Section A (Answer ONE question from this section)

Physical Geography

1.1 Multiple choice

Four options are provided as possible options to the following questions. Choose the answer and write only the letter (A–D) next to the question number, for example, 1.1–A.

1.1.1 The oceans, seas, rivers lakes, ice and ground water are collectively known as the …
   A. atmosphere
   B. biosphere
   C. hydrosphere
   D. lithosphere

1.1.2 Mid-latitude cyclones in the Southern Hemisphere move from …
   A. east to west and polewards
   B. east to west and equatorwards
   C. west to east and equatorwards
   D. west to east and polewards

1.1.3 The winds around the Kalahari High Pressure rotate …
   A. clockwise, inwards and upwards
   B. anti-clockwise, inwards and upwards
C. clockwise, downwards and outwards  
D. anti-clockwise, downwards and outwards  

1.1.4 The movement of valley winds result from …  
A. heating during the day  
B. cooling at night  
C. early morning cool air rising  
D. heated air trapped in the valley  

1.1.5 The type of precipitation recorded in a tropical cyclone is …  
A. frontal rain  
B. temperate rain  
C. torrential rain  
D. hail and lightning  

1.1.6 The term plankton is used to refer to …  
A. microscopic plants in the sea  
B. microscopic marine animals  
C. tiny shrimp-like creatures rich in protein  
D. a combination of marine plants and animals  

1.1.7 The following biomes are found in South Africa:  
A. Desert, Mediterranean, Tundra  
B. Savanna, Mediterranean, Tundra  
C. Savanna, Mediterranean, Grassland  
D. Desert, Taiga, Grassland  

1.1.8 A humid, hot region of South Africa is typically found in … province.  
A. Gauteng  
B. North-West  
C. Northern Cape  
D. KwaZulu-Natal  

1.1.9 Landforms such as mesas, buttes and spitskoppe (inselbergs) are commonly found in the … province.  
A. Gauteng  
B. North-West  
C. Free State  
D. KwaZulu-Natal  

1.1.10 A flow hydrograph measures the amount of water passing one place in …  
A. cubic metres per second  
B. square metres per second  
C. metres per hour  
D. cubic metres per hour  

1.2 Refer to Fig 1.2 a and b showing a synoptic chart and a satellite photograph of the Mozambique coast of Africa. Carefully answer the following questions.  
1.2.1 a. What weather system is visible in both these images?  
b. In which pressure belt is this system found?  
c. What additional weather system in visible in Fig 1.2 a?  
d. At what stage is the weather system identified in 1.2.1 a?  
e. Give TWO reasons for your answer.  
f. What TWO major effects will it have on this region?  

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g. What consequences did these effects have on the Kruger National Park? 4
h. What measures could be introduced in future to minimise the damage that has occurred? 3

1.3 Study Figure 1.3 showing temperature over an urban and surrounding area. Answer the questions that follow.
1.3.1 Which land use zones are represented by the numbers 1 and 2? 2
1.3.2 Explain the correlation between the land use zones and the temperatures. 6
1.3.3 Give 2 (two) reasons for Zone 1 to experience those temperatures. 4

1.4 Study Fig 1.4 showing the Black Mesa in Arizona and answer the following questions.
1.4.1 What rock type is forming this landform called the “Black” Mesa? 2
1.4.2 From which landform did the mesa originate? 2
1.4.3 Study the vegetation in the foreground of the mesa.
   a. Which Biome is visible? 2
   b. What climatic conditions would result in this Biome? 4
   c. Name the typical vegetation found in the Western Cape. 2
   d. Why is conservation of this biome particularly important? 2
1.4.4 Explain why a mesa and similar landforms would form under these climatic conditions. 4
1.4.5 Draw a freehand sketch of a mesa and label the 4 (FOUR) elements of the visible slopes. (Start at the top with no.1 and label downwards to no. 4) 4
1.4.6 What rock type would be found forming the element of slope 2? 2
1.4.7 Name and explain the mass-wasting action that takes place on slopes 1 and 4. 3
1.4.8 What human activity takes place on slope 4? 2

1.5 Study Fig 1.5 in the Appendix.
1.5.1 Redraw Fig 1.5 after River Capture has taken place using the correct labels. 5
1.5.2 Name 3 conditions that could cause river capture to occur. 3
1.5.3 Explain any one of your answers. 2
1.5.4 What is meant by ABSTRACTION? 2
1.5.5 Using the diagram that YOU have drawn, explain how abstraction occurs during River Capture. 4

Question 2
2.1 Terminology
Match the words in Column A with the statement in column B. Write ONLY the number and the correct letter, for example, 1–A.

<table>
<thead>
<tr>
<th>Number</th>
<th>Terminology</th>
<th>Letter</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perennial river</td>
<td>A</td>
<td>A layer of rock that is permeable</td>
</tr>
<tr>
<td>2</td>
<td>Saltation</td>
<td>B</td>
<td>River that always flows</td>
</tr>
<tr>
<td>3</td>
<td>Rejuvenation</td>
<td>C</td>
<td>The process of dragging rocks along the river bed</td>
</tr>
<tr>
<td>4</td>
<td>Radial centrifugal river pattern</td>
<td>D</td>
<td>A river increasing in erosive power</td>
</tr>
<tr>
<td>5</td>
<td>Aquifer</td>
<td>E</td>
<td>The deepening of a valley</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>The process of bouncing rocks along the river bed</td>
</tr>
</tbody>
</table>
2.2 Multiple choice

Study Photograph 2.2 and answer the following multiple-choice questions. Select the correct answer from the options below. Write only the question number and the correct letter, for example, 2.2.1–A.

2.2.1 The feature labelled A is a …
A. Mid-latitude cyclone
B. Cold front
C. Warm front
D. South Atlantic Anticyclone

2.2.2 The system labelled B is a …
A. Mid-latitude cyclone
B. Tropical Cyclone
C. Kalahari Anticyclone
D. South Atlantic Anticyclone

2.2.3 The system labelled C is a …
A. Mid-latitude cyclone
B. Cold front
C. Warm front
D. South Atlantic Anticyclone

2.2.4 The clouds at D originated at the …
A. Polar Cell
B. ITCZ
C. Sub-tropical HP
D. South Atlantic Anticyclone

2.2.5 The feature labelled E lies along the …
A. Equator
B. Tropic of Capricorn
C. Tropic of Cancer
D. Hadley Cell

2.3 Study Photograph 2.2 carefully and answer the following questions.

2.3.1 Draw a clearly labelled cross-section of feature A. (Include all the air movement and the weather relevant.)

2.3.2 During which season was this satellite photograph taken?

2.3.3 Along which parallel does this weather system originate?

2.3.4 Of what importance is this feature to the Western Cape?

2.4 Still referring to Photograph 2.2. Position F could be experiencing Berg winds on this day.

2.4.1 Identify two pieces of evidence that would indicate Berg winds are being experienced here.

2.4.2 Explain what link there could be between these winds and major runaway veld fires.

2.4.3 Give one precaution that could be taken to limit the damage of the veld fires to humans.

2.5 Study Photograph 2.4 carefully and answer the following questions. The river in the image is the Tugela River in KwaZulu-Natal.
The Tugela River is the largest river in Kwazulu Natal. It originates in the Drakensberg mountains near Mont-aux-Sources. It then plunges down the Tugela Falls from a height of 947 metres. From the Drakensberg, it then travels over 500 kms through the Natal Midlands and finally entering the Indian Ocean about 80 kms north of Durban. The total catchment area is approximately 29,100 square kilometres. Land use in the catchment area is mainly rural subsistence farming and commercial forestry. The Tugela-Vaal Water scheme pumps water into the Sterkfontein Dam for transfer to the Vaal Dam.

2.5.1 Define the following terms:
   a. Catchment area
   b. Watershed

2.5.2 In which stage of development is the river at this point? Justify your answer.

2.5.3 In which direction does the Tugela River flow? Justify your answer.

2.5.4 Draw a labelled longitudinal profile of the Tugela River from source to mouth using the information above.

2.5.5 TWO stream Channel patterns are visible on the Photograph, they are labelled A and B. Name these channel patterns.

2.5.6 With aid of fully labelled diagrams, explain how channel pattern B developed.

2.5.7 Of what importance is the Tugela River to the population of South Africa?

2.6 Figure 2.6 shows TWO different rivers patterns.

2.6.1 Identify river patterns A and B.

2.6.2 On what type of rock is each pattern found?

2.6.3 Suggest where an example of each river pattern could be found.

2.6.4 Using Diagram A, calculate the stream order of the river at point D.

2.6.5 Comparing diagrams A and B, which one has the highest stream density?

2.6.6 Name 2 factors that would influence stream density.

Section B (Answer ONE question from this section)

Question 3

3.1 Study Figure 1.3, the extract of the Topographical Map 3318 DC and answer the following questions.

3.1.1 The street pattern found at 1 is a … pattern.

3.1.2 The street pattern found at 2 is a … pattern.

3.1.3 The socio-economic level at 1 would be …

3.1.4 What type of transport route is identified at 5?

3.1.5 Why is land-use zone 4 necessary in a city?

3.2 Terminology

Match the words in Column A with the statement in column B. Write ONLY the number and the correct letter, for example, 1–A.

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1. Rural-urban fringe   A. A settlement providing goods and services for surrounding towns

2. Gap Town   B. Gold, coal, oil

3. Specialised town   C. A settlement in a port

4. Central Place Town   D. A settlement based on wine production

5. Non-renewable resources   E. Business, retail stores, wine shop

F. Rubbish dumps, airports, kennels

G. A settlement that developed at a natural passage through a physical obstruction

3.3 Study the Google image, Fig 3.3, of the Thengwe Region of Limpopo and answer the questions that follow.

3.3.1 Identify the type of settlement found at point 1.  
3.3.2 Identify the settlement shape at 1.  
3.3.3 Give ONE reason for your choice in 3.3.2.  
3.3.4 Give ONE SOCIAL advantage and ONE SOCIAL disadvantage of this settlement pattern for the inhabitants of this area.  
3.3.5 Referring to the Hierarchy of Settlements, how would this settlement be classified?  
3.3.6 Explain your classification in 3.3.5.  
3.3.7 By referring to the diagram, give TWO physical factors that played a role in the siting of this settlement.  
3.3.8 Name one Tertiary activity that is visible in this photograph.

3.4 Study Figures 3.4 a and 3.4 b. Both these housing developments have been developed on the outskirts of cities.

3.4.1 Define the following terms
   a. Urban sprawl
   b. Low cost housing

3.4.2 Study both images and answer the following questions.
   a. Explain TWO differences between the two housing developments.  
   b. Describe TWO similarities between the two housing developments.  
   c. What are TWO advantages of living in housing development 3.4 b?  
   d. Give TWO reasons why these housing developments have been constructed.

3.4.3 Housing Estate 3.4 a has been found to have serious problems in construction over the past years.
   a. Describe TWO problems that have been experienced.  
   b. Suggest TWO possible solutions to these problems.

3.5 Study Fig 3.5 a and b, which show a list of the top eight wine-producing countries and their volume of wine production for the year 2009 in metric tons and an extract from WOZA discussing South Africa’s position in the world of wine. Data is sourced from the Food and Agriculture Organization, an agency of the United Nations. South Africa ranks eighth in the world.

3.5.1 In which province of South Africa is most of our wine produced?  
3.5.2 Explain the climatic conditions that make this province ideal for wine production.
3.5.3 What effect does slope aspect have on wine production?  
3.5.4 Explain how Global Warming could affect wine production in South Africa in the future.  
3.5.5 Why does the passage say that South African wine is in the unique position of straddling both these wonderful worlds?  
3.5.6 Give a possible reason for the decrease in the wine harvest in 2011.  
3.5.7 With reference to the table, why are Italy and France the top wine producers in the world?  
3.5.8 Name **TWO** transport problems that affect South Africa’s agriculture sector.  
3.5.9 What solutions can be suggested to improve the transport situation?  
3.5.10 If the climate changes are too severe, suggest a crop that would be suitable to plant instead.  

**Question 4**

4.1 Economic Geography terminology

Match the words in Column A with the statement in column B. Write **ONLY** the number and the correct letter, for example, 1–A.

<table>
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<tbody>
<tr>
<td>1</td>
<td>Retail Services</td>
<td>A</td>
<td>Stimulus created by investment, leading to job creation and other opportunities</td>
</tr>
<tr>
<td>2</td>
<td>Balance of trade</td>
<td>B</td>
<td>The production and processing of products from raw materials</td>
</tr>
<tr>
<td>3</td>
<td>Tertiary economic activities</td>
<td>C</td>
<td>The provision of opportunities and facilities for people to purchase goods, e.g. food, clothing</td>
</tr>
<tr>
<td>4</td>
<td>Formal Sector</td>
<td>D</td>
<td>The difference between the value of a country’s visible exports and imports</td>
</tr>
<tr>
<td>5</td>
<td>Multiplier effect</td>
<td>E</td>
<td>Largest contributor to South Africa’s GDP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>Activities related to the service industry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G</td>
<td>The sector of the economy that is registered with government and occupy formal premises</td>
</tr>
</tbody>
</table>

4.2 The images in Fig 4.2 will assist you to answer the question below. Choose a term from the list provided that will match the letters on the images. Write **ONLY** the letter A–E and the selected term.

Slimes dam; Highway; Deep sea harbour; Greenbelt; Recreation Area; Residential area; Industrial area; Break-of-bulk point; Container loading dock; Harbour entrance; Nucleated settlement; Clover leaf flyover.

4.3 Study the diagrams for advertisements for Disneyland, Paris and answer the questions that follow.
4.3.1 State **THREE** advantages for the location of Disneyland, Paris, close to the city of Paris.  
4.3.2 Give **TWO** advantages of its situation within Europe.  
4.3.3 Suggest both negative and positive ways that Disneyland, Paris has affected the lives of people living close to the Theme Park.  
4.3.4 Explain the economic effects the Disneyland, Paris Theme Park has had on the economy of France and why these are positive?  
4.3.5 Write a paragraph suggesting where a Theme Park, like Disneyland, could be built in South Africa. Motivate your answer in terms of economics, environmental issues and population.  

4.4 Natural resources such as coal, petroleum (crude oil) and natural gas take thousands of years to form naturally and cannot be replaced as fast as they are being consumed. Eventually natural resources will become too costly to harvest and humanity will need to find other sources of energy. Possible alternate sources would include nuclear power, hydro-electricity, wind, tide, solar, geothermal, biomass and hydrogen sources. None of the known alternatives will be as cheap, convenient or energy rich as oil.  

Study the cartoon and table in figure 4.4 and answer the following questions.  
4.4.1 What point is the cartoonist making with his cartoon?  
4.4.2 Looking at graph showing the world liquid oil and gas depletion projections for 2004, is the message sent by the cartoon correct? Justify your answer.  
4.4.3 Discuss **TWO** reasons why our consumption of oil is increasing so rapidly.  
4.4.4 Discuss the role politics plays in oil production, cost and usage.  
4.4.5 Name **THREE** alternate source of energy that can be used in order to conserve fossil fuels.  
4.4.6 What problems can arise from the use of nuclear power?  
4.4.7 How are the energy problems affecting **YOUR** household?  
4.4.8 How can **YOU** help conserve energy daily?  

4.5 Study the graphs in Fig 4.5 showing South Africa’s GDP Growth Rate and the Unemployment rate up to January 2012. Answer the questions that follow.

South Africa’s economy, Africa’s biggest, expanded an annualised 1.3 percent in the second quarter, its slowest pace in almost two years, as manufacturing and mining output plunged European governments have pared spending this year to ease the debt crisis, limiting exports to a region that buys about a third of South African manufactured goods. That’s weakening the economy’s recovery, adding to expectations the central bank may keep its benchmark interest rate at a 30-year low of 5.5 percent this year or possibly reduce it.  

“We’re running at well below our potential growth rate,” Arthur Kamp, an economist at Sanlam Investment Management, said in an interview from Cape Town today. “Interest rates will likely remain on hold well into next year. If there’s a material weakening in the global economy, the discussion may shift to whether we need a rate cut.”
4.5.1 What is meant by the Gross Domestic Product? 2
4.5.2 Describe the Growth Rate of South Africa’s GDP since 2008. 4
4.5.3 Give a possible reason for the sharp dip experienced during 2009. 4
4.5.4 Why has South Africa’s Growth Rate slowed in the past two years? 2
4.5.5 In the last six months it appears that the unemployment rate has decreased. Why is this so, if the growth rate has slowed? 2
4.5.6 Informal settlements are constantly growing in South Africa. Discuss the correlation between informal settlements, the informal sector of the economy and the unemployment rate over the 2010/1011 period. (Only discuss the informal settlements NOT informal trading in formal settlements.) 6

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