



SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2007

GEOGRAPHY HIGHER GRADE: PAPER II

Time: 3 hours

300 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This paper consists of 25 pages and an insert of 5 pages (i – v). 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 Page 2 which will help you to understand exactly what the words printed in bold in the questions are asking you to do.
 10. Remember to detach page 5, write your examination number in the appropriate blocks and insert it in your answer book (if you answer this question).
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GLOSSARY

WORD	MEANING
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 something
Define	To give the precise meaning of ...
Describe	To list the main characteristics of something; to give an account of [Note: a diagram or map may be part of a description.]
Discuss	To examine or to investigate by argument the various aspects of a statement
Design	To plan something, perhaps to draw
Differentiate Distinguish	To see or to understand the difference between one thing and another
Evaluate	To assess, judge, good or bad
Explain	To make clear or plain or to make sure that the reader understands what is being said
Explore	To comment on in detail in order to assess
Flow Diagram	A diagram representing the sequence of actions in a particular process or activity
Identify	To give the essential characteristics of ...
Indicate	To show
Justify	To prove or give reasons or conclusions using logical argument
List	To present a list of names, facts, aspects or items
Mind Map	A diagram showing how different components of a system or topic relate to one another
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
Review	To consider something carefully to see what is wrong with it or how it could be improved
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

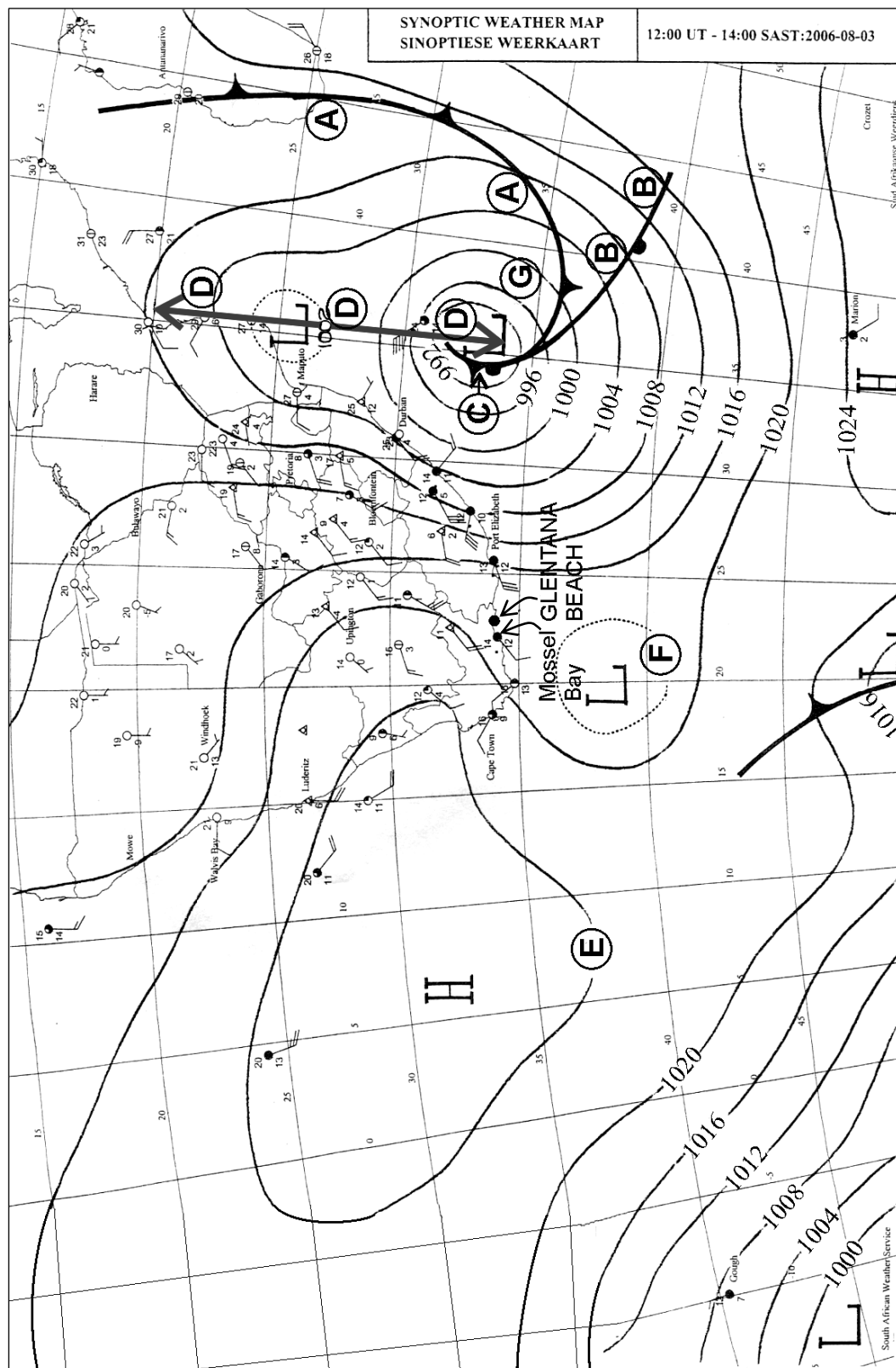
SECTION A PHYSICAL GEOGRAPHY

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: 2006-08-03



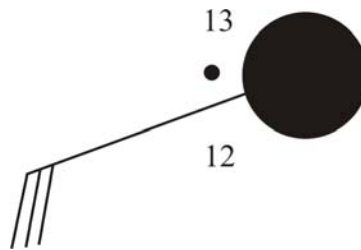
[South African Weather Service]

1.1.1 **Identify** the following weather systems shown on the synoptic weather map:

- (a) A
 - (b) B
 - (c) C
 - (d) D
- (2)

1.1.2 What is the atmospheric pressure (mb or hPa) at E and F? (1)

1.1.3 **Describe** the weather at Port Elizabeth on 2006-08-03. The weather symbols at Port Elizabeth are as follows:



(3)

1.1.4 **Predict** what will happen to weather system G over the next 24 hours. Give ONE reason for your answer. (2)

1.1.5 On 3 August 2006, the South African Weather Service issued the following warning:

"Heavy rainfall along the south east coast between Mossel Bay and Port Elizabeth could lead to localised flooding."

With reference to the synoptic weather map, explain, using a well-labelled cross-sectional diagram, the causes of this rainfall. (2)

[10]

1.2 Geomorphology

The heavy rainfall, referred to in 1.1.5 above, caused extensive flooding in the Glentana Beach area, between Mossel Bay and Port Elizabeth (see Figure 1). Study Figure 2, which is a simplified map of the Glentana Beach area, and Photograph 1, which shows flooding in the Glentana Hills area (at E on Figure 2).

1.2.1 Using Figure 2 and the Drawing Key on Figure 2:

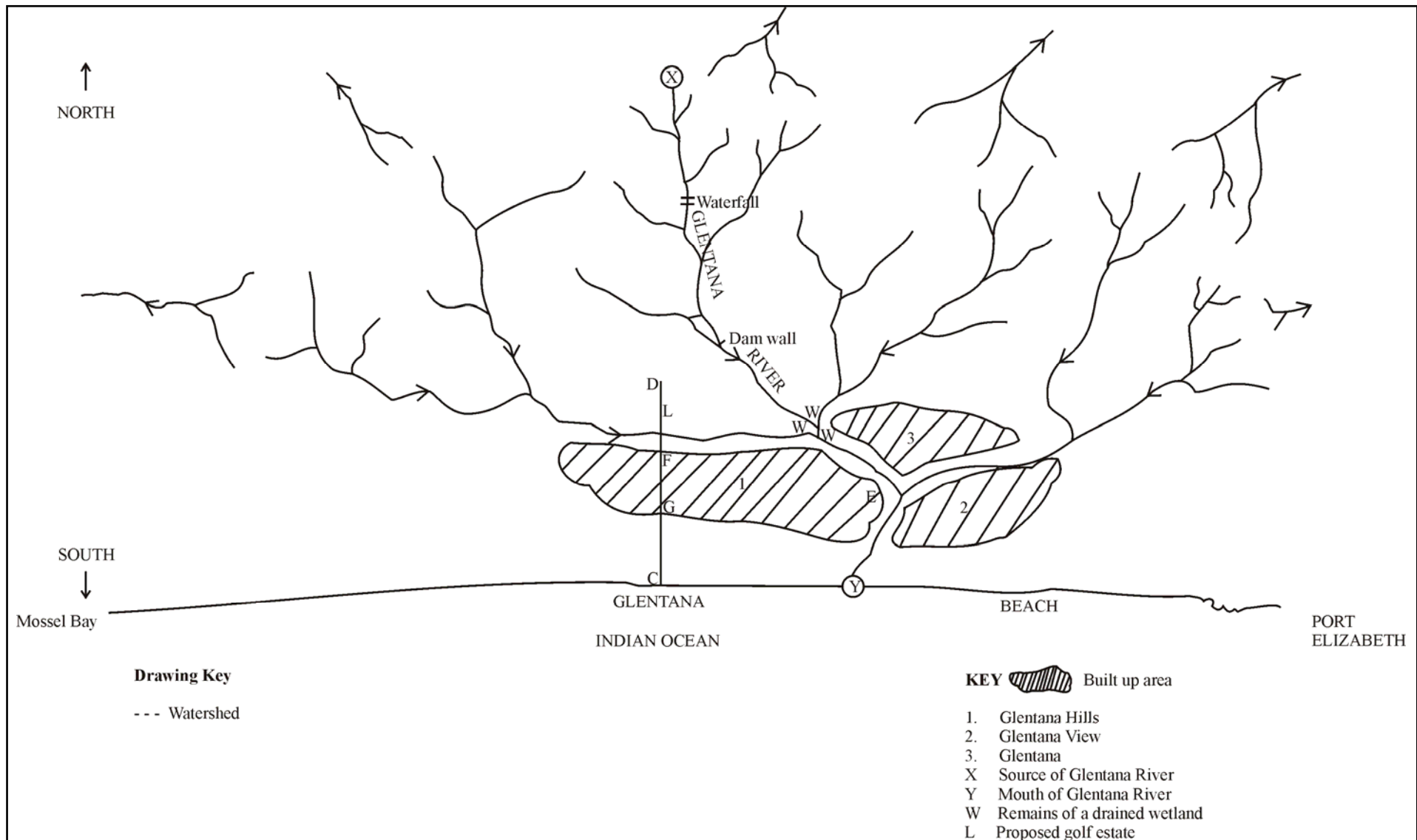
- (a) Draw in the watershed of the Glentana River drainage basin on Figure 2 using the suggested key. (2)

**REMEMBER TO WRITE YOUR EXAMINATION NUMBER
IN THE SPACE PROVIDED AND TO HAND IN FIGURE 2
WITH YOUR ANSWER SCRIPT.**

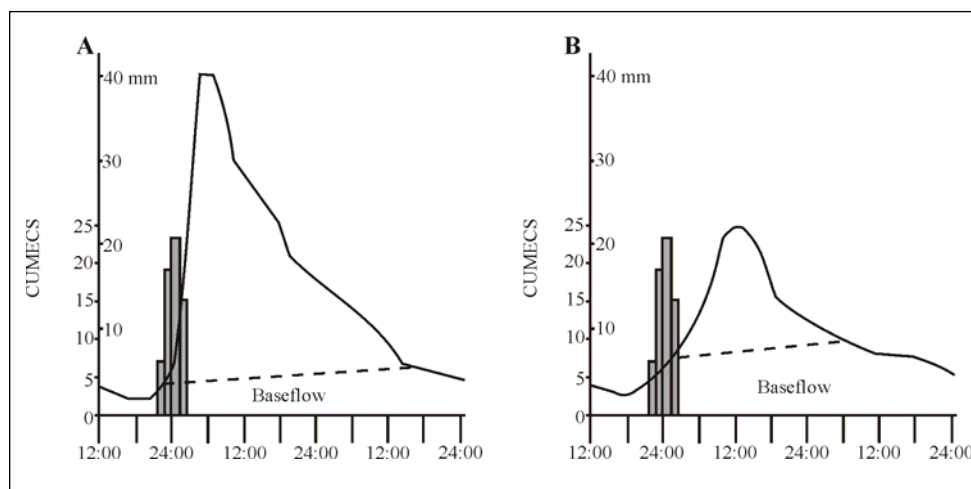
1.2.2 What is the stream order of the Glentana River at its mouth (Y)? (1)

Figure 2: Glentana Beach area**EXAMINATION NUMBER**

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**Note: Detach this page and hand it in with your Answer Book.**

- 1.2.3 (a) **Identify** the dominant drainage pattern of the Glentana River basin. (1)
- (b) **Describe** the characteristics of this drainage pattern, identified in (a) above. (2)
- 1.2.4 (a) Draw a longitudinal profile of the Glentana River from its source at X to its mouth at Y. Clearly label the following on the profile:
 (i) A – the permanent base level
 (ii) B – TWO temporary base levels. (4)
- (b) Is this a graded river profile? **Explain** your answer. (2)
- (c) Below are two storm hydrographs which show the discharge of the Glentana River at Y, **before** the urban area of Glentana Beach was developed, and **after** the development of the Glentana Beach urban area. Note: the same amount of rainfall was recorded.



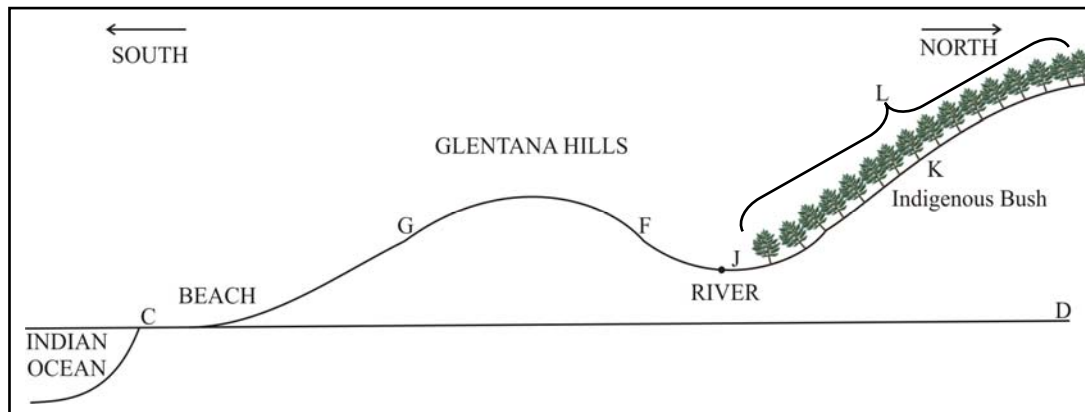
Choose the storm hydrograph which shows:

- (i) The discharge before the urban development, and
 (ii) The discharge after the urban development. (2)
- (d) **Explain** your choice. (2)
- 1.2.5 Glentana Beach is an area which is experiencing rapid residential development. As a concerned home owner, write a letter to the local newspaper in which you:
- **explain** why the problem of flooding is likely to get worse in years to come, and
 - **suggest** what can be done to reduce the flooding and associated damage. (12)

[28]

1.3 Microclimates, soils and ecosystems.

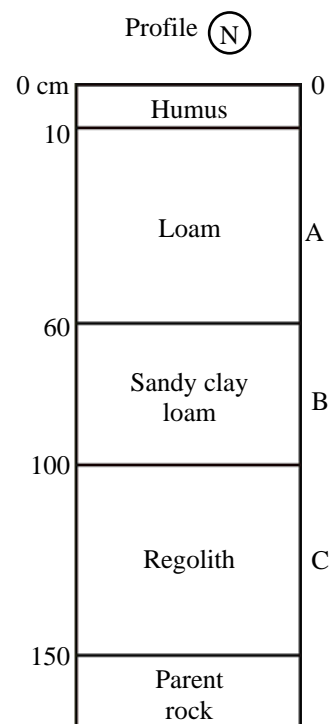
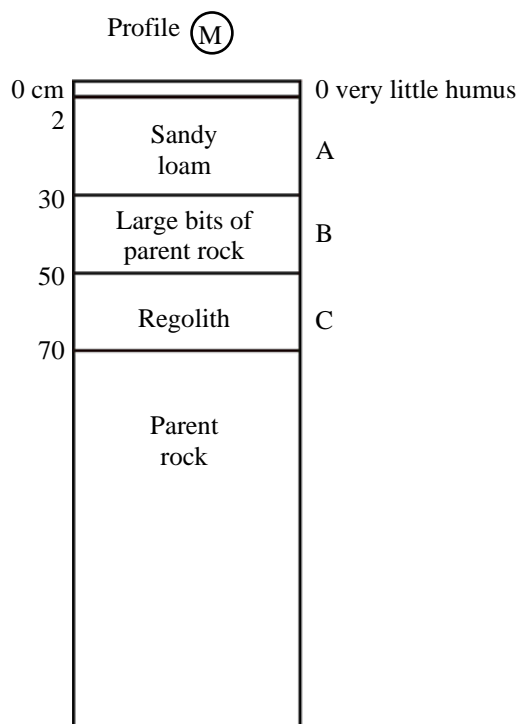
Study the cross section, below, drawn from C to D on Figure 2 (Page 5).



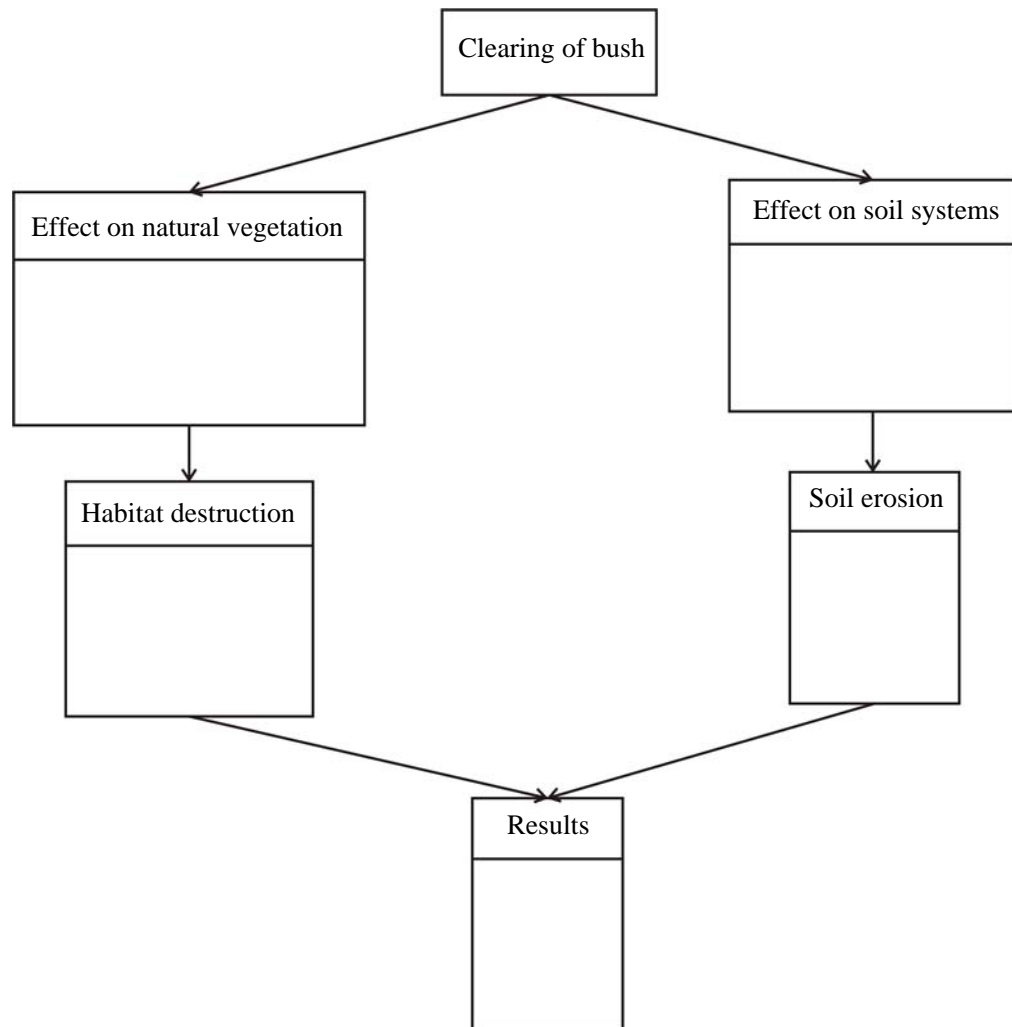
1.3.1 **Explain** why it is 3°C warmer at F than at G during winter. (1)

1.3.2 A developer plans to develop a golf estate where the indigenous bush is located at L. This will mean that the bush will be completely cleared. Before any clearing takes place, the developer has the soils tested by a soil scientist at two sites, J and K. Below are the soil profiles drawn by the scientist.

(a) Choose which profile is from which site (J or K) and **explain** your choice. (3)



- (b) Using the **flow diagram** structure below as a guide, fully **describe** the effect that the clearing of the indigenous bush will have on the natural ecosystems in the area. Your answer **must** be presented as a detailed flow diagram. Use a full A4 page if necessary.

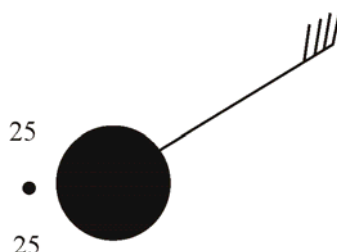


(8)
[12]

50 × 2 = 100 marks

OR

- 2.1.1 **Apart from the date**, give **THREE** pieces of evidence which prove that this synoptic weather map shows summer conditions. (3)
- 2.1.2 **List** **FOUR** requirements which are necessary for the development of a mature tropical cyclone such as Tropical Cyclone Boloetse. (4)
- 2.1.3 How can you tell that the tropical cyclone season was in its very early stage in this region? (1)
- 2.1.4 (a) **Describe** the weather being experienced at weather station A (on the west coast of Madagascar). The weather station symbols for A are:



- (b) **Explain** the wind speed and direction at A. (2)
- 2.1.5 Tropical Cyclone Boloetse is approaching the coastal city of Beira (B) in Mozambique. Mozambique is a developing country with a limited infrastructure. As a climatologist in the Mozambican Government, draw up a disaster management plan for Beira and other areas along the Mozambican coast which may be affected by the approaching storm. **Your plan must include the following:**
- A description of the probable storm damage and its causes.
 - What can be done to save lives?
 - What measures should be taken to try to reduce the amount of damage in the future?
- (10)

(Note: It is important that your report takes into account the fact that Mozambique is a developing country)

[23]

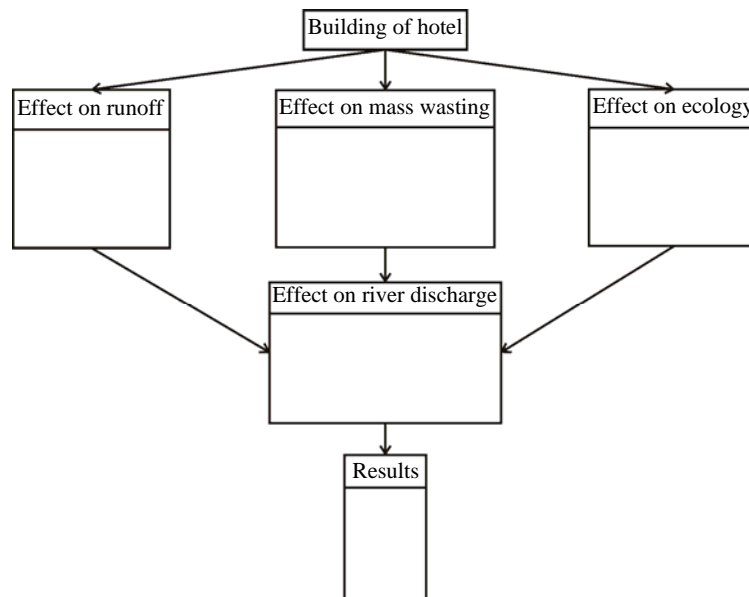
2.2 Geomorphology, valley climate and ecology

Study Photograph 2, which shows the Tugela River as it emerges from the Tugela Gorge in the Drakensberg in northern KwaZulu-Natal.

- 2.2.1 (a) **Describe** the difference in the vegetation which is evident on the northern and southern slopes of this valley. (1)
- (b) **Explain** the difference which you have described in 2.2.1 above. (2)
- 2.2.2 (a) Does the Tugela River exhibit upper, middle or lower course features in Photograph 2? (1)
- (b) Give **THREE** reasons for your answer in (a) above. (3)
- 2.2.3 A party of hikers pitch their tents on the banks of the river at X for the night. However, at 05:00, the tents are disturbed by wind blowing down the valley.
- (a) **Name** this wind. (1)
- (b) Using a neatly labelled diagram, **explain** the cause of this wind. (2)

- 2.2.4 A hotel group wishes to build a large hotel on slope Y. Using the **flow diagram** structure below as a guide, **describe** the effect that the building of the large hotel will have on the natural environment.

NOTE: Your answer must be in the form of a flow diagram. Use a full A4 page if required.



(6)
[16]

2.3 Structural landscapes and slopes

Study Photograph 3, which shows structural landforms located near Steynsberg in the northern Eastern Cape in the Nama-Karoo Biome.

- 2.3.1 **Identify** the TWO landforms labelled A and B. (1)
- 2.3.2 **Explain** why landforms A and B are approximately the same height. (1)
- 2.3.3 Draw a neat sketch of landform B and clearly label the following on your sketch:
- (a) The resistant rock strata.
 - (b) The four elements of slope which are evident. (3)
- 2.3.4 Draw and **name** the drainage pattern which would develop on and around landform B. (2)
- 2.3.5 Using neatly labelled sketches, **describe** what will happen to this landscape over the next 10 million years. (4)

[11]

50 × 2 = 100 marks

SECTION B SETTLEMENT GEOGRAPHY

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

QUESTION 3 Rural and urban settlement

3.1 Rural settlement and upliftment projects

There are many projects in rural South Africa to alleviate unemployment and poverty, e.g. "teach a person to grow, feed a nation", but a craft project in Eastern Cape has a successful story to tell – read the fact file below:

Thobelani Craft Studio on Fairview farm, an isolated rural settlement near Tarkastad (see Figure 10 on page 25 for its location) in the Eastern Cape, has:

- Produced pottery, fabric painted cloths and beaded ornaments.
- Empowered the local women to teach others in the training centre.
- Provided a co-operation model to allow the local people to participate in their own small businesses.
- Opened a B & B to encourage tourists to attend pottery workshops run by the local women.
- Found markets for their crafts in Cape Town and Port Elizabeth.

[Country Life, August 2006]



- 3.1.1 **Explain** why living in a dispersed rural settlement in a remote part of Eastern Cape has certain advantages and disadvantages for farmers. (4)
- 3.1.2 **List** FOUR basic needs that neighbouring rural communities near this farm would typically not have access to. (2)
- 3.1.3 **Describe** THREE pull factors that would attract people from Fairview farm to move to a city nearby, e.g. Port Elizabeth. (3)
- 3.1.4 **Outline** and **comment** on why this craft project has served to reduce rural-urban migration in this particular area. (6)
- [15]

3.2 Improved urban environments

Read the paragraph below and study Photographs 4 and 5 showing evidence of an improved urban environment in Durban.

Urban designers in 2007 are transforming urban landscapes by creating defined land use zones (precincts), welcoming "street furniture", e.g. lighting, benches; promoting civic pride to discourage graffiti and litter and by mixing old and new buildings to give a historical continuity in architectural styles.

[Andrew Luke]

- 3.2.1 **Suggest** the meaning of:
 (a) land-use zones (precincts) (1)
 (b) historical continuity. (1)
- 3.2.2 This transformation of urban areas could involve urban renewal/gentrification/chelseafication. **Explain** how these urban processes occur. (3)
- 3.2.3 There are many examples of transformed urban landscapes. The Photographs 4 and 5 of the Dock Point Development in Durban show one such example. **Describe** this example of urban renewal OR one you are familiar with. (4)
- 3.2.4 If you were designing an advertisement for the home in Photograph 5, **list** THREE special features you would offer prospective buyers. (3)
[12]

3.3 Changes in urban land use

Study Photograph 6 showing a board advertising a new exclusive security estate – Monterey Place, being built in a South African city.

- 3.3.1 **Suggest** where in the city this densification development would be located and **explain** the reasoning for your answer. (2)
- 3.3.2 **Discuss** TWO specific urban problems that have led to developments like these being built. (4)
- 3.3.3 **Describe** ONE advantage and ONE disadvantage of living in Monterey Place. (2)
[8]

3.4 Urbanisation

It has been said that "Africa and Asia as continents have the fastest rate of urbanisation in the world. By 2030, more than half of their populations will be living and working in cities and towns".

Study Photograph 7 and write an essay of approximately 1 to 2 pages where you **discuss** the **impact** of this rapid urbanisation, using these sub-headings as a guide:

- Transport
- Pollution
- Housing
- Open spaces
- Quality of life

[15]

50 × 2 = 100 marks

OR

QUESTION 4 **Urban and rural settlement**

4.1 **Urban morphology**

Study Figure 4 on page 15, an extract from a Fish Hoek map. Fish Hoek is close to Cape Town.

4.1.1 **Outline** TWO factors that influenced the original site of the settlement of Fish Hoek. (4)

4.1.2 Fish Hoek can be classified as a 'specialised' town. **Explain** what is meant by this term. (1)

4.1.3 Draw a sketch cross-section/urban land-use profile from the 'Old Quarries' at A (south of the map) to B, the Country Club on Clovelly Rd (north of the map).

On your profile, **indicate** the following urban land uses:

- Cultural
 - Educational
 - Recreational
 - Residential
- (4)

4.1.4 Fish Hoek's commercial activities are concentrated on Main Rd between X and Y. **List** ONE advantage and ONE disadvantage of this commercial pattern. (2)

4.1.5 **Compare** and **contrast** the street patterns at G and H giving characteristics of each pattern. (4)

4.1.6 **Suggest** a reason for the street pattern at E. (1)

[16]

4.2 **Traditional Rural Settlement**

Study Photograph 8 showing a traditional rural settlement in KwaZulu-Natal. Write a short essay of 1 – 2 pages using the following sub-headings:

- **Describe** this rural settlement.
- **Comment** on the life of women living in a settlement like this.
- **Explore** possible ways in which the lifestyle of women and children in this settlement could be improved.

[14]

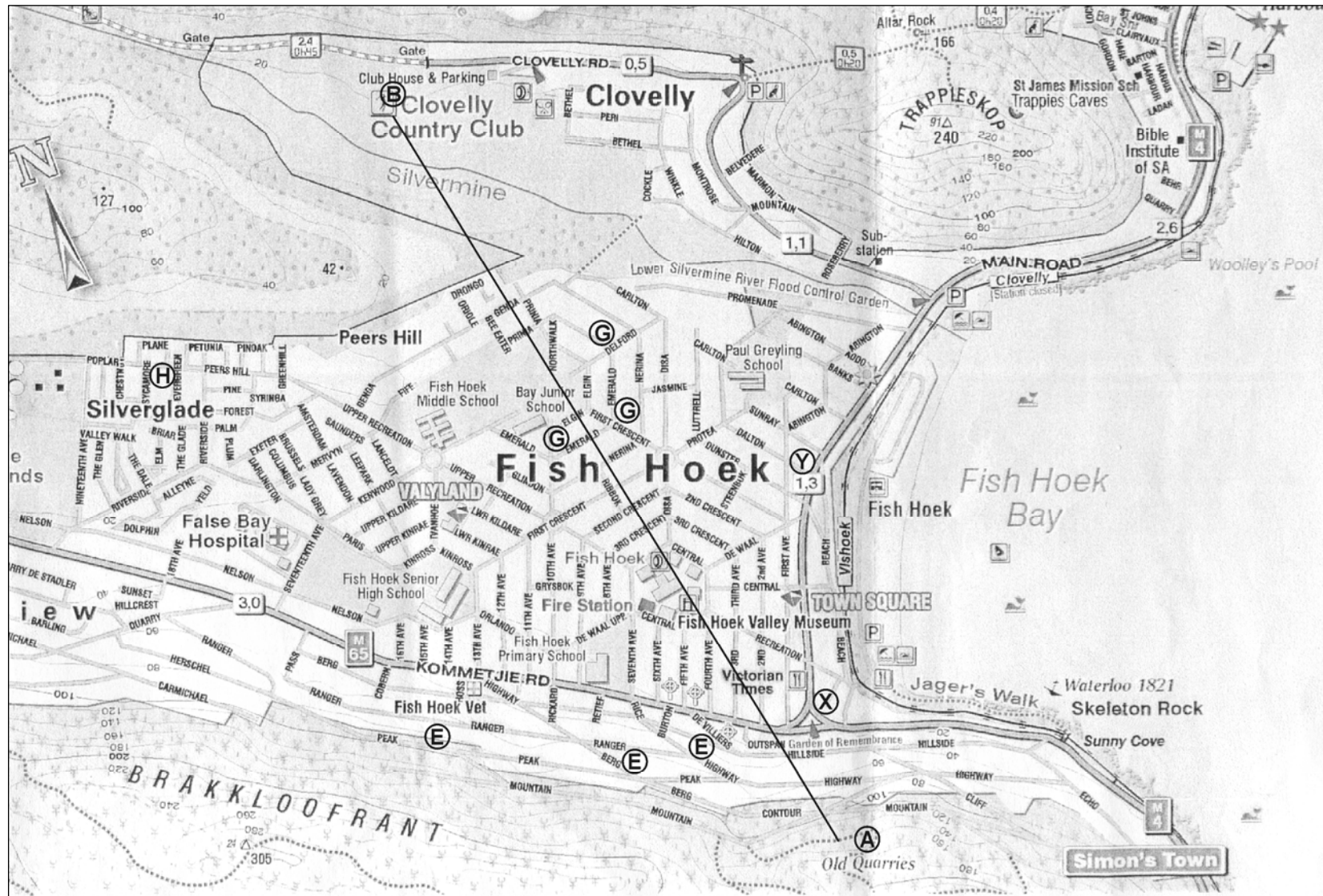
4.3 **New Urbanism**

Study the advertisement (Photograph 9) showing evidence of change in urban land-use, resulting in 'new urbanism' in the suburbs of a South African city.

4.3.1 **List** TWO factors that would have influenced the location of a light industry like the original "Old Match Factory". (2)

4.3.2 **Suggest** why the original "Old Match Factory" closed down. (1)

Figure 4: QUESTION 4.1



4.3.3 Using the "Old Match Factory" as an example, **explain** this change in urban land use as a process of "invasion and succession". (3)

4.3.4 **Suggest** reasons why this development is an example of "new urbanism". (4)
[10]

4.4 Small Town Development

Study the extract below from "The Property" Magazine (October 2006), advertising Clarens, a small eastern Free State town (see Figure 10 on page 25 for its location), and observe the attractions of Clarens in Photograph 10.

'Clarens is calling – Pam Golding properties envisage substantial growth as Clarens is now the third most popular destination for South African visitors after Cape Town and the Kruger Park. Clarens was recently awarded 'Proudly South African' (PSA), the first town to receive this status as it has met the requirements: - look after local people, produce home grown products, create jobs, provide quality service and focus on environment.'

4.4.1 **Discuss** the factors that would attract people living in large cities to invest in a property in Clarens. (5)

4.4.2 Give examples of how Clarens has met the requirements of its PSA status. (5)
[10]

50 × 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 5 (on page 18), which is a map of South Africa. Write down the numbers 1 to 20 in your answer book and the answer next to the corresponding number.

Name the following:

- | | |
|-----------|--|
| Number 1 | Neighbouring country |
| Number 2 | Province |
| Number 3 | Provincial capital |
| Number 4 | Provincial capital |
| Number 5 | Major river |
| Number 6 | Major river |
| Number 7 | Ocean |
| Number 8 | Dam |
| Number 9 | Water transfer scheme |
| Number 10 | Give the name of this prominent relief feature |
| Number 11 | Biome (natural vegetation) |
| Number 12 | Agricultural product of this area |
| Number 13 | Season when most rain falls |
| Number 14 | Main farming activity carried out here |
| Number 15 | Major export harbour |
| Number 16 | Major primary activity carried out here |
| Number 17 | Mineral mined here |
| Number 18 | Spatial Development Initiative (SDI) |
| Number 19 | Major tourist attraction |
| Number 20 | World Heritage Site |

[10]

5.2 Population

Study Figure 6 on page 19, which shows South Africa's population pyramids in 2000 (A), 2025 (B) and 2050 (C).

- 5.2.1 With reference to the 2000 pyramid (A), describe THREE main characteristics of South Africa's population. (3)
- 5.2.2 With reference to all three pyramids (A, B and C), describe the predicted changes in South Africa's population from 2000 until 2050. (3)
- 5.2.3 **Explain** the changes you have described in 5.2.2 above. (4)

[10]

Figure 5: QUESTION 5.1 – Map of South Africa

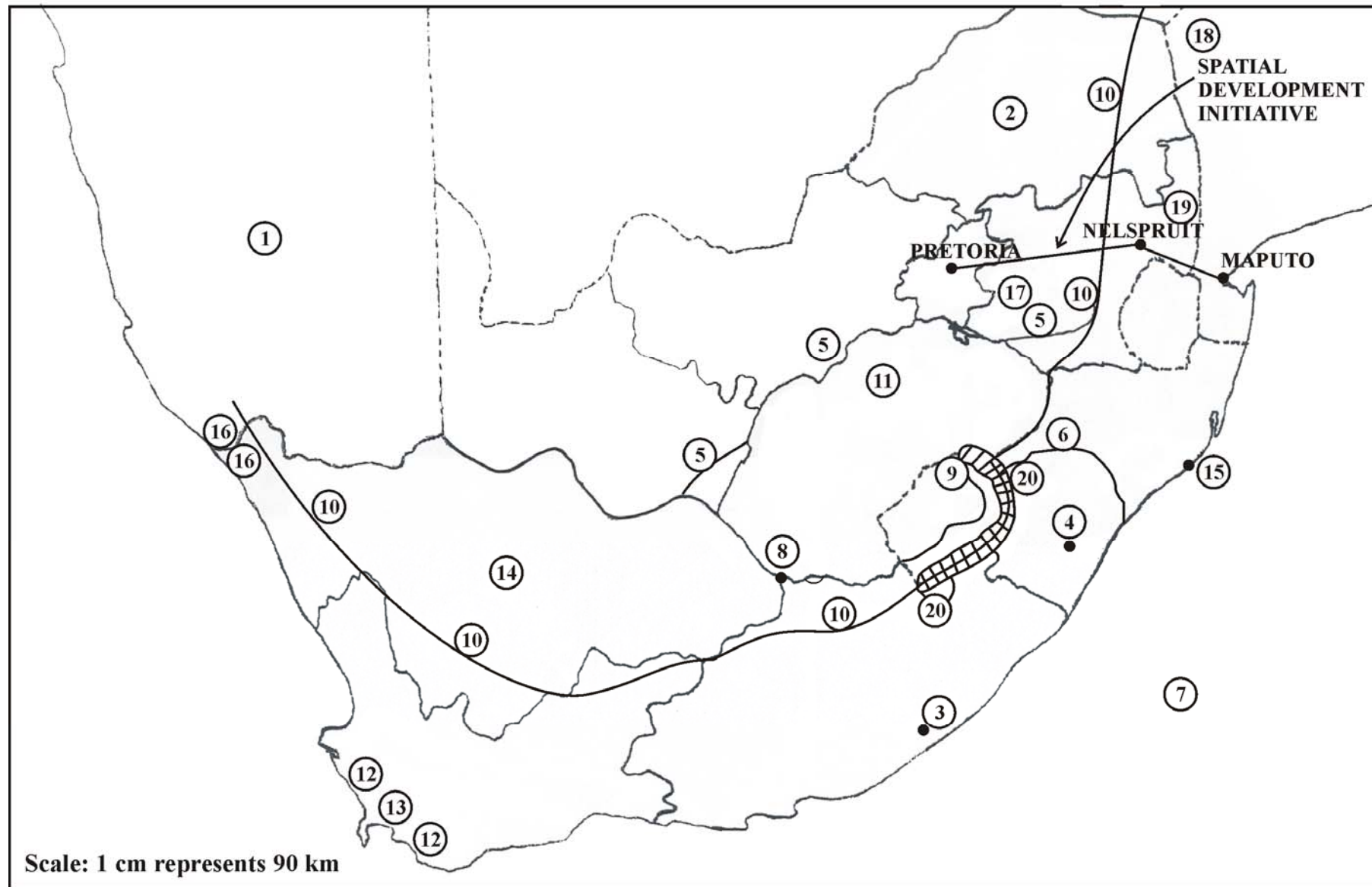
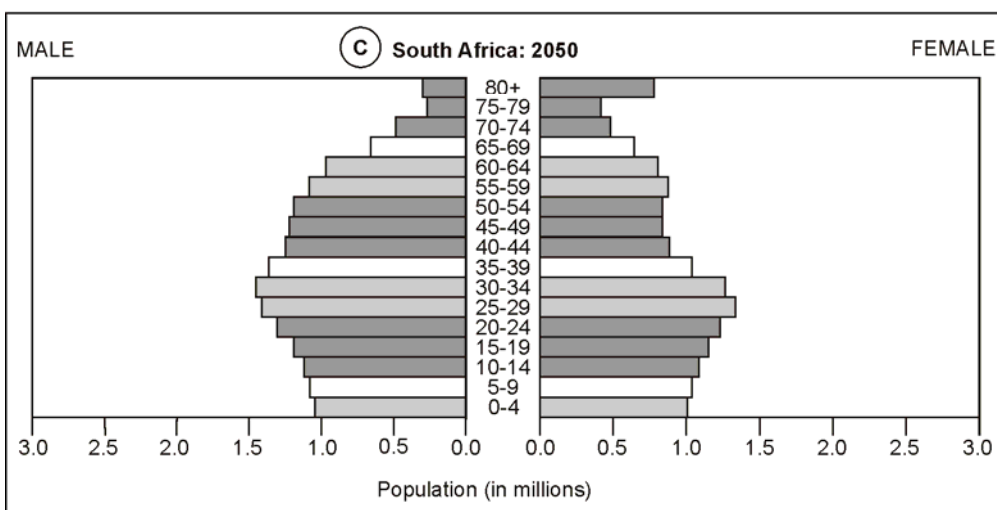
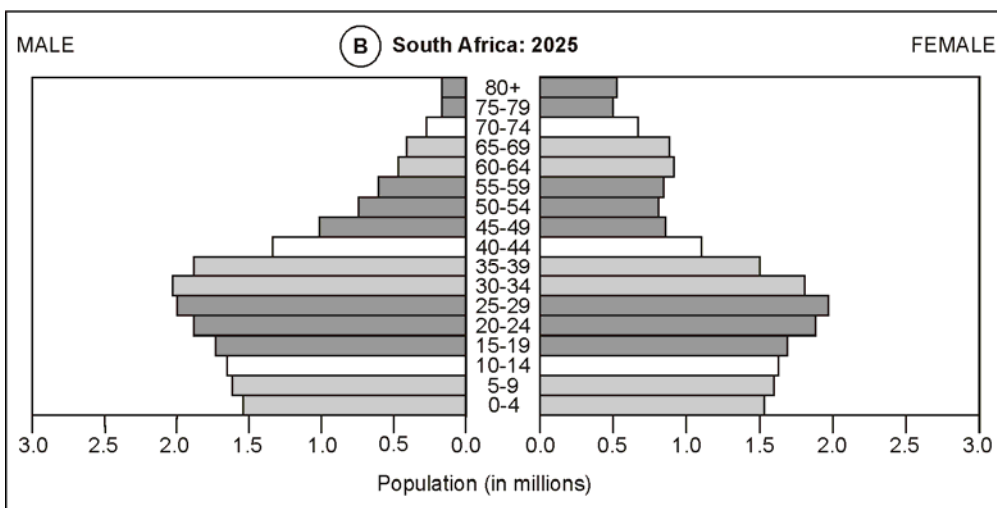
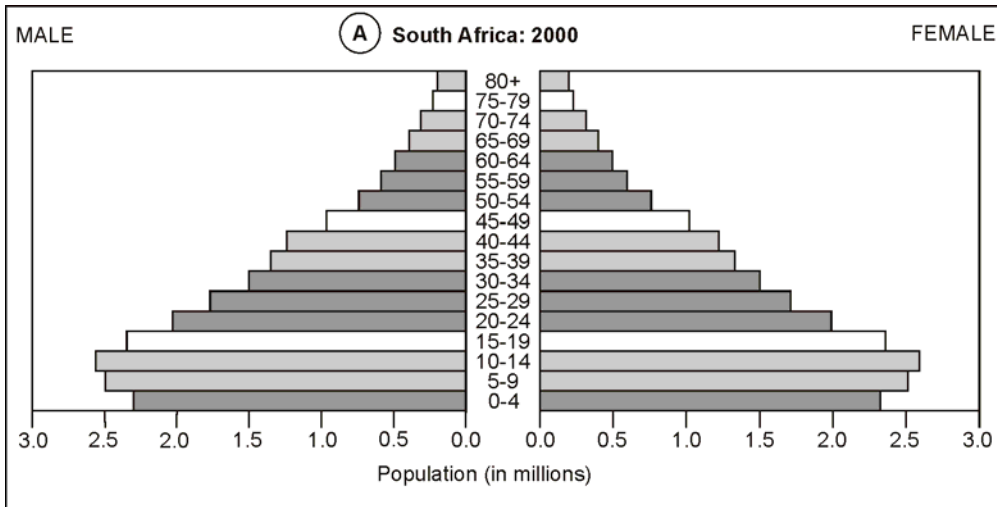


Figure 6: QUESTION 5.2**Population Pyramids for South Africa 2000, 2025, 2050**

[Source: U.S. Census Bureau, International Data Base]

5.3 Agricultural development

Read the information in the box below.

One of the major problems facing agricultural development in South Africa is the large number of subsistence farmers in the former Homeland areas whose contribution to the agricultural gross domestic product (GDP) is negligible.

In the Midlands of KwaZulu-Natal, partnerships between the commercial farmers and subsistence farmers are being introduced in an effort to improve the agricultural output of the subsistence farmers and to let the commercial farmers understand and appreciate the problems faced by the subsistence farmers. The area is a major producer of fresh produce (vegetables, milk and eggs) and top quality beef cattle.

Partnership programme

- Subsistence farmers have been given 15ha of land each to grow subsistence crops under irrigation. They are also encouraged to grow vegetables for the market.
- Each subsistence farmer has been lent R20 000 by the Land Bank to buy shares in the beef herds on the farms.
- The herds are managed by committees of shareholders under the current leadership of the farms' owners.
- In 2009 the shareholders will elect their own farm managers.

[Source: *Farmers' Weekly*]

As an agricultural advisor to the South African President, you visit the farms to study them. Write a report for the President in which you:

- give a brief **description** of the scheme and comment on the aims of the scheme;
- **evaluate** the scheme as a possible solution to the problems facing subsistence farmers in South Africa in 2007.

(10)
[10]

5.4 Economic development

Study Figure 7 on page 21, which shows the percentage contribution of each economic sector to South Africa's economy from 1910 until 2006.

5.4.1 Give TWO examples of activities which are included in:

- (a) the primary sector, and
- (b) the tertiary sector.

(2)

5.4.2 What was the percentage contribution made by the primary sector in:

- (a) 1910?
- (b) 2006?

(1)

5.4.3 **Explain** the change in the contribution made by the primary sector between 1910 and 2006.

(2)

5.4.4 What does the increasing contribution made by the tertiary sector indicate about the level of development of South Africa's economy? **Explain** your answer.

(2)

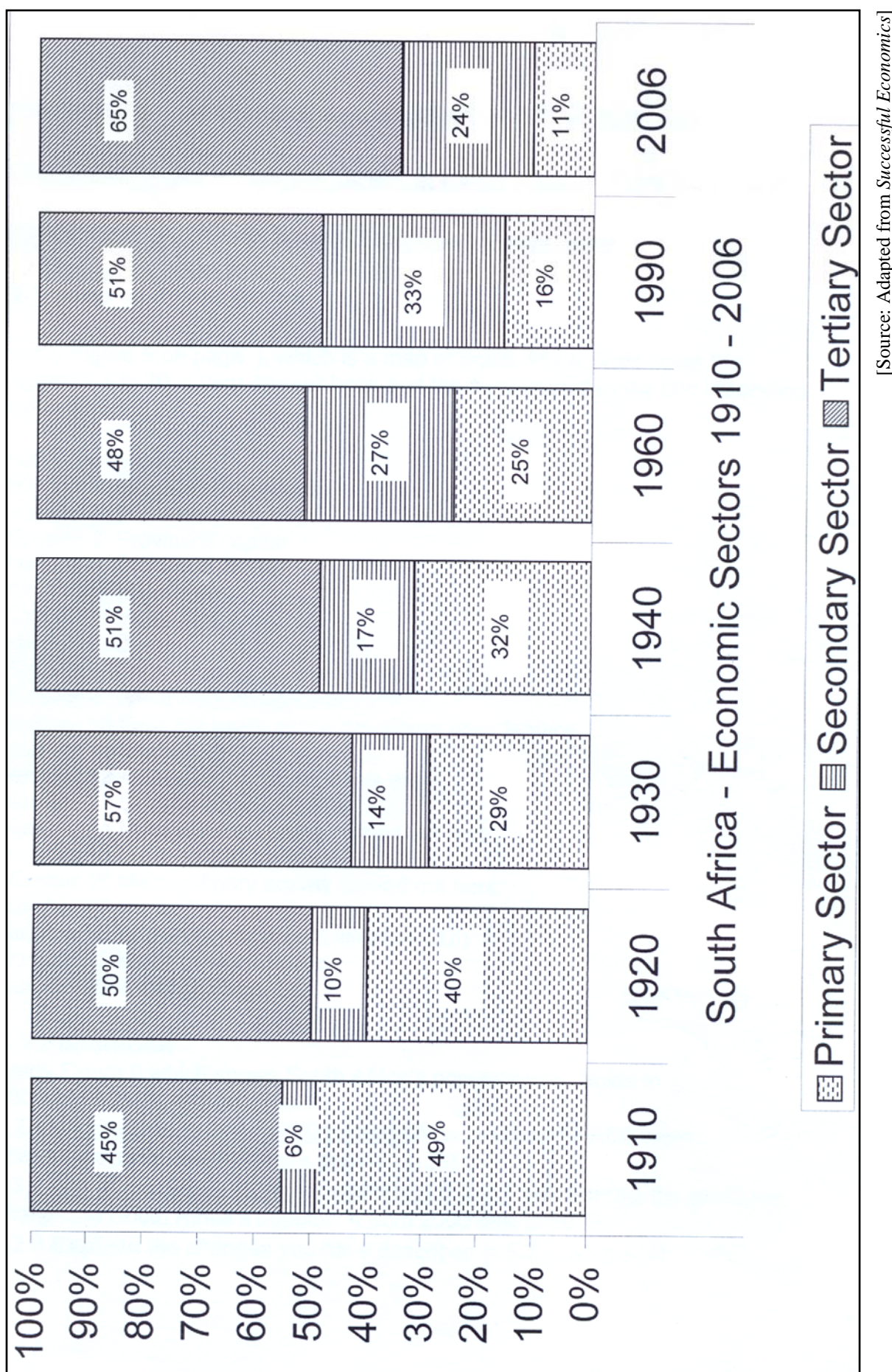
5.4.5 (a) **Predict** the percentage contribution of each sector: primary, secondary and tertiary, to the South African economy for 2050.

- (b) **Explain** your predictions.

(3)

[10]

Figure 7: QUESTION 5.4: Percentage contribution of economic sectors to South Africa's economy (1910 – 2006)



5.5 Industrial development

Read the information in the box below.

The Pretoria-Witwatersrand-Vaal/Vereeniging (PWV) Industrial Complex

- produces nearly 50% of South Africa's industrial production
- employs nearly half the workforce
- is the only "world class" industrial area in Africa
- based on a highly advanced infrastructure, which includes road, rail and air transport, a cheap power supply, modern communications and a water-supply system which is unequalled in the world
- small by comparison with other industrial regions such as the Ruhr of Germany but it keeps on growing despite major problems.

[Source: Adapted from *SA Survey* 2005]

- 5.5.1 Briefly **describe** FOUR main reasons for the development of the PWV Industrial Complex. (4)
- 5.5.2 **List** FOUR problems which face this industrial complex. (2)
- 5.5.3 Choose ONE problem you have listed in 5.5.2 above, **name** it and **suggest** a solution to the problem. (2)
- 5.5.4 **Explain** why the PWV Industrial Complex continues to grow despite its problems. (2)
- [10]

50 × 2 = 100 marks

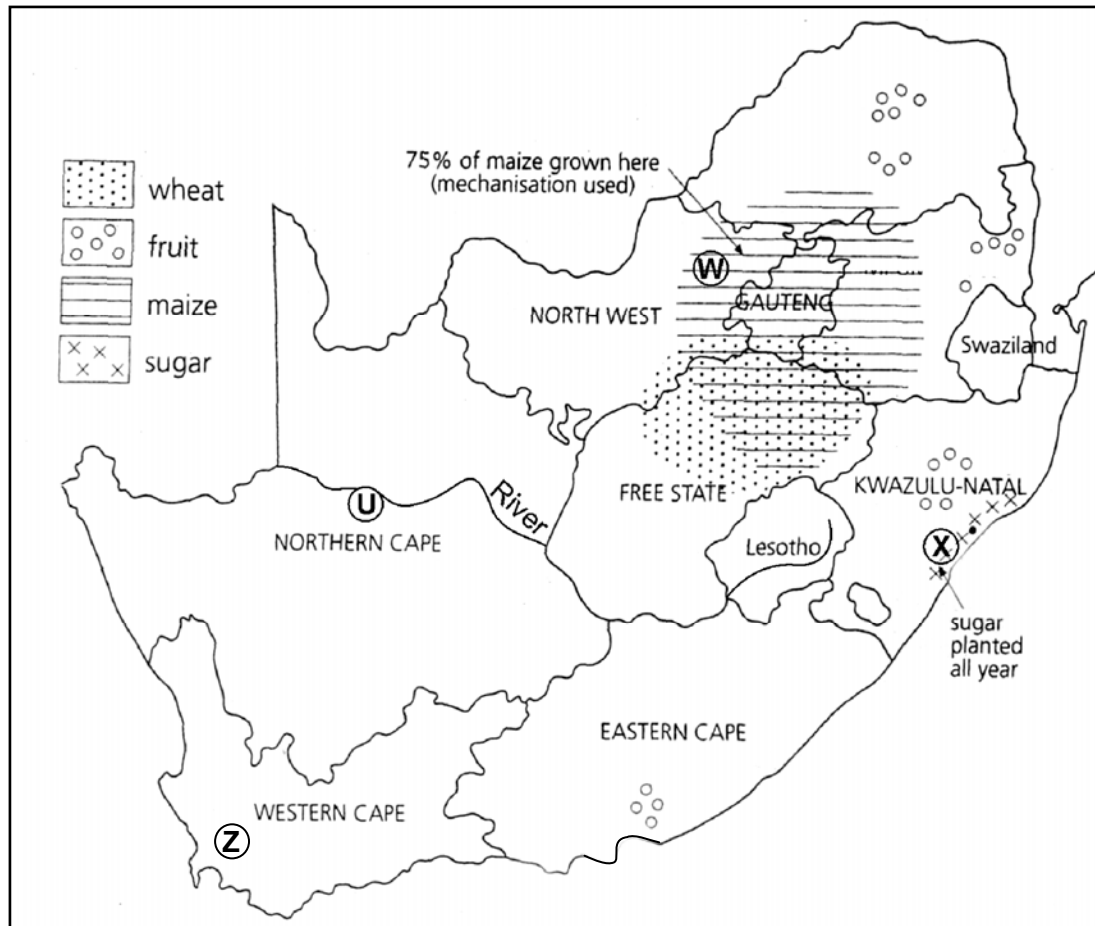
OR

QUESTION 6 South Africa: Regional Geography

6.1 Commercial farming

Study Figure 8, a summary map showing where the major crops in South Africa are grown. These are usually extensive commercial farms.

Figure 8: Agriculture in South Africa



[X-Kit Geography – Grade 12]

6.1.1 **Classify** agriculture as an economic activity. (1)

6.1.2 **Define:** 'extensive commercial farming'. (1)

6.1.3 **List TWO** factors favouring the cultivation of:

- (a) sugar at X
 - (b) maize at W
- (4)

6.1.4 Agriculture is becoming increasingly important in the Uppington area (U). Write **THREE** short paragraphs in which you **review**:

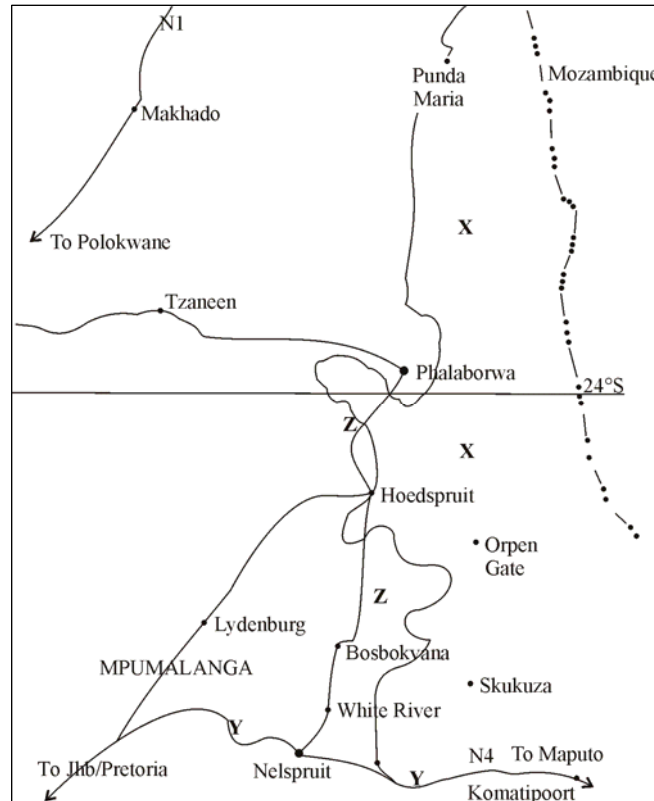
- factors favouring agriculture in area U;
- factors limiting agriculture in area U; and
- how farmers have overcome these problems.

(9)
[15]

6.2 Economic activities in and around Phalaborwa, Limpopo Province

Read the extract below on open-cast copper mining in Limpopo Province and study the location map of the area, Figure 9.

Figure 9: Location map



Some two billion years ago, a series of volcanic eruptions gave rise to a rich body of minerals. An outcrop of this ore body has since vanished to become a vast open-cast mine at Phalaborwa (1846 m wide and 898 m deep – the widest man-made hole in Africa). This copper mine has flourished since the 1950s and continues to have a promising future, with the copper price increasing by 138% from January 2005.

[Phalaborwa Mining Company 'A mine reborn' July 2006]

- 6.2.1 **Identify** the world famous conservation area at X. (1)
- 6.2.2 **Classify** this conservation area as an economic activity. (1)
- 6.2.3 **State TWO** aims of declaring this land a conservation area. (2)
- 6.2.4 **Classify** mining as an economic activity. (1)
- 6.2.5 **Explain** the significance of mining to the South African economy. (4)
- 6.2.6 (a) What is open-cast mining? (3)
(b) **List TWO** advantages and **TWO** disadvantages of this mining method. (4)
- 6.2.7 **Predict** the consequences a drop in the world copper price would have for the Phalaborwa mining community. (3)

6.2.8 Adjacent to X are Spatial Development Initiatives (SDIs): one at Y and one at Z.

- (a) What are the reasons for SDIs? (2)
 (b) **Predict** how these SDIs will impact on area X. (2)
[23]

6.3 World Heritage Sites and tourism

Study the map, Figure 10, depicting six of South Africa's seven World Heritage Sites (WHS).

Figure 10: World Heritage Sites (*)



- 6.3.1 **Suggest** reasons why it is important that the United Nations Educational, Scientific and Cultural Organisation (UNESCO) proclaims areas as WHS. (2)
- 6.3.2 Choose THREE WHS, **list** them on your script and **identify** them as having either a cultural/historical or a physical importance. (3)
- 6.3.3 (a) **Discuss** the significance of ONE of the seven WHS in South Africa. (2)
 (b) **List** THREE factors that you would use to attract tourists to the WHS site of your choice. (3)
 (c) **Explain** TWO ways in which WHS contribute to the economy of South Africa. (2)
[12]

50 × 2 = 100 marks

Total: 300 marks