

1030.1

**AARDRYKSKUNDE SG
GEOGRAPHY SG**

**(VRAESTEL 1)
(PAPER 1)**

NOVEMBER 2005

**TYD/TIME: 3 UUR/HOURS
PUNTE/MARKS: 240**



**SENIOR SERTIFIKAAT-EKSAMEN
SENIOR CERTIFICATE EXAMINATION
2005**

Skryf op die buiteblad van jou antwoordboek, teenoor die woord “Vak” –

**AARDRYKSKUNDE STANDAARDGRAAD
(VRAESTEL 1)**

Write on the cover of your answer book, after the word “Subject” –

**GEOGRAPHY STANDARD GRADE
(PAPER 1)**

Hierdie vraestel bestaan uit 19 bladsye.
This question paper consists of 19 pages.

INSTRUCTIONS

1. This question paper consists of SIX questions.


ANSWER ONLY **FOUR** QUESTIONS, which must be chosen as follows:

ONE from Section A

ONE from Section B

ONE from Section C

ONE additional question from any of the remaining questions that have not yet been answered.

2. Circle the number of the FOUR questions you have answered on the table on the front page of your Exam Answer Book eg. 

3. Write the number of the question above each answer.

4. Begin the answer to each question at the top of a new page.

5. Note that two marks are usually allocated for one fact. For example, if the mark allocation is 3x2 (6), three facts are expected for a total of six marks. In some cases only one mark is allocated per fact, for example 6x1 (6).

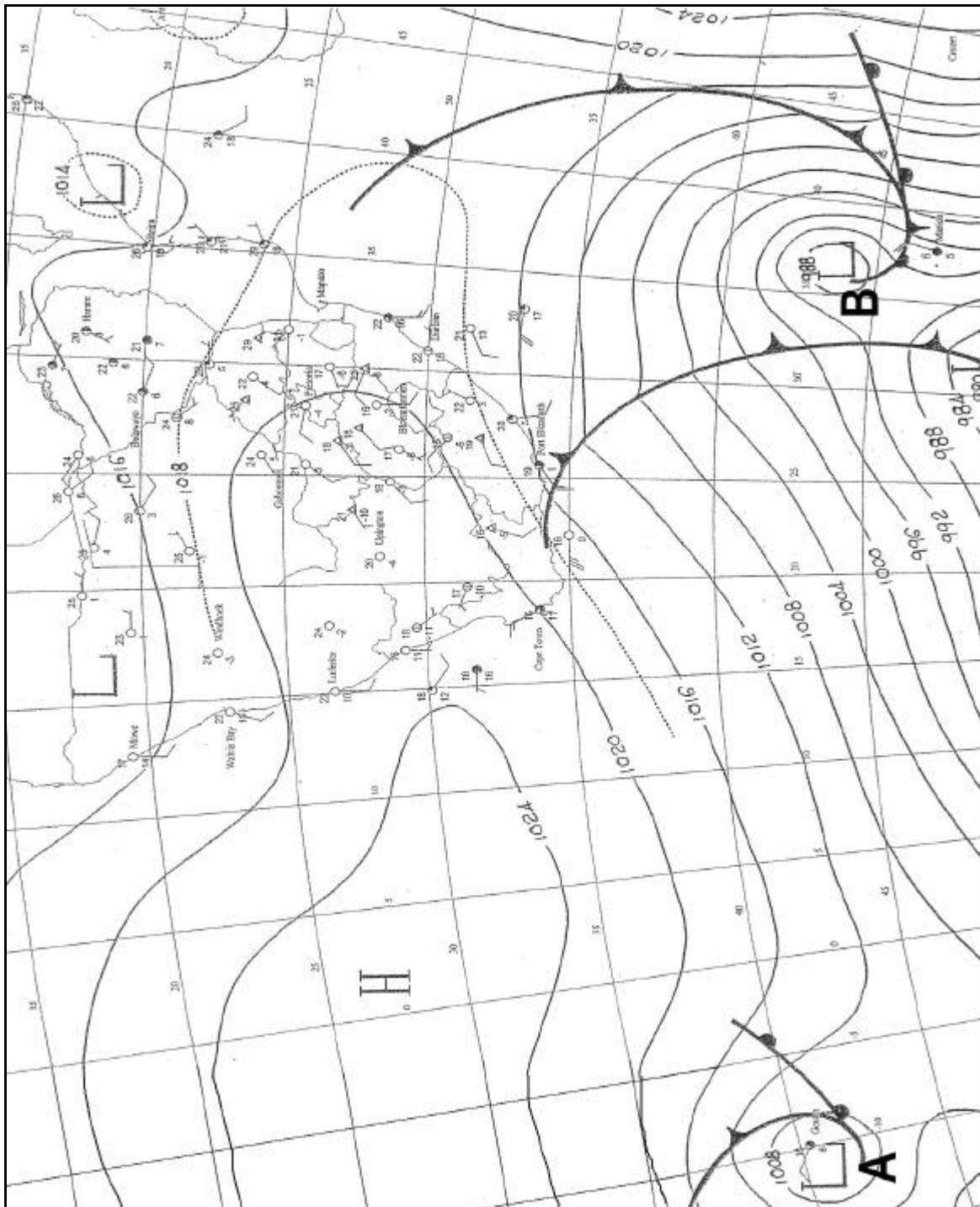
SECTION A: PHYSICAL GEOGRAPHY

Answer at least ONE question from this section.

QUESTION 1: CLIMATOLOGY

1.1 SYNOPTIC WEATHER MAP

Study the synoptic weather map below and answer the questions that follow.



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- 1.1.1 The synoptic weather map represents a winter weather system over South Africa. Give TWO reasons from the map to support this statement. 2x2 (4)
- 1.1.2 Describe the prevailing weather conditions for Pretoria as indicated by the station model, with reference to air temperature, dew point temperature, wind direction, wind speed, cloud cover and atmospheric pressure. 6x2 (12)
- 1.1.3 The mid-latitude cyclone at B to the north of Marion Island is in an occlusion stage. Give TWO pieces of evidence from the synoptic weather map that support this statement. 2x2 (4)
- 1.1.4 Name the pressure cell at A and state whether the air circulation pattern is clockwise or anti-clockwise. 2x2 (4)
- 1.1.5 Which of the mid-latitude cyclones, A or B, is older? Give a reason for your answer. 2x2 (4)[28]

1.2 TROPICAL CYCLONES: WEATHER CONDITIONS

Study the tropical cyclone warning poster below and answer the questions that follow.

WHEN A HURRICANE THREATENS

KEEP YOUR RADIO OR TV ON ... AND
LISTEN TO LATEST WEATHER BUREAU ADVICE
TO SAVE YOUR LIFE AND POSSESSIONS

<u>BEFORE</u> THE WIND AND FLOOD	HAVE GAS TANK FILLED ... CHECK BATTERY AND TYRES.	HAVE SUPPLY OF DRINKING WATER. STOCK UP ON FOODS THAT NEED NO COOKING OR REFRIGERATION.
HAVE ON HAND FLASHLIGHT, FIRST-AID KIT, FIRE EXTINGUISHER AND BATTERY- POWERED RADIO.	STORE ALL LOOSE OBJECTS: TOYS, TOOLS, RUBBISH BINS, AWNINGS, ETC. BOARD OR TAPE UP ALL WINDOWS.	GET AWAY FROM LOW AREAS THAT MAY BE SWEEPED BY STORM TIDES OR FLOODS.
<u>DURING</u> THE STORM	<u>STAY INDOORS</u> ... DON'T BE FOOLED IF THE "CALM EYE" PASSES DIRECTLY OVER YOU ... AND DON'T BE CAUGHT IN THE A OPEN WHEN THE HURRICANE WINDS RESUME FROM THE <u>OPPOSITE DIRECTION</u> .	LISTEN TO YOUR RADIO OR TV FOR INFORMATION FROM THE WEATHER BUREAU, CIVIL DEFENSE, RED CROSS AND OTHER AUTHORITIES.
<u>AFTER</u> THE STORM	<u>DO NOT DRIVE</u> UNLESS NECESSARY. WATCH OUT FOR UNDERMINED ROADS AND BROKEN POWER LINES.	REPORT DOWNED POWER LINES, BROKEN WATER OR SEWER PIPES TO PROPER AUTHORITIES OR NEAREST POLICEMAN.
	USE EXTREME CAUTION TO PREVENT OUTBREAK OF FIRE, OR INJURIES FROM FALLING OBJECTS.	USE PHONE FOR EMERGENCIES ONLY. JAMMED SWITCHBOARDS PREVENT EMERGENCY CALLS FROM GOING THROUGH.

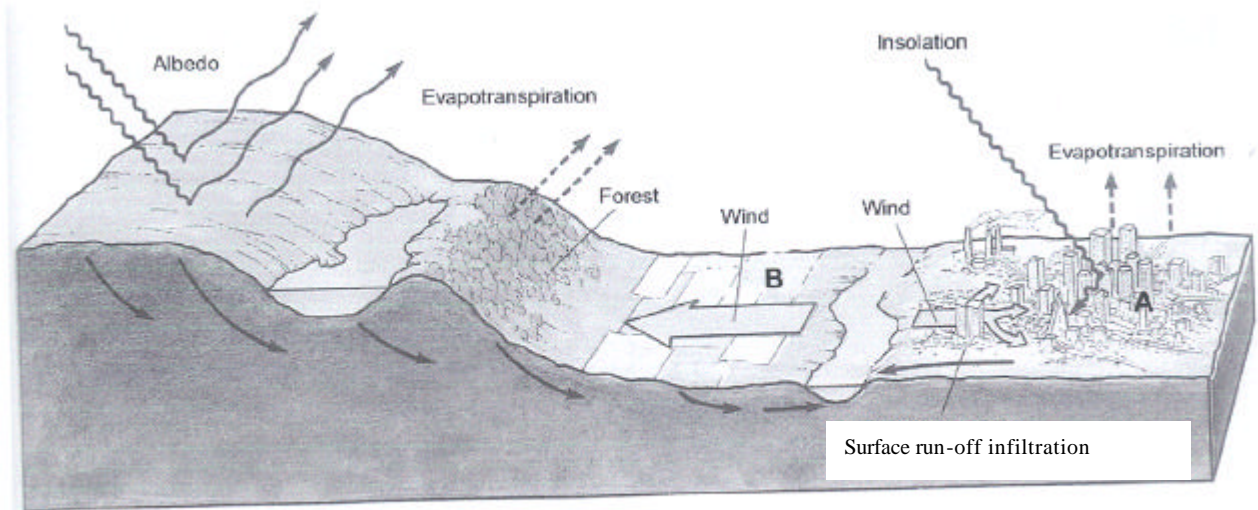
**YOUR ABILITY TO MEET EMERGENCIES
WILL INSPIRE AND HELP OTHERS**

Source: Jones & Walsh (1983). *Assignments in Physical Geography*, UK. Nelson & Sons pg 37

- 1.2.1 Give THREE precautions from the poster that persons whose property and personal safety are under threat from a tropical cyclone, could take. 3x2 (6)
- 1.2.2 Give TWO typical weather conditions around the eye that can be expected during a tropical cyclone. 2x2 (4)
- 1.2.3 In block A on the poster mention is made of the dangers after the eye was moved over an area. Give TWO weather characteristics that are normally experienced in the eye of a tropical storm. 2x2 (4)[14]

1.3 URBAN CLIMATES

Study the diagram below of the city of Deansville and the surrounding rural area, which is situated in the Southern Hemisphere, and answer the following questions:



Source: Bradshaw & Weaver (1993). *Physical Geography – An Introduction to Earth Environment*. USA. Mosby pg 231.

1.3.1 Explain the difference in temperature between the city of Deansville (marked A) and the surrounding rural area (marked B). 4x2 (8)

1.3.2 Name the phenomenon that is usually formed during the night, over the city of Deansville due to the higher temperatures recorded in the city. 1x2 (2)

1.3.3 The amount of pollution emitted daily in Deansville has reached a very high level.

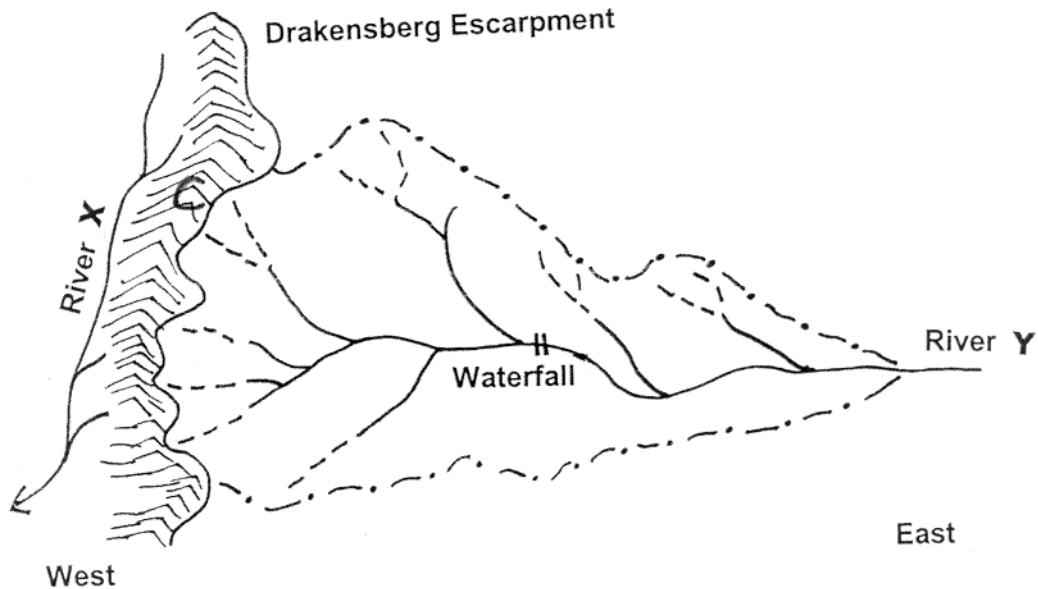
Give TWO sources of pollution that one can expect to find in Deansville. 2x2 (4)

1.3.4 Suggest TWO ways in which the pollution over Deansville can be controlled or prevented. 2x2 (4)[18]

QUESTION 2: GEOMORPHOLOGY AND ECOSYSTEMS

2.1 DRAINAGE BASINS AND DRAINAGE DENSITY

Refer to the diagram below showing the drainage basins of rivers X and Y on both sides of the Drakensberg. Answer the questions that follow.

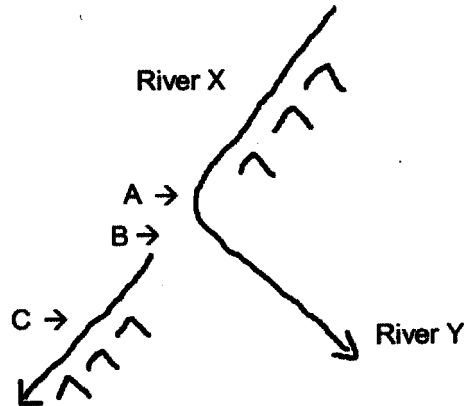


Source: Garland – New Generation Panel of Authors (1998). *Geomorphology Made Easy*. RSA. New Generation Publishers pg 24.

- 2.1.1 Define the term *drainage basin*. 1x2 (2)
- 2.1.2 Give the general term for the high-lying area marked C which separates the two drainage basins. 1x2 (2)
- 2.1.3 Identify the drainage pattern of river Y. 1x2 (2)
- 2.1.4 Name the geological structure and rock type which could be responsible for the formation of the drainage pattern in 2.1.3. 2x2 (4)
- 2.1.5 A number of tributaries of river Y meet just upstream of the waterfall. How will this influence the volume of water flowing over the waterfall? Would the water flow cause the landscape to be more or less eroded? 2x2 (4)

- 2.1.6 If river Y continues eroding headward and cuts back into the escarpment towards river X, river capture will eventually take place. Name the river capture features (A, B and C) shown in the diagram below.

3x2 (6)



- 2.1.7 Which river, X or Y, is the captor river?

1x2 (2)

- 2.1.8 Some of the rivers indicated in the drainage basin of river Y are non-perennial. What is a non-perennial river?

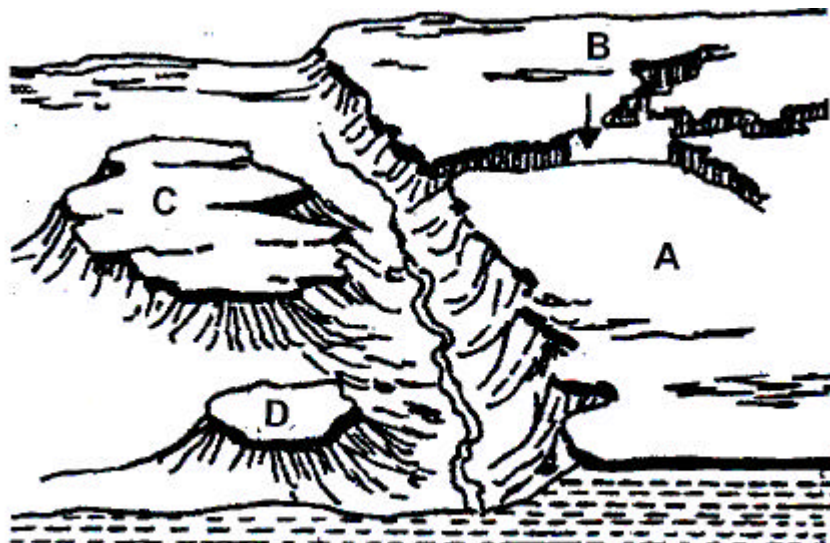
1x2 (2)

- 2.1.9 Can man rely on the rivers referred to in 2.1.8 for the purposes of agriculture in the surrounding area? (State Yes or No) Give a reason for your answer.

2x2 (4)[28]

2.2 STRUCTURAL LANDSCAPES

Refer to the diagram below which indicates structural landscapes, and answer the questions that follow.



Source: Guidelines Pty Ltd (1991) *Guidelines Q + A*. SA. Guidelines Pty Ltd pg 43

- 2.2.1 What evidence is there to indicate that this area represents a landscape consisting of horizontal strata?

1x2 (2)

- 2.2.2 Identify the landforms at A, C and D.

3x2 (6)

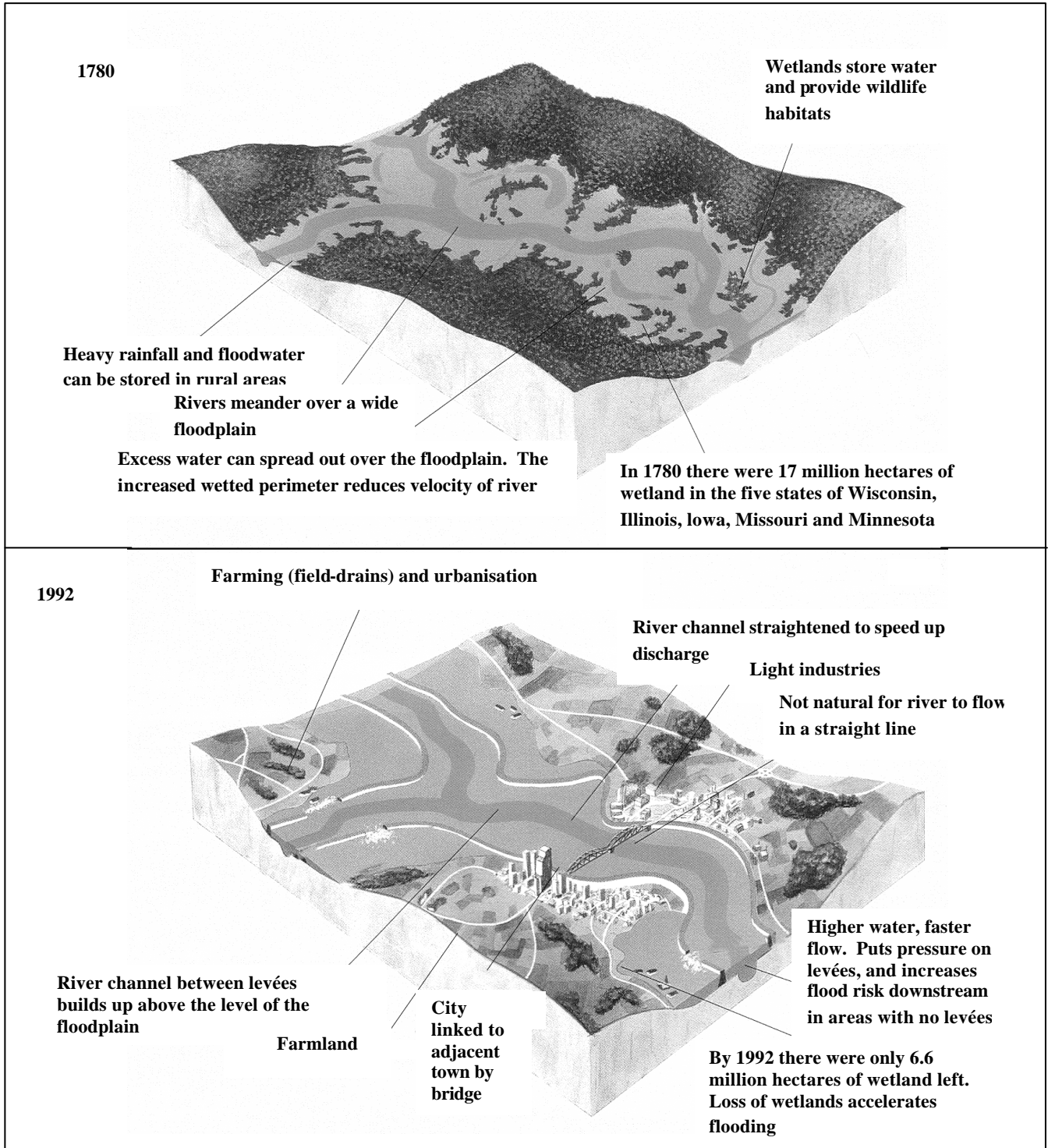
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- 2.2.3 Give a similarity and a difference between the landforms at C and D. 2x2 (4)
- 2.2.4 Draw a sketch of the slope forms occurring as part of the landform at D.
Label the main slope forms. 4x2 (8)
- 2.2.5 Where in South Africa would you expect to find landforms
as indicated at C and D? 1x2 (2)[22]

2.3 HUMAN IMPACT ON THE ECOSYSTEM

Refer to the diagrams below, which represent a wetland area in the years 1780 and 1992 respectively. Answer the question that follows.



Source: Waugh, D (2000). *Geography – An Integrated Approach*. UK. Scotprint pg 90.

Man and his development initiatives have altered the wetland area from 1780 to 1992. Identify the changes, as derived from the diagrams, that humans have made over the indicated period.

5x2 (10)[10]

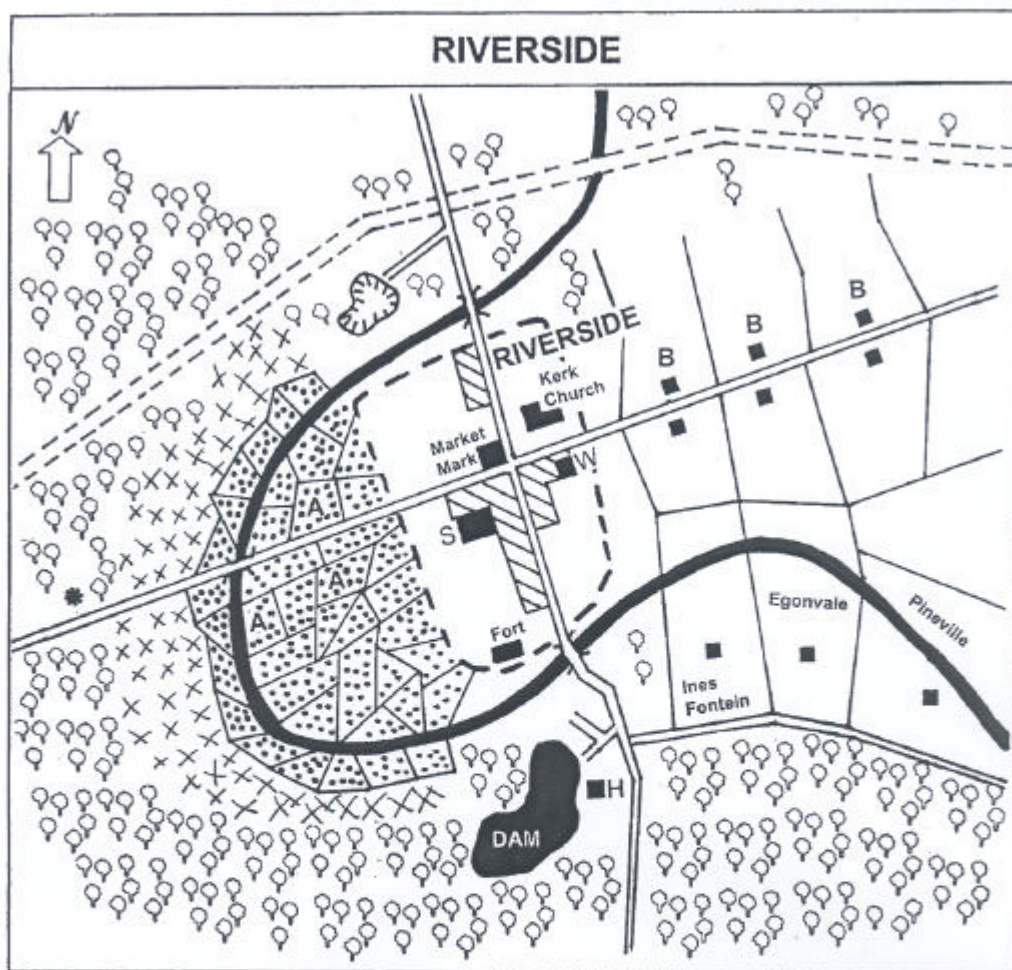
SECTION B: SETTLEMENT GEOGRAPHY

Answer at least ONE question from this section.

QUESTION 3

3.1 RURAL SETTLEMENT PATTERNS AND FACTORS INFLUENCING SITE

The rural area Riverside is situated in the Southern Hemisphere. Study the diagram below and answer the questions that follow. Answers must be derived from the diagram.



KEY			
	River		Rural settlements
	Town boundary		Residential area
	Forest		Proposed new road
	Grazing		Old mine
	Cultivated lands		Saw mill
	School (grades 1-9)		Two-star hotel
	Roads		General dealer

3.1.1 Is the pattern of the settlements southeast of Riverside nucleated or dispersed? Give ONE reason for your answer.

2x2 (4)

- 3.1.2 Explain why Riverside can be classified as predominantly rural. 3x2 (6)
- 3.1.3 You have the choice to buy the farm Ines Fontein and settle there or buy the three strips of cultivated land at A and live in Riverside. Explain why it would be more advantageous to buy the farm Ines Fontein. 4x2 (8)
- 3.1.4 What is the shape of the rural settlements at B? What factor was responsible for this shape? 2x2 (4)
- 3.1.5 Give FOUR basic needs of a self-supporting farming community that were taken into consideration before farmers settled in this area. 4x2 (8)[30]

3.2 RURAL DEPOPULATION

Study the diagram below that shows the broader area in which Riverside is situated, as well as some of the services offered in the urban settlement of Bridgetown, in conjunction with the statistics representing the number of inhabitants in Riverside over the past 20 years. Answer the questions that follow.

Services rendered in Bridgetown			
1	Administration:	Regional services office	
2	Financial:	Banks	
3	Business centre		
4	Supermarkets and other shops		
5	Schools		
6	Churches		
7	Theatre		
8	Co-operative		
9	Transport and communication centre		

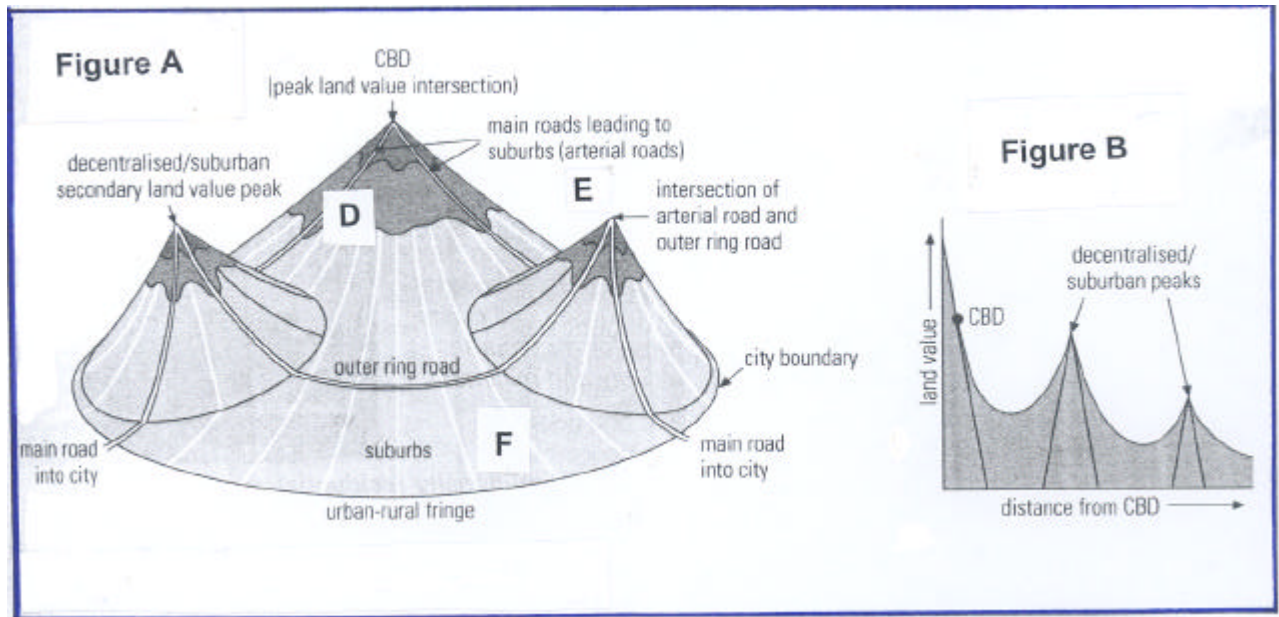
YEAR	1980	1990	2000
NUMBER OF INHABITANTS	2900	2100	1200

- 3.2.1 Do the population numbers in Riverside show an increase or a decrease? 1x2 (2)
- 3.2.2 Give THREE push factors in Riverside and THREE pull factors in Bridgetown which were responsible for the tendency mentioned in 3.2.1. 6x2 (12)
- 3.2.3 What can the local authorities do to combat a process such as rural depopulation? 4x2 (8)
- 3.2.4 Give FOUR consequences of rural depopulation which would be experienced at Riverside. 4x2 (8)[30]

QUESTION 4: URBAN SETTLEMENT

4.1 MORPHOLOGICAL AND FUNCTIONAL STRUCTURE

Study the two figures A and B below. Figure A represents peaks of high land value in an urban centre and B represents a graph of land values against distance from the CBD. Answer the questions that follow.



Source: Dillely. L et al: Focus on Geography Grade 12, p. 145

- 4.1.1 In which urban land-use zone do we find the highest land values? 1x2 (2)
- 4.1.2 Does the graph in Figure B show a decreasing or an increasing tendency in respect of land values from the land-use zone that is mentioned in 4.1.1 to the outskirts? 1x2 (2)
- 4.1.3 What are the reasons for the land values being so high in the land use zone that is mentioned in 4.1.1? 4x2 (8)
- 4.1.4 When looking at the graph in Figure B, two suburban peaks of high land value can be observed. With which TWO functions can these peaks be associated? Choose from the following list:
industries, high-lying high income residences, low income residences, suburban office park, sports fields. 2x2 (4)
- 4.1.5 Give FOUR high-order functions that occur in the land-use zone that is mentioned in 4.1.1. 4x2 (8)
- 4.1.6 The rural-urban fringe is indicated in Figure A.
- (a) Where in urban settlements does this land-use zone usually occur? 1x2 (2)

(b) Name FOUR urban functions found in this zone. 4x2 (8)

(c) Complete the following by writing down only the missing words. Choose from the following list:

less expensive, high-lying, steeper, expensive, large, small

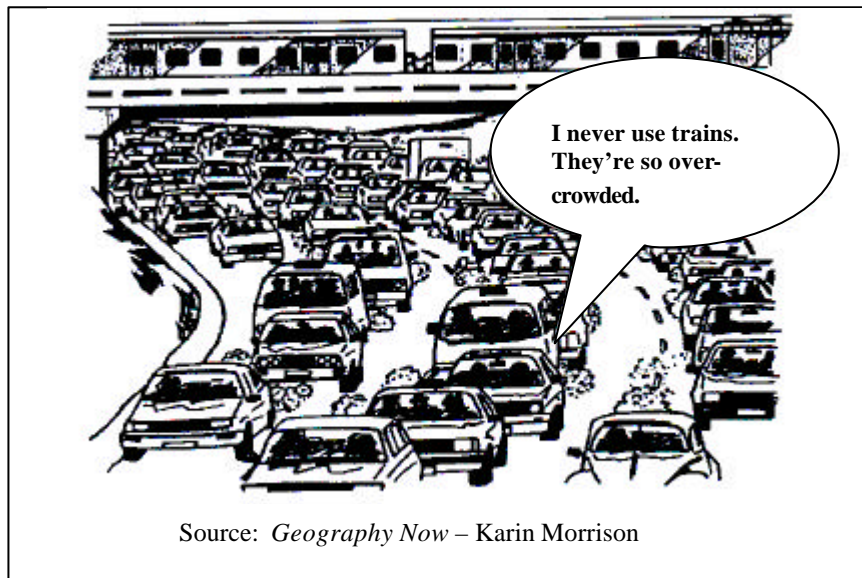
The functions in this land-use zone require areas of land.

2x2 (4)

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4.2 URBAN PROBLEMS

Study the cartoon below and answer the questions that follow.



4.2.1 What urban problem is depicted in the cartoon? 1x2 (2)

4.2.2 Give TWO reasons for this urban problem developing. 2x2 (4)

4.2.3 This urban problem in city centres is associated with all kinds of unpleasant consequences. Give THREE consequences. 3x2 (6)

4.2.4 The reason mentioned by the motor passenger as to why he/she never uses public transport such as trains is not the only reason people do not make use of public transport. What could other possible reasons be? 2x2 (4)

4.2.5 Suggest THREE possible ways in which this urban problem can be resolved. 3x2 (6) [22]

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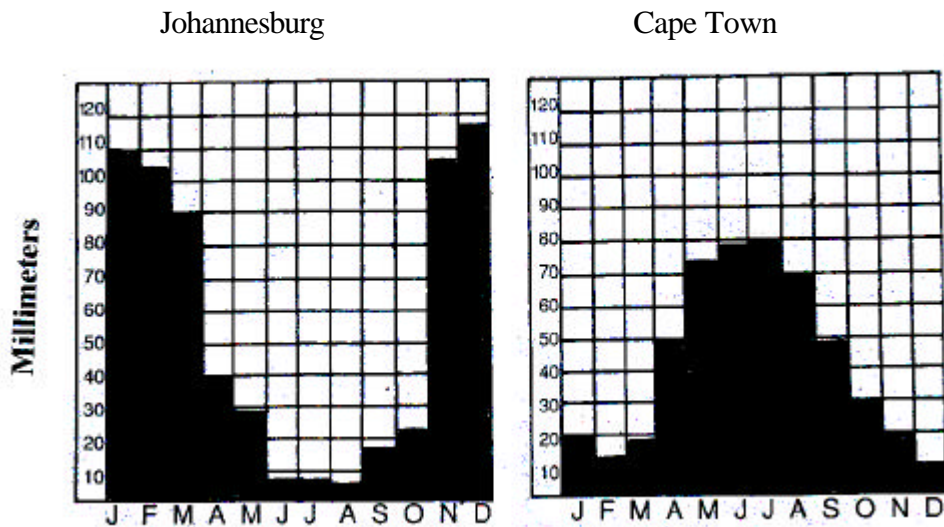
SECTION C: REGIONAL GEOGRAPHY

Answer at least ONE question from this section.

QUESTION 5: ENVIRONMENTAL PROBLEMS AND POPULATION GEOGRAPHY

5.1 RAINFALL IN SOUTH AFRICA

Study the bar graphs below which show the amount of rainfall in Cape Town and Johannesburg.



Geography Now – Karin Morrison

- 5.1.1 In which months did Cape Town receive the highest and lowest rainfall respectively? 2x2 (4)
- 5.1.2 Calculate the amount of rainfall that occurred in Cape Town from May to August as indicated on the graph. Show all calculations. 4x1+2 (6)
- 5.1.3 During which season does Johannesburg experience its highest rainfall? 1x2 (2)
- 5.1.4 What type of rainfall is experienced in Cape Town and Johannesburg respectively? 2x2 (4)
- 5.1.5 Explain why the type of rainfall experienced in Cape Town is more effective for agricultural activities than the type of rainfall experienced in Johannesburg. 3x2 (6) [22]

5.2 DROUGHT

Study the extract below and answer the questions that follow.

‘Drought in Western Cape will squeeze agriculture till end of year’

The subnormal rainfall that the Western Cape is experiencing this winter will most probably continue till the end of the year.

Almost all agricultural sectors in the Western Cape expect significant harvest losses as a result of the dry conditions. Mr Carl Opperman, executive head of Agri Western Cape, said that the Swartland is now entering a critical stage and that the money that farmers will lose as a result of the drought will not be recouped in one year.

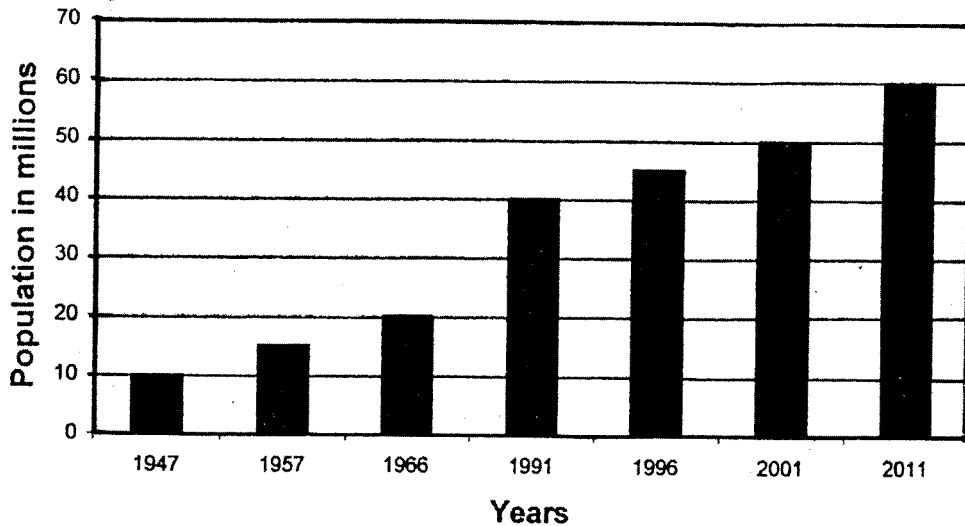
A spokesperson for Grain SA said that the underground water source which grain farmers use is not replenished. The quality of the water used is also no longer good, because farmers irrigate continuously and the water is never replenished by rainwater.

Source: Adapted from *Die Burger* – Marenet Jordaan (17/07/2003)

- | | | |
|-------|--|-------------|
| 5.2.1 | Why is the Swartland according to Mr Carl Opperman entering a critical stage? | 2x2 (4) |
| 5.2.2 | Give TWO negative consequences of drought for Swartland grain farmers. | 2x2 (4) |
| 5.2.3 | Name the process whereby drought can change productive farming areas into deserts. | 1x2 (2) |
| 5.2.4 | Explain the causes for the process mentioned in 5.2.3. | 3x2 (6)[16] |

5.3 POPULATION GROWTH IN SOUTH AFRICA

Study the bar graph below showing the population figures for South Africa over the period 1947 to 2011 and then answer the questions that follow.



Source: *Successful Social Sciences Grade 7, 1999* – Oxford University Press

- 5.3.1 Does the graph show a decreasing or an increasing tendency in population numbers from 1947 to 2011? 1x2 (2)
- 5.3.2 What effect will the tendency mentioned in 5.3.1 have on the economy of South Africa? 3x2 (6)
- 5.3.3 What is the estimated population figure for South Africa in 2011? 1x2 (2)
- 5.3.4 What is the difference in population numbers between 1947 and 1991? 1x2 (2)
- 5.3.5 What measures could be taken by the government to solve the problems mentioned in 5.3.2? 5x2 (10)[22]

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QUESTION 6

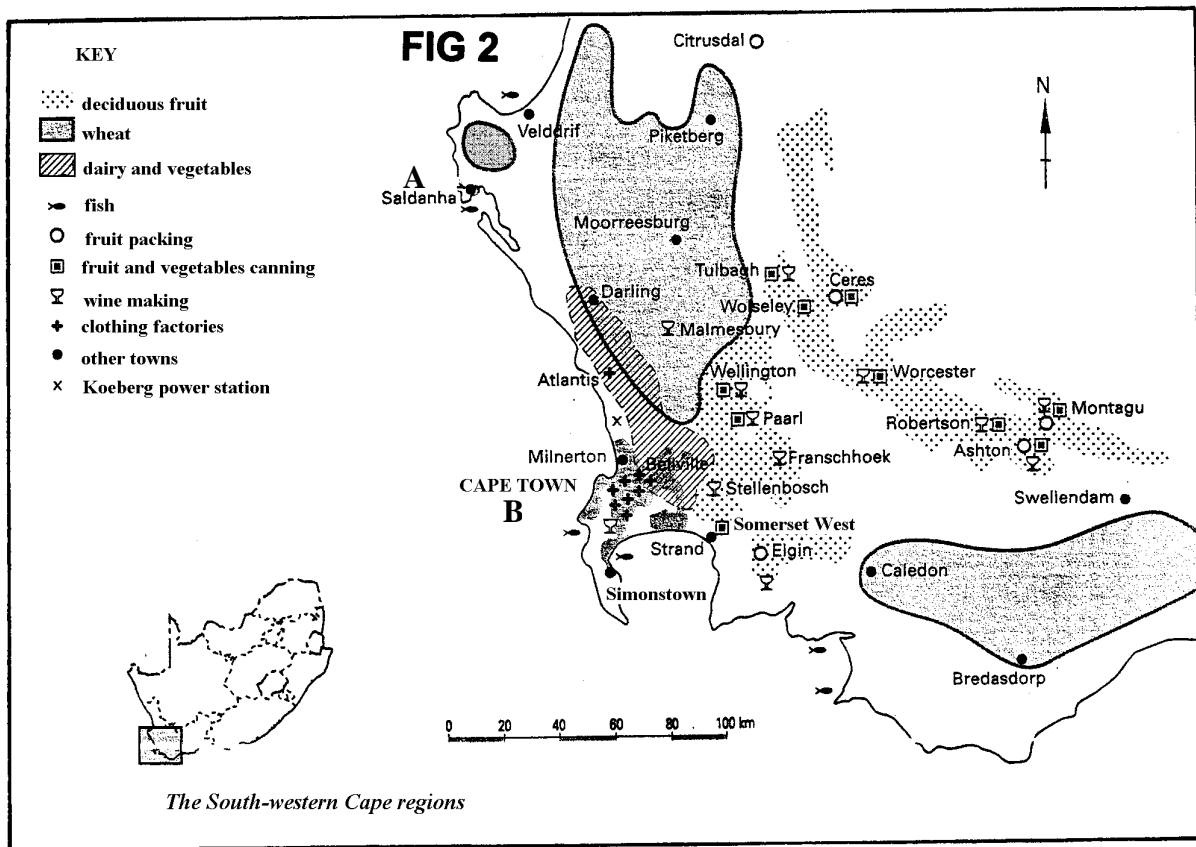
6.1 PRIMARY ACTIVITIES: MINING

Describe the significance of mining for the economy of South Africa.

8x2 (16)

6.2 INDUSTRIAL REGIONS OF SOUTH AFRICA

Study the map of South-western Cape below and answer the questions that follow.



Source: L. Dilley, et al. *Focus on Geography*

- 6.2.1 Name TWO primary products, as deduced from the map, that serve as raw material for the industries of the South-western Cape. 2x2 (4)
- 6.2.2 Which important heavy industry is found at A? 1x2 (2)
- 6.2.3 Explain the importance of the harbour at B for the industrial region. 2x2 (4)
- 6.2.4 Give ONE secondary activity that is indicated on the map. 1x2 (2)

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- 6.2.5 Which of the following industries are NOT found in the South-western Cape:
Textile industries/car assembly plants/chemical industries/fruit
canning factories/ fish processing factories? 2x2 (4)

- 6.2.6 Describe the factors that restrict industrial development in the
South-western Cape. 5x2 (10)[26]

6.3 TRADE AND ECONOMIC DEVELOPMENT

Study the table which shows South Africa’s imports and exports for 1997,
excluding gold.

IMPORTS (R million)		EXPORTS (R million)	
Food	6 345	Food	8 975
Chemicals	15 832	Chemicals	7 218
Textiles	34 121	Textiles	10 341
Metals and metal products	4 678	Metal and metal products	16 332
Machinery	33 568	Machinery	9 217
Transport equipment	12 372	Transport equipment	18 721
Other goods	20 321	Other goods	25 657
Total	127 237	Total	96 455

Source: *S.A. Stats*

- 6.3.1 Complete the definition on balance of trade.

The balance of trade only deals with the payment obligations that
arise when a country or goods. 2x2 (4)

- 6.3.2 According to this table ,did South Africa have a favourable or
unfavourable balance of trade in 1997? Give a reason for your answer. 2x2 (4)

- 6.3.3 Excluding “other goods,” name two commodities where the value of
the exports is greater than the value of the imports. 2x2 (4)

- 6.3.4 The excessive concentration of industries, population and services in a few
regions is known as centralisation. What are the negative effects of
centralisation on urban core areas? 3x2 (6) [18]

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TOTAL: /240/