

GEOGRAPHY PAPER 1 2009

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions.
2. Answer any THREE questions of 100 marks each.
3. All diagrams are included in the annexure.
4. Where possible, illustrate your answers with labelled diagrams.

SECTION A: CLIMATE AND WEATHER, FLUVIAL PROCESSES AND STRUCTURAL LANDFORMS

Answer at least ONE question from this section.

QUESTION 1

- 1.1 Look at Figure 1.1. Choose the correct word/phrase from the word/phrase given in brackets, which would make the sentence correct. Write down only the question number and the correct word/phrase.
- 1.1.1 (Katabatic/anabatic) winds will blow pollution from the factories to the townhouses at night. This wind is a (cold/warm) wind.
- 1.1.2 The suburb at B will be (warmer/colder) than the townhouses as it lies on the (north-facing/south-facing) slope.
- 1.1.3 Temperatures in the CBD will be (warmer/colder) than temperatures at the townhouses.
(5 x 2) (10)
- 1.2 Refer again to Figure 1.1. State whether the following statements are TRUE or FALSE.
- 1.2.1 Infiltration of rain water will be less in the CBD because many of the surfaces are impermeable.
- 1.2.2 There will be less runoff of rainwater at the suburb due to the steep gradient.
- 1.2.3 Infiltration of rain water will be greater at the golf course than it will be at the townhouses.
- 1.2.4 The channel pattern of this river is a meandering pattern.
- 1.2.5 The golf course lies on the inner bend of the river where there is more erosion.
(5 x 2) (10)
- 1.3 Use Figure 1.3 to answer this question. The figure shows a cross section of the ITCZ.
- 1.3.1 What do the letters ITCZ stand for? (1)
- 1.3.2 Over which line of latitude does the ITCZ lie? (1)

- 1.3.3 Which season is it in the Southern Hemisphere? Give a reason for your answer
(2 x 2) (4)
- 1.3.4 Name the planetary winds that are blowing towards the ITCZ. (1 x 2) (2)
- 1.3.5 Explain why heavy rain is shown at the ITCZ. (3 x 2) (6)
- 1.4 Refer to the sketch synoptic chart in Figure 1.4 to answer these questions.
- 1.4.1 Name the high pressure cells at A, B and C. (3 x 1) (3)
- 1.4.2 The mid-latitude cyclones at D and E are linked. What is this called? (1)
- 1.4.3 What season does this synoptic chart represent? Give ONE reason for your answer.
(2 x 2) (4)
- 1.4.4 Explain why the high pressure cell at C causes dry conditions over the plateau in winter.
[Hint: You must refer to the inversion layer.] You may use a diagram to illustrate your answer.
(4 x 2) (8)
- 1.4.5 Describe and explain the weather that Cape Town could be experiencing.
(3 x 2) (6)
- 1.4.6 It is possible that the area at F could experience berg winds. Why would this cause weather forecasters to warn the public about the possibility of fires?
(2 x 2) (4)
- 1.5 Look at Figure 1.5 to help you to answer these questions.
- 1.5.1 Name the river pattern in Diagram A and the river pattern in Diagram B.
(2 x 1) (2)
- 1.5.2 Describe the characteristics of the pattern in Diagram A. (1 x 2) (2)
- 1.5.3 Describe the rock structure that caused the pattern in Diagram B to develop.
(2 x 2) (4)
- 1.5.4 Draw a longitudinal profile from point 1 to 2 on Diagram A. Fill in the following on your diagram:
- a) the source of the river
 - b) the knickpoint waterfall
 - c) permanent/ultimate base level (3 x 2) (6)
- 1.5.5 Does the profile you have drawn indicate a graded river? Motivate your answer.
(2 x 2) (4)

1.5.6 The knickpoint waterfall is a temporary base level.

- a) What is a temporary base level? (1 x 2) (2)
- b) Name the process which would cause this waterfall to move upstream. (1 x 2) (2)
- c) The waterfall indicates that the river has been rejuvenated because the sea level dropped. What are the characteristics of a rejuvenated river? (2 x 2) (4)

1.6 Refer to Figure 1.6.

- 1.6.1 Name the slope elements at A, B and C. (3 x 1) (3)
- 1.6.2 State TWO characteristics of the rock at D. (2 x 1) (2)
- 1.6.3 What is the shape of the slope between X and Z? (1)
- 1.6.4 Soil creep occurs between X and Z. Describe this process and explain ONE factor which would indicate that it is occurring. (2 x 2) (4)
- 1.6.5 How do people contribute to mass wasting processes? Discuss TWO factors. (2 x 2) (4)

[100]

QUESTION 2

2.1 Choose the correct term/phrase from Column B to match the description in Column A. Write only the term/phrase next to the question number.

<i>COLUMN A</i>	<i>COLUMN B</i>
2.1.1 The winds that meet the Polar easterlies at the polar front	Upslope
2.1.2 The winds that converge on the ITCZ.	From the interior to the coast
2.1.3 The direction in which tropical cyclones move.	Tropical easterlies
2.1.4 The direction of a berg wind.	From east to west
2.1.5 The direction of an anabatic wind	Westerlies

(5 x 2) (10)

- 2.2 Choose the correct word/phrase from the word/phrase in brackets that would make the sentence correct. Write down only the question number and the correct word/phrase.
- 2.2.1 The steep slope of a homoclinal ridge is called the (dip/scarp) slope.
- 2.2.2 The dip slope of a cuesta has a (steeper/more gentle) gradient than the dip slope of a hogsback.
- 2.2.3 A cuesta is formed from strata which is (inclined/horizontal).
- 2.2.4 A (trellis/radial) drainage pattern is usually found in an area where there are homoclinal ridges lying parallel to one another.
- 2.2.5 The rock of which a tor is composed is (shale/granite). (5 x 2) (10)
- 2.3 Refer to Figure 2.3, which is a satellite photograph showing cloud pattern over southern Africa on 22 February.
- 2.3.1 Apart from the date, state TWO other factors to prove that this satellite image was taken in summer. (2 x 2) (4)
- 2.3.2 A tropical cyclone is shown at A.
- a) Name the feature that can be clearly seen in the centre of A. (1 x 2) (2)
- b) Describe the pressure and the weather that is experienced in the centre of the tropical cyclone. (2 x 2) (4)
- c) In which direction will the winds rotate in this tropical cyclone? Give a reason for your answer. (2 x 2) (4)
- d) Predict the direction in which this tropical cyclone will move over the next few days. (1 x 2) (2)
- e) Discuss the impact that system A would have on local communities in the area near X. (3 x 2) (6)
- 2.3.3 Figure 2.3.3 is a sketch to show the synoptic conditions associated with feature B on Figure 2.3.
- a) Name the high pressure cells at P and Q. (2)
- b) Name the winds at S and T and state the characteristics of each. (4)
- c) Explain why feature B is associated with heavy cloud cover. (2 x 2) (4)

- 2.4 The climate of a city is slightly different to the climate of the rural area that surrounds it. Describe in what way the following weather elements in a city are different to the rural area and explain why they are different.
- 2.4.1 Temperature (2 x 2) (4)
- 2.4.2 Cloud cover (2 x 2) (4)
- 2.5 Figure 2.5 is an illustration of river capture by the Graskop River in Mpumalanga. Refer to this diagram to answer the questions.
- 2.5.1 Describe why and how the Graskop River captured the river at X. (2 x 2) (4)
- 2.5.2 Supply labels for the features of capture marked W, X, Y and Z. (4)
- 2.5.3 Discuss what changes took place in the Graskop River after the capture. (2 x 2) (4)
- 2.6 Figure 2.6 shows the catchment area of a river system.
- 2.6.1 Define:
- a) Catchment area (1 x 2) (2)
- b) River system (1 x 2) (2)
- 2.6.2 Supply labels for:
- a) The high ground at D. (1)
- b) The point where the rivers join at C. (1)
- 2.6.3 Draw sketches to show the likely shape of the cross profile of the river at A and at B. (2 x 2) (4)
- 2.6.4 Deforestation is occurring near the dam. How will this affect the dam? Explain your answer. (2 x 2) (4)
- 2.6.5 Hydrologists (people that monitor the flow of the river and the water in the river) are concerned about the impact that the grazing land, the factory and the agricultural land could have on the river. Discuss why they are worried about each of these factors. (3 x 2) (6)
- 2.7 Look at Figure 2.7.
- 2.7.1 Name the landforms at X and Y. (2)
- 2.7.2 Give the characteristics of the rock structure that has led to the development of these landforms. (1)

2.7.3 What landform is developing at Z? (1)

2.7.4 Discuss the value of this landscape for people. (2 x 2) (4)

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SECTION B: PEOPLE AND PLACES: RURAL AND URBAN SETTLEMENTS, PEOPLE AND THEIR NEEDS

Answer at least ONE question from this section.

QUESTION 3

3.1 Choose the correct answer to the questions below. Only write down the letter next to the question number.

3.1.1 The policy to return land to people who had their land taken away during Apartheid is called

- A land redistribution
- B land tenure
- C land restitution
- D Agenda 21

3.1.2 The programme of action agreed on at the Earth Summit in Rio de Janeiro to improve the social, economic and environmental quality of human settlements is called:

- A GEAR
- B Agenda 21
- C Land reform
- D RDP

3.1.3 The urban land use model that divides a city into 'slices' radiating out from the CBD is called the:

- A Concentric Zone Model
- B Bid Rent Model
- C Multiple Nuclei Model
- D Sector Model

3.1.4 Forces which cause people and activities to move away from the CBD are:

- A Centripetal forces
- B Centrifugal forces
- C Invasion forces
- D Succession forces

3.1.5 Which of the following are processes which assist with urban renewal?

- A Gentrification and chelseafication
- B Invasion and succession
- C Functional magnetism
- D Functional convenience

(5 x 2) (10)

3.2 The sentences below relate to South Africa's economic activities. Select the missing words from the list. Write down the question number and the correct word/words.

List from which to choose answers:

Mpumalanga, South-western Cape, Limpopo Province, Sishen, Saldanha Bay, Richard's Bay, sugar, maize, fruit, platinum, gold

3.2.1 The South Western Cape is the chief _____ producing region in the country.

3.2.2 The North Western Province is important as _____ is mined there.

3.2.3 The main harbour from which coal is exported is _____.

3.2.4 The main agricultural product of South Africa is _____.

3.2.5 Most of the thermal power stations of South Africa are found in _____.

(5 x 2) (10)

3.3 Study Figure 3.3 which shows a settlement.

3.3.1 What is a settlement? (1 x 2) (2)

3.3.2 Is the settlement shown in the diagram a rural or an urban settlement? Motivate your answer. (2)

3.3.3 Is the settlement shown in the diagram a dry point or a wet point settlement? Motivate your answer. (2)

3.3.4 Is the settlement pattern nucleated or dispersed? Give a reason for your answer. (2)

3.3.5 Name and discuss TWO physical factors (other than water), which influenced the choice of the site of this settlement. (2 x 2) (4)

3.3.6 The sustainability of this village is threatened by soil erosion. Describe TWO ways in which this community could prevent soil erosion. (2 x 2) (4)

3.4 Refer to Figure 3.4 which shows the service area of four different functions provided by a town.

3.4.1 The town is a central place. Define a 'central place urban settlement'. (2)

3.4.2 What do the following terms mean?

- a) Sphere of influence
- b) Threshold population
- c) Range (3 x 2) (6)

3.4.3 How would the size of the sphere of influence of the town compare with the size of the sphere of influence of the village? Explain your answer. (2 x 2) (4)

3.4.4 Name ONE service/function that you would expect to find in the village. (1)

3.4.5 Which service offered by the town has the largest threshold population and which service has the smallest threshold population? (2 x 2) (4)

3.4.6 Many South Africa country towns such as the one shown in the figure, are experiencing rural depopulation.

- a) Explain why country towns are experiencing rural depopulation. (2 x 2) (4)
- b) Discuss ONE strategy that could be implemented to revitalise a country town. (3)

3.5 Study the map and diagrams in Figure 3.5, which shows a South African industrial complex and then answer these questions.

3.5.1 Identify the industrial complex G (Insert A), shown on the map. (1)

3.5.2 Suggest the main primary economic factor (evident on the map), which influenced the development of this industrial complex. (1)

3.5.3 Give TWO other factors, also evident on the map, which attracted industries to this region. (2)

3.5.4 Explain how the factors shown in Insert B have influenced the development of industries in this industrial region. (4 x 2) (8)

3.5.5 Identify industrial areas B, C and D shown on Insert A. (3)

3.5.6 Centralisation of industries in industrial complex G has created many problems in the area. State THREE of these problems. (3)

3.5.7 To encourage economic development in other areas of South Africa the government has implemented SDI's.

- a) What are SDI's and how will they encourage development? (2 x 2) (4)
- b) What kind of incentives are used by government to encourage businessmen to move to these areas? (2)
- c) Give ONE example of an SDI. (1)

3.6 Read the Fact File below:

Fact File:

According to the South African constitution it is every person's right to have access to clean water. However, by 2005, 16% of South Africans did not have an adequate water supply. Companies like Rand Water and Umgeni Water in Durban purify and distribute water to consumers. Approximately 59% is used by irrigated agriculture, 25% for domestic and municipal use in rural and urban areas, 6% for mining and large industries, 2% for power generation, and 4% for commercial forestry plantations. Total water use is expected to increase by at least 30% by 2025. By 2030 it is expected that our demand for water will exceed our supply.

- 3.6.1 Explain why 16% of South Africans do not have access to a reliable water supply. (2)
- 3.6.2 Discuss TWO reasons for the increase in the demand for water. (2 x 2) (4)
- 3.6.3 Which sector uses the most water? (1)
- 3.6.4 Suggest THREE ways in which this sector could reduce their water consumption. (2 x 2) (4)
- 3.6.5 Explain why the Drakensberg Pumping Scheme is called an 'inter-basin' water transfer scheme. (2 x 2) (4)

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QUESTION 4

- 4.1 Choose the correct term/phrase from the word/phrase in brackets, which would make the sentence correct. Write down only the correct term/phrase next to the question number.
- 4.1.1 Urban settlements are regarded as (unifunctional/multifunctional).
- 4.1.2 A metropolis is (higher/lower) than a city in the urban hierarchy of settlements.
- 4.1.3 The (site/situation) of a settlement refers to the actual piece of land on which the settlement is placed.
- 4.1.4 An isolated rural settlement pattern has greater (social/economic) advantages than a nucleated rural settlement.
- 4.1.5 Rural development projects that are set up by the community are called (co-operative/grassroot) development projects. (5 x 2) (10)
- 4.2 State whether the following are TRUE or FALSE. Only write down the question number and true or false.
- 4.2.1 A positive balance of trade is when the value of a country's imports is greater than the value of its exports.
- 4.2.2 The balance of payments includes a country's invisible imports and exports.
- 4.2.3 Tourists visiting South Africa is regarded as an invisible import.
- 4.2.4 Globalisation is the movement of ideas, goods and people between countries.
- 4.2.5 GDP per annum refers to the value of the goods produced and services performed by the permanent inhabitants of a country in one year. (5 x 2) (10)
- 4.3 Refer to Figure 4.3 which shows the land use zones in Port Elizabeth and then answer the questions below:
- 4.3.1 What type of trade and transport town would this settlement be classified as? Motivate your answer. (2)
- 4.3.2 The CBD of a city is usually in the centre of the city. Suggest why this is not the case in Port Elizabeth. (1 x 2) (2)
- 4.3.3 List THREE functions that would be found in the CBD. (3)
- 4.3.4 Explain TWO reasons for the location of the industrial land use zone. (2 x 2) (4)
- 4.3.5 Give a reason for the location of Area B. (1)

- 4.3.6 Discuss how the RDP (Reconstruction and Development Programme) attempted to improve the quality of life for the people living in Area B. (4 x 2) (8)
- 4.3.7 The airport is located in the rural-urban fringe (Area C). Describe the characteristics of this land use zone. (3 x 2) (6)
- 4.3.8 Explain, giving ONE reason for each, the location of each of the residential areas 1, 2 and 3. (3 x 2) (6)
- 4.3.9 As a town planner, suggest where a regional shopping centre should be built. Give TWO reasons for your answer. (3 x 2) (6)

4.4 Read the extract below, which relates to the Coega Industrial Development Zone.

Coega: Gateway to the African renaissance

[An advertisement for Coega]

Anyone who knows anything about international trade will tell you that Hong Kong, Singapore and Dubai are amongst the world's busiest ports.

South Africa will soon be part of this powerful group thanks to the benefits available at the Coega IDZ near Port Elizabeth.

It's the ideal location for export-orientated industries.

For a start there are no import duties so manufacturers can bring raw materials in at lowest cost.

And because there are no export duties, they can send beneficiated goods out at the keenest prices.

Transport costs are minimised, too, because Coega is right next door to South Africa's new deepwater port where state-of-the-art container handling will speed up distribution.

The proven combination of a duty-free industrial zone, purpose-built modern port and ready access to the rest of the world will result in competitive advantages for exporters.

Not to mention economic benefits for the people of the Eastern Cape. Or international trading opportunities for the entire sub-continent.

Welcome Coega.

Visit www.coega.com for further information.

4.4.1 What is meant by the following:

- a) export-orientated industries
- b) beneficiated goods
- c) container-handling (3 x 2) (6)

4.4.2 In what ways is Coega an ideal location for export-orientated industries? (2 x 2) (4)

- 4.4.3 State TWO advantages of Coega for manufacturers, stated in the advertisement (other than its location). (2)
- 4.4.4 The main economic activities at Coega are industry and trade. Classify each of these activities as primary, secondary or tertiary economic activities. (2)
- 4.4.5 Write a short paragraph explaining how the people of the Eastern Cape will benefit from the development of this IDZ. (4 x 2) (8)
- 4.4.6 Suggest the meaning of the heading of the article. (1 x 2) (2)
- 4.4.7 In January 2008, it was announced that a multi-billion rand aluminium smelter for Rio-Tinto-Alcan, an anchor tenant, was approved and that 150 skilled Canadians have arrived to help with its construction.
- a) What do understand by an anchor tenant? (2)
- b) How will the arrival of 150 Canadians impact on the economy of the Eastern Cape? (2 x 2) (4)
- 4.5 The Department of Minerals and Energy is investigating a strategy to use mealies or sugar cane as the main ingredient to produce bioethanol. However, Citizens United for Renewable Energy and Sustainability (CURES) is worried that: "... a strategy based on industrial agriculture will bring more environmental problems as well as increased food prices ..." (Annie Sugrue).
- 4.5.1 How is most of the power, used in industry, presently generated in South Africa? (1 x 2) (2)
- 4.5.2 Why is it important to investigate alternative methods to produce power? Give TWO reasons for your answer. (2 x 2) (4)
- 4.5.3 How would the use of mealies or sugar cane to produce bioethanol impact on food security? Explain your answer. (2 x 2) (4)
- 4.5.4 Where is the main maize growing area in South Africa and where is the main sugar growing area in South Africa? (2)

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