**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

GEOGRAPHY P1

FEBRUARY/MARCH 2012

MARKS: 300

TIME: 3 hours

This question paper consists of 13 pages and an 11-page annexure.

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.   Number ALL your answers in the CENTRE of the line.

5.   Leave a line between subsections of questions answered.

6.   Start EACH question at the top of a NEW page.

7.   Number the answers correctly according to the numbering system used in this question paper.

8.   Do NOT write in the margins of your ANSWER BOOK.

9.   ENCIRCLE the numbers of the questions that you have answered on the front page of your ANSWER BOOK.

10.   Where possible, illustrate your answers with labelled diagrams.

11.   Write clearly and legibly.

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

Answer at least ONE question from this section.

QUESTION 1

1.1   FIGURE 1.1 illustrates air pressure belts over Africa. Answer the questions below by matching each question with a term from the list below. Write only the word(s) next to the question number (1.1.1–1.1.5) in the ANSWER BOOK.

> ITCZ; subtropical belt; westerlies; Coriolis; Hadley; polar easterlies

      1.1.1   Name the pressure belt South Africa is located in.   (2)

      1.1.2   What is the name of the belt where the tropical easterlies converge?   (2)

      1.1.3   What is the name of the force that deflects winds to the left in the Southern Hemisphere?   (2)

      1.1.4   Name the winds that diverge from the 30°N/S latitude.   (2)

      1.1.5   Identify the name of the cell associated with warm rising air at the equator.   (2)

1.2   Refer to FIGURE 1.2 which shows fluvial features and give ONE term for each of the statements below:

      1.2.1   Water that flows on the surface after it rains

      1.2.2   High-lying area that separates two different drainage basins

      1.2.3   Water found below the Earth's surface

      1.2.4   Point where the river enters the sea.

      1.2.5   Shows the division between tributaries in the same drainage basin
                                                                             (5 x 2)   (10)

1.3   Study FIGURE 1.3 which shows a cross section through a line thunderstorm which develops along a moisture front/trough line.

      1.3.1   Explain the meaning of the term *moisture front.*   (1 x 2)   (2)

      1.3.2   Identify the two winds at **A** and **B** that will converge at the moisture front.   (2 x 2)   (4)

1.3.3   Indicate which ONE of the two winds mentioned above is warm and moist and which one is cold and dry.   (2 x 2)   (4)

1.3.4   Explain why the two winds identified in QUESTION 1.3.2 show different characteristics in terms of moisture content and temperature.   (2 x 2)   (4)

1.3.5   Briefly describe how a thunderstorm develops along the moisture front.   (3 x 2)   (6)

1.3.6   State TWO ways in which line thunderstorms can impact negatively on farming activities in the South African interior.   (2 x 2)   (4)

1.4   Study FIGURE 1.4 which shows a seasonal wind in India.

1.4.1   Identify the seasonal wind shown in the sketch.   (1 x 2)   (2)

1.4.2   Why is it called a *seasonal wind*?   (1 x 2)   (2)

1.4.3   Identify the season represented in FIGURE 1.4.   (1 x 2)   (2)

1.4.4   Although people fear the arrival of the seasonal wind shown in FIGURE 1.4, they are more concerned with the late arrival of the seasonal wind. Explain this statement in full.   (6 x 2)   (12)

1.5   Refer to FIGURE 1.5 showing a river basin.

1.5.1   Name the type of river labelled **A**.   (1 x 2)   (2)

1.5.2   Determine the stream order at **B**.   (1 x 2)   (2)

1.5.3   Explain how the forested area will affect stream discharge (run-off).   (2 x 2)   (4)

1.5.4   Identify the drainage pattern evident in the area called Cap Mountains.   (1 x 2)   (2)

1.5.5   River capture has occurred at point **C**.

    (a)   Explain the concept *river capture*.   (1 x 2)   (2)

    (b)   Suggest TWO characteristics that River Ron would have in order to have captured another river.   (2 x 2)   (4)

    (c)   What impact does river capture have on settlement **D** that occurs along the misfit river?   (2 x 2)   (4)

1.6   Study FIGURE 1.6 which depicts a side view of a river.

          1.6.1   Identify the river profile labelled **A**.   (1 x 2)   (2)

          1.6.2   Give TWO possible reasons for the rain water not soaking
                    (infiltrating) into the ground fast enough.   (2 x 2)   (4)

          1.6.3   Flooding of rivers is largely due to river mismanagement. Write a
                    paragraph (approximately 12 lines) suggesting ways in which
                    humankind mismanages river environments.   (6 x 2)   (12)
                                                                                             [100]

QUESTION 2

2.1   Refer to FIGURE 2.1 which shows a mid-latitude cyclone. Respond to each of
          the statements below by matching them to the terms provided. Write only the
          word(s) next to the question number (2.1.1–2.1.5) in the ANSWER BOOK.

warm front; cumulonimbus; cirrus; cold front; occlusion; polar front

          2.1.1   Identify the front labelled **A**.   (2)

          2.1.2   State the type of cloud associated with the approach of a mid-
                    latitude cyclone.   (2)

          2.1.3   Name the thunderstorm cloud associated with front **A**.   (2)

          2.1.4   The term used to describe the process when a cold front catches
                    up with the warm front at the apex (**C**).   (2)

          2.1.5   Identify the front **D** which rarely affects the weather of South Africa.   (2)

2.2   Study FIGURE 2.2 which shows fluvial features. Choose the correct
          word(s)/term(s) from those given in brackets. Write only the word(s)/term(s)
          next to the question number (2.2.1–2.2.5) in the ANSWER BOOK.

          2.2.1   Name the slope that forms on the river labelled **X**.
                    (Undercut slope/Scarp slope)

          2.2.2   The name of the slope labelled **Y**. (Dip slope/Slip off slope)

          2.2.3   Feature **E** that forms when a meander loop is cut off.
                    (Oxbow lake/Meander neck)

          2.2.4   Deposits (**F**) that occur on the banks of a river. (Silt/Scree)

          2.2.5   Area adjacent to the river that floods (**G**) when a river overflows its
                    banks. (Leveé/Flood plain)   (5 x 2)   (10)

2.3   FIGURE 2.3 is a cartoon that highlights climate hazards and human response.

    2.3.1   Suggest a possible cause for the climatic hazards mentioned in the cartoon.   (1 x 2)   (2)

    2.3.2   What message do you think is being conveyed (told) by the words 'whether or not it rains tomorrow isn't what we should be worrying about'?   (1 x 2)   (2)

    2.3.3   What could cause coastal flooding?   (1 x 2)   (2)

    2.3.4   Explain how droughts are likely to lead to an 'economic collapse'.
                                                                             (2 x 2)   (4)

    2.3.5   International summits like the Kyoto Protocol and the Copenhagen Accord acknowledged climate change as one of the greatest challenges being experienced. Discuss measures that can be employed to address climate change. (Your discussion should be approximately 12 lines.)   (6 x 2)   (12)

2.4   Refer to FIGURE 2.4 showing a heat island.

    2.4.1   Explain what is meant by the term *heat island*.   (1 x 2)   (2)

    2.4.2   Calculate the difference in temperatures experienced between the city centre and the outskirt.   (1 x 2)   (2)

    2.4.3   Suggest THREE reasons for the difference in temperature experienced between the city centre and the outskirts.   (3 x 2)   (6)

    2.4.4   Explain why pollution concentration over the city centre will be higher during winter.   (2 x 2)   (4)

    2.4.5   Assess the impact that heat islands will have on the health of people living in the city.   (3 x 2)   (6)

2.5   Refer to FIGURE 2.5 showing the geology of a particular area.

    2.5.1   Does the diagram show tilted/inclined or horizontal strata?   (1 x 2)   (2)

    2.5.2   The hill is an example of a hogback ('hogsback').

              (a)   Name the types of slopes labelled **A** and **B**.   (2 x 2)   (4)

              (b)   Give an explanation for the steepness of slope **A**.   (2 x 2)   (4)

    2.5.3   Explain why these landscapes are of little value to humans. (2 x 2)   (4)

    2.5.4   Explain why the hogback ('hogsback') will most likely not develop in the Karoo region of South Africa.   (1 x 2)   (2)

2.6	FIGURE 2.6 shows a mesa.

2.6.1	Name the slope forms/elements labelled **A** and **B**.	(2 x 2)	(4)

2.6.2	Briefly describe how mesas form.	(2 x 2)	(4)

2.6.3	State ONE characteristic of mesas.	(1 x 2)	(2)

2.6.4	A typical slope has four slope elements. Using FIGURE 2.6, discuss the significance of these slope elements to human activities.	(6 x 2)	(12)

[100]

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   Refer to FIGURE 3.1 illustrating the location of towns in relation to each other and answer the questions below.

        3.1.1   Give the term used to describe a large urban area where several towns are joined together.   (2)

        3.1.2   Identify the rural settlement evident in the sketch.   (2)

        3.1.3   Will the sphere of influence of town **X** or **Y** be greater?   (2)

        3.1.4   Give the name of the theory that explains the relative size and spacing of settlements.   (2)

        3.1.5   What is the term used to describe the trade and transport town **X**, where a number of routes converge?   (2)

3.2   Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–G) next to the question number (3.2.1–3.2.5) in the ANSWER BOOK, for example 3.2.1 H.

COLUMN A	COLUMN B
3.2.1 Over-concentration of industries in a few core areas	A heavy industries
3.2.2 The largest industrial core area in South Africa	B footloose industries
	C market-orientated
3.2.3 Industries that can locate anywhere due to improved technology	D centralisation
3.2.4 Industries that must be close to consumers	E Durban-Pinetown
	F Gauteng/PWV
3.2.5 These industries are associated with high noise and pollution	G decentralisation

                                                 (5 x 2)   (10)

3.3   Study FIGURE 3.3 which shows different settlements and land uses.

    3.3.1   Identify the type of rural settlement labelled **3**. Give a reason to support your answer.   (2 x 2)   (4)

    3.3.2   A regional shopping centre is planned for the site labelled **4**. Give ONE characteristic of this type of centre.   (1 x 2)   (2)

    3.3.3   Give a reason that could have influenced the site of settlement **5**.   (1 x 2)   (2)

    3.3.4   Name ONE factor that favours the location of the industrial area at **1**.   (1 x 2)   (2)

    3.3.5   The urban area **2** is associated with a number of challenges. With specific reference to urban area **2**, name and discuss (approximately 12 lines) the problems it will experience in terms of urban expansion.   (6 x 2)   (12)

3.4   FIGURE 3.4 shows migration in developing countries.

    3.4.1   Describe the type of migration evident on the sketch.   (1 x 2)   (2)

    3.4.2   Give THREE reasons why people are attracted to cities.   (3 x 2)   (6)

    3.4.3   Assess the impact of rural depopulation on urban areas.   (3 x 2)   (6)

    3.4.4   Explain the impact that HIV/Aids has on the South African rural landscape.   (2 x 2)   (4)

3.5   Refer to FIGURE 3.5 which shows the employment structures of two countries.

    3.5.1   What is a *primary economic activity*?   (1 x 2)   (2)

    3.5.2   How are primary and secondary activities linked?   (1 x 2)   (2)

    3.5.3   Match graphs **X** and **Y** to:

        (a) A developed country   (1 x 2)   (2)

        (b) A developing country   (1 x 2)   (2)

    3.5.4   Explain why country **X** is likely to have a low GDP.   (1 x 2)   (2)

    3.5.5   Refer to any ONE of the industrial areas that you have studied and write a paragraph (approximately 12 lines) on its location in terms of access to raw materials, transport and markets.   (6 x 2)   (12)

3.6   Refer to the cartoon in FIGURE 3.6 which focuses on environmental injustice.

    3.6.1   What does the term *environmental injustice* mean?   (1 x 2)   (2)

    3.6.2   Identify the environmental injustice being discussed in the cartoon.   (1 x 2)   (2)

    3.6.3   Do you agree with the solution presented in the cartoon on how to handle the environmental injustice issue discussed here? Explain your answer.   (2 x 2)   (4)

    3.6.4   Give TWO natural reasons for water being a critical resource in South Africa.   (2 x 2)   (4)

    3.6.5   With reference to the TUVA (Tugela-Vaal) project, explain the benefits it brings to the Gauteng economy.   (3 x 2)   (6)
[100]

QUESTION 4

4.1   Refer to FIGURE 4.1 and match the sketches to the descriptions below:

    4.1.1   Side view of a city   (2)

    4.1.2   Linear settlement that develop along a river   (2)

    4.1.3   Stellar-shaped settlement that develops due to growth along radiating transport lines   (2)

    4.1.4   A planned irregular street pattern   (2)

    4.1.5   Settlement that assumes a circular shape   (2)

4.2   Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (4.2.1–4.2.5) in the ANSWER BOOK, for example 4.2.6 B.

    4.2.1   The difference in value between a country's imports and its exports is …

        A   an unfavourable trade balance.
        B   the balance owing.
        C   the balance of payments.
        D   the balance of trade.

4.2.2   If there are no barriers to the import/export of goods and services between countries, we refer to this as …

A   open trade.
B   fair trade.
C   free trade.
D   protected trade.

4.2.3   Restrictions placed on the quantity of goods imported into a country are referred to as …

A   tariffs.
B   quotas.
C   trading blocks.
D   import substitution.

4.2.4   … activities are concerned with the provision of services to consumers.

A   Tertiary
B   Quaternary
C   Primary
D   Secondary

4.2.5   A strategy adopted by the government in 1994 to solve social and economic problems in South Africa is …

A   Asgisa.
B   BEE.
C   GEAR.
D   RDP.   (5 x 2)   (10)

4.3   FIGURE 4.3 shows an urban land-use model.

4.3.1   Which land-use model does the sketch resemble?   (1 x 2)   (2)

4.3.2   Refer to the land-use zone labelled **A**.

(a) Name the land-use zone.   (1 x 2)   (2)
(b) Describe the location of the zone.   (1 x 2)   (2)
(c) Why is the shape of zone **A** unrealistic?   (1 x 2)   (2)

4.3.3   Give TWO reasons for the development of shanty towns.   (2 x 2)   (4)

4.3.4   Suggest TWO challenges associated with shanty town settlements.
                                                                     (2 x 2)   (4)

4.3.5   Which aspect of the model typically resembles a South African city?   (1 x 2)   (2)

4.4   Currently many people are living in cities with a population of more than 5 million. Urbanisation is still taking place and cities are continuously growing.

        4.4.1   Define the term *urbanisation*.   (1 x 2)   (2)

        4.4.2   Is urbanisation at present greater in developing countries or developed countries? Give a reason why this is the case.   (2 x 2)   (4)

        4.4.3   Give TWO reasons for rapid urbanisation in the above-mentioned parts of the world.   (2 x 2)   (4)

        4.4.4   Green belts have an important role to play in preventing urban sprawl. Write a paragraph (approximately 12 lines) to explain the concept *green belt* and assess some of the advantages of establishing them in cities.   (6 x 2)   (12)

4.5   Read the extract based on food security below and answer the questions that follow.

        ┌───┐
        │ **ACHIEVING FOOD SECURITY IN AFRICA: CHALLENGES AND ISSUES**   │
        │   │
        │ While the rest of the world has made significant progress towards addressing │
        │ issues related to food security, sub-Sahara Africa continues to lag behind. │
        │ Preventative measures are urgently needed, as food security has been │
        │ dropping from 1970. The proportion of malnourished people ranges between │
        │ 33% and 35%. Over 70% of food suppliers are smallholding farmers. Many │
        │ factors contribute to a food insecure population …   │
        │   │
        │   [Adapted: Angela Mwaniki (Cornell University US)] │
        └───┘

        4.5.1   Explain the term *food security*.   (1 x 2)   (2)

        4.5.2   Africa has a very high percentage of subsistence farmers. Assess how this will impact on food production.   (2 x 2)   (4)

        4.5.3   Explain TWO environmental factors that led to food insecurity in southern Africa.   (2 x 2)   (4)

        4.5.4   Genetically modified crops are seen by many as solutions to food insecurity. Substantiate your viewpoint on this debate.   (6 x 2)   (12)

4.6   Refer to FIGURE 4.6 on street trading and answer the questions below.

        4.6.1   Give another name for *street trading*.   (1 x 2)   (2)

        4.6.2   Explain why street trading is seen to be part of the 'hidden economy'.   (2 x 2)   (4)

4.6.3   Describe the problem being experienced by street traders in the cartoon. (1 x 2)   (2)

4.6.4   Suggest TWO measures that can be put in place to increase the contribution of this type of trading to the economy of South Africa.

(2 x 2)   (4)

4.6.5   Why is street trading mainly a characteristic of developing countries? (1 x 2)   (2)

4.6.6   Explain why this type of trade is important to developing countries.

(2 x 2)   (4)

[100]

GRAND TOTAL: 300