

GEOGRAPHY: PAPER I

Time: 3 hours

300 marks

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. This question paper consists of 28 pages and an Insert of 4 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:**
 - Section A – Compulsory question
 - **One** from Section B
 - **One** from Section C
 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. Please circle the number of each question answered on the back inside flap of your Answer Book or on the front cover as applicable.
 8. It is in your own interest to write legibly and present your work neatly.
 9. There is a GLOSSARY of words on pages 2 and 3 explaining what the words in **bold** used in the questions mean.
 10. 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.
-

GLOSSARY

WORD	MEANING
Account for	To explain why, by giving reasons.
Analyse	To separate into parts or elements and to describe or examine each in detail.
Annotate	To add notes or explanations to a sketch, map or drawing.
Argue	To present reasons for or against.
Classify	To divide into groups or types so that things with similar characteristics are in the same group.
Comment	To give your opinion or make a statement about something; to write generally about.
Compare and contrast	Compare: To point out or show both similarities and differences Contrast: To stress the differences, dissimilarities, or unlikeness of things.
Compile	To draw up or put a list together.
Copy	To make an exact replica or copy of something.
Define	To give the precise meaning of ...
Demonstrate	To show or make clear, to illustrate and explain; (can give examples).
Describe	To list the main characteristics of something, 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.
Draw	To show by means of a sketch.
Elaborate	To write about something in depth, with much attention to the detail of the different parts making up the whole.
Estimate	To make an approximate judgement or calculation.
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.
Flow chart/ Multi-flow map	A number of ideas which are linked together by means of a process.
Give/Provide	To state or present the information.
Identify	To give the essential characteristics of; to name.
Justify	To prove or give reasons for decisions or conclusions, using logical argument.
Label	To mark a diagram or sketch with simple information.
List	To write an itemised series of concise statements; to present a list of names, facts, aspects or items.
Match	To find the exact counterpart of another.
Mind Map	A diagram showing how different components of a system or topic relate to one another.
Name	To state something; to give; to mention.

Predict	To say what is expected to happen; to foretell; to say in advance.
Select	To choose; to pick out the correct answer from several alternatives.
State	To present information or details plainly, directly and simply, without discussion.
Substantiate	To support an answer with proof or evidence.
Suggest	To propose an explanation or solution by way of a plan or suggestion.

SECTION A GEOGRAPHIC ISSUES**COMPULSORY QUESTION FOR ALL CANDIDATES****QUESTION 1 GEOGRAPHICAL CASE STUDY: EKURHULENI/JOHANNESBURG, GAUTENG**

Study all the source material carefully.

FACT FILE: EKURHULENI

- *Ekurhuleni* is the Tsonga name for 'place of peace'.
- This **aerotropolis*** is home to OR Tambo (ORT) International Airport, the busiest airport on the continent and has shares in the Gautrain rapid-rail project.
- The **Mixed-Use** OR Tambo Precinct is founded on the Live-Work-Play principle.
- It is known as Africa's workshop because more than a third of all South Africa's machinery is produced here.
- The **Albertina Sisulu Corridor (SDI)** provides the ideal import/export environment.



[Source: *Investing in Ekurhuleni*, published by the Ekurhuleni Directorate]

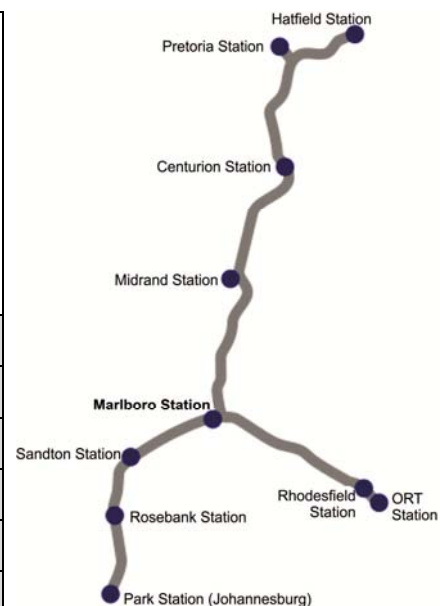
* An aerotropolis is a type of urban form comprising aviation, intense business and related enterprises that develop around an airport.

1.1 Geographical and Map Skills

Table 1: A travel time matrix from OR Tambo International Airport (ORT Station) to Park Station, Johannesburg, Sandton Station and Pretoria Station (Numbers indicate journey times in minutes)

		ORT Station	Park Station (Johannesburg)	Pretoria Station	Sandton Station
ORT Station	Gautrain		22*	31*	14
	Road		32	39	44
Park Station (Johannesburg)	Gautrain			36*	8
	Road			62	26
Pretoria Station	Gautrain				28
	Road				53

[Source: AfriSpatial]



[Source: <www.gautrain.co.za>]

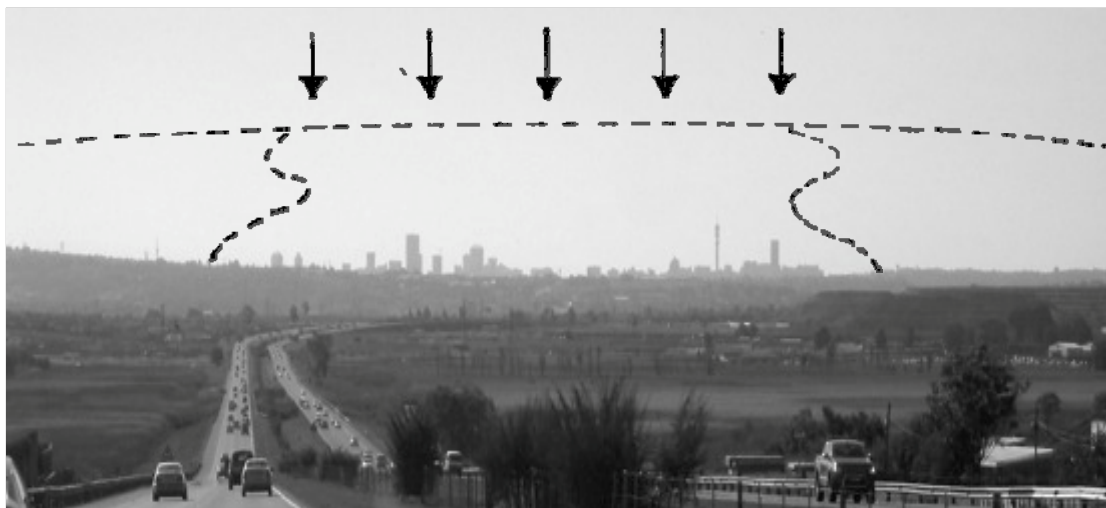
key: time (minutes)

* transfer time between lines not considered

- 1.1.1 **Name** the FOUR provinces that border Gauteng. (4)
- 1.1.2 Using Table 1 (page 4), **determine** the time (minutes) it takes from ORT station, using the Gautrain, to the following stations:
- (a) Sandton (1)
- (b) Park (1)
- 1.1.3 **Compare** and **explain** the difference in time taken from ORT Station to Sandton Station using the Gautrain and driving by road. (4)
- 1.1.4 **Suggest** why a travel time matrix such as the one in Table 1 is useful to international travellers landing at ORT International Airport. (2)

1.2 **Climate and weather: Urban microclimates and urban settlements: sustainable strategies in urban areas**


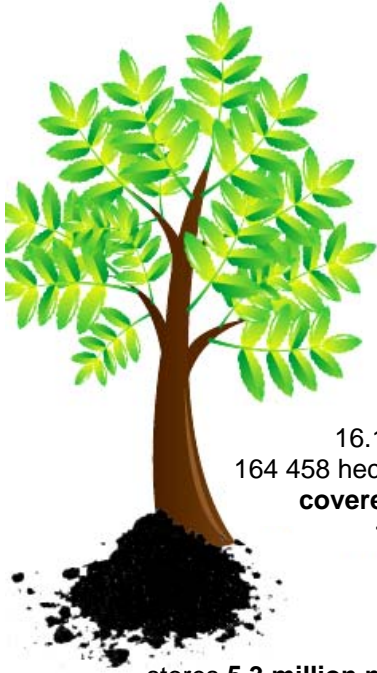
Figure 1: The Johannesburg urban profile showing the heat island for a typical summer's day



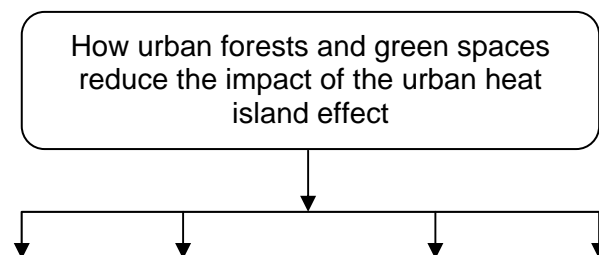
[Source: Examiner's photograph]

- 1.2.1 **Define** an *urban heat island*. (2)
- 1.2.2 **List** FOUR climatic factors that cause an *urban heat island*. (8)
- 1.2.3 Using Figure 1 as a guide, redraw and **annotate** the Johannesburg heat island that would occur on a typical winter's day. (6)
- 1.2.4 **Predict** how the consequences of the Johannesburg heat island could interfere with flights at OR Tambo International airport nearby. (4)

1.2.5 Refer to the Fact File below:

<p>Fact File: Johannesburg's Urban Forest</p> <ul style="list-style-type: none"> • Green space accounts for 75% of Gauteng's total area. • Green spaces include rooftop gardens, parks, food gardens and planted trees. • Urban forests and green spaces purify the air and water, regulate storm water, provide food and create jobs.  <p>A rooftop garden in Rosebank, Gauteng</p>	 <p>16.1% of 164 458 hectares covered by trees</p> <p>stores 5.3 million metric tonnes of carbon equivalent to R786 million (approximate values as at May 2010)</p> <p>Johannesburg's urban forest</p>
[Source: Examiner's photograph]	[Source: < http://www.gcro.ac.za >]

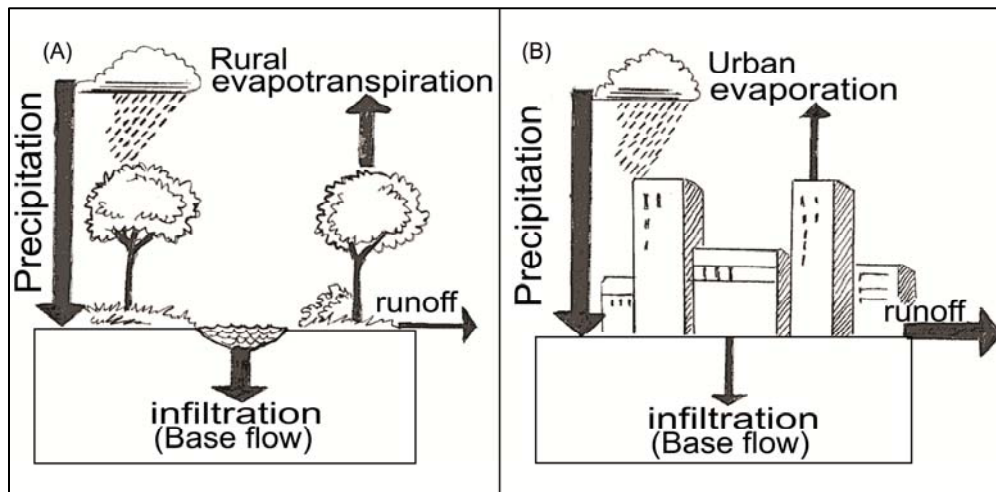
Compile a **flow chart** to **explain** how urban forests and green spaces reduce the impact of the *urban heat island effect* for Ekurhuleni/Johannesburg. Mention at least FOUR aspects. Use the structure below as a guide:



(8)

1.3 Fluvial processes

Figures 2A and B: Hydrological cycles in rural (A) and urban (B) areas



[Adapted from: *Environmental Science Society*]

1.3.1 Refer to Figures 2A and B and **state** if the following sentences are TRUE or FALSE. If FALSE, write out the correct statement.

- The base flow in an urban environment is less than in a rural environment.
- Impermeable surfaces in urban areas result in higher infiltration.
- The water table will be lower in Figure 2A than Figure 2B.
- Despite the evaporation generally being less in urban areas, these areas experience more convection thunderstorms. (8)

1.3.2 **Draw** a clearly labelled flood hydrograph for an urban area (for example Figure 2B). Clearly **label** the following:

- Discharge
- Rainfall
- Lag time
- Flood peak (6)

1.3.3 **Comment** on how the Ekurhuleni/Johannesburg municipality can reduce the impact of increased discharge in urban rivers and floods. (6)

1.4 People and Places: Settlement and Economy

Study Figure 3 (page i of the Insert) and the Ekurhuleni Fact File on page 4.

1.4.1 **Explain** what the following terms mean:

- Industrial Park (2)
- Mixed-Use (2)
- Airport Edge City (2)

1.4.2 Refer to Figure 3 on page i of the Insert and the Fact File on page 4.

In a global economy there is a requirement for agility and speed to move high value goods and goods that are time dependent. Over one-third of the value of world trade already goes by air and world air cargo traffic is expected to more than triple by 2029.

[Source: OR Tambo Precinct and Aerotropolis Facts]

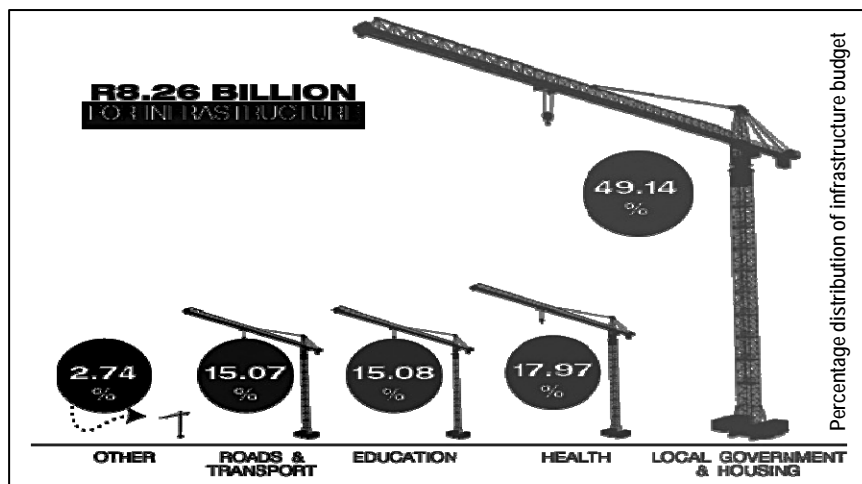
Write an essay of $1\frac{1}{2}$ to 2 pages where you **examine** the impacts of the Ekurhuleni Aerotropolis on the following:

- Urban settlement in the surrounding area
- Infrastructure development in the surrounding area
- The economy in the surrounding area

(20)

1.5 People and their needs: Economic activities

Figure 4: The percentage breakdown spent on infrastructure in Gauteng (2012)



[Source: Gauteng City Regional Vignettes 2012]

1.5.1 **Define** the term *infrastructure*. (2)

1.5.2 **Estimate** (in Rands) how much of the infrastructure budget for 2012 in Gauteng was spent on *local government and housing*. (2)

1.5.3 **Classify** which economic sector *health* falls under. (2)

1.5.4 *Other* infrastructure makes up 2,74% of the budget. **Suggest** TWO other examples of other infrastructure (not mentioned in Figure 4). (2)

1.5.5 Photograph 1 on page i of the Insert shows a photograph of an e-toll* plaza on the freeway from ORT International Airport to Johannesburg.

(a) **Explain** the purpose of 'e-tolling'. (2)

(b) **Identify** ONE advantage and ONE disadvantage of implementing 'e-tolling' on Gauteng's freeways. (4)

An e-toll* is a fee motorists are charged to make use of the freeway. This fee is billed electronically.

100 marks

END OF COMPULSORY QUESTION

SECTION B NATURAL ENVIRONMENTS

Answer **EITHER** Question 2 **OR** Question 3.

QUESTION 2 GLOBAL CIRCULATION, SYNOPTIC WEATHER MAP, FLUVIAL AND SLOPE GEOMORPHOLOGY**2.1 Global circulation**

Refer to Photograph 2, a global satellite image, on page ii of the Insert.

Various options are given as possible answers to the following questions. **Select** the most appropriate answer from the list. Write down only the question number and the correct answer. For example: 2.1.1 – A.

2.1.1 The line indicated by A is the ...

- A Greenwich meridian
 - B Equator
 - C Tropic of Cancer
 - D Tropic of Capricorn
- (2)

2.1.2 The circulatory feature indicated by the cloud mass at B is a ...

- A coastal low
 - B hurricane
 - C mid-latitude cyclone
 - D tropical cyclone
- (2)

2.1.3 The air in system B is circulating in a/an ... direction.

- A anticlockwise
 - B clockwise
 - C easterly
 - D south easterly
- (2)

2.1.4 The force known for influencing circulation in feature B is known as ...

- A Coriolis
 - B centripetal
 - C gravity
 - D pressure gradient
- (2)

2.1.5 The pressure belt indicated by C is the ...

- A Polar low
 - B Polar high
 - C Subtropical high
 - D Tropical low
- (2)

2.1.6 Travelling disturbances labelled D are known as ...

- A coastal lows
 - B tropical cyclones
 - C typhoons
 - D mid-latitude cyclones
- (2)

2.2 Synoptic weather map analysis

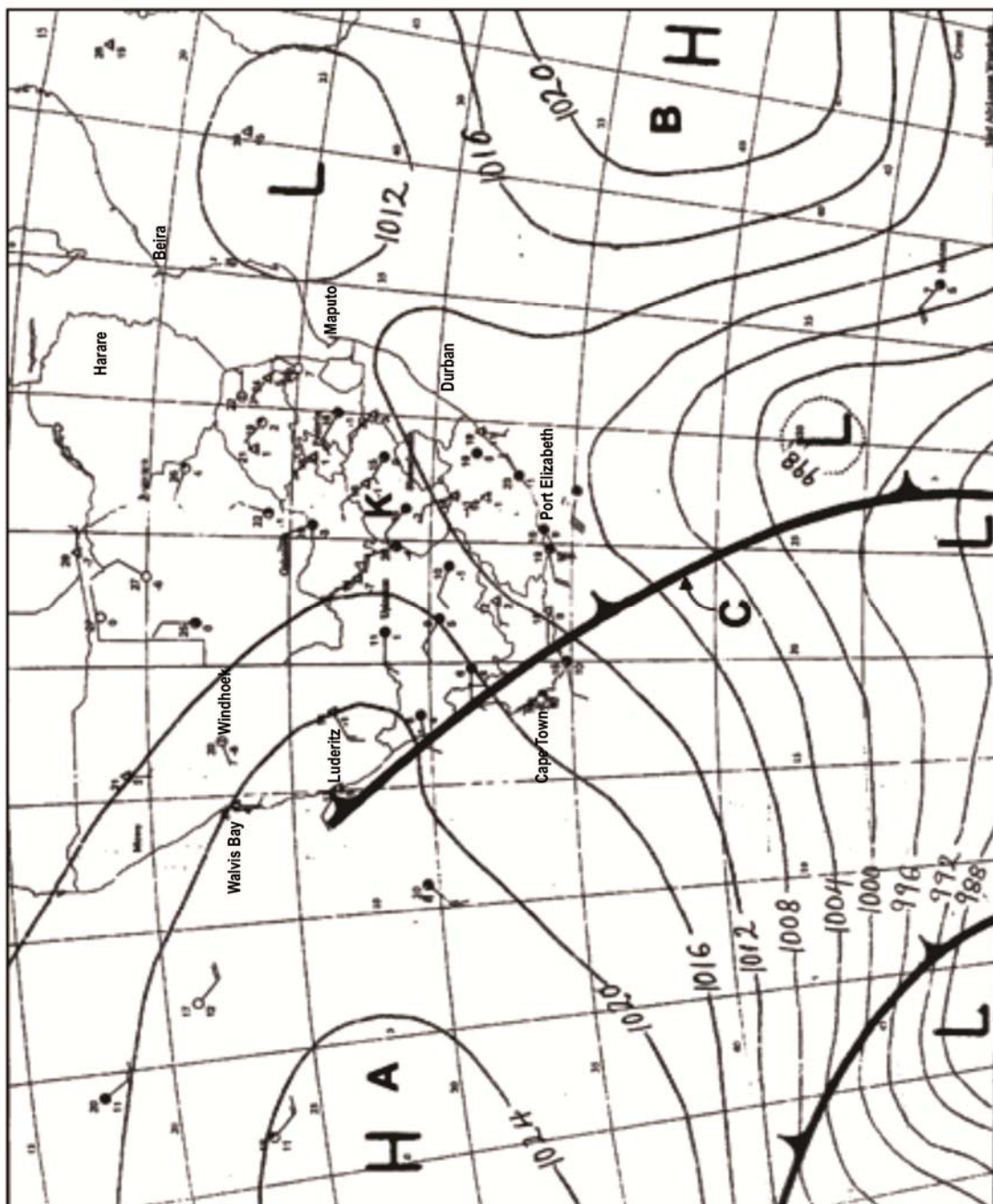
Study Figure 5, a synoptic weather map for 2012-07-06 and read the extract below.

Weather advisory

The South African Weather Service warns of weather conditions which are set to become extreme this weekend. The cold front will bring showers to the Western and Northern Cape. Rough seas with four to five metre swells are expected along the Cape south coast. Snow is likely over the mountains of the Western and Eastern Cape as well as the interior. The cold weather will affect Northern Cape, Free State and southern KwaZulu-Natal as the system continues its eastward movement.

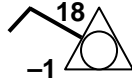
[Source: Media Release SAWS, 6 July 2012]

Figure 5: A synoptic weather map for 2012-07-06



[Source: SAWS]

- 2.2.1 (a) **Identify** the pressure cells labelled A and B. (4)
- (b) **Identify** synoptic feature labelled C. (2)
- 2.2.2 **Account for** the strong winds along the southern Cape coast, for example at Port Elizabeth on 2012-07-06. (4)
- 2.2.3 The weather station at Kroonstad (K) records the following information:



State if the following statements about Kroonstad are TRUE or FALSE. If FALSE, write out the correct sentence.

- (a) The air temperature is -1°C
- (b) The cloud cover is overcast
- (c) The wind speed is 10 km/h
- (d) The wind direction is north westerly
- (e) Kroonstad is an automated weather station (8)
- 2.2.4 **Compile** a simple weather advisory in the form of an **annotated** sketch map, as feature C (see Figure 5 on page 10) passes over the country.

Your sketch map advisory should **indicate**:

- Where the severe weather will be experienced.
- What kind of severe weather will be experienced.
- Precautions the various people who experience such weather should take against, for example, the effects of the weather on farmers, road users and shipping. (12)

Hint: You can trace the outline of the country onto your Answer Book from Figure 5.

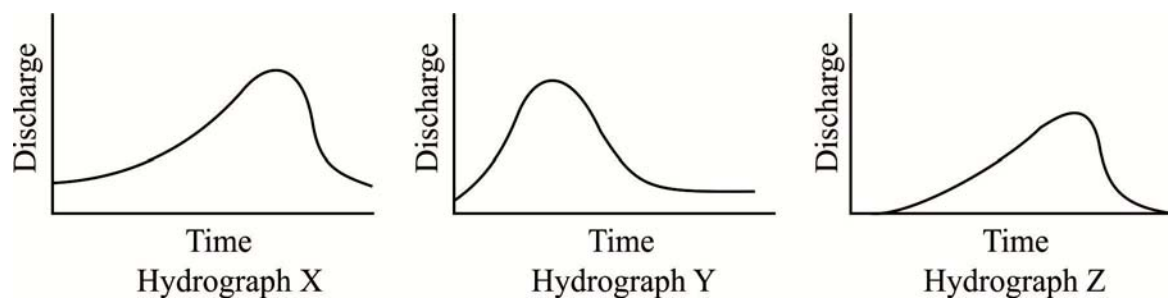
2.3 Fluvial and slope geomorphology

Study Photograph 3 on page ii of the Insert.

- 2.3.1 **Select** the correct underlined terms in each of the following sentences. Write down only the question number (a) to (e) and the correct term(s) in your Answer Book.
- (a) The point where two rivers meet is called a confluence point/meander scar/node. (2)
- (b) A river that only flows after a heavy rainstorm is exotic/episodic/perennial. (2)
- (c) The water table of such a river (Question 2.3.1 (b)) is found close to the surface/deep beneath the surface/on the surface. (2)
- (d) The climate of the area shown in Photograph 3 (Insert) is arid/humid/tropical. (2)
- (e) Photograph 3 (Insert) is a/an oblique/satellite/vertical photograph. (2)

- 2.3.2 (a) **Identify** the slope elements labelled P, Q and R in Photograph 3 (Insert). (6)
- (b) In the area labelled S on Photograph 3 (Insert), there is evidence of mass wasting. **Explain** how the debris cone (waste material) formed at T. (4)
- 2.3.3 (a) **Draw** a sketch cross section across the river valley from U to P in Photograph 3 (Insert). **Label** the floodplain and the river. (6)
- (b) **Identify** and **label** where soil creep and rockfalls are likely to occur on the cross section drawn for Question 2.3.3 (a) above. (4)
- (c) **Account for** the fact that the valley shape is asymmetrical. (4)
- 2.3.4 The sketches (X, Y and Z) in Figure 6 below show typical hydrographs after a rainstorm.

Figure 6: Typical hydrographs after a rainstorm




- (a) **Select** the hydrograph (X, Y and Z) which best represents the discharge in the river valley shown in Photograph 3 (Insert) after a heavy rainstorm. (2)
- (b) **Justify** your answer to Question 2.3.4 (a) above. (2)

2.4 The Breë River catchment area

Read the Fact File on the Theewaterskloof Dam. Photograph 4 below shows the siphon* that takes off water fed by gravity flow to Cape Town.

Study Figure 7 below, which shows the location of the dam in the Breë River Catchment area.

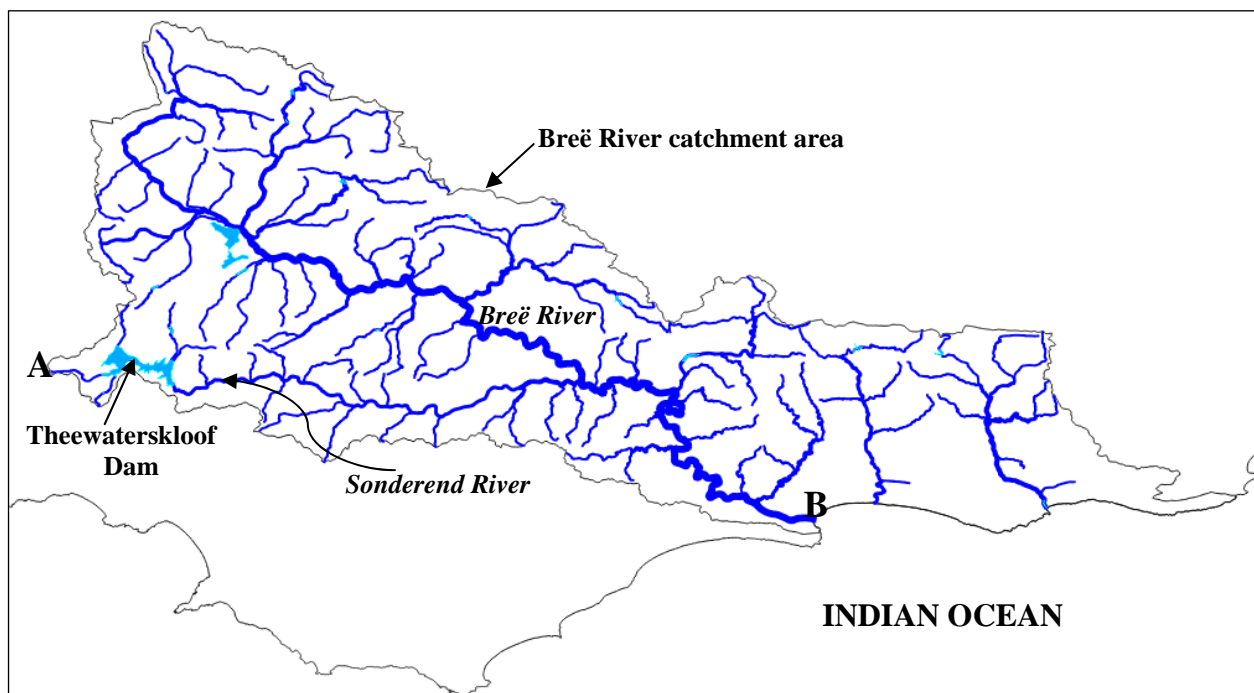
<p>Fact File</p> <ul style="list-style-type: none"> • Theewaterskloof is the largest dam in the Western Cape and the 7th largest dam in South Africa. • It supplies water to Cape Town. • The Theewaterskloof dam is linked to Franschhoek's Berg River dam by an 18 kilometre tunnel through the Franschhoek mountains. When there is excess water in the Berg River dam it can be pumped into the Theewaterskloof dam which has a bigger storage capacity than the Berg River Dam. • The dam has a capacity of 480 250 million cubic metres of water when full. 	<p>Photograph 4</p>  <p>Siphon in Theewaterskloof Dam</p>
--	---

*siphon – a pipe that allows water to flow from the dam over the watershed by gravity alone

[Source: <www.toursincapetown.com>]

Figure 7: Breë River catchment area

Note: The Breë River is also called the Breede River



[Source: AfriSpatial]

2.4.1 **Define** the 'catchment area' of a river system. (2)

2.4.2 **Draw** a well-labelled longitudinal profile of the river from A to B (Figure 7). (6)

2.4.3 Table 2 below shows the water levels in the Theewaterskloof Dam over the past five years. Because the sizes of dams vary, the best indicator of dam level is the overall percentage stored compared to the total dam capacity.

Table 2: Water levels in the Theewaterskloof Dam (2008 – 2012)

Theewaterskloof Dam	Capacity (megalitres)	2008	2009	2010	2011	2012 (Dec)	2012 (Aug)
Total dam capacity	480 250	96.2%	95.3%	82.4%	76.1%	91.3%	71.6%
Overall percentage storage of Western Cape Dams	898 300	93.9%	94.2%	84.9%	79.1%	89.8%	–

[Source: <www.capewatersolutions.co.za>]

- (a) What percentage of the total storage capacity of Western Cape dams does the Theewaterskloof Dam hold? (2)
- (b) **Suggest** ONE reason why the Theewaterskloof Dam is located where it is. (2)
- (c) **State** ONE reason for the difference in the August and December 2012 total dam capacity for the Theewaterskloof Dam. (2)
- (d) **Examine** the importance of long-term water catchment management in meeting the water demands of expanding urban areas. (6)

100 marks

OR QUESTION 3

SECTION B NATURAL ENVIRONMENTS**QUESTION 3 TROPICAL CYCLONES, MICROCLIMATES, FLUVIAL GEOMORPHOLOGY, LANDFORMS AND MASS WASTING****3.1 Tropical cyclones**

3.1.1 **State** if the following are TRUE or FALSE. If FALSE, write out the correct statement.

- (a) Tropical cyclones usually occur on the eastern side of continents.
- (b) Tropical cyclones occur mainly in spring and early summer.
- (c) Tropical cyclones have the same pressure gradient as mid-latitude cyclones.
- (d) Tropical cyclones in the southern hemisphere have the same wind circulation as mid-latitude cyclones.

(8)

Study Figure 8.

Figure 8: Simplified storm track for Hurricane Sandy, October 2012



[Source: <www.redcross.org.uk>]

- 3.1.2 **Copy** the table below into your Answer Book and complete the table by referring to Figure 8 on page 15 for information relating to Hurricane Sandy.

	23 October 2012	25 October 2012	30 October 2012
Stage of development			
Wind speed			

(6)

- 3.1.3 **Draw** and **annotate** a cross-section of Hurricane Sandy for 25th October 2012 when it was located over Cuba (Figure 8, page 15).

(8)

- 3.1.4 **Substantiate** why Hurricane Sandy was downgraded to a tropical storm after 30th October 2012.

(4)

- 3.1.5 Refer to the Fact File below and construct a **flow chart/multi-flow map** to **analyse** the *causes and effects* of Hurricane Sandy. Include the effects on society and on the economy of Cuba and the United States.

(16)

Fact File: Hurricane Sandy – the perfect storm

- Hurricane Sandy was bigger than Hurricanes Katrina and Rita, which tore into the US Gulf Coast in 2005.
- Sandy is believed to have killed at least 183 people.
- The economic cost in the USA amounted to over \$71 billion.
- In poorer countries such as Haiti and Cuba, the victims' needs were far greater. 15 000 homes were destroyed in Cuba and 200 000 homes in Haiti.
- Sandy also caused nearly 2.2 million power outages (8,3 million people were without power) and impacted 265 300 businesses in the USA.

[Source: <examiner.com>]

3.2 Microclimates in the countryside

Refer to Photograph 5 on page iii of the Insert.

- 3.2.1 **Name** the climatic feature evident in the valley shown in Photograph 5 (page iii of the Insert).




(2)

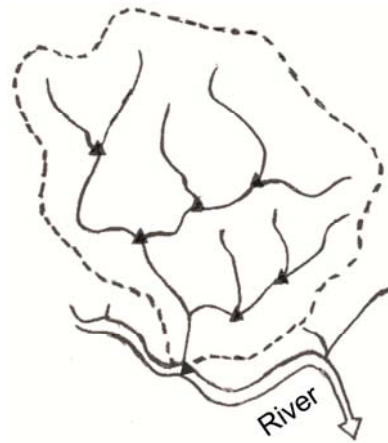
- 3.2.2 Refer to Photograph 5 (Insert). **Select** the correct underlined word(s) to complete the sentences below. Write down only the letters (a – e) and the correct word(s) next to each letter.

- (a) Photograph 5 (Insert) was taken in/at (the) early morning/mid-day/afternoon. (2)
- (b) Anabatic/Katabatic/Berg winds resulted in this climatic condition. (2)
- (c) The temperatures at the bottom of the valley are the same as/cooler than/warmer than the air temperature above. (2)
- (d) This condition is more common in summer/autumn/winter/spring. (2)
- (e) Valley/Upslope/Mountain winds are more likely to occur in the valley when Photograph 5 (Insert) was taken. (2)

3.3 Fluvial Geomorphology

Figure 9: A sample drainage basin

KEY	
	watershed boundary
	stream
	confluence



Refer to Figure 9.

3.3.1 **Define** the following terms:

- (a) Watershed (boundary) (2)
- (b) Confluence (2)
- (c) Drainage basin (2)

3.3.2 The stream pattern in Figure 9 is dendritic. What does this tell us about the underlying geology in the area? (4)

3.3.3 **Classify** the drainage density in Figure 9. (2)

3.3.4 **Discuss** TWO factors that determine the drainage density of a drainage basin. (4)

3.4 Igneous landforms and mass wasting

Study Photographs 6 and 7 on page iii of the Insert.

3.4.1 **Identify** the landforms in:

- (a) Photograph 6 (2)
- (b) Photograph 7 (2)

3.4.2 **Discuss** the similarities between the two landforms. (4)

3.4.3 **Demonstrate** how the landform in photograph 7 was formed. Use labelled diagrams to aid your answer. (6)

- 3.4.4 Study the headlines below from various news sites in 2012 and refer to Photograph 8 on page iii of the Insert:

At least eight dead in the Eastern Cape as flood wreaks havoc – 50 m deep hole in N2

R10 Million to make Sir Lowry's Pass, W Cape, safe for motorists

Mountain Passes closed to traffic in the Karoo, W Cape

St Francis marooned again – Sand River Bridge washed away

- (a) **Name** the type of mass wasting depicted in Photograph 8 (page iii of the Insert). (2)
- (b) **List** TWO trigger mechanisms causing this type of mass wasting. (4)
- (c) **Describe** TWO measures the SA National Road Agency (SANRAL) can use to prevent mass wasting along roads. (4)
- (d) **Suggest** how the floods in 2012 contributed to hazardous road conditions across the country. (6)

100 marks

SECTION C HUMAN ENVIRONMENTS

Answer ONE question from this section, **EITHER** Question 4 **OR** Question 5.

QUESTION 4 PEOPLE AND PLACES, PEOPLE AND THEIR NEEDS**4.1 Terminology**

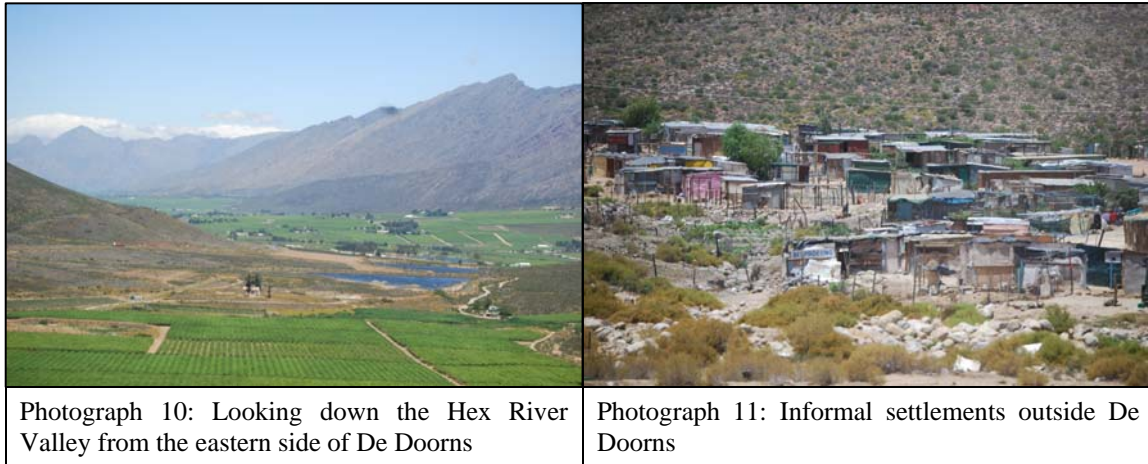
Match the word(s) in Column A with the correct statement in Column B. Write **ONLY** the number and correct letter, for example 4.1.1 – A.

Column A		Column B	
4.1.1	Light industry	A	The modernisation of old houses in an urban area.
4.1.2	Balance of trade	B	Those parts of the economy concerned with research, gathering and disseminating information and administration.
4.1.3	Break of bulk point	C	The uncontrolled process whereby urban areas expand into the surrounding rural areas.
4.1.4	Urban sprawl	D	Refers to the payment obligations that arise when a country exports or imports goods.
4.1.5	Counter urbanisation	E	A term used in urban planning to refer to the number of people inhabiting an urbanised area.
4.1.6	Land restitution	F	Does not meet legal requirements, standards and procedures and the services and goods are sold informally without a license or business permit.
4.1.7	Densification	G	The place where one type of transport is replaced by another, usually at a harbour.
4.1.8	Quaternary sector	H	Secondary activities producing small bulk requiring small amounts of raw materials.
4.1.9	Informal sector	I	Secondary activities requiring large quantities of raw materials.
4.1.10	Gentrification	J	To restore land or to compensate individuals or groups who were forced off their land during the colonial or apartheid periods.
		K	When people move back to rural areas to escape the city rush and lifestyle and the associated crime.

(20)

4.2 Rural issues

Study the satellite image of De Doorns (Photograph 9 on page iv of the Insert). Refer to Photographs 10 and 11 below which show various settlement and land-use features in the Hex River Valley. Read the Fact File on De Doorns.



[Source: Examiner's photographs]

Fact File on De Doorns, Western Cape

The small town of De Doorns lies at the centre of the Hex River Valley, just off the N1, 32 km north-east of Worcester and 40 km south-west of Touwsrivier. It lies in the centre of a grape growing region, surrounded by 200 farms. The harvest season is from December to April. Many of the farm workers come in to do seasonal work. In 2013 farm workers went on strike over the minimum wage per day.

4.2.1 **Select** the correct underlined word(s) that correctly complete(s) each statement.

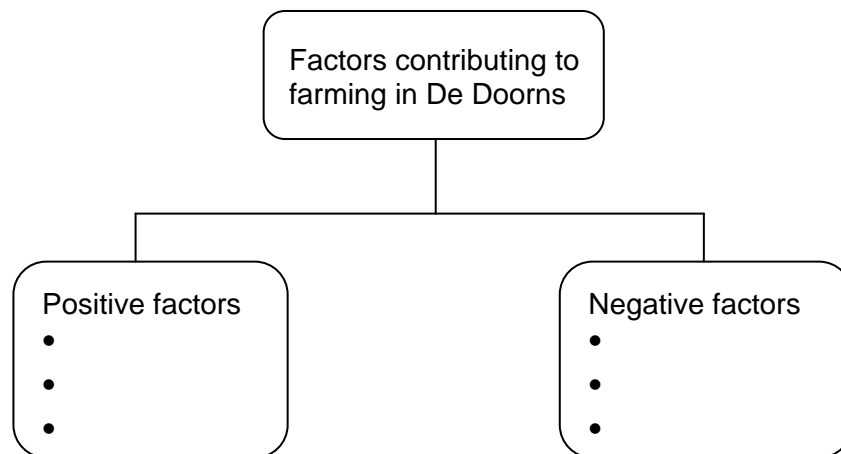
Write only the question number and the correct word/s.

- (a) De Doorns is a country town/hamlet/village. (2)
- (b) The settlement pattern along the Hex River is cobweb/crossroads/linear. (2)
- (c) Farming in the valley is intensive/extensive/pastoral. (2)
- (d) Farms are located mainly on the free face/talus slope/floodplain. (2)
- (e) Rainfall in the area occurs mainly in summer/throughout the year/winter. (2)

- 4.2.2 (a) **Describe** TWO site factors that make the Hex River Valley an ideal farming area. (4)
- (b) **Discuss** TWO situation factors that make the valley accessible to farm labour. (4)

4.2.3 A large sprawling informal settlement area has developed alongside the N1 outside De Doorns. The area is marked A on Photograph 9 (page iv in the Insert). Photograph 11 (page 20) shows a snapshot of the settlements whilst travelling along the N1.

- (a) **Suggest** TWO reasons why informal settlements have grown rapidly in this area. (4)
- (b) **Discuss** TWO problems the people living in these informal settlements experience. (4)
- (c) Refer to the source material provided in Question 4.2. Using a **mind map, evaluate** the factors that make farming in the area successful as well as the factors that hinder farming conditions. Use the suggested structure below as a guide. (12)

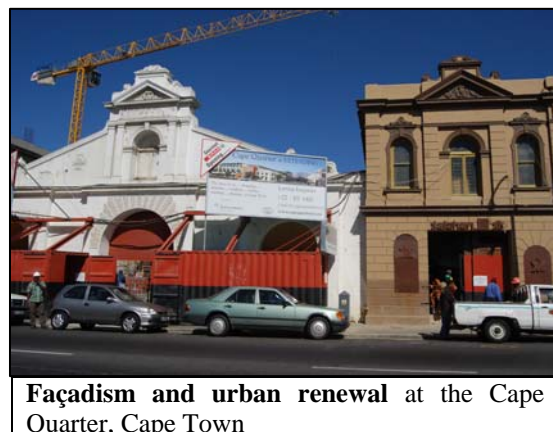


4.3 Urban renewal in South Africa

Over time, buildings and areas in a city can become rundown and unsuitable for modern use. The inner city area is particularly affected by this urban decay.

Study the collage of pictures below showing various urban renewal projects around South Africa.

Figure 10: Urban renewal in South Africa – several examples



[Source: Examiner's photographs]

Write an essay (approximately TWO pages) using the sub-headings below in which you **discuss** the following:

- The different ways in which urban renewal takes place, including change in land-use function through invasion and succession, gentrification and façadism;
- The impact these developments have on the city's economy; and
- The sustainability of these developments in South African cities.

Note: Refer to developments you are familiar with and/or those shown in the collage of photographs above.


(20)

4.4 Industrial location – a case study

Study Figure 11, an advertisement calling for potential investors in the Cornubia Industrial Business Estate, near Umhlanga, KwaZulu Natal.

Figure 11: Advertisement for Cornubia Industrial Business Estate

Unlimited potential
Limited availability
Prime industrial service land available from March 2013



Cornubia **Industrial Business Estate** is:




- strategically located 15 km from King Shaka International Airport (KSIA).
- 5 km from Umhlanga Ridge (residential area) and Gateway Shopping and Entertainment area/precinct.
- accessible to the N2, M41 and R102 motorways.
- a mixed land-use and mixed income development, modelled on Johannesburg's Melrose Arch.
- based on principles of **sustainable development**; higher densities, integration of income levels, amenities such as schools, hospitals and extensive open spaces and a bus rapid transport system (BRT).

Residential
Fully subsidised housing, affordable, low-income housing as well as middle to high income bonded housing.

Commercial
Anchor tenants such as Makro, Builder's Warehouse and Pick n Pay hyperstores.

Industrial
Eco-friendly, light industrial zoning with a link to KSIA.

Mixed-land use
The development will offer a place to live, work, shop and play. A convenient environment within a secure setting. This **new-urbanism** trend has grown in popularity by those who value time, convenience and safety.

[Source: <www.cornubia.co.za>]

- 4.4.1 **Explain** the meaning of the following terms in the context of the case study on Cornubia Industrial Business Estate:
- (a) Industrial business estate (2)
 - (b) Sustainable development (2)
 - (c) Anchor tenant (2)
 - (d) New-urbanism (2)
- 4.4.2 **Describe** TWO factors that favour the location of this new mixed land-use development, Cornubia. (4)
- 4.4.3 With reference to the advertisement in Figure 11 (page 23), **argue** that this new development will be sustainable in the long term. (6)
- 4.4.4 *Development does not happen without negative impacts on the environment.* **Discuss** TWO environmental factors that will be under pressure from a densely populated area such as Cornubia Industrial Business Estate. (4)

100 marks

OR QUESTION 5

SECTION C HUMAN ENVIRONMENTS**QUESTION 5 PEOPLE AND PLACES, PEOPLE AND THEIR NEEDS****5.1 Rural Settlement in the Northern Cape**

Study Photograph 12, a settlement in the Northern Cape (page iv of the Insert).

5.1.1 **Select** the correct underlined word(s) to complete the sentences below. Write down only the letters (a – e) and the correct word(s) next to each letter. Each statement refers to the settlement in Photograph 12 (Insert).

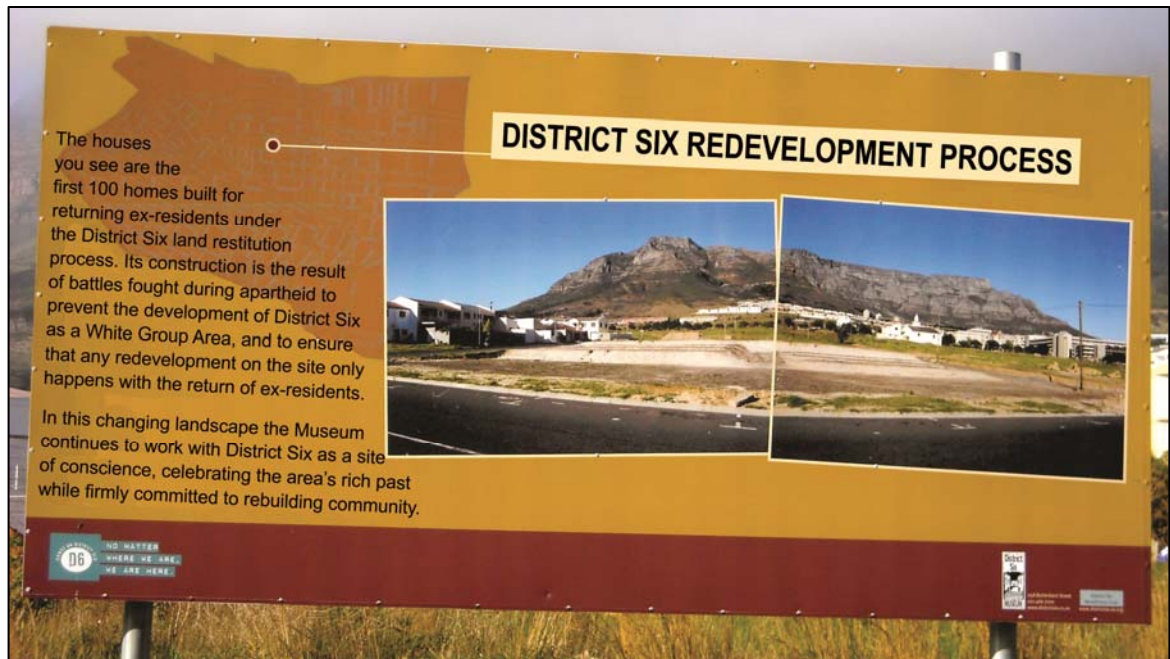
- (a) The settlement pattern is nucleated/clustered/dispersed. (2)
- (b) According to the hierarchy of settlements, the settlement is a/an isolated farmstead/hamlet/minor country service centre. (2)
- (c) The settlement is mainly involved in primary/secondary/tertiary activities. (2)
- (d) The main function of this settlement is intensive/extensive/subsistence farming. (2)
- (e) The settlement is typical of a dry point/wet point/gateway settlement. (2)

5.1.2 Using evidence from Photograph 12 (Insert), **describe** the *site* of this settlement. (4)

5.1.3 **Explore** THREE disadvantages of living in the settlement in Photograph 12 (Insert). (6)

5.2 Reform and Land Restitution

Photograph 13: Billboard in District Six, Cape Town



[Source: Examiner's photograph]

5.2.1 **Explain** the process of *land restitution*. (4)

5.2.2 **Elaborate** how former apartheid policies influenced land use in South African urban settlements. (4)

5.2.3 Write a $1\frac{1}{2}$ to 2 page essay where you **evaluate** TWO of the following urban redevelopment strategies:

- Inner city renewal
- Agenda 21
- National Development Strategies
- Any other strategy you are familiar with to develop urban areas

Note: Ensure you have used TWO of the above as sub-headings. (20)

5.3 Location of Economic Activities

'Gauteng Silicon' and the Innovation Hub

- The Innovation Hub in Pretoria, established in 2001, is Africa's first internationally accredited science park.
- One of the aims of the NDP (National Development Plan) is to provide broadband network infrastructure to support the **quaternary sector** of the economy.
- 'Gauteng Silicon', modelled on Silicon Valley in the United States of America is to be attached to the Innovation Hub **to attract similar ICT industries** and technology business incubation.
- Its community has become a regional centre of innovation and knowledge creation, linked to the fast-moving world of **globalisation**.
- The Innovation Hub has supported the growth of innovative companies across sectors such as ICT, Biosciences and Green Technologies.

[Source: <www.gapbiosciences.co.za>]

5.3.1 **Define** the following terms in the Fact File above:

- (a) Quaternary sector (2)
- (b) Globalisation (2)

5.3.2 Geographers use the term *functional magnetism* to describe the trend when similar economic activities group together. **Give** an example of how 'Gauteng Silicon' uses this concept. (2)

5.3.3 **List** TWO businesses in the quaternary sector that could be located in the Innovation Hub. (4)

5.3.4 **Comment** on THREE factors of globalisation that affect local businesses in a global market. (6)

5.4 Economic Sectors of South Africa's GDP

Table 3: Percentage contribution to South Africa's GDP (2012)

Economic sectors	W Cape	N Cape	Free State	E Cape	KZN	Limpopo	Mpumalanga	North West	Gauteng	SA
Mining	0,3	26,7	13,3	0,2	1,9	29,4	24,9	33,6	3,3	8,8
Agriculture	3,5	6,0	4,3	1,5	3,8	2,5	2,8	2,1	0,4	2,2
Manufacturing	11,8	2,1	8,5	12,2	15,8	2,5	11,5	4,4	13,5	11,5
Construction	4,3	1,6	2,0	2,1	3,0	2,5	3,3	2,6	4,3	3,4
Trade	17,0	9,9	12,3	14,7	15,5	10,8	10,3	9,3	14,2	13,8
Finance	26,6	11,6	14,2	18,6	16,5	14,0	10,9	11,1	22,8	19,1

[Source: SA Institute of Race Relations, Jan 2013]

5.4.1 **Define** Gross Domestic Product (GDP). (2)

5.4.2 **Classify** the economic sectors listed in Table 3 into these categories of the economy:

(a) Secondary (2)

(b) Tertiary (2)

5.4.3 According to Table 3, **state** which sector of the economy (primary, secondary or tertiary) makes the greatest contribution to SA's economy. (2)

5.4.4 **Identify** the province that contributes most to the following economic sectors:

(a) Trade (1)

(b) Mining (1)

5.4.5 **Name** TWO minerals mined in the province given in Question 5.4.4 (b). (4)

5.4.6 **Explain** what is meant by the following terms:

(a) *Balance of trade* (2)

(b) *Trade surplus* (2)

5.4.7 **List** TWO of South Africa's main trading partners that form part of BRICS. (2)

5.4.8 (a) **Define** the term *beneficiation*. (2)

(b) Construct a **mind map** to illustrate how *beneficiation* will help both the mining and trade components of South Africa's economy. (8)

(c) **Suggest** how the mining strike action of 2012 and 2013 affected South Africa's economy. (6)

100 marks

Total: 300 marks