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NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2016

GEOGRAPHY: PAPER I

Time: 3 hours | 300 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 24 pages, a Colour Insert of 4 pages (i–iv) and an Appendix of 1 page (i) on a green sheet. Detach the Colour Insert and the Appendix from the middle of the question paper. Please check that your question paper is complete.

2. Read the questions carefully.

3. **ALL THREE QUESTIONS ARE COMPULSORY.**

4. Credit will be given for the following:
   - Interpretation and explanation; and
   - Evidence of personal observations where this is appropriate to the question.

5. You are encouraged to use sketch maps, diagrams and other explanatory drawings to support your answers wherever relevant.

6. Number your answers exactly as the questions are numbered.

7. It is in your own interest to write legibly and to present your work neatly.

8. There is a GLOSSARY on page 2 explaining what the words in **bold** used in the questions mean.

9. Candidates must pay attention to the mark allocation. Unless otherwise indicated, two marks are awarded for a valid response. This means that a question carrying four marks requires two responses.

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GLOSSARY

WORD	MEANING
Account for	To justify, and provide reasons for something using a short explanation.
Calculate	To work something out using a mathematical method.
Classify	To arrange in categories or groups according to shared qualities.
Comment	To give your opinion or make a statement about something; to write generally about.
Compile	To put together pieces of information.
Complete	To finish or include any missing items or information.
Define	To give the precise meaning of …
Describe	To provide the main characteristics of something; to provide an account of. (Note: a diagram or map may be included as part of a description.)
Diagram	A sketch representation of a concept/ process.
Discuss	To examine or investigate by way of an argument the various aspects of a statement.
Draw	To show by means of a sketch/ illustration.
Estimate	An approximate calculation or judgement of the value, number, quantity, or extent of something.
Evaluate	To judge or determine, to provide an opinion about a particular matter.
Explain	To make clear or plain. To make sure the reader understands what is being said.
Give	To provide, to state something.
Highlight	To draw attention to the main characteristics or features of something. To place emphasis or importance on particular points.
Identify	To give the essential characteristics of; to name.
Justify	To explain and give reasons for.
Match	To find the exact counterpart of another.
Mention	Refer to something briefly without going into detail.
Name	To state something; to give; to mention.
Outline	A general description or plan showing the main features of something.
Predict	To say what is expected to happen; to foretell; to say in advance.
Prove	To establish the truth or validity of something.
Provide	To give.
Select	To choose; to pick out the correct answer from several alternatives.
Sketch (diagram)	An outline diagram of a geographical feature or concept.
State	To express an idea clearly.
Suggest	To put forward an idea, to recommend, or propose something.
Tabulate	To arrange or organise ideas/ data into a table format.
Write	Make a note of, or list.

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SECTION A GEOGRAPHICAL ISSUES

QUESTION 1 GEOGRAPHICAL CASE STUDY: SOUTH PENINSULA REGION, CAPE TOWN

Study Figure 1, a map of the Silvermine Nature Area in the Colour Insert on page (i). Answer the questions below.

1.1 **Map work and map interpretation skills**

1.1.1 **Name** the province in which the Silvermine Nature Area is located. (2)

1.1.2 Refer to Figure 1 (Colour Insert). Ou Kaapse Weg (Old Cape Road) is an important road that divides the Silvermine Nature Area. **Provide** the correct route number for Ou Kaapse Weg. (2)

1.1.3 **Identify** and **provide** the height (m) of the highest peak reflected on Figure 1. (2)

1.1.4 If you were to hike up to the top of Noordhoek Peak (754 m) and look out in an easterly direction, **describe** what you would see. **Mention** ONE natural feature and ONE human constructed feature. (4)

1.1.5 You are a keen hiker in the area and are doing a hike from the parking area (P) at the Silvermine Gate to the Silvermine Dam wall and back. **Estimate** how far your total hike distance is in kilometres. Use the line scale on the map. (2)

1.1.6 Besides hiking, **suggest** TWO other recreational activities visitors may be able to enjoy within the Silvermine Nature Area. You must refer to the map (Figure 1). (4)

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1.2 Climate and weather

Study the synoptic weather map, Figure 2 on the Appendix (on the green sheet), that illustrates atmospheric conditions for 2 March 2015. Read the following Fact File carefully, which provides an account of the devastating fires that took place in Cape Town over this time.

FACT FILE

DEVASTATING FIRES ENGULF THE SOUTH PENINSULA AREA

- On 1 March 2015 fires began to spread across much of the South Peninsula area of Cape Town, starting in the vicinity of Muizenberg.
- Initially the fires were brought under control, but by 2 March a fire was fanned by **strong winds** and spread above Muizenberg onto Boyes Drive.
- The fires continued to spread to Ou Kaapse Weg, Chapman's Peak, Hout Bay, and Tokai.
- Much of the Silvermine Nature Area (see Figure 1, Colour Insert) was devastated.
- The city's Fire Safety Division confirmed that 13 properties were either damaged or destroyed.
- A total of 500 people had been evacuated during the firefighting and rescue operation.
- About 2 000 people and 26 aircraft were involved in the operation.
- The 198 hours of flying time had cost about R2,4 million. About 2 million litres of water had been dumped on the fire in about 2 000 water drops via helicopters.

[Article adapted from News24.com]

1.2.1 **Suggest** what is particularly unusual about this synoptic weather map (Figure 2). Make specific reference to a synoptic feature on the map (Figure 2). (2)

1.2.2 **Account for** the low pressure trough over the interior of South Africa. (2)

1.2.3 According to the Fact File, strong winds fuelled the South Peninsula fires.

(a) From which direction were the strong winds, which fuelled the fires from 1 to 2 March 2015, coming? (2)

(b) **Explain** why strong winds were present along the South Peninsula area. Make specific reference to evidence from the synoptic weather map (Figure 2). (4)

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1.2.4 EWN news channel has asked you to **compile** an accurate weather report for Cape Town on 2 March 2015 for their 14:00 news slot. **Write** a weather report that refers specifically to:

- air temperature,
- wind direction and speed, as well as
- the likelihood of rainfall. (6)

1.2.5 Study the satellite images, Photographs 1 and 2 (in the Colour Insert on page (ii)).

(a) Photographs 1 and 2 are both examples of raster data. **Prove** that this classification is valid. (2)

(b) **Mention** TWO ways in which Photograph 1 and Photograph 2 differ in terms of their imagery. (4)

(c) **Suggest** TWO ways remote sensing technology was useful to the City of Cape Town's disaster management team in March 2015. (Refer to both photographs.) (4)

1.2.6 Using the Fact File (page 4), the map in Figure 1 (Colour Insert) and the satellite images (Photographs 1 and 2, Colour Insert), **write** a paragraph in which you **discuss** the impact the fires may have on:

- surface runoff following a period of winter rainfall, and
- the local economy and tourism within the Silvermine Nature Area. (6)

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1.3 **Drainage systems, river catchment and management**

Study Figure 1, the Silvermine Nature Area map (page (i) of the Colour Insert). Answer the questions below.

1.3.1 **Identify** the possible location of the source of the Silvermine River. (2)

1.3.2 **Name** the seaside town located at the mouth of the Silvermine River. (2)

1.3.3 **Identify** TWO temporary base-levels located along the Silvermine River. (4)

1.3.4 **Select** the most correct response from the choices available that best describes the Silvermine River. Write down the question number and correct response, e.g. 1.3.4 (a) low.

(a) The Silvermine Nature Area has a **high/ low/ decreasing** runoff during the winter months.

(b) The Silvermine River is likely to have a **narrow-V-shaped channel/ wide channel/ U-shaped channel** in its upper course.

(c) The Silvermine River has a **low/ medium/ high** stream density. (6)

1.3.5 **Suggest** TWO possible threats to the condition and functioning of the Silvermine Wetlands located near the Silvermine River mouth. (4)

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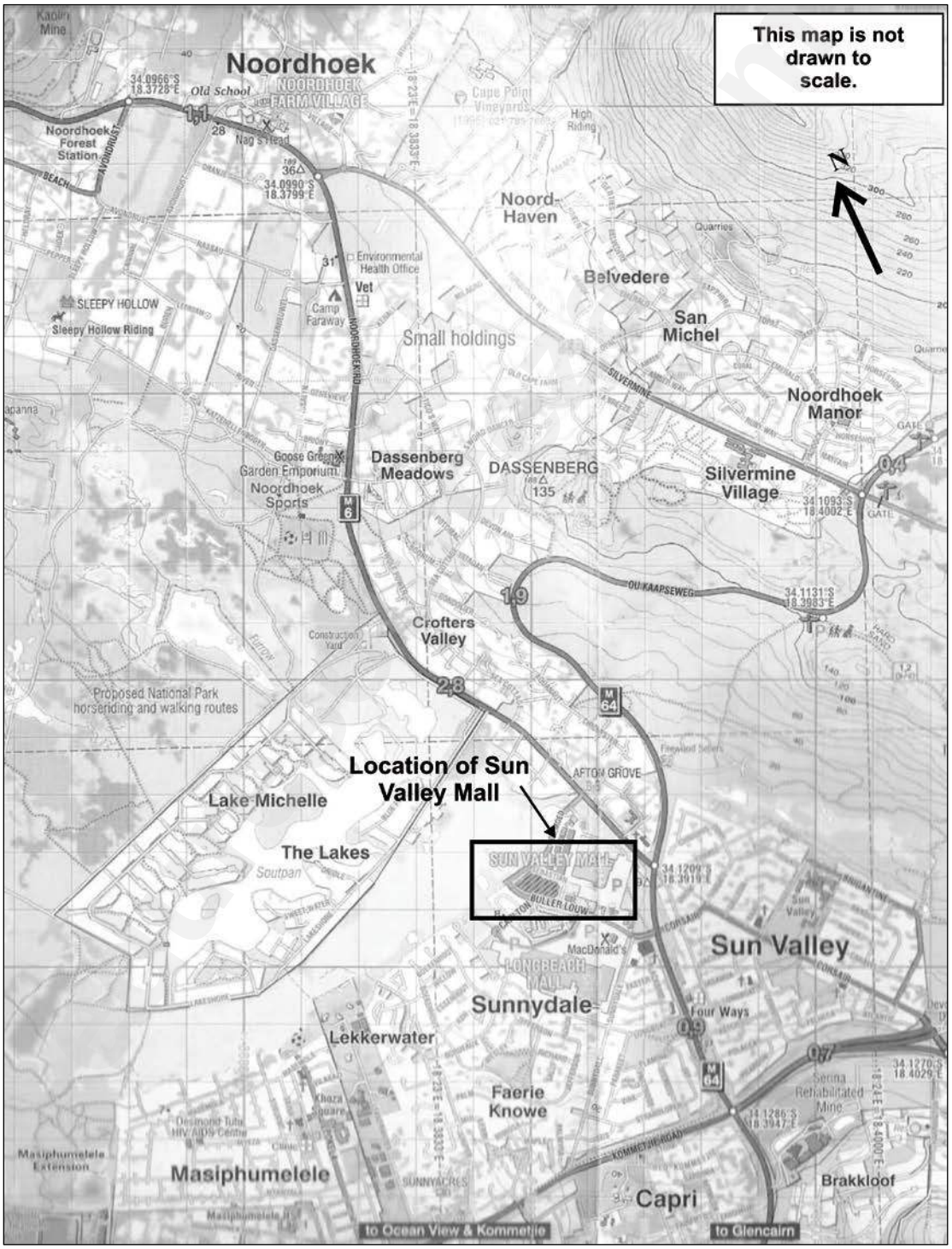
1.4 Urban structure, planning, hierarchies and local economic opportunities

Study Figure 3, the map extract of Sun Valley below, together with Photograph 3 (page 8) that illustrate the Sun Valley Shopping Mall refurbishment project.

Figure 3: Map extract of Sun Valley and surrounds, South Peninsula area, Cape Town



[Adapted from: Slingby's maps]

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Photograph 3: Sun Valley Shopping Mall refurbishment project

[Photographer: Paul Norton]

Sun Valley Shopping Mall refurbishment

- The shopping mall will boast a number of green technologies, including efficient lighting and the use of heat pumps instead of geysers.
- Various engineering concepts have been employed to minimise sound pollution and the roof insulation has been improved to reduce heat radiation.
- The external walls will have various finishes, such as glass, specialised coatings, colour and texture variations, trellis and planted sections. External awnings will be installed above shop fronts and lighting in the parking area will be decorative, pole-mounted light fittings with energy-efficient lamps.
- The roof has skylights at specific points to provide natural lighting inside.

[Adapted from an article entitled: '*New mall for Christmas*', June 2015, News24.com]

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1.4.1 Refer to Figure 3 (page 7). **Complete** the sentences below by selecting the most appropriate term(s) from the word box below. Write down only the question number and the word, e.g. 1.4.1 (a) precinct.

(a) Small holdings are classified as being on the _____ due to their larger size and mixture of land use and functions. (2)

(b) Noordhoek has rural economic activities often associated with the rural-urban fringe, such as _____ and _____. (2)

(c) The Lakes and Lake Michelle are both examples of _____ urban settlements with the purpose of providing housing for higher income residents. (2)

(d) The residential area of Sun Valley has a higher _____ compared to Noordhoek due to the size and proximity of properties to one another. (2)

(e) Spaza shops, fruit sellers and street barbers are commonly seen along street corners in Masiphumelele. These economic activities would be classified as being a part of the _____ sector. (2)

1.4.2 The Sun Valley Mall is classified as a suburban shopping centre. **Provide** a reason for this classification. (2)

1.4.3 **Comment** on TWO factors that may have influenced the site of this shopping mall (Question 1.4.2). (4)

1.4.4 The mall has recently been refurbished. A Virgin Active gym has been included in this refurbishment.

(a) **Classify** the Virgin Active gym as a low-order or high-order function. **Provide** a reason for your classification. (4)

(b) **Define** the term '*sphere of influence*'. (2)

(c) Referring to Figure 3, **describe** and **account for** the Sun Valley Virgin Active gym's sphere of influence. (4)

1.4.5 As a means of proactively managing environmental concerns and addressing urban challenges, the urban planning team involved in the refurbishment of the Sun Valley Mall was committed to creating an eco-friendly building.

Why should new shopping mall refurbishments be adopting green building design principles? **Discuss** your response by drawing on your own knowledge of urban challenges and the eco-friendly design features mentioned in the Sun Valley Mall refurbishment article (page 8). (8)

100 marks

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SECTION B **CLIMATE, WEATHER AND GEOMORPHOLOGY**

QUESTION 2 **TROPICAL CYCLONES, MID-LATITUDE CYCLONES, CLIMATE CONCEPTS, URBAN AND VALLEY CLIMATES, DRAINAGE SYSTEMS AND FLUVIAL PROCESSES**

2.1 **Tropical cyclones: Hurricane Patricia**

Read the Fact File on Hurricane Patricia below. Complete the questions thereafter.

FACT FILE: Hurricane Patricia

- The storm rapidly developed from a tropical storm in the eastern Pacific off the coast of Mexico before reaching a Category 5 hurricane.
- Patricia made landfall on Friday evening, 23 October 2015 along the coast of southwestern Mexico near Cuixmala.
- Maximum-sustained winds were estimated to be 270 km/h making Patricia only the second Category 5 hurricane to originate in the eastern Pacific Ocean and make landfall in Mexico. Hurricane Patricia is the strongest storm to have been recorded by the US National Hurricane Centre.
- 201 mm of rain fell in a single 24-hour period.
- El Niño is thought to have contributed to the strength of Hurricane Patricia.
- Patricia's central air pressure measured 879 mb.
- The President of Mexico reported that around 3 000 to 3 500 homes were damaged along with over 3 500 hectares of farmland.

[Adapted from: CNN Extreme Weather, October 24, 2015]

2.1.1 How many tropical storms had occurred within the eastern Pacific area prior to the arrival of Hurricane Patricia on 23 October 2015? (2)

2.1.2 Using the information in the Fact File, **identify** and **explain** TWO factors that led to the rapid development of Hurricane Patricia. (8)

2.1.3 What weather conditions could residents of Cuixmala (Mexico) have expected in the build-up to and then during the arrival of Hurricane Patricia? **Tabulate** your answer as follows.

Weather conditions: build-up to hurricane	Weather conditions: arrival of hurricane

(4)

2.1.4 Widespread damage to homes and farmland occurred along Mexico's coastal areas. **Suggest** ways in which homes and farmland may have been damaged by Hurricane Patricia. (6)

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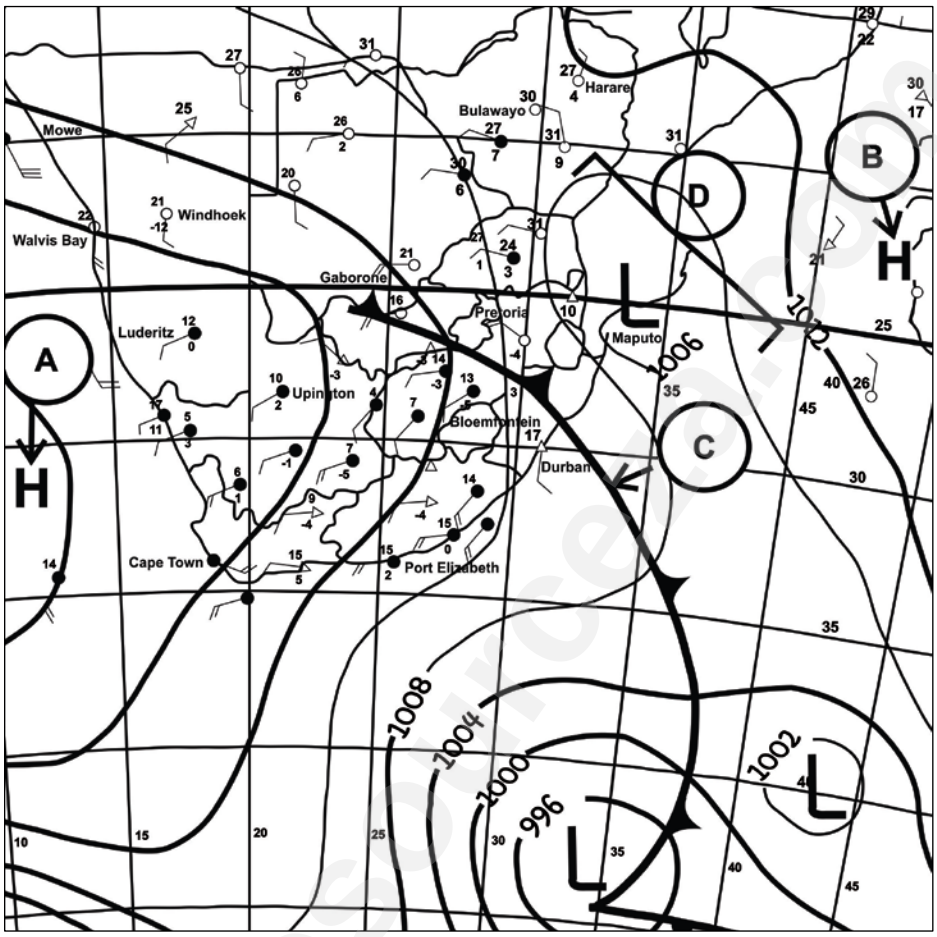
2.2 Mid-latitude cyclones and synoptic weather map interpretation

Study the synoptic weather map, Figure 4, below. Read the extract from the eNCA News article.

Figure 4: Synoptic weather map, 4 June 2014



[Source: SA Weather]

> Cape Town – While some parts of South Africa have been feeling the effects of cooler weather in the last few weeks, up in the north, many have been left wondering when winter will finally make an appearance. Well, the wait is over, as a massive cold front, accompanied by a developing **cut-off low**, will sweep across the country over the next few days.

[Adapted from: eNCA, 4 June 2014]

2.2.1 **Identify** the synoptic features labelled A, B and C on Figure 4. **Write** your answers alongside the appropriate letters in your answer book. (6)

2.2.2 The feature at D on the synoptic weather map (Figure 4) can be identified as a developing 'cut-off low'.

(a) **Suggest** what contributed to the development of this particular cut-off low; make reference to synoptic evidence in your response. (4)

(b) **Describe** the typical weather conditions that are associated with a developed cut-off low pressure system. (4)

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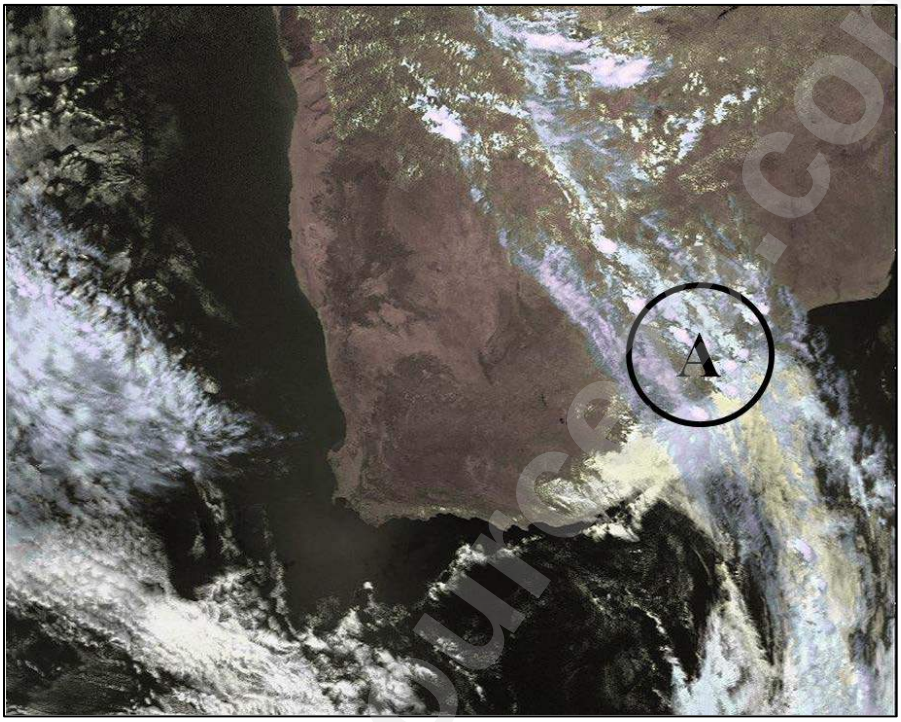
2.3 Satellite image interpretation

Multiple choice

Study the image, Figure 5, very carefully. Use this image to assist you in answering the multiple-choice questions that follow. **Select** the most appropriate option from the list. Write down only the number and correct letter, for example, 2.3.1 A.

Figure 5: Image of South Africa taken on 30 November 2008 at 14:30



[Source: SA Weather Observer]

2.3.1 Figure 5 is representative of a:

A synoptic weather map
B meteosat image
C geosat image
D water vapour satellite image (2)

2.3.2 The band of cloud around the area labelled A on Figure 5 is:

A a low pressure trough
B a tropical cyclone
C the ITCZ
D the South-Indian high pressure system (2)

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2.3.3 Looking at Figure 5, the following regions were likely to experience heavy rain on 30 November 2008:

A Southwestern and Eastern Cape
B Eastern Cape and KwaZulu-Natal
C Northern Mozambique
D Western Cape (2)

2.3.4 Which kind of thunderstorms has region A (Figure 5) most likely experienced?

A Frontal thunderstorms
B Cyclonic thunderstorms
C Line thunderstorms
D Equatorial thunderstorms (2)

2.3.5 Cape Town's weather conditions for 30 November 2008 as presented by Figure 5 were:

A Stormy, with strong winds and a chance of rain.
B Overcast and raining.
C The photo was taken at night, so it is impossible to determine exact weather conditions.
D Sunny, dry and clear. (2)

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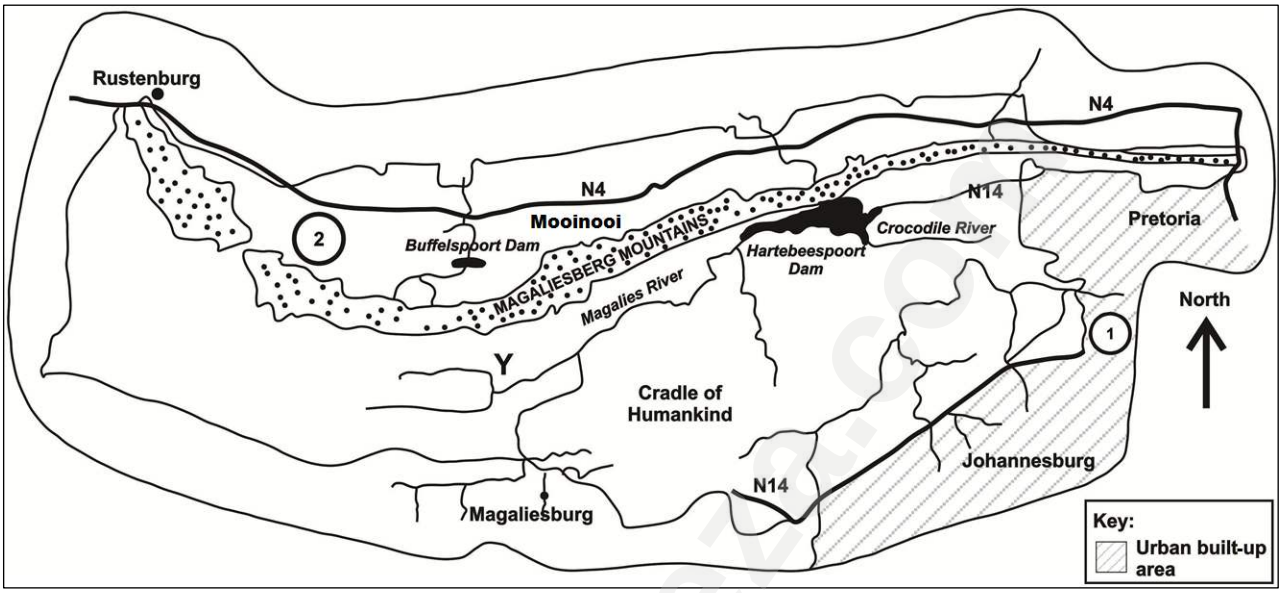
2.4 Urban climate

Figure 6: Magaliesburg area and surrounding urban regions, Gauteng and North West provinces



[Adapted from: Contour Project Managers, 2011]

The Cradle of Humankind is a World Heritage Site. It is one of the world's richest fossil sites, home to around 40% of the world's human ancestor fossils. The 53 000 hectare nature reserve area is also home to a diversity of birds, animals and plants.

[Adapted from: <Gauteng.net>]

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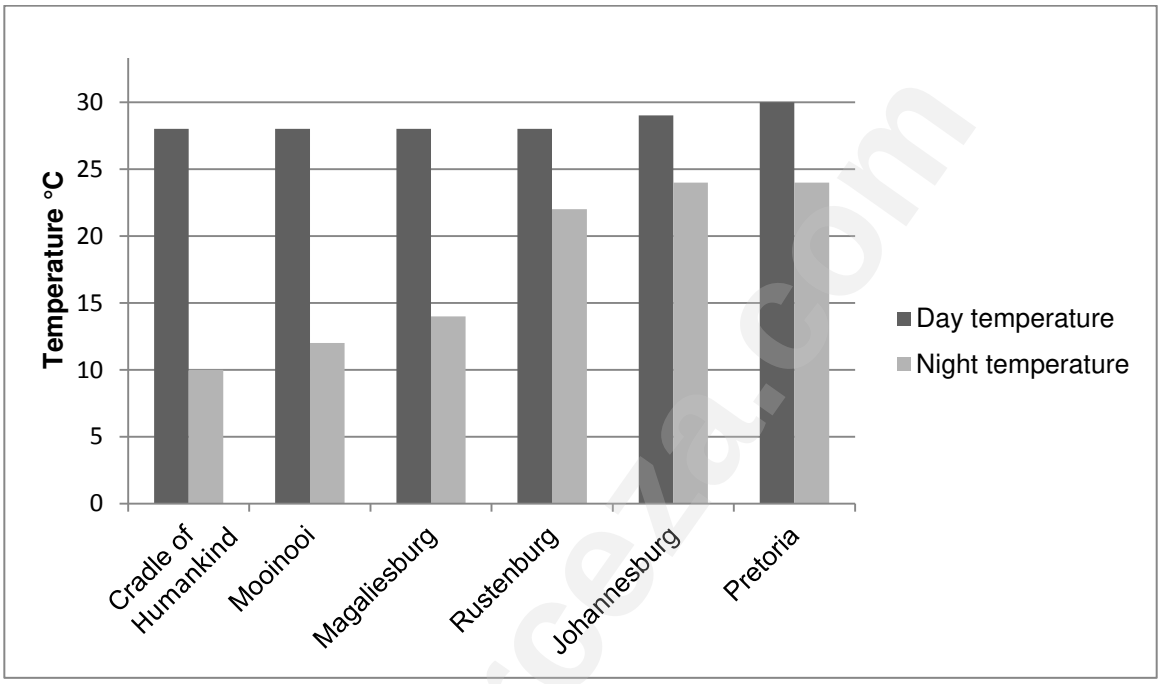
Study Figure 7 below, a graph illustrating January day and night temperatures in Magaliesburg and surrounding areas as represented in Figure 6 (page 14).

Figure 7: Average day and night temperatures recorded in the month of January for Magaliesburg and surrounding areas



[Source: Examiner's data]

2.4.1 **Describe** the general trends the graph (Figure 7) is illustrating. (4)

2.4.2 Which place has the greatest temperature range according to Figure 7? **Account for** the large temperature range. (4)

2.4.3 **Suggest** THREE ways in which urban planners can reduce the impact of the urban heat island effect in large cities, e.g. Johannesburg and Pretoria. (6)

2.5 Valley climate within the Cradle of Humankind

Refer to Photograph 4, on page (iii) of the Colour Insert, and the map, Figure 6 (page 14), for the location of the Cradle of Humankind.

Hot-air balloon safari flights depart from the Cradle of Humankind at sunrise, which, during early summer (October), is around 05:30.

2.5.1 Balloon passengers experience a drop in temperature of about 2 °C as the balloon drifts down from higher lying ground into the river valley, as seen in Photograph 4. **Account for** the lower valley temperatures in the early morning. (4)

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2.5.2 Balloon passengers felt a light, cool wind as they drifted down into the valley. The pilot informed the passengers that the wind was a downslope wind and it was typical at that time of day.

(a) **Provide** another name for a nighttime/ early morning downslope wind. (2)

(b) **Draw** a labelled diagram that you could use to **explain** to the balloon safari passengers the reason for the downslope, cool wind experienced at sunrise. On your diagram, take care to include the following:

- direction of air flow;
- general temperature of air (cool/ warm) in the valley;
- air pressure. (6)

2.6 Drainage systems and fluvial processes

Refer to Figure 6, the Magaliesburg area map (page 14). Locate the Magalies River on the map.

2.6.1 **Name** the main watershed visible on Figure 6. (2)

2.6.2 **Select** the most correct description (a or b) for the Magalies River as seen on the map extract (Figure 6). **Provide** an explanation for your choice of description using map evidence.

The Magalies River in the area of Y generally displays a …

(a) rectangular pattern and coarse texture

OR

(b) dendritic pattern and fine texture. (4)

2.6.3 The Crocodile River as seen on the map extract (Figure 6) displays a superimposed drainage pattern. With the aid of a **sketch diagram**, **explain** how a superimposed drainage pattern develops. (6)

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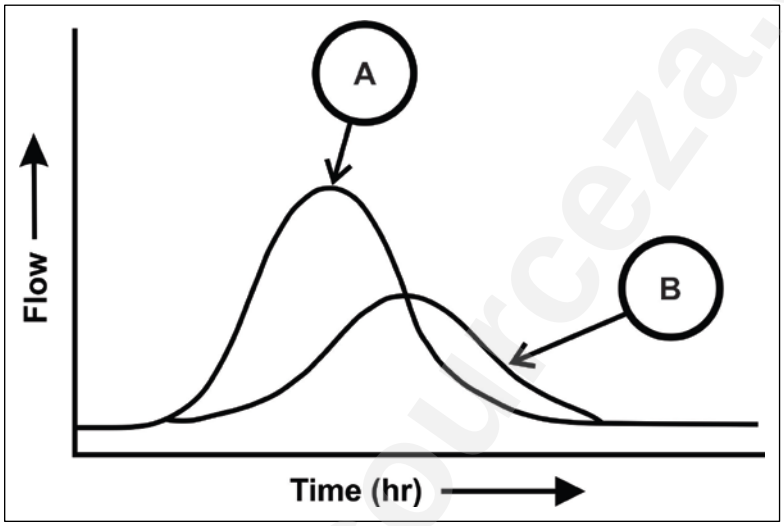
2.6.4 Study the storm hydrograph in Figure 8 below, which is representative of the two catchment areas 1 and 2 labelled on the Magaliesburg map, Figure 6 (page 14).

For each catchment area (1 and 2) **identify** which storm hydrograph curve (A or B, illustrated by Figure 8 below) is best representative. In each case **provide** a reason for your answer. **Tabulate** your answer as follows:

	Hydrograph curve A	**Hydrograph curve B**
Catchment area		
Reason		

(8)

Figure 8: A typical storm hydrograph reflecting two different catchment areas, 1 and 2, as seen on the map in Figure 6 (page 14)



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2.7 **Types of rivers**

Match the different types of rivers (Column A) with the correct definition (Column B). Write down only the number and the matching letter, e.g. 2.7.1–A.

COLUMN A		COLUMN B	
2.7.1	Periodic	**A**	These rivers are supplied with water where they rise, but little water is added as they flow towards the ocean.
2.7.2	Exotic	**B**	These rivers are never supplied with groundwater. These rivers will only flow after a period of heavy rainfall.
2.7.3	Permanent	**C**	These rivers typically flow only as they reach the lower course where the river enters the ocean.
2.7.4	Non-perennial	**D**	Receives groundwater year-round, yet the water table always remains low.
2.7.5	Episodic	**E**	Periodic and episodic rivers are classified as such and are represented as blue dotted lines on the topographical map key.
		F	Receives groundwater only in the rainy season when the water table lies above the riverbed.
		G	These rivers flow all year round. They are fed by groundwater and the water table remains above the riverbed throughout the year.

(10)

100 marks

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SECTION C RURAL AND URBAN SETTLEMENTS AND THE ECONOMY OF SOUTH AFRICA

QUESTION 3 RURAL AND URBAN SETTLEMENTS, A CASE STUDY OF IRON ORE MINING AND THE DURBAN–PINETOWN INDUSTRIAL REGION

3.1 Study Photograph 5 (page (iii) of the Colour Insert), which shows a settlement in South Africa.

3.1.1 **Select** the correct underlined term(s) in each of the following sentences. Write down only the question number (a) to (c) and the correct term(s) in your Answer Book, for example 3.1.1 (a) linear.

(a) The settlement shows a linear/ nucleated/ star-shaped pattern.

(b) The main economic activity in the area forms part of the primary/ secondary/ tertiary economic sector.

(c) The settlement would be located on the north-facing slope/ south-facing slope/ valley floor. (6)

3.1.2 **Identify** ONE service that is available to the residents of this settlement. (2)

3.1.3 (a) **Provide** TWO reasons why people would leave a settlement such as this (Photograph 5) and migrate to larger urban centres or cities. (4)

(b) **Predict** ONE consequence of this migration on the rural settlement. (2)

3.2 Study Photographs 6A and 6B (page (iv) of the Colour Insert). Read the extract below on Paarl.

Extract – Paarl, Western Cape

Founded in 1690, Paarl boasts a 10 km-long Main Road, lined with old oak trees. The town is nestled between Paarl Mountain, a large granite exposure, and the Berg River. Paarl is an important agricultural centre, supported by a very productive grape, wine and fruit industry. Other agriprocessing industries (for example fruit processing) are also located at Paarl, including fruit canning and cheese making.

[Source: *En Route in South Africa*. 2004. Jonathan Ball Publishers]

Refer to Photograph 6A and the extract above.

3.2.1 **Describe** TWO site factors that led to the development of Paarl. (4)

3.2.2 (a) **Identify** the morphological structure (shape) of the settlement Paarl (pay attention to Photograph 6A). (2)

(b) **Account for** this shape (Question 3.2.2 (a) above). (2)

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Refer to Photograph 6B and the extract on page 19.

3.2.3 (a) **Identify** the land-use zone labelled A. (2)

(b) **Justify** your answer in Question 3.2.3 (a) above. (2)

3.2.4 Site B (labelled on Photograph 6B) is an agriprocessing area. **Account for** the location of this light industrial/ manufacturing area. (4)

3.3 **Terminology**

Match the concepts in Column A with the correct statement in Column B. Write ONLY the number and the correct letter, for example 3.3.1 – A.

Column A		**Column B**	
3.3.1	Multiplier effect	**A**	An industry that either supplies materials or equipment to another industry or which depends on another industry for materials or equipment for its own processes.
3.3.2	Break-of-bulk point	**B**	Those parts of the economy involved in the processing of raw materials, e.g. manufacturing, construction and power generation.
3.3.3	Agglomeration	**C**	Industry/ services not located at a specific place.
3.3.4	Value-added manufacturing	**D**	Grouping together of similar activities.
3.3.5	Link industries	**E**	Area along a major transport route.
		F	Occurs when a new or expanding economic activity creates new opportunities for further employment, services and wealth.
		G	A location to which goods are transported by one mode and then transported by another mode of transport.
		H	When a basic resource or material has been made into a product for sale.

(10)

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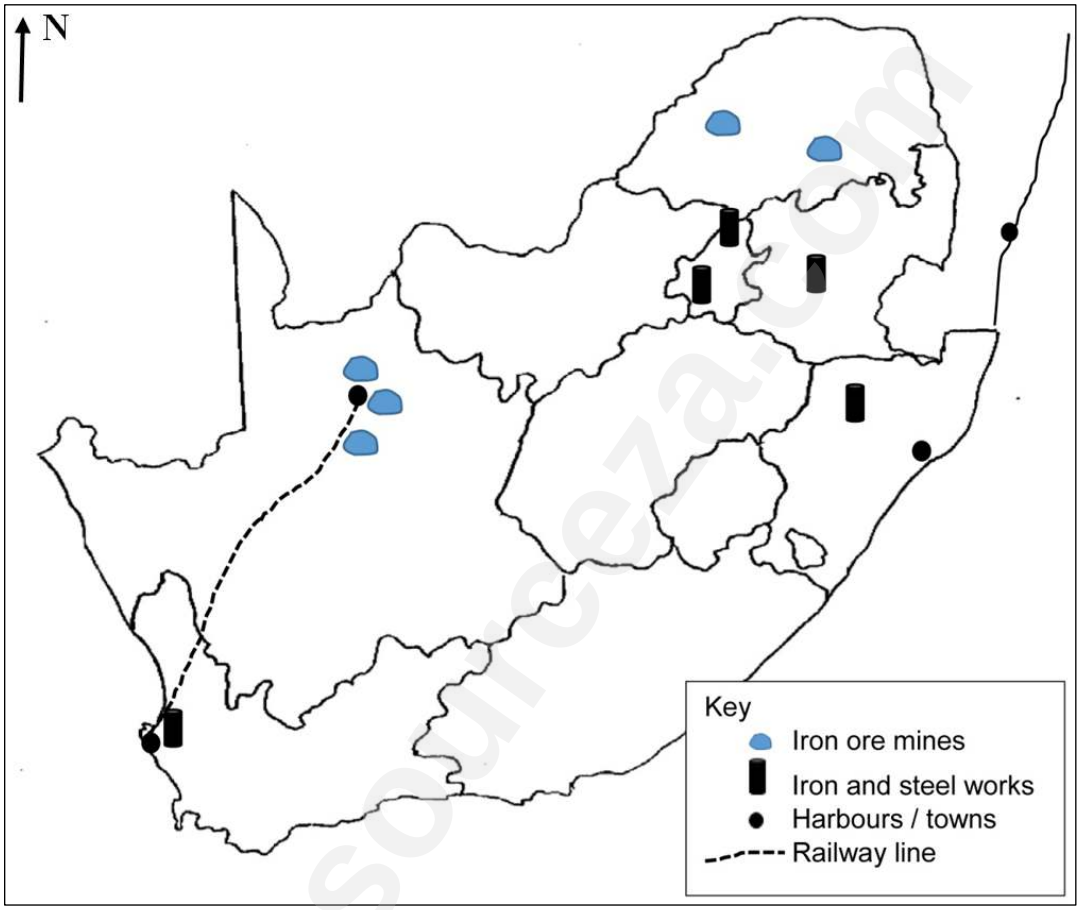
3.4 **Iron ore mining in South Africa**

Study Figure 9, a map showing iron ore mining and related industry in South Africa.

Figure 9: Map showing distribution of iron ore mining and related manufacturing in South Africa



[Examiner's map]

3.4.1 (a) **Name** TWO ports through which South Africa exports iron ore. (2)

(b) **Name** the area in South Africa in which most iron ore is mined. (2)

3.4.2 **Define** the following:

(a) Raw materials orientated industry.

(b) Beneficiation. (4)

3.4.3 **Suggest** TWO reasons why beneficiation in the iron and steel industry is important to the South African economy. (4)

3.4.4 **Comment** on the location of the main iron and steel factories (works) in relation to the iron ore mines in South Africa. (4)

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3.4.5 Refer to Figure 10, a graph showing the global iron ore price, and the Fact File below.

FACT FILE

- China is a major importer of iron ore from South Africa.
- Iron ore prices dropped to a 10-year low in 2015/16.
- This was a result of declining economic growth in China. China has, however, subsidised its iron ore producers as a result of global oversupply.
- The high quality of iron ore produced in South African mines means they still have a competitive advantage over China's other suppliers.

[Source: <mg.co.za/article/2015-04-29-bitter-irony-for-ore-producers>]

Figure 10: Graph showing the global iron ore price

[Source: <mg.co.za/article/2015-04-29-bitter-irony-for-ore-producers>]

(a) **Give** the price (US dollars) of iron ore (per ton) at the beginning of:

(i) 2011 (1)

(ii) 2015 (1)

(b) **Calculate** the difference in the price of iron ore (US dollar, per ton) for the years 2011 and 2015. (2)

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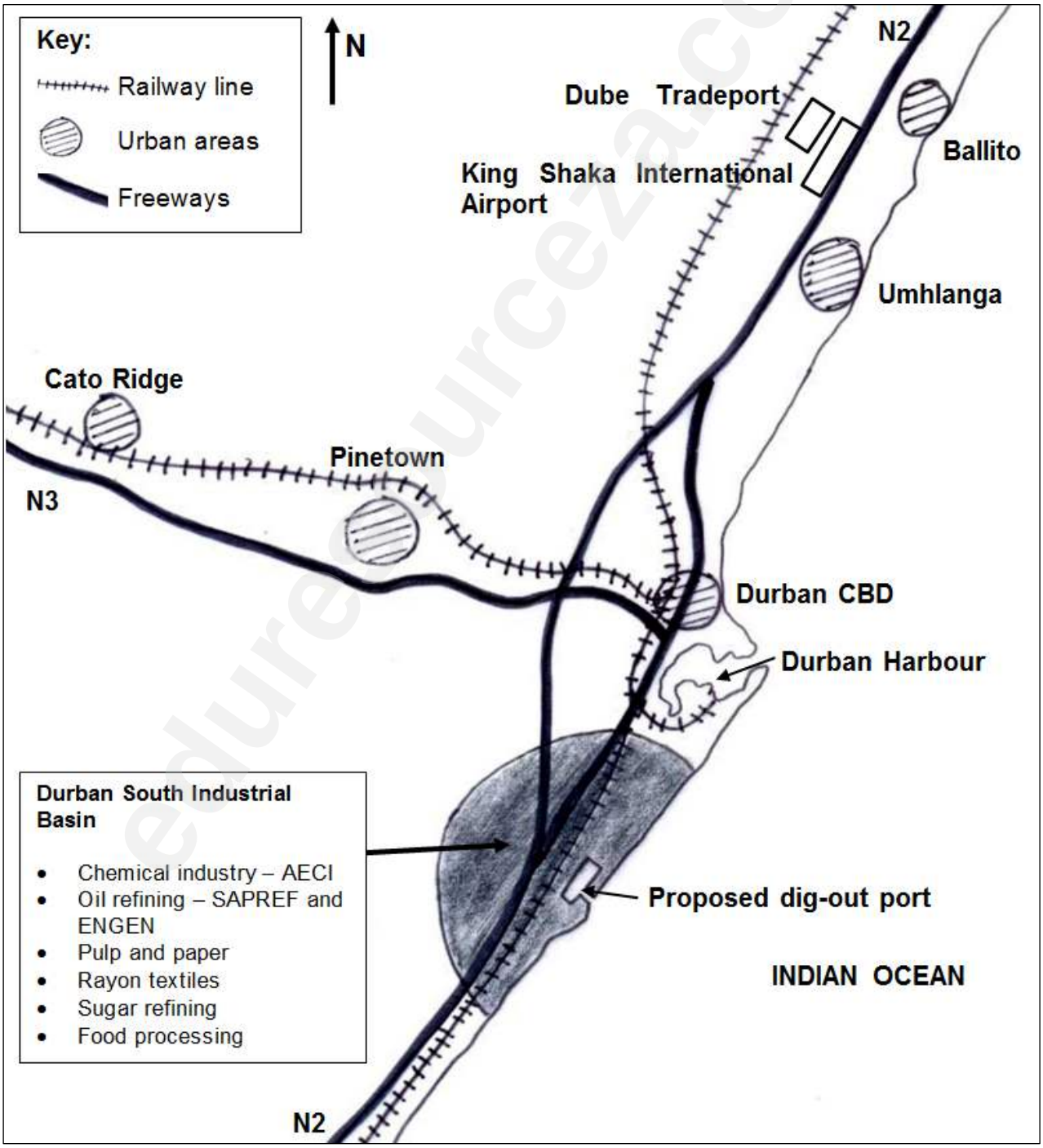
(c) **Outline** TWO negative impacts the continued decline in the iron ore price will have on the mining industry in South Africa. (4)

(d) **Predict** the impact of China's reduced GDP growth on South Africa's iron ore industry in the future. (4)

3.5 **Durban-Pinetown Industrial Region (KwaZulu-Natal – KZN)**

Study Figure 11, a map showing the Durban-Pinetown Industrial Region. Carefully read the Fact File that follows on page 24.

Figure 11: Map showing the Durban-Pinetown Industrial Region



[Source: Adapted from Google Maps]

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Fact File **Greater Durban-Pinetown Industrial Region**

- Second most important industrial region in the country. 80% of the country's freight is moved through Durban Harbour.
- Durban Harbour is the 'freight corridor' for the Free State and Gauteng.
- Transnet is looking at a proposed 'dig-out' port on the old Durban International Airport site. This will help alleviate the 17 500 heavy vehicle movements daily in the Durban South Industrial Basin.
- The relocation of the airport to the north of Umhlanga and the development of Dube Tradeport as an **industrial development zone** (IDZ) has helped reduce the congestion south of Durban.
- Major railway line upgrades are planned to develop Cato Ridge, an important rail junction, 50 km NW of Durban along the N3 corridor, as a 'dry port'.

[Source: <www.iol.co.za/business/news/new-rail-road-system-planned-for-durban>]

3.5.1 **Explain** how the physical topography of the area around Durban-Pinetown acts as a limiting factor for the expansion of the Durban-Pinetown Industrial Region. (2)

3.5.2 **Discuss** the role of decentralisation strategies (for example: the IDZ at Dube Tradeport and a 'dry port' at Cato Ridge) in benefiting the region. (6)

3.5.3 **Write** a report for the Durban Chamber of Commerce highlighting the importance of the Durban-Pinetown Industrial Region to the growth of the provincial KZN economy. In your report, you need to:

- **Mention** the benefits of industrial growth for the province.
- **Evaluate** the important role of infrastructure to the success of this industrial region.
- **Outline** the kinds of manufacturing in this region.
- **Highlight** some of the problems faced by this industrial region. (24)

Note: you may draw on any examples you have studied to support your report discussion. Use the rubric below to guide the planning and structure of your report.

Criteria	
Writing skills Use of brief introduction and conclusion. Logical discussion and use of subheadings.	**5**
Content knowledge Correct use of geographical terminology. Adherence to topic and subheadings.	**14**
Supporting evidence – analysis and understanding Reference made to case study material/ Fact File/ source material provided. If appropriate, reference must be made to familiar/ local or other examples.	**5**

100 marks

Total: 300 marks

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