Give ONE example of a man-made feature that will restrict the river's discharge. (1 x 2) (2)
- 2.5.4 Suggest TWO positive effects that the deciduous woodland (forest) is likely to have on the catchment area. (2 x 2) (4)
- 2.5.5 Explain why there is a lag time between peak rainfall and peak discharge. (2 x 2) (4)
- 2.5.6 Where, at station **A** or station **B**, will the lag time be longer? (1 x 2) (2)
- 2.5.7 Explain your answer to QUESTION 2.5.6. (1 x 2) (2)
- 2.6 Refer to FIGURE 2.6 illustrating the cross profile of a river, before answering the questions that follow.
- 2.6.1 Identify the river banks (slopes) **C** and **D** respectively. (2 x 2) (4)
- 2.6.2 Why does deposition occur on the inner bend? (1 x 2) (2)
- 2.6.3 Give and explain ONE way in which a river carries its load. (2 x 2) (4)
- 2.6.4 Explain why flooding is more likely to occur after heavy rains along the bend of a river. (1 x 2) (2)
- 2.7 Rocks have different types of strata which give rise to unique landforms. Use FIGURE 2.7 to observe some of these landforms and answer the questions that follow.
- 2.7.1 Identify the features (landforms) labelled **E** and **F**. (2 x 2) (4)
- 2.7.2 Give ONE difference between feature (landform) **E** and **F**. (1 x 2) (2)
- 2.7.3 Of what value is this landscape to man? Give TWO reasons. (2 x 2) (4) [100]

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- 2.3 Refer to FIGURE 2.3 showing the formation of a storm line.
- 2.3.1 What is meant by the term *storm line* as mentioned in the statement above? (1 x 2) (2)
- 2.3.2 Describe some of the processes (air movement, influx of air) which lead to line thunderstorms occurring. (3 x 2) (6)
- 2.3.3 What name is given to the band of low pressure that extends across the South African interior along which line thunderstorms develop? (1 x 2) (2)
- 2.3.4 Do line thunderstorms develop on the eastern or western side of the band of low pressure mentioned in QUESTION 2.3.3? (1 x 2) (2)
- 2.3.5 Discuss the consequences of line thunderstorms for farming activities in South Africa's interior. (2 x 2) (4)
- 2.4 FIGURE 2.4 shows some extreme weather conditions that have been experienced lately. Africa's population is the most vulnerable to climatic changes that are taking place. Scientists blame global warming for these extreme weather conditions. Global warming is thought to be the result of the emission of more greenhouse gases into the atmosphere. In order to reduce the emission of greenhouse gases into the atmosphere, many countries signed the Kyoto Protocol in 1997.
- 2.4.1 What is the meaning of the term *global warming*? (1 x 2) (2)
- 2.4.2 Briefly explain why global warming is taking place. (3 x 2) (6)
- 2.4.3 With reference to FIGURE 2.4, identify TWO extreme weather conditions that are most likely to be experienced by Africa's population. (2 x 2) (4)
- 2.4.4 Why do you think the African population is the most vulnerable to climate change? (2 x 2) (4)
- 2.4.5 In your opinion, do you think the signing of the Kyoto Protocol was successful in reducing global warming? Give reasons for your answer. (3 x 2) (6)

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### SECTION B: PEOPLE AND PLACES: RURAL AND URBAN SETTLEMENTS, PEOPLE AND THEIR NEEDS

Answer at least ONE question from this section.

### QUESTION 3

- 3.1 Refer to FIGURE 3.1 showing a section of a side view of a settlement. Choose the correct term(s) from those given in brackets to make EACH of the statements below TRUE. Write only the term(s) next to the question number (3.1.1 – 3.1.5) in the ANSWER BOOK.
- 3.1.1 The settlement shown is a/an (rural/urban) settlement.
- 3.1.2 The settlement shows a (nucleated/dispersed) pattern.
- 3.1.3 The side view of this settlement is referred to as the (plan view/urban profile) of the settlement.
- 3.1.4 The many tall buildings are a result of (low/high) land values in the settlement.
- 3.1.5 This settlement will occupy a (high/low) position in the urban hierarchical rank order. (5 x 2) (10)
- 3.2 Refer to FIGURE 3.2. Choose a description from COLUMN B that matches an item in COLUMN A. Write only the letter (A – F) next to the question number (3.2.1 – 3.2.5) in the ANSWER BOOK, for example 3.2.6 G.

COLUMN A	COLUMN B
3.2.1 General dealer	A value added to raw materials
3.2.2 Tyre factory	B largest contributor to South Africa's GDP
3.2.3 Informal sector	C service provider with a small sphere of influence
3.2.4 Formal sector	D the sector where businesses are not registered with government and occupy whatever premises are available
3.2.5 Pick 'n Pay	E area in the centre of the city set aside for commercial functions
	F service provider of a high order

(5 x 2) (10)

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- 3.3 Refer to FIGURE 3.3 showing three settlements that differ in size and complexity. Pine Village and Kingstown are considered to be central places. All three settlements occupy different positions in the urban hierarchy.
- 3.3.1 Refer to the settlement known as Rocklands in FIGURE 3.3. Classify this settlement according to the following criteria:
- (a) Size and complexity (1 x 2) (2)
  - (b) Pattern (1 x 2) (2)
- 3.3.2 Refer to the settlements known as Pine Village and Kingstown in FIGURE 3.3. The spheres of influence and range of these two settlements differ from one another.
- (a) Which settlement, Pine Village or Kingstown, will have a greater sphere of influence and range? (1 x 2) (2)
  - (b) Give ONE reason for your answer to QUESTION 3.3.2(a). (1 x 2) (2)
  - (c) According to the hierarchical rank order of settlements, which settlement, Pine Village or Kingstown, will have a higher rank order? (1 x 2) (2)
  - (d) Give ONE reason for your answer to QUESTION 3.3.2(c). (1 x 2) (2)
  - (e) Describe the relationship between the number of settlements of a specific rank order and the hierarchical order of settlements. (1 x 2) (2)
- 3.3.3 Refer to FIGURE 3.3. Many people will leave Rocklands and Pine Village to settle in Kingstown.
- (a) Name ONE physical factor that could result in people leaving Rocklands to settle in Kingstown. (1 x 2) (2)
  - (b) Name ONE socio-economic factor that could result in people leaving Pine Village to settle in Kingstown. (1 x 2) (2)
  - (c) What are the consequences of the above-mentioned migration of people to Kingstown for the rural landscape? (2 x 2) (4)
  - (d) Describe TWO measures that can be introduced to slow down the migration of people from rural areas to Kingstown. (2 x 2) (4)

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- 3.5.4 Coal mining is extremely important for South Africa's economic development. The fact that large quantities of coal are exported as a raw material affects South Africa's balance of payment negatively. The sustainable development of the coal mining industry is important to ensure that future generations do not run out of this valuable resource.
- (a) Discuss the importance of the coal mining industry for the development of South Africa's economy. (2 x 2) (4)
  - (b) Why will South Africa's balance of trade be affected negatively if large quantities of coal are exported as a raw material? (2 x 2) (4)
  - (c) Mining activities result in various environmental injustices. Name TWO environmental injustices that could possibly result from the coal mining activity north of Senzinani. (2 x 2) (4)
  - (d) What can be done to rectify (fix) the environmental injustices mentioned in QUESTION 3.5.4(c)? (3 x 2) (6)
- 3.5.5 Transport is essential (important) for the economic development of a country. The settlement illustrated in FIGURE 3.5 is well-connected to its surroundings.
- (a) Why can we say that the settlement illustrated in FIGURE 3.5 is well-connected to its surroundings? (1 x 2) (2)
  - (b) Discuss the importance of a well-developed transport network for the development of South Africa's economy. (3 x 2) (6)
  - (c) An increase in South Africa's urban population has had a negative effect on transport and transport facilities in South Africa. Explain why this is the case. (3 x 2) (6)
- [100]**

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- 3.4 Many people migrating to Kingstown will not be able to find suitable accommodation in the formal housing sector of this settlement and will find themselves living in informal settlements.

The following extract (adapted) was taken from the *South African Geographical Journal*, November 1997. In the ten years since this article was published, not much has changed for people living in informal settlements. Also refer to TABLE 3.4 before answering the following questions.

**A HOME IS MORE THAN A HOUSE:  
ENVIRONMENTAL CONSIDERATIONS IN LOW COST HOUSING  
DEVELOPMENT IN KHAYELITSHA, CAPE TOWN**

An investigation in Khayelitsha, a large township on the edge of Cape Town, showed the degree to which its residents were trapped, figuratively, within its boundaries during the course of their daily lives. Low-income shack inhabitants find no worthwhile features in their physical environment but value many socio-economic features. It is argued there is strong evidence to suggest that insufficient emphasis has been placed on public intervention to develop the world beyond the shack and to create a better looking, functionally efficient and socially stimulating public environment which would help to relieve the alienating circumstances imposed by poverty and life in a shack.

- 3.4.1 What is the main reason for the development of informal settlements? (1 x 2) (2)
- 3.4.2 With reference to TABLE 3.4, give the highest ranked dislike regarding the social living environment. (1 x 2) (2)
- 3.4.3 With reference to TABLE 3.4, which problems should be addressed to 'create a better looking, functionally efficient and socially stimulating environment'? (2 x 2) (4)
- 3.4.4 Many people living in informal settlements find employment in the informal sector of the economy. Give ONE example of such an informal sector activity. (1 x 2) (2)
- 3.4.5 Today many countries are legalising/formalising the establishment of informal settlements. Should the same be done in South Africa? Explain your answer. (3 x 2) (6)

- 3.5 Refer to FIGURE 3.5. From the diagram give ONE:

- 3.5.1 Primary activity (1 x 2) (2)
- 3.5.2 Secondary activity (1 x 2) (2)
- 3.5.3 Tertiary activity (1 x 2) (2)

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**QUESTION 4**

- 4.1 Use FIGURE 4.1 to assist you to answer the question below. Choose a term from the list provided that will match each of the statements labelled A to J. Write only the letter (A – J) and the selected term in the ANSWER BOOK.

**LIST OF TERMS:**

secondary activities; informal trading; quaternary activities; rural-urban fringe; positive balance of trade; mining; rural settlement; gross national product; dispersed settlement; nucleated settlement; site; break-of-bulk-point; tertiary activities; green belt

A _____	type of settlement referred to as unifunctional
B _____	pattern associated with a single farmstead
C _____	zone where rural and urban functions merge
D _____	where one type of transport is replaced by another
E _____	precise land on which a settlement is located
F _____	activity concerned with the processing of raw material
G _____	extraction of raw materials from the Earth
H _____	an open space in a settlement for recreation
I _____	more goods are exported than imported at the harbour
J _____	specialised skills and information available in the CBD

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- 4.2 Read the article below that looks at the relationship between Aids and agriculture in Zambia before answering the questions that follow.

**AIDS: THE EFFECT ON SUBSISTENCE FARMERS**

According to the World Health Organisation (WHO), HIV/Aids poses the greatest threat to human health world wide. For this reason Aids has been described as a pandemic. It knows no bounds geographically, socially, ethnically and economically. Globally about 34,3 million people are infected.

Africa has generally been affected to a higher degree than other parts of the world. About 21 million people in sub-Saharan Africa are HIV positive. Although the rate is higher in urban areas, the transfer of the virus to rural populations is seen as a growing problem. Returning migrant workers and relatives carry the virus to rural communities.

Aids poses a number of economic threats to rural Zambia in the form of labour shortages and increased production costs. Aids has attacked the one resource that poor farmers can rely upon, namely their own and their family's labour. Some households engage in labour substitution but this is a problem. Removal of children from school is also an option ...

[Adapted from: Geography Review, Richard Byrne]

- 4.2.1 Why is AIDS referred to as a pandemic? (1 x 2) (2)
- 4.2.2 Explain the role of migrants in transferring the HIV/Aids virus to rural communities. (2 x 2) (4)
- 4.2.3 Name THREE negative effects that HIV/Aids is having on rural Zambia. (3 x 2) (6)
- 4.2.4 Why do you think that labour substitution is a problem as indicated in the article? (1 x 2) (2)
- 4.2.5 Suggest TWO measures that the government of Zambia can put in place to control the problem of the HIV/Aids pandemic. (2 x 2) (4)

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- 4.5 Agriculture is an important pillar in the South African economy. Below is a balance sheet showing the supply and demand (consumption) for wheat in South Africa.

PROJECTED ANNUAL CEREAL BALANCE SHEET FOR WHEAT FOR THE 2007/08 MARKETING SEASON	
Wheat	(1 000 tons)
<b>Supply</b>	
Opening stocks	850
Commercial production	1 727
Subsistence agriculture	9
<b>Total domestic supply</b>	<b>2 586</b>
<b>Consumption</b>	
Human	2 798
Animal	14
Other	15
<b>Total domestic consumption</b>	<b>2 827</b>
Plus: Exports	125
<b>Total demand</b>	<b>2 952</b>
<b>Net shortage/surplus</b>	<b>?</b>

- 4.5.1 What is the actual amount of wheat that is expected to be produced in 2007/2008 in South Africa? (1 x 2) (2)
- 4.5.2 Will South Africa be able to meet its total domestic demand for wheat? Explain your answer. (2 x 2) (4)
- 4.5.3 Calculate the net shortage/surplus wheat production. (1 x 2) (2)
- 4.5.4 Why is the contribution of subsistence farmers to meet wheat production so low? (2 x 2) (4)
- 4.5.5 State THREE ways in which agriculture generally contributes to the economy of South Africa. (3 x 2) (6)
- 4.5.6 Explain how water availability affects the economic development of rural areas. (2 x 2) (4)

[100]

GRAND TOTAL: 300

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- 4.3 Read the excerpt below on urban population growth and then answer the questions.

**GOVERNMENTS URGED TO PLAN FOR RISE IN URBAN DWELLERS**

Governments must act now to prepare for a massive increase in urban populations especially in Africa, Asia and Latin America. The urban population of Africa and Asia is growing by a million people a week. Discouraging migration to cities by limiting homes only leads to the growth of slums. It is a misconception that urban growth is a result of migration only. Urban reproduction is also a reason. Empowering women and improving reproductive health is important ...

[Adapted from: Daily News Correspondent, 2007]

- 4.3.1 The extract hints at TWO major causes of urbanisation. Name them. (2 x 2) (4)
- 4.3.2 What does the term *urbanisation* mean? (1 x 2) (2)
- 4.3.3 Name THREE challenges that cities face as a result of rapid urbanisation. (3 x 2) (6)
- 4.3.4 In which land use zone are slums likely to develop? (1 x 2) (2)
- 4.3.5 How will empowering women help in addressing the problem of urbanisation? (2 x 2) (4)
- 4.3.6 Explain TWO measures that can be put in place to make urban areas more sustainable. (2 x 2) (4)
- 4.4 Answer the following questions on industrial development in South Africa.
- 4.4.1 To which economic sector does industrialisation belong? (1 x 2) (2)
- 4.4.2 What is the meaning of *industrial agglomeration*? (1 x 2) (2)
- 4.4.3 Explain THREE ways in which industrialisation contributes to the economic development of South Africa. (3 x 2) (6)
- 4.4.4 Explain any TWO ways that retard industrial development in South Africa. (2 x 2) (4)
- 4.4.5 Explain, using examples, how functional incompatibility affects the location of heavy industries. (2 x 2) (4)

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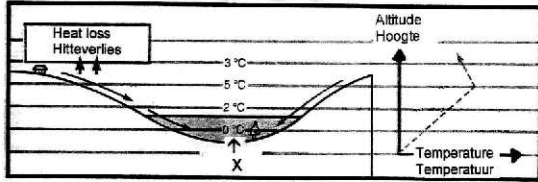


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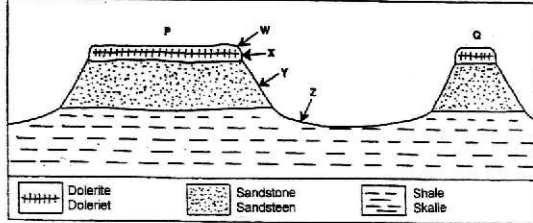
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FIGURE 1.1



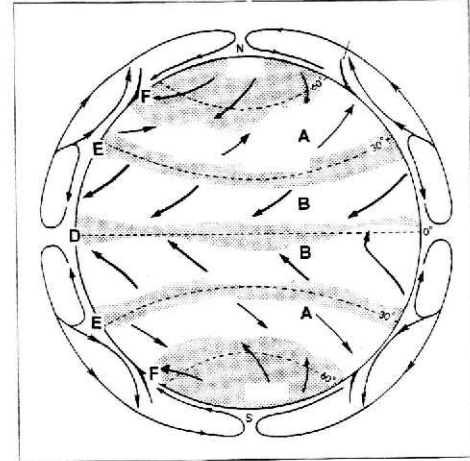
FIGUUR 1.1

FIGURE 1.2



FIGUUR 1.2

FIGURE 1.3



FIGUUR 1.3

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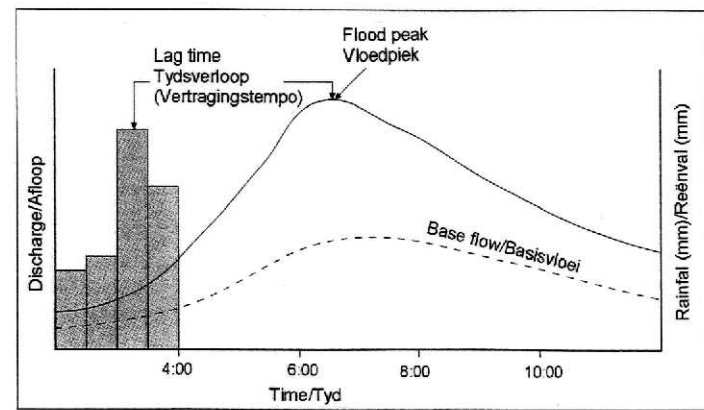
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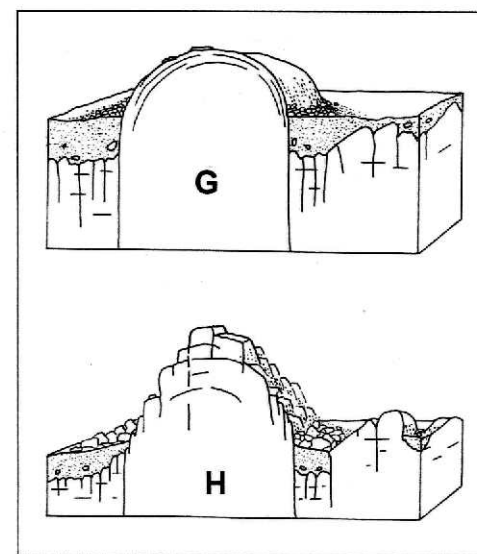
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FIGURE 1.5



FIGUUR 1.5

FIGURE 1.6



FIGUUR 1.6

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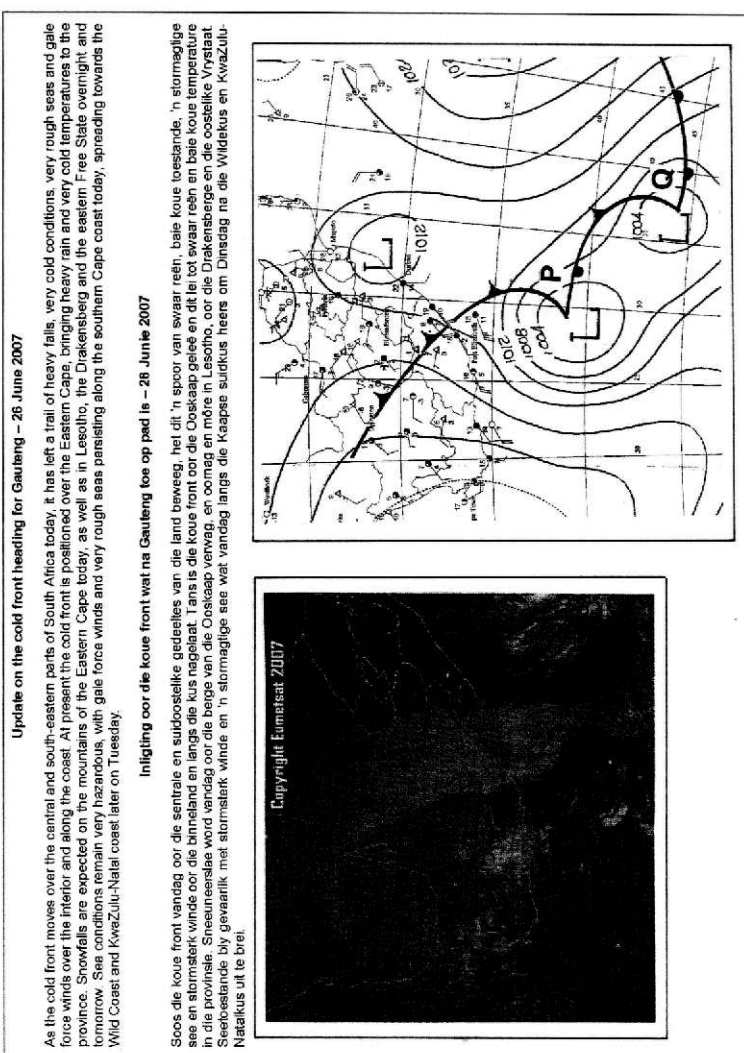
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FIGURE 1.4



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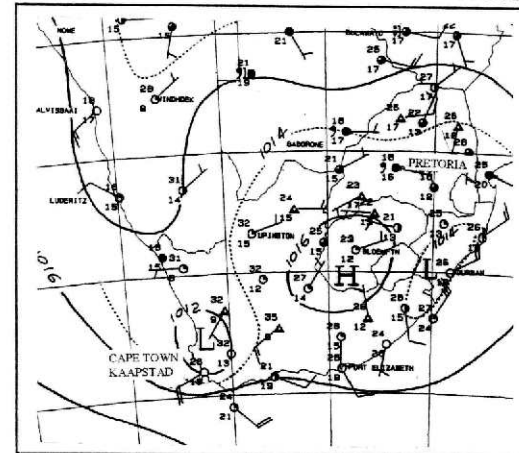
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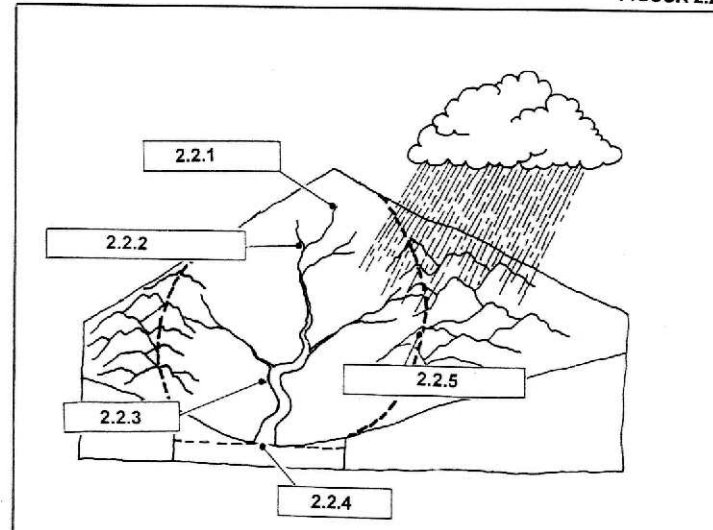
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FIGURE 2.1



FIGUUR 2.1

FIGURE 2.2



FIGUUR 2.2

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FIGURE 2.5

FIGUUR 2.5

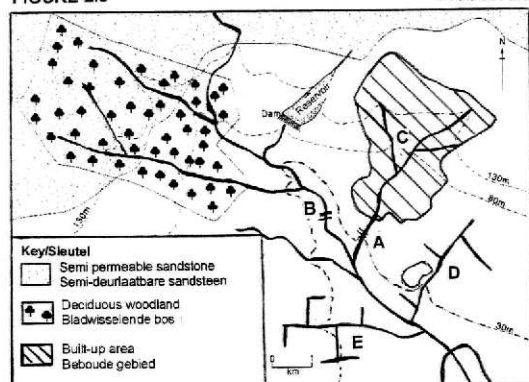


FIGURE 2.6

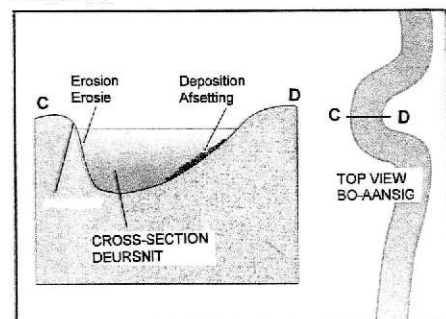
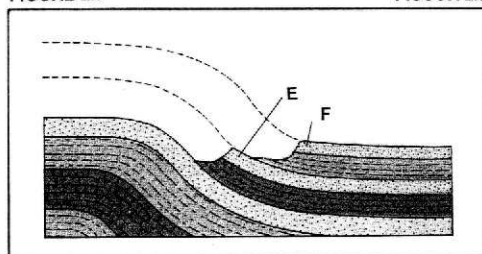


FIGURE 2.7

FIGUUR 2.7



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FIGURE 2.3

FIGUUR 2.3

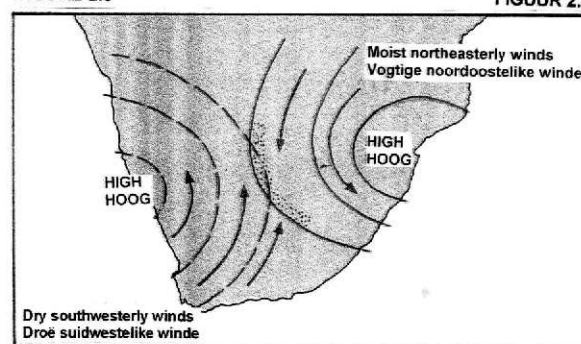
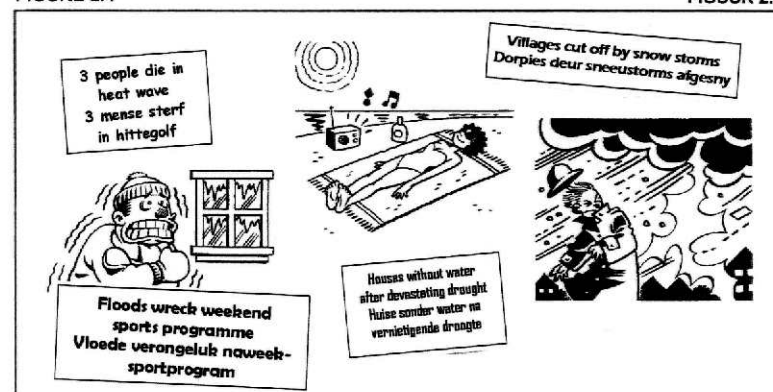


FIGURE 2.4

FIGUUR 2.4



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FIGURE 3.1

FIGUUR 3.1

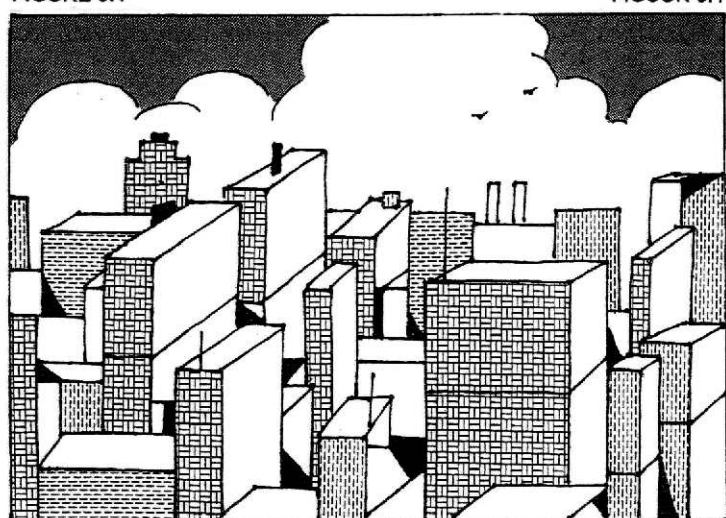


FIGURE 3.2

FIGUUR 3.2



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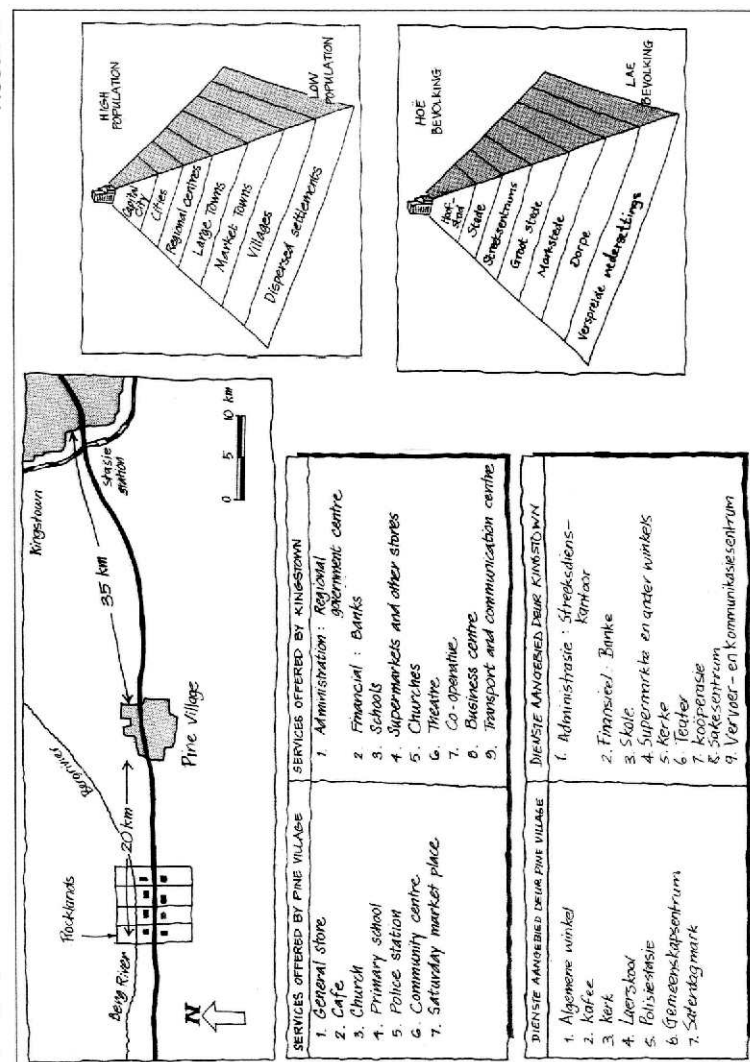
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FIGURE 3.3

FIGURE 3.3



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FIGUUR 3.5

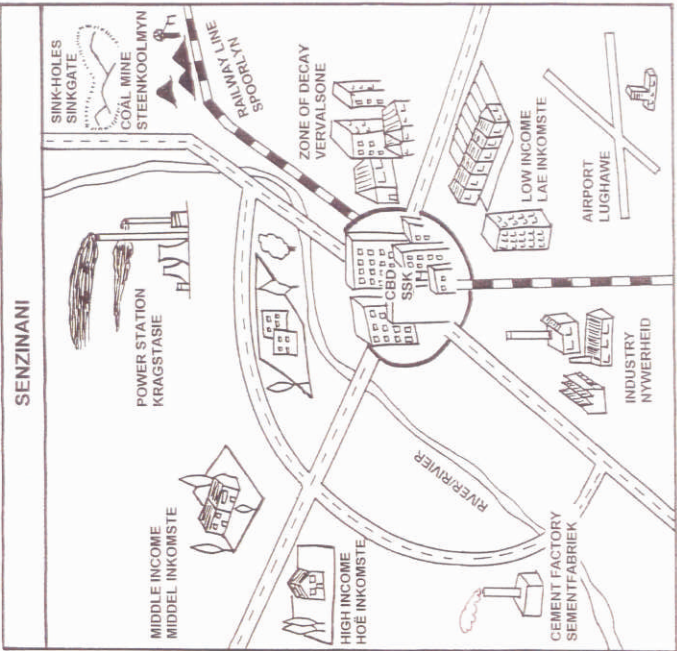


FIGURE 3.5

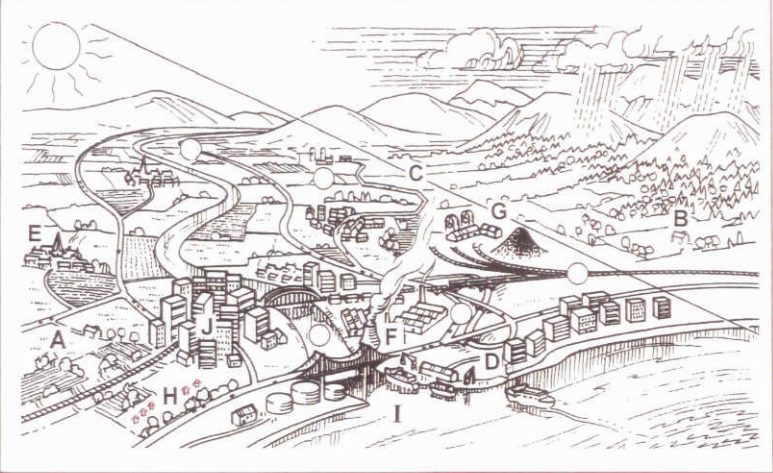
TABEL 3.4

DISLIKES REGARDING ENVIRONMENT OMGEWINGSAFKERE	% OF CORRESPONDENTS % KORRESPONDENTE
BURNING OF SHACKS AFBRAND VAN SKULINGS	84
WASTE AFVAL	74
LIVING IN SHACKS KNOTBEHUISING	73
ABSENCE OF PROPER TOILET SYSTEMS AFWESIGHEID VAN VOLDOENDE TOILETGERIEWE	70
DIRTY ENVIRONMENT SOMER OMGEWING	68
INADEQUATE GARBAGE COLLECTION ONVOLDOENDE VULLISVERWYDERING	63
SHACKS IN SHACKS SKULINGS IN SKULINGS	31
LACK OF ELECTRICITY AND TELEPHONES GEBREK AAN ELEKTRISITEIT EN TELEFONE	30
OVERCROWDING OORBEVOLGING	29
DIRTY ENVIRONMENT SOMER OMGEWING	28
DIRTY ENVIRONMENT SOMER OMGEWING	18
DIRTY ENVIRONMENT SOMER OMGEWING	17

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FIGURE 4.1



FIGUUR 4.1

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QUESTION 1

- 1.1.1 False (2)  
1.1.2 True (2)  
1.1.3 False (2)  
1.1.4 False (2)  
1.1.5 True (2) (5 x 2) (10)
- 1.2.1 B (2)  
1.2.2 A (2)  
1.2.3 D (2)  
1.2.4 B (2)  
1.2.5 C (2) (5 x 2) (10)
- 1.3.1 (a) Rotation of the Earth (2) (1 x 2) (2)  
(b) Strengthens/get stronger (2) (1 x 2) (2)  
(c) Air moves from HP to LP (2)  
Coriolis force results in air being deflected to left in S hemisphere  
and right in N hemisphere (2) (2 x 2) (4)
- 1.3.2 (a) A – westerlies (2)  
B – tropical easterlies/trade wind belt (2) (2 x 2) (4)  
(b) A – westerlies (2) (1 x 2) (2)  
(c) West to east/eastwards (2) (1 x 2) (2)
- 1.3.3 (a) D (2) (1 x 2) (2)  
(b) Extremely warm air at equator / high temperature (2)  
Warm air rises rapidly to great altitudes / heights (2)  
Large scale condensation results in thunderstorms (2)  
[Any TWO] (2 x 2) (4)
- 1.4.1 (a) Presence of cold and warm fronts (2) (1 x 2) (2)  
(b) Q (2) (1 x 2) (2)  
(c) Furthest east (2) (1 x 2)= (2)
- 1.4.2 (a) Cold front is passing over (2)  
Cold air mass (sector) follows cold front (2)  
Cold air forces warm air ahead of it to rise (2)  
Rising air condenses resulting in cloud formation and rain (2) (4 x 2) (8)  
(b) Clouds (2) (1 x 2) (2)  
(c) Possible flooding and people should evacuate (2)  
Snowfall and very cold conditions and people must find shelter (2)  
Stock up on food/medical supplies (2)  
Purchase lamps/candles in case power is cut (2)  
Put sandbags down to prevent water coming in (2)  
[Any ONE] (1 x 2) (2)

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QUESTION 2

- 2.1.1 summer (2)  
2.1.2 coastal low (2)  
2.1.3 15 °C (2)  
2.1.4 southwest (2)  
2.1.5 drizzle (2) (5 x 2) (10)
- 2.2.1 first order stream (2)  
2.2.2 confluence (2)  
2.2.3 meander (2)  
2.2.4 river mouth (2)  
2.2.5 watershed (2) (5 x 2) (10)
- 2.3.1 Band of low pressure over land stretching from NW to SE along which  
line thunderstorms occur (2)  
[Concept] (1 x 2) (2)
- 2.3.2 Cold, dry air moves over the country from SW (2)  
Warm, moist air moves over the country from NE (2)  
Cold, dry air meets warm, moist air over interior (2)  
Warm moist air forced to rise rapidly and very high (2)  
Large scale cooling and condensation results in thunderstorms (2)  
[Any THREE] (3 x 2) (6)
- 2.3.3 Moisture front/Trough line (2) (1 x 2) (2)
- 2.3.4 Eastern (2) (1 x 2) (2)
- 2.3.5 Large scale soil erosion (2)  
Damage to crops (2)  
Damage to livestock (2)  
Lightning sets veld on fire (2)  
Huge economic losses (2)  
[Any TWO] (2 x 2) (4)
- 2.4.1 A general increase in the average temperature of the atmosphere (2)  
[Concept] (1 x 2) (2)
- 2.4.2 Industrialisation (2)  
Higher pollution levels (2)  
More greenhouse gases emitted into the atmosphere (2)  
Greenhouse gases absorb more heat (2)  
Greenhouse gases decreases terrestrial radiation (2)  
Heat trapped in the atmosphere and temperatures rise (2)  
[Any THREE] (3 x 2) (6)

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- 1.5.1 (a) Graph showing run-off for specific place over specific period  
of time (2) (1 x 2) (2)  
[Concept] (1 x 2) (2)  
(b) 03:00 – 03:30 (2) (1 x 2) (2)  
(c) 06:30 – 07:00 (2) (1 x 2) (2)  
(d) 3½ – 4 hours (2) (1 x 2) (2)  
(e) First rainfall infiltrates the soil and does not contribute to run-off (2)  
Rainfall first forms sheet flow before it reaches a stream (2)  
Take time for water in tributaries to reach main stream (2) (2 x 2) (4)
- 1.5.2 (a) Natural vegetation removed / deforestation / overgrazing (2)  
Large surface areas left bare / clear (2)  
Surface areas covered with concrete (2)  
Construction of dams (2)  
Rivers run dry due to overuse of water (2)  
River channels changed when meanders are cut out (2)  
Rivers lined with concrete / cement (2)  
Furrows dug for irrigation (2)  
[Any TWO – Accept other] (2 x 2)= (4)
- (b) Lag time – shortened (2)  
Flood peak – higher (2)  
Drainage density – increase OR decrease (2)  
[Any ONE] (1 x 2) (2)
- (c) Shorter lag time: Less infiltration (2) and water reaches stream  
quicker (2)  
Higher flood peak: More water reaches stream (2) and level rises (2)  
Lower density: Less water available due to overuse (2) and  
streams dry up (2)  
Higher density: More water on surface (2) and more streams are  
formed (2)  
[Any TWO. Refer to answer above] (2 x 2) (4)
- (d) Control flooding (2)  
Decrease soil erosion (2)  
Maintain groundwater levels (2)  
Important source of fresh water (2)  
Preserve aquatic / river ecosystems (2)  
[Any THREE. Accept other logical explanations] (3 x 2) (6)
- 1.6.1 Dome (2) H – Tor (2) (2 x 2) (4)
- 1.6.2 Batholith/Laccolith (2) (1 x 2) (2)
- 1.6.3 Batholith exposed to Earth's surface (2)  
Weathering along cracks (2)  
Weathered material removed through erosion (2)  
Rounded core stones remain behind (2)  
[Any THREE] (3 x 2) (6)  
[100]

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- 2.4.3 Droughts (2)  
Heat waves (2)  
Floods (2)  
[Any TWO] (2 x 2) (4)
- 2.4.4 Subsistence farmers are dependent on water sources (2)  
No back up food resources (2)  
Malnutrition / famine increases as productivity drops (2)  
More diseases but lack of health facilities (2)  
Levels of poverty will increase (2)  
Land deteriorates in drier conditions (2)  
Landlessness (2)  
Poor economy cannot sustain large number of unemployed people (2)  
Do not have capital to absorb losses (2)  
[Any TWO. Accept other] (2 x 2) (4)
- 2.4.5 No (2) Large quantities of greenhouse gases still emitted (2)  
Less developed countries cannot afford less harmful  
methods to generate energy (2)  
General rise in temperatures still evident (2)  
USA not part of Protocol (2)  
USA has largest percentage of world's industries (2)  
OR  
Yes (2) Coal fired power stations reduced in developing countries (2)  
Pollution controlled more effectively in developed countries (2)  
Energy saving appliances used in developed countries (2)  
Environmentally friendly power sources used in developed  
countries (2)  
Using biogas as alternative (2)  
[Any TWO reasons for answer] (3 x 2) (6)
- 2.5.1 D – Trellis (2)  
E – Angular/Rectangular (2) (2 x 2) (4)
- 2.5.2 Deciduous woodland (2)  
Semi-permeable sandstone (2)  
[Any ONE] (1 x 2) (2)
- 2.5.3 Dam/Reservoir (2) (1 x 2) (2)
- 2.5.4 Increases infiltration (2)  
Groundwater content increases (2)  
Increase in base flow to maintain river run-off (2)  
Decrease in evaporation to increase availability of water (2)  
Decreases run-off and soil erosion (2)  
[Any TWO] (2 x 2) (4)

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2.5.5 First rainfall infiltrates the soil and does not contribute to run-off (2) Rainfall first forms sheet flow before it reaches a stream (2)	(2 x 2) (4)	
2.5.6 B (2)	(1 x 2) (2)	
2.5.7 Woodland will retard flow of water (2) More water will infiltrate (2) Will take longer for water to reach main stream at B (2) Built up area will reduce infiltration (2) Run-off will reach main stream at A quicker (2) More tributaries run into stream B (2) [Any ONE]	(1 x 2) (2)	
2.6.1 C – Cutback/Undercut (2) D – Slip off (2)	(2 x 2) (4)	
2.6.2 Water flows slower (2) Stream loses energy and cannot carry its load (2) [Any ONE]	(1 x 2) (2)	
2.6.3 Fine soluble particles dissolve in water (2) and is transported as solution load (2) Fine, insoluble is carried in suspension (2) and is transported as suspension load (2) Particles too heavy to be carried in suspension (gravel, sand) is lifted and deposited (2) to bounce along as the saltation load (2) Large stones and rocks are rolled along the riverbed (2) and is transported as the bed load / traction load (2) [Refer to any ONE method of transportation]	(2 x 2) (4)	
2.6.4 Velocity increases, water can't negotiate the bend and burst its banks (2)	(1 x 2) (2)	
2.7.1 E – Homoclinical ridge / Cuesta (2) F – Mesa (2)	(2 x 2) (4)	
2.7.2 E tilted more in relation to the Earth's surface (2) E has two steep slopes (2) F has one steep and one gentle slope (2) [Any ONE]	(1 x 2) (2)	
2.7.3 Of strategic importance – defensibility (2) Soft layers between ridges form fertile soil suitable for agriculture (2) If formed around basin shaped features it could trap ground water (2) Steep slopes afforested (2) [Any TWO. Accept other]	(2 x 2) (4) [100]	

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(d) Incentives to keep farmers on their farms (2) Train young farmers to occupy the land (2) Improve infrastructure (2) Improve social services (2) Create employment through industrial decentralisation (2) Create employment by establishing game parks in rural areas (2) Attract retired people to live in rural towns (2) Attract commuters to live in rural towns (2) [Any TWO]	(2 x 2) (4)	
3.4.1 People migrate to cities but cannot find employment and cannot afford formal housing (2) Rapid urbanisation has resulted in a shortage of houses (2) [Any ONE]	(1 x 2) (2)	
3.4.2 Shack burnings (2)	(1 x 2) (2)	
3.4.3 Living in shacks (2) Dirty environment (2) Inadequate garbage collection (2) Lack of electricity and water (2) Lack of playgrounds (2) [Any TWO]	(2 x 2) (4)	
3.4.4 Selling fruit and vegetables (2) Selling sweets, cigarettes on street corners (2) Spaza shops (2) Hair dressing (2) Backyard mechanics (2) Selling curios (2) [Any ONE. Accept other]	(1 x 2) (2)	
3.4.5 Yes (2) People are provided with shelter (2) Basic amenities (running water, sanitation) provided (2) Minimise illegal occupation of land (2)  OR No (2) Unsightly (2) Crime in areas (2) Health risks (2) Urban infrastructure cannot cope (2) [Any TWO reasons for answer]	(3 x 2) (6)	
3.5.1 Mining (2)	(1 x 2) (2)	
3.5.2 Power station (2) Cement factory (2) Industry (2) [Any ONE]	(1 x 2) (2)	

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Geography/P1	7	DoE/Feb. – March 2009
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<b>QUESTION 3</b>		
3.1.1 urban (2)		
3.1.2 nucleated (2)		
3.1.3 urban profile (2)		
3.1.4 high (2)		
3.1.5 high (2)	(5 x 2) (10)	
3.2.1 (iii) (2)		
3.2.2 (i) (2)		
3.2.3 (iv) (2)		
3.2.4 (ii) (2)		
3.2.5 (vi) (2)	(5 x 2) (10)	
3.3.1 (a) Isolated/Dispersed/Single farmstead (2) (b) Isolated/Dispersed (2)	(1 x 2) (2) (1 x 2) (2)	
3.3.2 (a) Kingstown (2) (b) Services offered are of a higher order (2) Greater variety of services offered (2) [Any ONE] (c) Kingstown (2) (d) Offer higher order services (2) More specialised services (2) Larger settlement (2) [Any ONE] (e) The higher the rank order, the fewer the number of settlements (2) OR The lower the rank order, the higher the number of settlements (2)	(1 x 2) (2) (1 x 2) (2) (1 x 2) (2) (1 x 2) (2) (1 x 2) (2) (1 x 2) (2) (1 x 2) (2) (1 x 2) (2)	
3.3.3 (a) Droughts (2) Floods (2) Infertile soil (2) [Any ONE] (b) Lack of entertainment (2) Unsafe (2) Lack of schools/health facilities (2) Poor infrastructure (2) Mechanisation of agriculture/Unemployment (2) Poor housing (2) [Any ONE] (c) Resources (soil) no longer utilised (2) Drop in agricultural production (2) Abandoned farmhouses (2) Ageing of population (2) Service delivery drops in quality (2) Many services close down (2) Ghost towns develop (2) [Any TWO. Accept other]	(1 x 2) (2) (1 x 2) (2) (1 x 2) (2) (1 x 2) (2) (2 x 2) (4) (2 x 2) (4)	

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3.5.3 Transport/roads/railway line/air port (2) Commercial (2) Electricity (2) [Any ONE]	(1 x 2) (2)	
3.5.4 (a) Power source (2) Needed for industrial development (2) Exported (2) Provide income/foreign capital (2) Employment (2) [Any TWO] (b) Exported as a raw material at a low cost (2) Smaller income provided to the country (2) (c) Sinkholes (2) Unsightly mine dumps (2) Unsightly quarries (2) Vegetation removed (2) Natural habitat of organisms destroyed (2) Ecosystems destroyed (2) Increase dust in the atmosphere (2) [Any TWO. Accept others] (d) Fill quarries with soil (2) Restore indigenous vegetation (2) Plant indigenous vegetation on mine dumps (2) Create artificial lakes by filling quarries with water (2) Create recreational areas around lakes (2) [Any THREE. Accept other]	(2 x 2) (4) (2 x 2) (4) (3 x 2) (6)	
3.5.5 (a) Variety of transport facilities leading in and out of the settlement (2) (b) Raw materials transported to market / industries (2) Will encourage industrial development (2) Finished goods transported to market (2) Wider variety of goods can be sold (2) Transport of people to place of work (2) Greater income for the country (2) [Any THREE] (c) Transport network cannot cope with more vehicles (2) Traffic congestion and people late for work (2) Accident rates increase – costly for country (2) Costly to maintain transport facilities (2) [Any THREE. Accept other]	(1 x 2) (2) (3 x 2) (6) (3 x 2) (6) [100]	

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## QUESTION 4

- 4.1.1 A – rural settlement (2)  
4.1.2 B – dispersed (2)  
4.1.3 C – rural urban fringe (2)  
4.1.4 D – break of bulk point (2)  
4.1.5 E – site (2)  
4.1.6 F – secondary (2)  
4.1.7 G – mining (2)  
4.1.8 H – green belt (2)  
4.1.9 I – positive balance of trade (2)  
4.1.10 J – quarternary activities (2) (10 x 2) (20)
- 4.2.1 It poses the greatest threat to human health world wide (2) (1 x 2) (2)
- 4.2.2 Migrants leave families in rural areas to find work in the urban areas (2)  
Exposed to higher levels of contacting the HIV/Aids virus in urban areas (2)  
On returning home they expose family members to the HIV/Aids virus (2)  
[Any TWO. Accept other answers] (2 x 2) (4)
- 4.2.3 Labour shortages (2)  
Increased production costs (2)  
Removal of children from school (2)  
Child headed families (2)  
Poverty increases (2) (3 x 2) (6)
- 4.2.4 May not be able to afford paying for substitute labour (2)  
Make smaller profit (2)  
May not find suitably trained substitute labourers (2)  
[Any ONE] (1 x 2) (2)
- 4.2.5 Educate community (2)  
Generate job opportunities in the area (2)  
Compulsory testing of migrants for HIV/Aids virus (2)  
Empowering women (2)  
Using anti-retroviral medication to decrease mother to child transfer (2)  
Awareness campaigns (2)  
[Any TWO] (2 x 2) (4)
- 4.3.1 Migration/rural urban migration (2)  
Urban reproduction (2) (2 x 2) (4)
- 4.3.2 An increase in the percentage of people living in urban areas (2)  
[Concept] (1 x 2) (2)

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- 4.4.5 Heavy industrial activities cannot develop alongside certain functions (2)  
Heavy industries far away from the CBD because of high land values,  
noise and air pollution (2)  
Heavy industries also located away from high income residential areas  
because of nuisance factors (2)  
[Any TWO. Accept other reasonable explanations] (2 x 2) (4)
- 4.5.1 1 736 000 tons/1 736 thousand tons (2) (1 x 2) (2)
- 4.5.2 No (2)  
The amount produced is lower than the demand (2) (2 x 2) (4)
- 4.5.3 366 000 tons/366 thousand tons (2) (1 x 2) (2)
- 4.5.4 Plant mainly for own use (2)  
Use traditional farming methods (2)  
Lack of capital (2)  
Small plots of land (2)  
[Any TWO] (2 x 2) (4)
- 4.5.5 It stimulates the export/import trade (2)  
Generates foreign capital (2)  
Provides employment (2)  
Development of infrastructure (2)  
Supplies raw materials to industries (2)  
Meet some of the countries food demands (2)  
[Any THREE] (3 x 2) (6)
- 4.5.6 In areas of low rainfall the use of irrigation increases the cost of  
production (2)  
Use of hybrid seeds which makes crops more drought resistant are  
expensive (2)  
It limits agricultural output (2)  
[Any TWO] (2 x 2) (4)  
[100]

GRAND TOTAL: 300

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- 4.3.3 Traffic congestion (2)  
Growing informal settlements (2)  
Pollution (2)  
Crime levels increasing (2)  
Pressure on service delivery (2)  
Poverty (2)  
Unemployment (2)  
[Any THREE] (3 x 2) (6)
- 4.3.4 Transition zone/zone of decay (2) (1 x 2) (2)
- 4.3.5 Educated women work and have fewer children (2)  
More likely to use contraceptives (2)  
Will not be forced against their will to have large families (2)  
[Any TWO] (2 x 2) (4)
- 4.3.6 Recycling of waste material (2)  
Lead free petrol to reduced pollution (2)  
Water tanks to save water (2)  
[Any TWO] (2 x 2) (4)
- 4.4.1 Secondary (2) (1 x 2) (2)
- 4.4.2 Concentration of industries in a few core areas (2)  
[Concept] (1 x 2) (2)
- 4.4.3 Creation of Jobs (2)  
Income earned from export products (2)  
Encourage foreign investment (2)  
Creates stimulus to agriculture and mining (2)  
Expansion of harbours (2)  
Infrastructure development (2)  
[Any THREE. Accept any other reasonable alternatives] (3 x 2) (6)
- 4.4.4 High rate of inflation (2)  
High price of crude oil (2)  
Vital raw materials absent in certain areas (2)  
Labour strikes (2)  
Loss of labourers as a result of HIV/Aids (2)  
Skills shortage (2)  
Environmental assessment studies (2)  
Restrictions on carbon emissions (2)  
Infrastructure can no longer cope with demand (2)  
Lack of space for expansion (2)  
[Any TWO. Accept any other reasonable alternatives] (2 x 2) (4)

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### RESOURCE MATERIAL

1. An extract from topographical map 2629CC STANDERTON.
2. Orthophoto map 2629CC STANDERTON.
3. NOTE: The resource material must be collected by the schools for their own use.
4. A non-programmable calculator may be used.

### INSTRUCTIONS AND INFORMATION

1. Write your EXAMINATION NUMBER and your CENTRE NUMBER in the space provided on the front cover of this question paper.
2. Answer ALL the questions in the spaces provided on this question paper.
3. You are supplied with a 1:50 000 topographical map, 2629CC STANDERTON and an orthophoto map of a part of the mapped area.
4. The topographical map and the orthophoto map must be handed to the invigilator at the end of this examination session.
5. The following English terms or their Afrikaans translations are shown on the topographical map.

ENGLISH	AFRIKAANS
Diggings	Uitgrawings
Brickworks	Steenwerke
Caravan park	Karavaanpark
Weir	Stuwal/Keerwal
Sewerage works	Rioolwerke

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- 1.7 The coordinates of trigonometrical station number 101 in block B11 is ...

- A 26°53'46"S 29°13'22"E / 26°53,7'S 29°13,3'E.
- B 26°53'46"E 29°13'22"S / 26°53,7'E 29°13,3'S.
- C 29°13'22"S 26°53'46"E / 29°13,3'S 26°53,7'E.
- D 29°13'22"E 26°53'46"S / 29°13,3'E 26°53,7'S.

- 1.8 Ground water is used around Standerton for agricultural purposes. One piece of evidence to prove the use of ground water is the presence of ...

- A rivers.
- B dams.
- C windpumps.
- D taps.

- 1.9 The channel of the Vaal River in blocks F12, G11 and 12 is ...

- A straight.
- B meandering.
- C braided.
- D graded.

- 1.10 The feature marked 2 on the orthophoto map is a ...

- A dam.
- B sewage disposal works.
- C water reservoir.
- D furrow.

(10 x 2) [20]

### QUESTION 2

- 2.1 Calculate the length of the landing strip, in metres, from south-east to north-west in block D10.

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(4)

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### QUESTION 1

The following questions are based on the 1:50 000 topographical map, 2629CC STANDERTON, as well as the orthophoto map of part of the mapped area. Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) in the block next to each question (1.1 – 1.10).

- 1.1 The topographical map south-west of 2629CC Standerton depicts part of the ... province.

- A Limpopo
- B Free State
- C KwaZulu-Natal
- D Gauteng

- 1.2 The direction of the aerodrome in block D10 from Meyerville in block G12 on the topographical map is ...

- A north-west.
- B south-west.
- C south-east.
- D north-east.

- 1.3 The dam wall in block G8 is located at a height of ... metres.

- A 1 580
- B 1 540
- C 1 551
- D 1 560

- 1.4 The aerodrome in block D10 is found in the ...

- A CBD.
- B rural-urban fringe.
- C residential area.
- D slum zone.

- 1.5 The feature at 1 on the orthophoto map is a ...

- A woodland
- B cultivated land
- C sewage disposal work
- D water reservoir

- 1.6 The dams that are found in the rural areas of Standerton are mainly used for ...

- A recreation.
- B domestic purposes.
- C industrial purposes.
- D irrigation.

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- 2.2 Calculate the average gradient on the orthophoto map from point 3 to the trigonometrical station number 70 (west of point 3).

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(5)

- 2.3 Draw an accurate cross-section from point 4 to point 5 on the orthophoto map. On your cross-section, indicate the location of the following features:

- Water reservoir
- Power line
- Recreational facility

Use the following scales: Vertical scale – 1 cm represents 10 m  
Horizontal scale – 1:10 000

Graph paper for drawing of cross-section appears on the next page.

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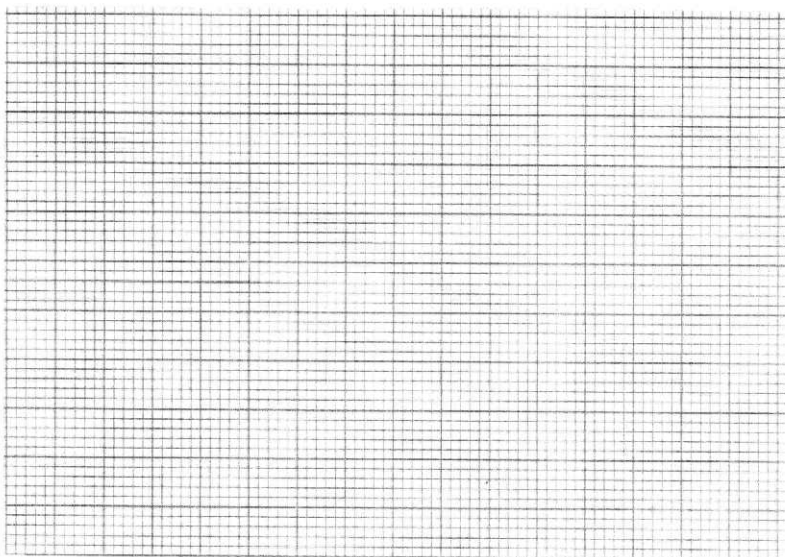
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(9)  
[18]

### QUESTION 3

3.1 Refer to the topographical map.

3.1.1 Why is the aerodrome situated in block D10 on the topographical map?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

3.1.2 What do you think are the disadvantages of living in a settlement that is near the aerodrome in block D10?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

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3.7 Refer to the geomorphological feature in block F6 on the topographical map.

3.7.1 Identify the geomorphological features (labelled A) along Brakspruit in block F6 on the topographical map.

\_\_\_\_\_  
(1 x 2)(2)

3.7.2 Briefly describe the formation of the geomorphological feature mentioned in QUESTION 3.7.1 above.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

3.8 One of the principles of Batho Pele, namely 'People First', has to do with the accessibility of services to the people. Is that really happening in Sakhile? Justify your answer.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

3.9 Account for the location of the rifle range north of Flora Park (block D12).

\_\_\_\_\_  
\_\_\_\_\_  
(1 x 2)(2)  
[40]

### QUESTION 4

4.1 Differentiate between *spatial* and *attribute* data.

Spatial:

\_\_\_\_\_  
\_\_\_\_\_

Attribute:

\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

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3.2 Refer to the topographical map.

3.2.1 What is the dominant (main) economic activity that is practised in the rural areas of Standerton? Give a reason for your answer.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

3.2.2 What is the product that is produced by the economic activity mentioned in QUESTION 3.2.1 above?

\_\_\_\_\_  
(1 x 2)(2)

3.3 Sakhile is growing towards the west. Give ONE reason that is visible on the orthophoto map, why it is impossible for this township to extend to the north.

\_\_\_\_\_  
\_\_\_\_\_  
(1 x 2)(2)

3.4 Refer to both the orthophoto map and the topographical map and identify the features/land uses labelled 6, 7 and 8 on the orthophoto map.

6 \_\_\_\_\_  
7 \_\_\_\_\_  
8 \_\_\_\_\_  
(3 x 2)(6)

3.5 Refer to block D3 on the topographical map.

3.5.1 What method of irrigation is used to water the cultivated lands in block D3?

\_\_\_\_\_  
(1 x 2)(2)

3.5.2 Give ONE advantage of the irrigation method mentioned in QUESTION 3.5.1 above.

\_\_\_\_\_  
(1 x 2)(2)

3.6 It appears to be very expensive to build roads in and around Standerton. State the main reason for this.

\_\_\_\_\_  
(1 x 2)(2)

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4.2 Give TWO examples of spatial data found on the topographical map and orthophoto map.

\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

4.3 Data storage in GIS should be in a form of:

4.3.1 \_\_\_\_\_  
4.3.2 \_\_\_\_\_  
(2 x 2)(4)

4.4 State TWO processes when working with a GIS.

\_\_\_\_\_  
\_\_\_\_\_  
(2 x 2)(4)

4.5 Define the term *remote sensing*.

\_\_\_\_\_  
\_\_\_\_\_  
(1 x 2)(2)

4.6 Answer the following on spatial resolution.

4.6.1 Define the term *spatial resolution*.

\_\_\_\_\_  
\_\_\_\_\_  
(1 x 2)(2)

4.6.2 Does the orthophoto map or the topographical map have a higher spatial resolution?

\_\_\_\_\_  
(1 x 2)(2)  
[22]

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## RESOURCE MATERIAL

1. An extract from topographical map 2629CC STANDERTON.
2. Orthophoto map 2629CC STANDERTON.
3. NOTE: The resource material must be collected by the schools for their own use.
4. A non-programmable calculator may be used.

## INSTRUCTIONS AND INFORMATION

1. Write your EXAMINATION NUMBER and your CENTRE NUMBER in the space provided on the front cover of this question paper.
2. Answer ALL the questions in the spaces provided on this question paper.
3. You are supplied with a 1:50 000 topographical map, 2629CC STANDERTON and an orthophoto map of a part of the mapped area.
4. The topographical map and the orthophoto map must be handed to the invigilator at the end of this examination session.
5. The following English terms or their Afrikaans translations are shown on the topographical map.

ENGLISH	AFRIKAANS
Diggings	Uitgrawings
Brickworks	Steenwerke
Caravan park	Karavaanpark
Weir	Stuwal/Keerwal
Sewerage works	Rioolwerke

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- 1.7 The coordinates of trigonometrical station number 101 in block B11 is ...

- A 26°53'46"S 29°13'22"E / 26°53,7'S 29°13,3'E.  
B 26°53'46"E 29°13'22"S / 26°53,7'E 29°13,3'S.  
C 29°13'22"S 26°53'46"E / 29°13,3'S 26°53,7'E.  
D 29°13'22"E 26°53'46"S / 29°13,3'E 26°53,7'S.

A

- 1.8 Ground water is used around Standerton for agricultural purposes. One piece of evidence to prove the use of ground water is the presence of ...

- A rivers.  
B dams.  
C windpumps.  
D taps.

C

- 1.9 The channel of the Vaal River in blocks F12, G11 and 12 is ...

- A straight.  
B meandering.  
C braided.  
D graded.

B

- 1.10 The feature marked 2 on the orthophoto map is a ...

- A dam.  
B sewage disposal works.  
C water reservoir.  
D furrow.

C

(10 x 2) [20]

## QUESTION 2

- 2.1 Calculate the length of the landing strip, in metres, from south-east to north-west in block D10.

$$\text{Length} = \frac{3,7 \text{ cm} \times 50\,000 \text{ J}}{100} = \frac{3,7 \text{ mm} \times 50\,000 \text{ J}}{1000}$$

$$= 3,7 \text{ cm} \times 500 \text{ J} \quad \text{or} \quad = 37 \text{ mm} \times 50 \text{ J}$$

$$= 1\,850 \text{ m JJ} \quad = 1\,850 \text{ m JJ}$$

$$(\text{Range: } 1\,800 \text{ m} - 1\,900 \text{ m})$$

(4)

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## QUESTION 1

The following questions are based on the 1:50 000 topographical map, 2629CC STANDERTON, as well as the orthophoto map of part of the mapped area. Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A – D) in the block next to each question (1.1 – 1.10).

- 1.1 The topographical map south-west of 2629CC Standerton depicts part of the ... province.

- A Limpopo  
B Free State  
C KwaZulu-Natal  
D Gauteng

B

- 1.2 The direction of the aerodrome in block D10 from Meyerville in block G12 on the topographical map is ...

- A north-west.  
B south-west.  
C south-east.  
D north-east.

A

- 1.3 The dam wall in block G8 is located at a height of ... metres.

- A 1 580  
B 1 540  
C 1 551  
D 1 560

D

- 1.4 The aerodrome in block D10 is found in the ...

- A CBD.  
B rural-urban fringe.  
C residential area.  
D slum zone.

B

- 1.5 The feature at 1 on the orthophoto map is a ...

- A woodland.  
B cultivated land.  
C sewage disposal work.  
D water reservoir.

C

- 1.6 The dams that are found in the rural areas of Standerton are mainly used for ...

- A recreation.  
B domestic purposes.  
C industrial purposes.  
D irrigation.

D

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- 2.2 Calculate the average gradient on the orthophoto map from point 3 to the trigonometrical station number 70 (west of point 3).

$$\text{Vertical interval (VI)} = 1638,7 - 1580 = 58,7 \text{ m J}$$

$$\text{Horizontal Equivalent (HE)} = 4,5 \text{ cm} \times 100 = 450 \text{ m J} \quad (\text{range: } 400 \text{ m} - 500 \text{ m})$$

$$\text{Gradient} = \frac{\text{VI J}}{\text{HE}}$$

$$= \frac{58,7 \text{ J}}{450}$$

$$= 58,7 : 450$$

$$= 1:7,6 \text{ J}$$

$$(\text{range: } 1:6,8 - 1:8,5)$$

(5)

- 2.3 Draw an accurate cross-section from point 4 to point 5 on the orthophoto map. On your cross-section, indicate the location of the following features:

Water reservoir  
Power line  
Recreational facility

Use the following scales: Vertical scale – 1 cm represents 10 m  
Horizontal scale – 1:10 000

See next page for cross-section.

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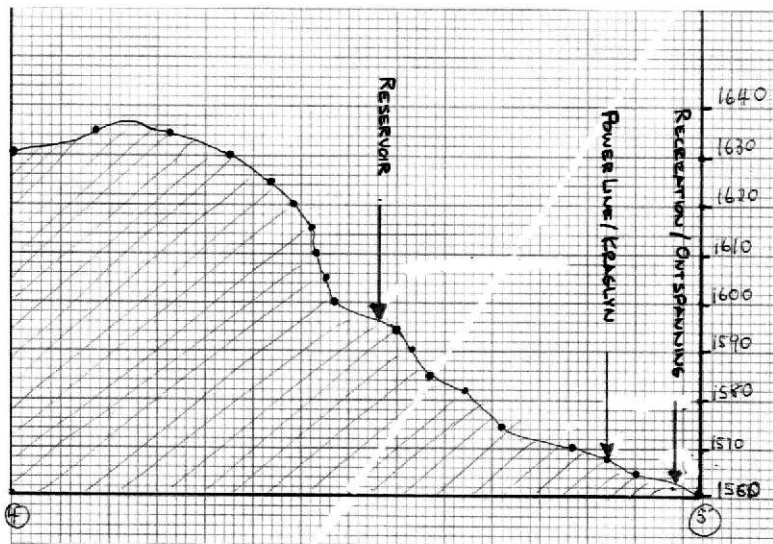
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(9)  
[18]

### QUESTION 3

3.1 Refer to the topographical map.

3.1.1 Why is the aerodrome situated in block D10 on the topographical map?

Far from the CBD (2)  
Flat Land (2)  
Cheap land (2)  
Need a large piece of land (2)  
Close to the road (2)  
Close to the railway line (2)  
Away from residential areas (2)  
(ANY TWO)

(2 x 2)(4)

3.1.2 What do you think are the disadvantages of living in a settlement that is near the aerodrome in block D10?

Noise (2)  
Air pollution (2)  
Danger of aircrafts crashing (2)  
(ANY TWO)

(2 x 2)(4)

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3.7 Refer to the geomorphological feature in block F6 on the topographical map.

3.7.1 Identify the geomorphological features (labelled A) along Brakspruit in block F6 on the topographical map.

Oxbow lake (2) (1 x 2)(2)

3.7.2 Briefly describe the formation of the geomorphological feature mentioned in QUESTION 3.7.1 above.

River flowing at a higher speed or velocity (2)  
Greater volume of water (2)  
Increased erosion reduces meander neck (2)  
Meander loop cut off from main river resulting from accelerated erosion caused by flooding (2)  
The river cut across meanders (2)  
[ANY TWO]

(2 x 2)(4)

3.8 One of the principles of Batho Pele, namely 'People First', has to do with the accessibility of services to the people. Is that really happening in Sakhile? Justify your answer.

Yes (2)  
There are roads, schools, recreational facilities (2) (2 x 2)(4)

3.9 Account for the location of the rifle range north of Flora Park (block D12).

Outside the built-up area (2)  
Away from residential areas (2)  
Land is flat (2)  
Large open space (2)  
[ANY ONE] (1 x 2)(2)  
[40]

### QUESTION 4

4.1 Differentiate between spatial and attribute data.

Spatial: data that is linked to a specific location (2)

Attribute: data that expresses number of qualities and characteristics of vector data (2) (2 x 2)(4)

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Geography/P2

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3.2 Refer to the topographical map.

3.2.1 What is the dominant (main) economic activity that is practised in the rural areas of Standerton? Give a reason for your answer.

Activity: Primary activity/Crop farming (2)  
Reason: Cultivated land (2) (2 x 2)(4)

3.2.2 What is the product that is produced by the economic activity mentioned in QUESTION 3.2.1 above?

Maize/Mealies (2) (1 x 2)(2)

3.3 Sakhile is growing towards the west. Give ONE reason that is visible on the orthophoto map, why it is impossible for this township to extend to the north.

Mountain (2)  
Steep slope (2)  
[ANY ONE] (1 x 2)(2)

3.4 Refer to both the orthophoto map and the topographical map and identify the features/land uses labelled 6, 7 and 8 on the orthophoto map.

6 Hospital (2)  
7 School (2)  
8 Industry (2) (3 x 2)(6)

3.5 Refer to block D3 on the topographical map.

3.5.1 What method of irrigation is used to water the cultivated lands in block D3?

Furrow (2) (1 x 2)(2)

3.5.2 Give ONE advantage of the irrigation method mentioned in QUESTION 3.5.1 above.

Minimises/Reduces evaporation (2) (1 x 2)(2)

3.6 It appears to be very expensive to build roads in and around Standerton. State the main reason for this.

Bridges must be built over rivers (2) (1 x 2)(2)

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4.2 Give TWO examples of spatial data found on the topographical map and orthophoto map.

Roads (2)  
Rivers (2)  
Houses or buildings (2)  
Parks (2)  
Dams (2)  
[ANY TWO - Accept other] (2 x 2)(4)

4.3 Data storage in GIS should be in a form of:

4.3.1 vector (2)  
4.3.2 raster (2) (2 x 2)(4)

4.4 State TWO processes when working with a GIS.

Data input (2)  
Data storage (2)  
Data manipulation (2)  
Data analysis (2)  
Output information (2)  
Data management (2)  
Data application (2)  
[ANY TWO] (2 x 2)(4)

4.5 Define the term remote sensing.

Refers to the observation of the earth from a distance using satellites to gather information without having direct contact with an area (2)  
[CONCEPT] (1 x 2)(2)

4.6 Answer the following on spatial resolution.

4.6.1 Define the term spatial resolution.  
Refers to the detail with which a map depicts the location and shape of the feature (2)  
[CONCEPT] (1 x 2)(2)

4.6.2 Does the orthophoto map or the topographical map have a higher spatial resolution?  
Orthophoto map (2) (1 x 2)(2)  
[22]

TOTAL: 100

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## Notes

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## Notes

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