



SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2005

GEOGRAPHY HIGHER GRADE: PAPER II

Time: 3 hours

300 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This paper consists of 24 pages and an insert of four pages (i – iv). Detach the insert from the middle of the question paper. Please check that your question paper is complete.
 2. Read the questions carefully.
 3. **ANSWER THREE QUESTIONS AS FOLLOWS:**
One from Section A
One from Section B
One from Section C
 4. Credit will be given for:
 - interpretation and explanation; and
 - evidence of personal observation in the field where this is appropriate to the question.
 5. You are encouraged to use sketch maps, diagrams and other explanatory drawings to support your answers whenever relevant.
 6. Number your answers exactly as the questions are numbered.
 7. Please **circle** the number of each question answered on the back inside flap of your answer book.
 8. It is in your own interest to write legibly and to present your work neatly.
 9. There is a **glossary** of words on the final page which will help you to understand exactly what the words printed in bold in the questions are asking you to do.
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SECTION A PHYSICAL GEOGRAPHY

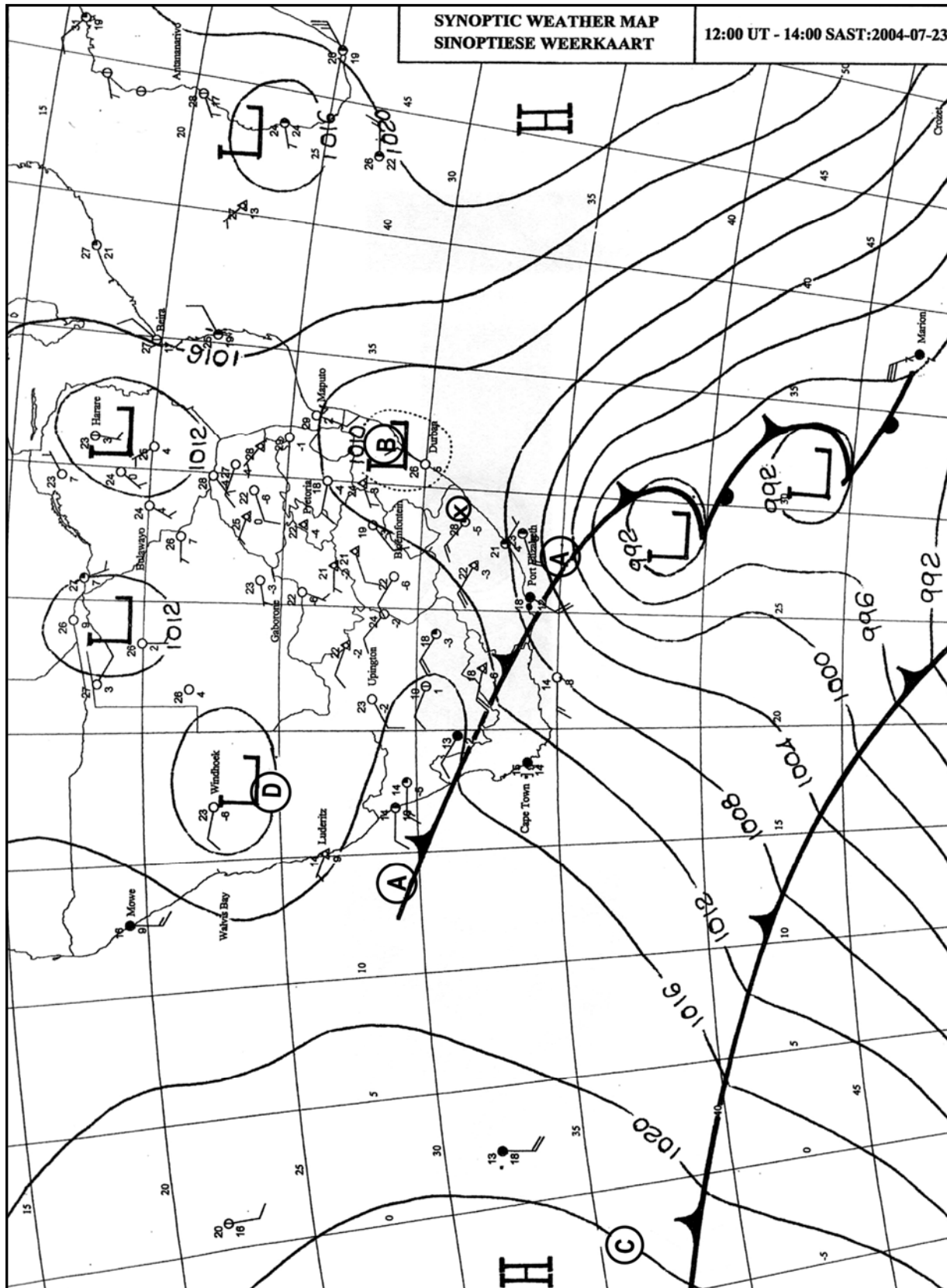
Answer ONE question from this section, **EITHER** Question 1 **OR** Question 2.

QUESTION 1 Climatology, geomorphology and ecology

1.1 South African synoptic weather map

Study Figure 1.

Figure 1: Synoptic weather map: 2004-07-23



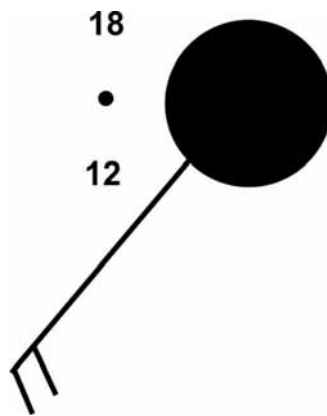
1.1.1 **Identify** the following weather systems indicated on Figure 1:

- (a) **A**
- (b) **B** (1)

1.1.2 What is the atmospheric pressure (mb or hPa) at

- (a) **C**
- (b) **D** on Figure 1? (1)

1.1.3 **Describe** the weather being experienced on 23 July 2004 at Port Elizabeth.
The weather station symbols for Port Elizabeth are as follows:



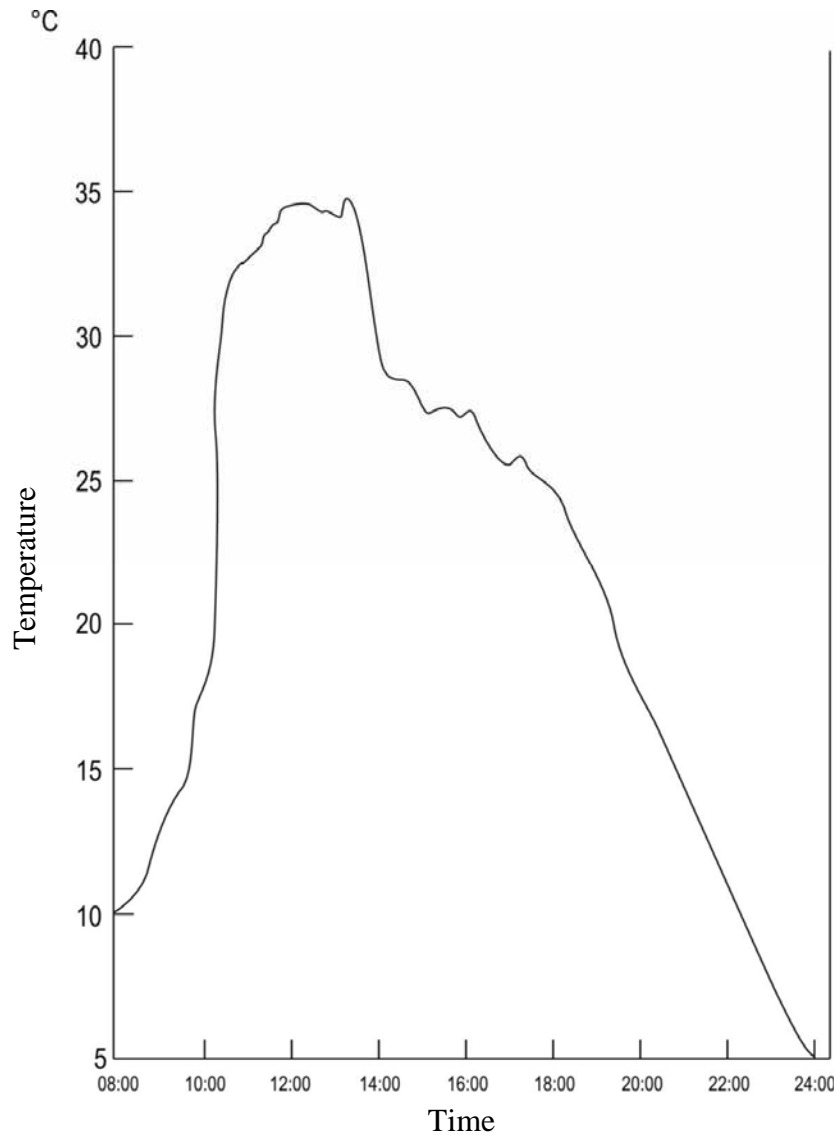
(3)

1.1.4 **Account for** the weather being experienced at Port Elizabeth on this date.

(2)

1.1.5 Figure 2 is a temperature graph recorded from 08:00 until 24:00 on 23 July 2004 at weather station X (X is indicated on Figure 1).

Figure 2: A temperature graph recorded from 08:00 until 24:00 on 23 July 2004 at Weather Station X.



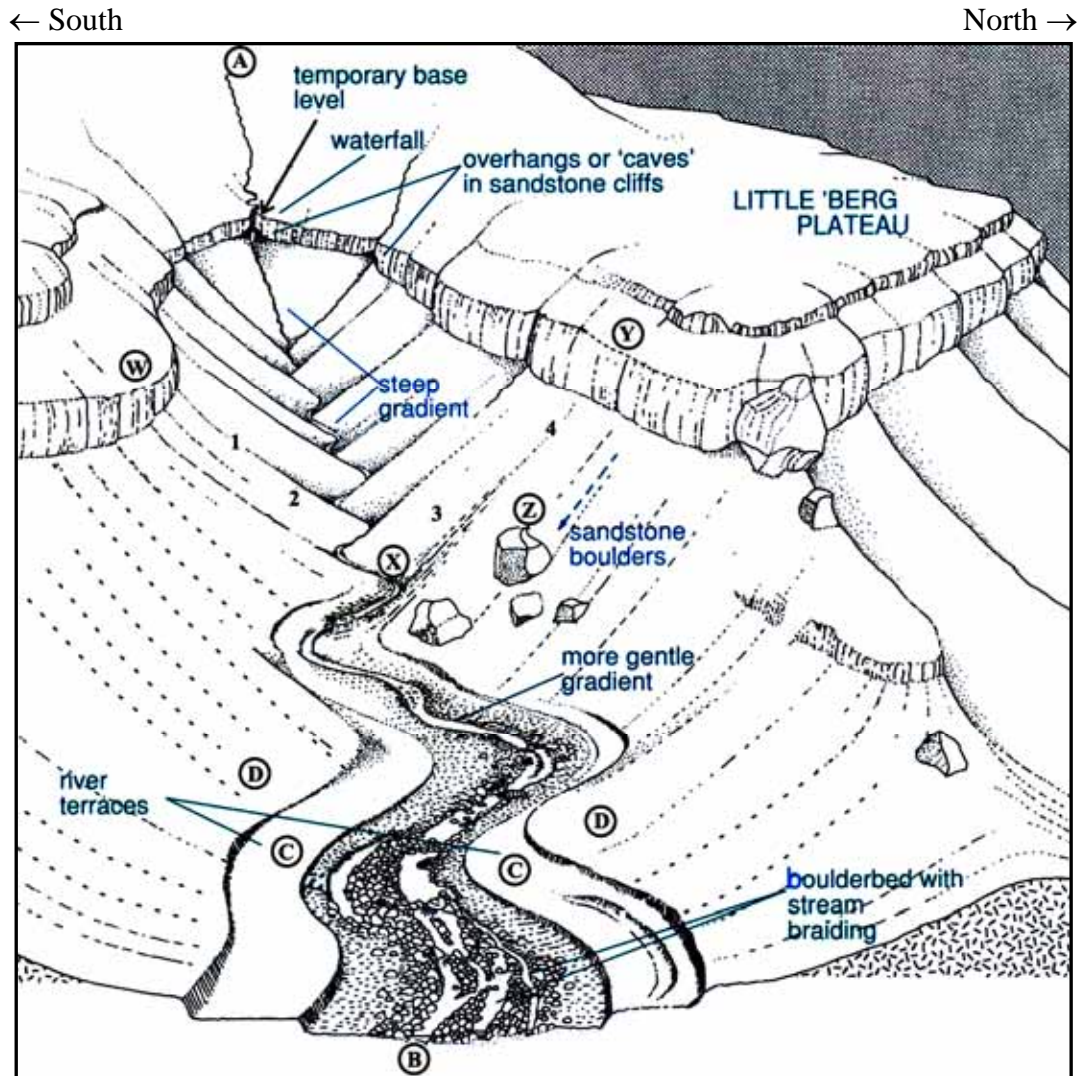
[Weather and Climate in Africa: Colin Buckle]

- (a) What was the maximum temperature recorded?
- (b) What was the minimum temperature recorded? (1)
- (c) With reference to the synoptic chart and the temperature graph, **explain** the causes of:
 - (i) the sudden rise in temperature between 08:00 and 12:00. (2)
 - (ii) the drastic drop in temperature from 13:00 to 24:00. (2)

1.2 Valley climate, ecology and geomorphology

Study Figure 3.

Figure 3: A typical river course in the lower Drakensberg Mountains ("The Little Berg") in KwaZulu-Natal.



[The Drakensberg: P. Irwin]

1.2.1 With reference to Figure 3 **explain** the terms:

- | | | |
|-----|----------------------|-----|
| (a) | temporary base level | (1) |
| (b) | stream braiding | (1) |

1.2.2

- | | | |
|-----|--|-----|
| (a) | Draw a simple longitudinal profile of this river from A to B and label the waterfall. | (2) |
| (b) | Does the longitudinal profile drawn in 1.2.2 (a), from A to B show a graded profile? Explain your answer. | (2) |

1.2.3 The river terraces at **C** are evidence that this river has been rejuvenated.

- (a) **Explain** the term rejuvenation. (1)
- (b) Using an annotated sketch, **describe** how the process of rejuvenation led to the formation of these river terraces. (3)

1.2.4 A developer builds a large holiday resort on both sides of the river at **D**. The resort has paved roads, parking areas and footpaths. Draw two storm hydrographs to show the discharge of the river, below **D**

- (a) before the development. (1)
 - (b) after the development. (1)
- Label each hydrograph clearly.

1.2.5 **Explain** the hydrographs you have drawn in 1.2.4 above. (2)

1.2.6 The data in **Table 1** was recorded by an environmentalist along a cross-profile **W – Y** (Figure 3) at 08:00 on a winter's morning. Data was recorded at 4 points (1, 2, 3 and 4).

Table 1 **Temperature, precipitation and vegetation at points 1, 2, 3 and 4 (over 24 hours)**

Point	1	2	3	4
Temperature	10 °C	2 °C	3 °C	5 °C
Precipitation	10 mm	5 mm	15 mm	20 mm
Vegetation	Grassland and protea savannah	Short grass and bush	Tall evergreen forest	

- (a) **Explain** why it is warmer at point 1 than at point 3. (2)
- (b) Draw and label two soil profiles that you would expect to find at points 2 and 4. (4)
- (c) **Explain** each of the profiles you have drawn in (b) above. (2)

1.2.7 If the evergreen forest was removed, **predict** the effects on the natural ecosystems in this valley. (4)

1.2.8

- (a) Draw a cross section from X to Y and label the elements of slope which are evident. (3)
- (b) **Name** the mass wasting which has occurred at **Z**. (1)

1.3 Structural landscapes

Study Photograph 1 (page (i) in the Insert Booklet), which shows inclined rock strata.

1.3.1 **Name** landform A. (1)

1.3.2 Draw a field sketch of landform A and label the

- scarp slope
- dip slope
- resistant rock layers

(3)

1.3.3 Using an **annotated** sketch, **explain** how landform A developed. (4)

50 x 2 = 100 marks

QUESTION 2 Climatology, geomorphology and ecology**2.1 Tropical cyclones**

Study Photograph 2 (page (i) in the Insert Booklet), which shows a satellite photograph of Hurricane Ivan.

- 2.1.1 Draw a simple synoptic sketch map to show Hurricane Ivan on this date. Clearly show the following on your synoptic sketch map:
- the general pattern of isobars and pressure
 - the eye of the hurricane using the correct symbol
 - the direction of the winds blowing around the eye
- (3)
- 2.1.2 **List** and **explain** THREE requirements which are necessary for the development of a mature tropical cyclone such as Ivan. (6)
- 2.1.3 **Describe** the weather conditions which were experienced in the eye of Hurricane Ivan on this date. (1)
- 2.1.4 Hurricane Ivan caused devastation in the less developed countries of Haiti and Dominican Republic. As a representative of an international aid agency, write a report of 1 to 2 pages to the United Nations in which you:
- **describe** the environmental and infrastructural damage caused by Hurricane Ivan
 - **explain** what relief aid will be needed to normalise life in both countries
 - **suggest** what measures need to be taken to try to reduce the effects of possible future hurricanes on these two countries.
- (15)

2.2 Structural landscapes

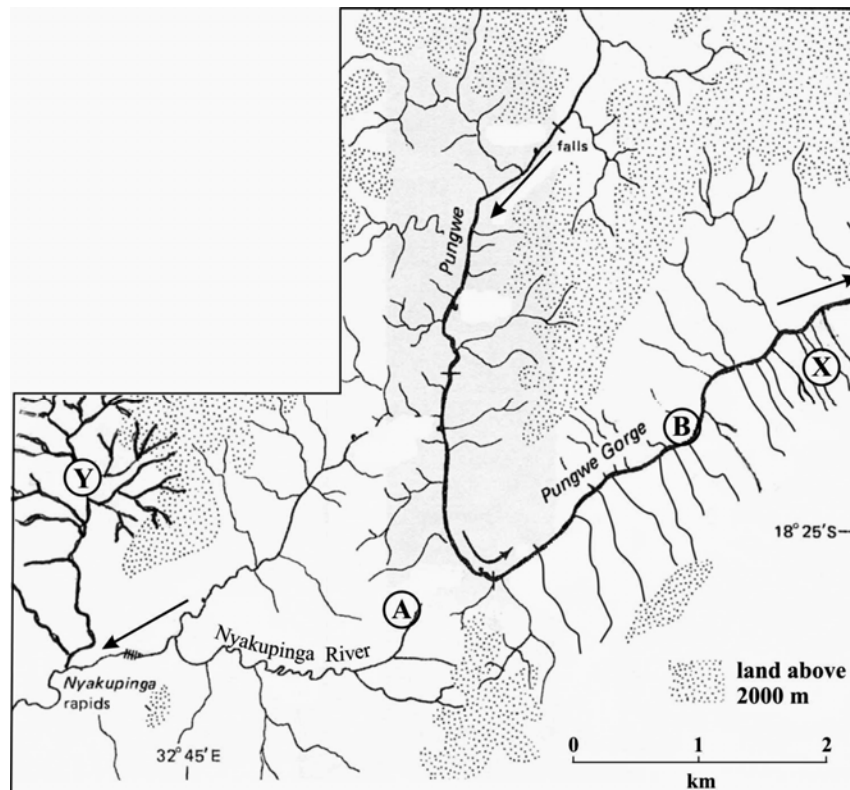
Study Photograph 3 (page (ii) in the Insert Booklet) which shows a tor.

- 2.2.1 **Name** the rock type at A. (1)
- 2.2.2 Using diagrams **explain** the formation of this feature. **Label** the corestones and joints on your diagram. (4)
- 2.2.3 **Describe** the economic importance of landforms such as these. (2)

2.3 Rivers and ecology

Study Figure 4.

Figure 4 shows the Pungwe River on the Zimbabwe/Mozambique border



[Landforms and Landscapes in Africa: Pritchard]

2.3.1 **Name** the drainage patterns found at:

- (a) **X** (1)
- (b) **Y** (1)
- (c) **Explain** how each of the drainage patterns named in (a) and (b), above, formed. (2)

2.3.2 The Pungwe River has captured the headwaters of the Nyakupinga River leaving the Nyakupinga River as a misfit at A. Draw a neatly labelled sketch to show the:

- pirate stream
 - elbow of capture
 - dry valley or wind gap
- (4)

2.3.3 **List** TWO factors that could lead to river capture. (2)

2.3.4 A dam is to be constructed at B in the Pungwe Gorge. **Describe** the effect this dam would have on the ecosystems and human activities:

- (a) above the dam wall, and
 - (b) below the dam wall.
- (8)

50 x 2 = 100 marks

SECTION B SETTLEMENT GEOGRAPHY

Answer ONE question from this section, **EITHER** Question 3 **OR** Question 4.

QUESTION 3 Urban and rural settlement**3.1 Informal settlements**

Study Photograph 4 (page (ii) in the Insert Booklet), which shows an informal settlement on the edge of a major city in South Africa.

- 3.1.1 **Describe** the main features of the settlement shown in the photograph. (2)
- 3.1.2 **Explain** why settlements like the one in photograph 4 originate. (2)
- 3.1.3 (a) **List** TWO ways in which this settlement and its inhabitants impact negatively on the environment. (2)
- (b) **Suggest** solutions to the two examples outlined above. (2)
- 3.1.4 **State** your views on the advantages and disadvantages of creating planned housing settlements for the inhabitants of informal settlements. Refer to local examples where possible. (4)

3.2 Urban renewal

In many South African cities, old areas close to the CBD have undergone urban renewal and are attracting people to live close to and in the city centre.

Study Photograph 5 (page (iii) in the Insert Booklet), which shows Bokaap, de Waterkant, an area on the edge of Cape Town=s CBD.

- 3.2.1 **Describe** the urban renewal evident in Photograph 5. (2)
- 3.2.2 **Design** a newspaper advertisement aimed at attracting people to live in the CBD of a South African city. (3)
- 3.2.3 Cities in South Africa have implemented various strategies to attract residents back to the city centre. **Discuss** TWO strategies, giving examples of this trend. (4)
- 3.2.4 **Predict** the impact the growing number of people living in a city centre will have:
- (a) on the CBD; and (2)
- (b) on the outlying business and residential suburbs. (2)

3.3 Study Photograph 6 (page (iv) in the Insert Booklet), which shows a rural settlement in KwaZulu-Natal.

3.3.1 **Describe** the type of settlement shown in Photograph 6. (1)

3.3.2 **State** the type of economic activity people living in this settlement are involved in. (1)

3.3.3 **Comment** on the site of the settlement. (3)

3.3.4 Most of the older inhabitants of this settlement are women.

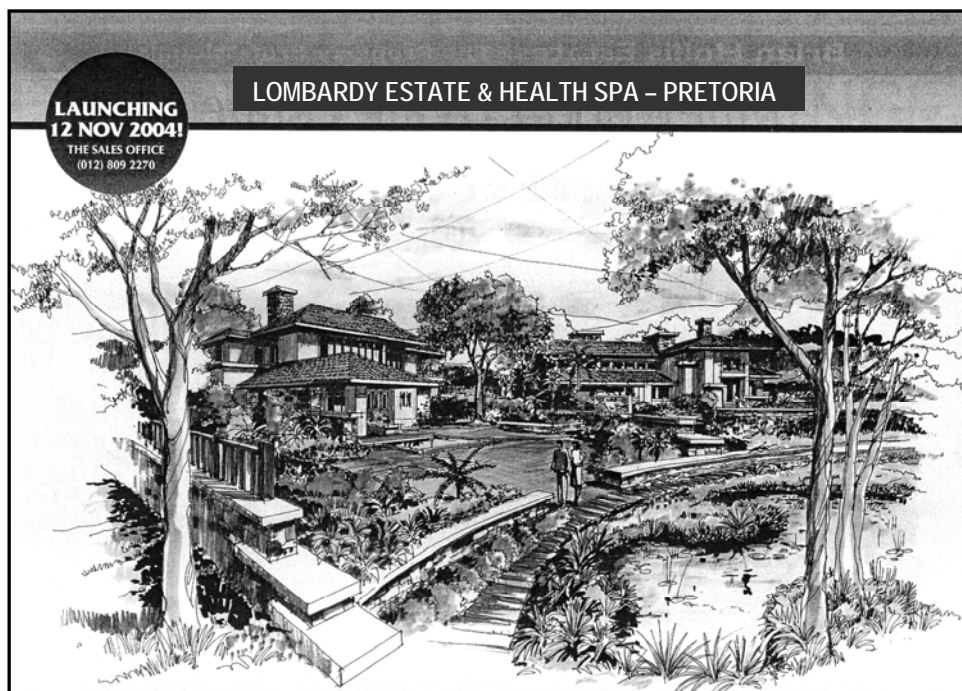
(a) **Explain** why there are so few economically active men living in this settlement. (1)

(b) **Describe** TWO problems facing the women living in this settlement. (4)

3.3.5 **Suggest** ways in which the quality of life of people living in this settlement could be improved. (3)

3.4 Residential estates

Study the graphic below (*The Star*, 5/11/2004). The residential lifestyle estate being advertised is situated outside Pretoria on a 98 hectare property.



The residential lifestyle estate offers:

- State-of-the-art Spa and Wellness Centre
- Gym, tennis courts
- Walking trails, jogging trails
- Boutique shops and restaurants
- 24-hour unobtrusive security
- 5-star boutique hotel and conference centre
- Magnificent lakes and waterscape islands

Write an essay of ONE to TWO pages in which you **evaluate** the trend of establishing >Lifestyle Residential Estates=, using the following headings:

- location of these estates
- impact on the environment
- advantages and disadvantages of living on such an estate.

(12)

50 x 2 = 100 marks

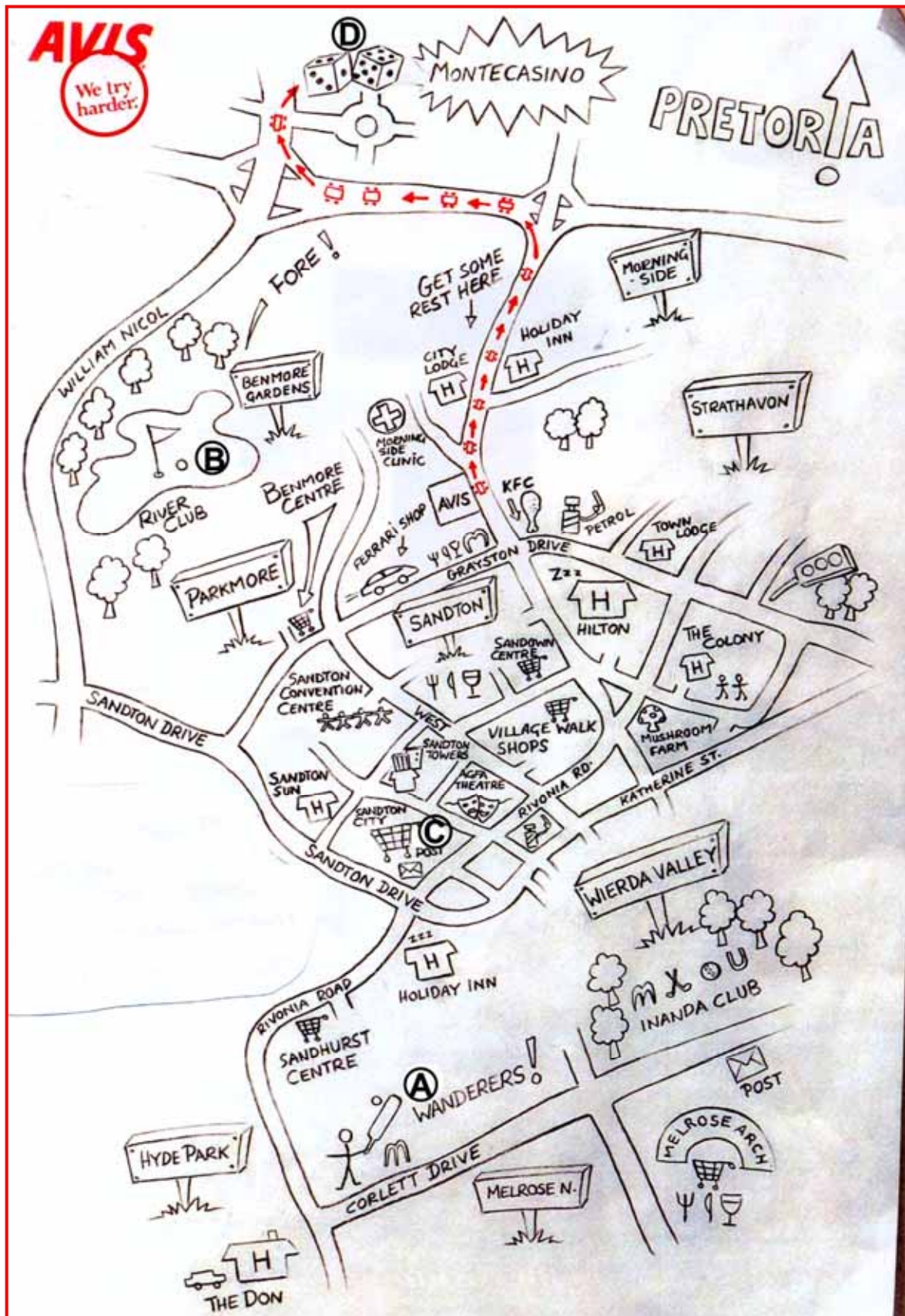
QUESTION 4 Urban and rural settlement**4.1 Urban features and concepts**

Study Photograph 7 (page (iv) in the Insert Booklet), which shows a scenic view of Johannesburg.

- 4.1.1 **Name** the land use zones labelled A and B. (1)
- 4.1.2 (a) **Name** TWO high order and TWO low order functions/services found in land use zone A. (4)
- (b) **List** THREE characteristics associated with land use zone A. (3)
- (c) **Discuss** TWO problems that people could experience in land use zone A. (4)
- 4.1.3 Urban renewal is taking place in Area B. Developments here include: inner city housing, entertainment facilities, restaurants and retail outlets.
- (a) **Define** urban renewal. (2)
- (b) **Explain** why urban renewal projects are necessary. (2)
- (c) **Suggest** TWO factors that might cause this urban renewal project to fail. (2)

4.2 Urban land use

Study Figure 5, a graphic artist's map of the direction to and location of Montecasino in Sandton, Johannesburg.



- 4.2.1 (a) **Identify** the land uses at A and B on the map. (1)
 (b) **Outline** the importance of these land uses to the community and the micro-climate of the urban area. (4)
- 4.2.2 (a) **Classify** the shopping centre at C. (1)
 (b) **Explore** the possible disadvantages of a large shopping centre to
 • customers; and (2)
 • shop owners. (2)
- 4.2.3 (a) **Describe** the land use at D. (1)
 (b) **Comment** on the location of the land use at D. (2)
- 4.2.4 With reference to the type of land use at D, **explain** the meaning of the central place concepts:
 (a) sphere of influence (2)
 (b) threshold population (2)

4.3 Rural development strategy

Read the extract from *The Star*, June 2004, and the Fact File below.

Rebirth of a town called Alicedale

Once a crumbling ghost town with a 98% unemployment rate, this small Eastern Cape town is at the heart of a visionary business initiative that intends to reveal a tourism diamond under all that dust.

(Winnie Graham)

Fact File

- ⊘ *Town established on the railway line to Kimberley in 1877.*
- ⊘ *12 hour rail journey to Grahamstown.*
- ⊘ *Station closed in 1996.*
- ⊘ *Near Shamwari Game Reserve.*
- ⊘ *Partnership created between government, private sector and community.*
- ⊘ *Proposed Sunnesson Golf Academy.*
- ⊘ *Proposed Mantis hotel school.*
- ⊘ *Cultural village to be built.*
- ⊘ *Proposed Bushman Sands Game Reserve, driven by Ian Player.*

In an essay of ONE to TWO pages:

- (a) **Discuss** the factors that would have influenced the initial development of any rural settlement like Alicedale in the Eastern Cape.
- (b) **Explain** why a town like Alicedale can become a 'crumbling ghost town'.
- (c) **Suggest** how development strategies like this 'visionary business initiative' can revive settlements like Alicedale and improve the quality of life of the local rural people. (15)

50 x 2 = 100 marks

SECTION C REGIONAL GEOGRAPHY (SOUTH AFRICA)

Answer ONE question from this section, **EITHER** Question 5 **OR** Question 6.

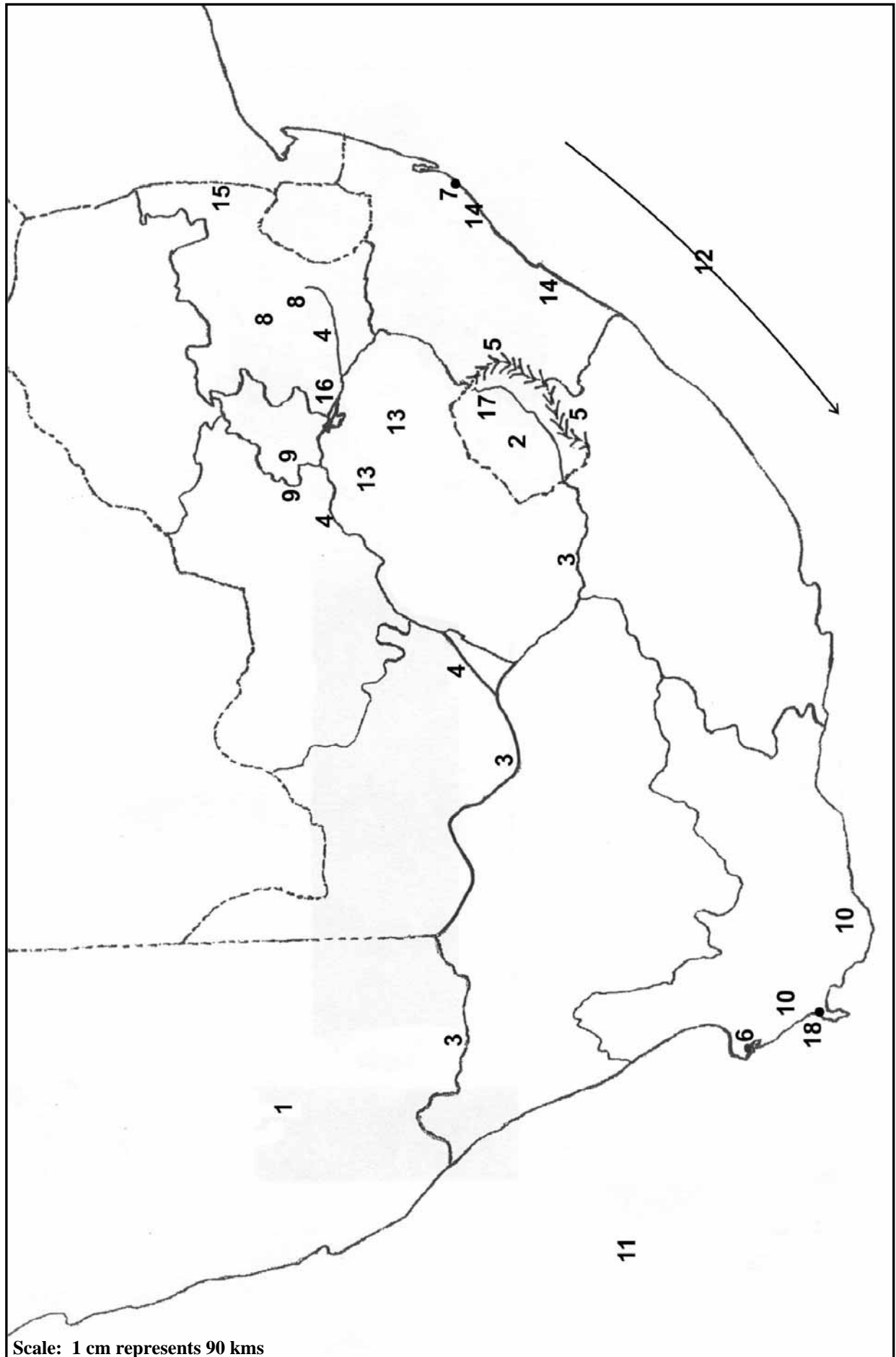
QUESTION 5 South Africa: Regional geography**5.1 Map of South Africa**

Study Figure 6 (page 17), which is a simplified map of South Africa. Write down the numbers 1 to 18 in your answer book and the answer next to the corresponding number.

Note: Numbers 6 and 7 each have TWO answers.

- | | |
|-----------|---|
| Number 1 | Neighbouring country |
| Number 2 | Neighbouring country |
| Number 3 | River |
| Number 4 | River |
| Number 5 | Mountain range |
| Number 6 | Export harbour. Name the main export from this harbour. |
| Number 7 | Export harbour. Name the main export from this harbour. |
| Number 8 | Main mineral mined in this area |
| Number 9 | Main mineral mined in this area |
| Number 10 | Biome (natural vegetation) |
| Number 11 | Ocean |
| Number 12 | Ocean current |
| Number 13 | Major crop grown here |
| Number 14 | Major crop grown here |
| Number 15 | Major tourist attraction |
| Number 16 | Dam |
| Number 17 | Water transfer scheme |
| Number 18 | Provincial capital |

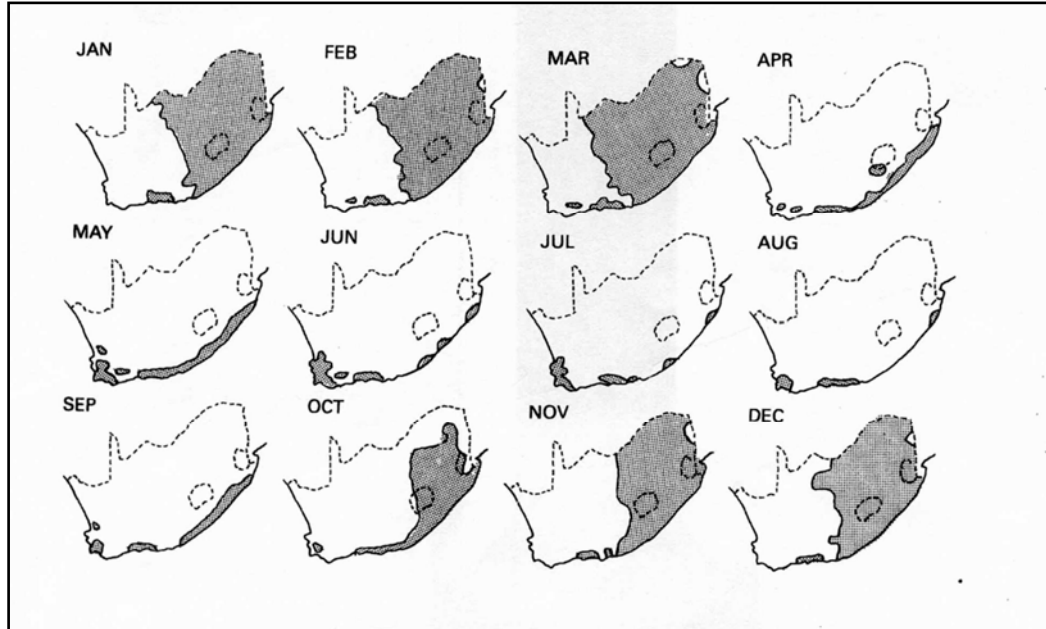
(10)

Figure 6

5.2 Environmental problems

Study Figure 7.

Figure 7 shows the month-by-month precipitation on South Africa. Shaded areas receive more than 50 mm of rain in a month.



[The Atmosphere, Weather and Climate of South Africa
Preston Whyte and Tyson]

5.2.1 Draw a sketch of South Africa and, using the letters below, indicate the following on your sketch map:

- A an area which receives only summer rainfall
- B an area which receives only winter rainfall
- C an area which receives rainfall all year
- D an area which receives less than 50 mm of rainfall, in a month, throughout the year.

(4)

5.2.2 "South Africa is a predominantly dry region with highly erratic rainfall. This variability has important consequences in terms of extreme events such as floods and droughts."

(Vogel, C – The Geography of South Africa in a Changing World)

- (a) **Describe** the factors which influence South Africa's rainfall pattern and distribution.
- (b) As a concerned young South African write a report of 1 to 2 pages in which you highlight:
 - the increasing impact of human activities on the effects of flooding and droughts
 - the effects of floods and droughts on the South African economy
 - **suggest** solutions to these problems.

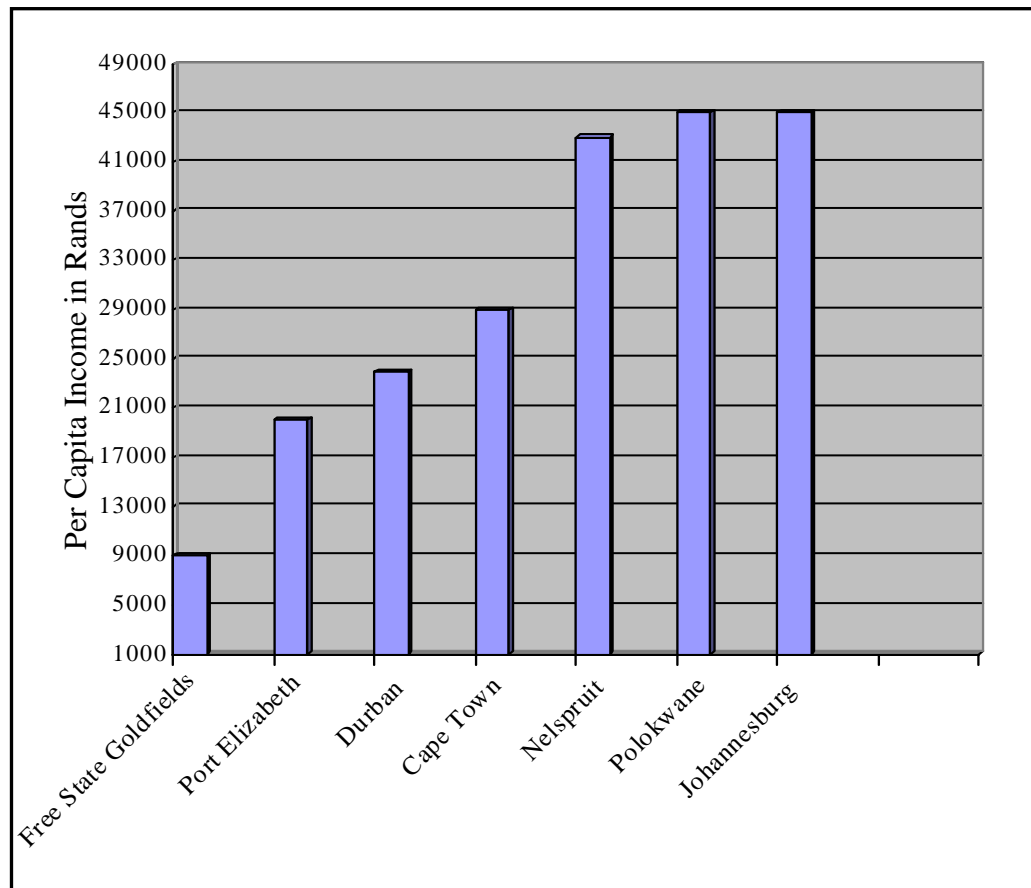
(4)

(10)

5.3 Economy

Study Figure 8.

Figure 8 shows the per capita income in 7 major urban centres in South Africa in 2004.



[SAIRR: Fast Facts]

5.3.1 **Define** 'per capita income'. (1)

5.3.2 Give TWO reasons for the low per capita income of the Free State Goldfields. (1)

5.3.3 **Explain** the reasons for the relatively high per capita incomes of Nelspruit and Polokwane. (2)

5.3.4

(a) The four main industrial areas of South Africa are situated around Johannesburg, Durban, Cape Town and Port Elizabeth. Choose one of these areas. Name the one you have chosen and **list** FOUR reasons for the development of industry in the area. (4)

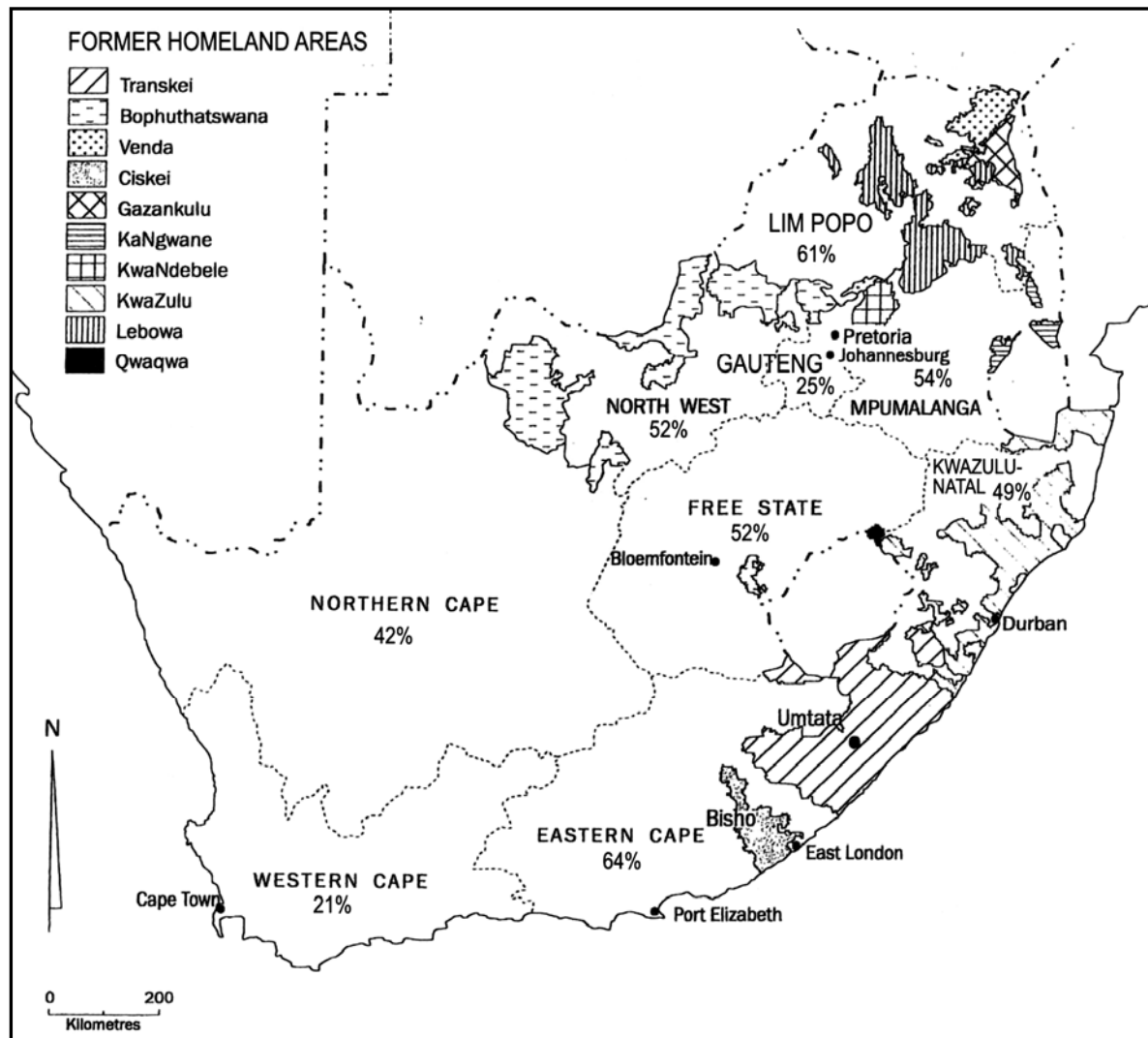
(b) **Describe** the impact this development has had on the environment and **suggest** possible solutions to the problems caused. (4)

5.4 Economic Development

Study Figure 9.

Figure 9 shows the percentage of people living in poverty, by province, in South Africa in 2004. Also indicated on the map are provincial boundaries and the former Black homelands.

(Note: In this case poverty is defined as: a single person earning less than R640/month.)



[Adapted from The Geography of South Africa in a Changing World – Fox and Rowntree]

5.4.1 Write a letter to the President of South Africa, highlighting areas of poverty in South Africa. With reference to Figure 9, **explain** why this is the case and **suggest** ways in which poverty may be alleviated.

(10)

50 x 2 = 100 marks

QUESTION 6 South Africa – regional geography

- 6.1 Study Figure 10, a map showing the corridor of development along the KwaZulu-Natal coast, north of Richards Bay and Empangeni (Mlatuzi). This area has been identified as a Spatial Development Initiative (SDI).

Figure 10



- 6.1.1 What is a Spatial Development Initiative (S.D.I)? (3)
- 6.1.2 (a) **State** what natural vegetation is found along the coastal strip in this area. (1)
- (b) **Suggest** how human activity associated with the S.D.I. has impacted negatively along this corridor of development. (4)
- 6.1.3 (a) **Name** the world heritage site that has been proclaimed in this area. (1)
- (b) (i) **Define** the term ecotourism. (2)
- (ii) **Outline** the potential of the coastal area in Figure 10 for ecotourism. (4)
- 6.1.4 (a) **Identify** TWO primary economic activities that are undertaken in this area. (2)
- (b) **Analyse** why the economic activities that you identified have succeeded in this area. (4)
- 6.1.5 (a) Richards Bay is classified as a break of bulk point – **define** this term. (1)
- (b) Richards Bay has the world's largest coal terminal.
- (i) **Name** TWO coal mining areas which use this harbour for exporting their coal. (2)
- (ii) **List** THREE reasons why coal is of great significance to the South African economy. (3)

6.2 Transport

Read the extract below from *The Star*, 2 November 2004.

You can never build roads large enough to achieve world-class status in South African cities if people are going to continue to use cars. At the moment only 1% of South Africa's more affluent sector of society use public transport, while in the U.K. and U.S.A. the statistic is 20%.

[Trevor Pengelly]

6.2.1 **Evaluate** how the use of cars has impacted on South African urban environments. (4)

6.2.2 **Outline** your vision of an efficient public transport system in any South African city. (4)

6.3 Mining

Study Photograph 8 (page (iv) in the Insert Booklet), which shows evidence of gold mining on the Witwatersrand (Gauteng). Write an essay of ONE to TWO pages in which you **discuss** gold mining, using these sub-headings:

- (a) The significance of gold mining to the South African economy, past and present.
- (b) The negative impact gold mining has had on the people and the environment on the Witwatersrand. (15)

50 x 2 = 100 marks

Total: 300 marks

PLEASE TURN OVER – GLOSSARY ON PAGE 24

GLOSSARY

WORD	MEANING
Account for	To answer for or explain the cause of, so as to explain why
Analyse	To separate into parts or elements and to describe or examine each in detail
Annotate	To add explanatory notes to a sketch, map or drawing
Compare and contrast	Compare: To point out or show both similarities and differences Contrast: To stress the differences, dissimilarities or unlikeness of things
Classify	To divide into groups or types so that things with similar characteristics are in the same group
Comment	To give your opinion or to make a statement about something; to write generally about
Define	To give the precise meaning of ...
Demonstrate	To make it clear; to show; to illustrate and explain [Examples can be given.]
Describe	To list the main characteristics of something; to give an account of [Note: a diagram or map may be part of a description.]
Determine	To discover as a result of investigation
Discuss	To examine or to investigate by argument the various aspects of a statement
Distinguish	To see or to understand the difference between one thing and another
Elaborate	To write about something in depth, with much attention to the detail of the different parts making up the whole
Evaluate	To make an appraisal or express an opinion concerning the value
Examine	To analyse and to discuss; to look at something carefully
Explain	To make clear or plain or to make sure that the reader understands what is being said
Explore	To comment on something in detail
Identify	To give the essential characteristics of ...
Justify	To prove or give reasons or conclusions using logical argument
List	To present a list of names, facts, aspects or items
Name	To state something; to list; to give; to identify; to mention
Outline	To give the main features or general principles of a subject
Predict	To say what is expected to happen; to foretell; to say in advance
Prove	To test by means of argument or evidence so that something guessed at can be shown to be true and correct
Review	To make a survey of, examining the subject critically
State	To present information or details plainly, directly and simply, without discussion
Suggest	To propose an explanation or a solution by way of a plan or a suggestion