education

Department:
Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

EXEMPLAR 2008

MARKS: 300

TIME: 3 hours

This question paper consists of 14 pages and an annexure of 6 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections, namely SECTION A and SECTION B.

2. Answer THREE questions only which should be chosen as follows:

   ONE question from SECTION A
   ONE question from SECTION B
   A THIRD question from SECTION A or SECTION B (which has NOT been answered already).

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 answered.

6. Start EACH question on a NEW page.

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

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

9. Encircle the numbers of the questions that you have answered on the cover page of the ANSWER BOOK.

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

11. Write neatly and legibly.

SECTION A: PHYSICAL GEOGRAPHY

Answer at least ONE question from this section.

QUESTION 1

1.1 Choose a description from COLUMN B that matches an item in COLUMN A. Write only the letter (A – L) next to the the question number (1.1.1 – 1.1.10) in the ANSWER BOOK, for example 1.1.11 M.

COLUMN A		COLUMN B	
1.1.1	Abstraction	A	the cold front merges with the warm front and the warm sector is lifted off the ground
1.1.2	Instability	B	the erosion of a slope at a constant angle
1.1.3	Captured river	C	air that moves up a slope during the day
1.1.4	Coriolis effect	D	the very slow downward movement of soil under the influence of gravity
1.1.5	Scarp retreat	E	the lowest level a river will erode to
1.1.6	Occlusion	F	the lengthening of a river course by the river cutting backwards towards its source
1.1.7	Soil creep	G	the inward horizontal flow of air towards a centre
1.1.8	Convergence	H	the tendency of air moving across the rotating surface of the earth to be deflected
1.1.9	Base level of erosion	I	warm, dry winds that flow down the escarpment
1.1.10	Anabatic winds	J	a river that is diverted and loses water
		K	a watershed is cut back and lowered by highly erosive rivers
		L	air that is warmer than its environment will continue to rise

(10 x 2) (20)

1.2 Refer to the extract as well as the satellite images of tropical cyclone Favio in FIGURE 1.2 and answer the questions that follow.

1.2.1 (a) Is tropical cyclone Favio an example of a low-pressure or a high-pressure system? (1 x 2) (2)

(b) With reference to FIGURE 1.2, give ONE reason to support your answer to QUESTION 1.2.1(a). (1 x 2) (2)

1.2.2 (a) What was the general direction of movement of tropical cyclone Favio? (1 x 2) (2)

(b) Give ONE reason to support your answer to QUESTION 1.2.2(a). (1 x 2) (2)

(c) Explain why tropical cyclone Favio was moving in the direction mentioned in QUESTION 1.2.2(a). (2 x 2) (4)

1.2.3 (a) What does one call the centre of a tropical cyclone that is clearly visible on the satellite images? (1 x 2) (2)

(b) Name ONE weather condition that is typical of the centre of a tropical cyclone. (1 x 2) (2)

(c) Explain why the weather condition mentioned in QUESTION 1.2.3(b) exists in the centre of a tropical cyclone. (2 x 2) (4)

1.2.4 (a) 'Favio is now an overland depression …'

What stage in the development of a tropical cyclone is being referred to here? (1 x 2) (2)

(b) Fully explain why the stage of development mentioned in QUESTION 1.2.4(a) was reached. (3 x 2) (6)

1.2.5 (a) Name TWO ways in which tropical cyclone Favio caused damage to the environment once it moved over Mozambique. (2 x 2) (4)

(b) Explain why there is a need to establish well-equipped tropical cyclone warning centres in Mozambique. (2 x 2) (4)

1.3 FIGURE 1.3A shows the longitudinal profile of a stream before rejuvenation has taken place. FIGURE 1.3B shows the longitudinal profile of the same stream after rejuvenation has taken place.

1.3.1 (a) The longitudinal profile illustrated in FIGURE 1.3A is that of a graded stream. What is meant by a *graded stream*? (1 x 2) (2)

(b) With reference to FIGURE 1.3A, give ONE piece of evidence to support the statement that the longitudinal profile of a graded stream is being illustrated. (1 x 2) (2)

(c) Explain why a graded stream develops a concave longitudinal profile. (2 x 2) (4)

1.3.2 (a) What is meant by the term *rejuvenation*? (1 x 2) (2)

(b) What feature in FIGURE 1.3B indicates that rejuvenation has taken place? (1 x 2) (2)

(c) Give TWO reasons why a stream can rejuvenate itself. (2 x 2) (4)

(d) Is the knick-point waterfall shown in FIGURE 1.3B an example of a permanent or a temporary base level of erosion? (1 x 2) (2)

(e) Give a reason for your answer to QUESTION 1.3.2(d). (1 x 2) (2)

1.4 FIGURE 1.4A shows a landform typically found in South Africa. FIGURE 1.4B shows the process of mass movement that will take place on the slopes of the illustrated landform.

1.4.1 (a) Identify the landform (feature) illustrated in FIGURE 1.4A. (1 x 2) (2)

(b) Explain, with reference to the underlying rock structure, how the landform identified in QUESTION 1.4.1(a) developed. (3 x 2) (6)

1.4.2 (a) What type of mass movement is illustrated in FIGURE 1.4B? (1 x 2) (2)

(b) Provide evidence from FIGURE 1.4B that mass movement is taking place. (1 x 2) (2)

(c) On which slope, the dip slope or the scarp slope, is mass movement more likely to take place? (1 x 2) (2)

(d) Explain your answer to QUESTION 1.4.2(c). (2 x 2) (4)

(e) Why do you think people should be made aware of the consequences of mass movement before building on slopes? (2 x 2) (4)

(f) Name ONE way in which slopes can be stabilised (reinforced) to reduce mass movement. (1 x 2) (2)
[100]

QUESTION 2

2.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (2.1.1 – 2.1.10) in the ANSWER BOOK.

2.1.1 Primary circulation refers to the circulation within one hemisphere on a global scale.

2.1.2 Pressure gradient refers to the difference in pressure between two points.

2.1.3 Isotherms are lines on a map that join places of equal pressure.

2.1.4 In the southern hemisphere air movement around a high pressure (anticyclone) is clockwise.

2.1.5 The polar front is formed where warm subtropical air and cool sub-polar air meet.

2.1.6 An aquifer is a rock that is impermeable and does not allow water to move through it.

2.1.7 A flow hydrograph records how much water passes a given point in a given period of time.

2.1.8 A periodic river is a river that only flows in the rainy season when it receives ground water.

2.1.9 Rocks that are uniformly resistant and exposed to the same type of weathering will weather at different rates.

2.1.10 Core stones are rounded stones that are exposed after erosion to make up a tor. (10 x 2) (20)

2.2 Refer to FIGURE 2.2 showing the tri-cellular circulation of the atmosphere.

2.2.1 (a) Why do meteorologists refer to a tri-cellular circulation of the atmosphere? (1 x 2) (2)

(b) Identify the THREE cells of circulation labelled P, Q and R respectively. (3 x 2) (6)

2.2.2 (a) What does the abbreviation *ITCZ* stand for? (1 x 2) (2)

(b) Where, at X, Y or Z, would the ITCZ be found? (1 x 2) (2)

(c) Name any TWO weather conditions that one will experience at the ITCZ. (2 x 2) (4)

(d) Explain why the weather conditions mentioned in QUESTION 2.2.2(c) exist at the ITCZ. (2 x 2) (4)

2.3 Refer to FIGURE 2.3A showing the weather forecast for 15 May 2007. FIGURE 2.3B is a cross-section through the eastern half of the country explaining the sunny conditions at all the inland weather stations.

2.3.1 What is meant by the term *inversion* shown in FIGURE 2.3B? (1 x 2) (2)

2.3.2 Name the high-pressure cell associated with the label *subsided air of continental origin*. (1 x 2) (2)

2.3.3 Why does an inversion develop at the lower side of the high-pressure cell mentioned in QUESTION 2.3.2? (2 x 2) (4)

2.3.4 With reference to FIGURE 2.3B, explain why sunny conditions are indicated for all the inland weather stations. (3 x 2) (6)

2.3.5 Will the inversion shown in FIGURE 2.3B be higher or lower than its current position during the summer months? (1 x 2) (2)

2.3.6 The vertical positional change of the inversion from winter to summer is of great importance to farmers on the South African plateau. Explain this statement. (2 x 2) (4)

2.4 Refer to the extract as well as the photograph and diagram of rivers draining into the Hartbeespoort Dam in FIGURE 2.4.

2.4.1 (a) Identify the drainage pattern of the Jukskei River as seen in FIGURE 2.4. (1 x 2) (2)

(b) Give ONE reason for your answer to QUESTION 2.4.1(a). (1 x 2) (2)

2.4.2 (a) Flooding is common in Alexandra. What is a *flood*? (1 x 2) (2)

(b) Why do people still build shacks on the banks of the Jukskei River if the area is threatened by constant flooding? (1 x 2) (2)

(c) Explain why there is a short lag time and a high flood peak as the Jukskei River flows through Alexandra. (3 x 2) (6)

(d) Name any TWO consequences of flooding for the inhabitants of Alexandra. (2 x 2) (4)

2.4.3 (a) Describe the locations of the sewerage works in relation to the rivers shown in FIGURE 2.4. (1 x 2) (2)

(b) What are the consequences of the above for people living on the banks of the Hartbeespoort Dam? (2 x 2) (4)

(c) State TWO measures that can be introduced by the provincial government to ensure that all rivers flowing into the Hartbeespoort Dam are free of sewerage effluents. (2 x 2) (4)

2.5 Refer to FIGURE 2.5 showing the four slope forms associated with a slope. All four slope forms are not necessarily found on a mountain or ridge.

2.5.1 Give ONE characteristic of each of the slope forms shown in FIGURE 2.5. (4 x 2) (8)

2.5.2 Explain why all four slope forms are NOT always found on a mountain or ridge. (2 x 2) (4)

[100]

SECTION B: HUMAN GEOGRAPHY

Answer at least ONE question from this section.

QUESTION 3

3.1 Choose a description from COLUMN B that matches an item in COLUMN A. Write only the letter (A – L) next to the question number (3.1.1 – 3.1.10) in the ANSWER BOOK, for example 3.1.11 M.

COLUMN A		COLUMN B	
3.1.1	Gross domestic product (GDP)	A	payment obligations that arise when a country imports or exports goods
3.1.2	Land-use zones	B	classification of settlements according to the order of functions performed
3.1.3	Gross national product (GNP)	C	the GDP divided by the country's population
3.1.4	Central place	D	average income earned by an individual of a country in a given year
3.1.5	Balance of trade	E	areas in an urban area that have one main function
3.1.6	Range of goods	F	measures the value of all finished goods and services produced by a a country' permanent inhabitants in one year
3.1.7	GDP per capita	G	a settlement that provides goods and services to a surrounding area
3.1.8	Urban profile	H	measures the value of goods and services produced in a country in one year
3.1.9	Balance of payment	I	the side view of a city
3.1.10	Urban hierachy	J	a summary of a country's transactions with the rest of the world
		K	the commercial and economic centre of an urban area
		L	the maximum distance people are prepared to travel to make use of a service

(10 x 2) (20)

3.2 Refer to FIGURE 3.2 showing a settlement typical of the South African urban landscape. Urban functions/services of a low and a high order are shown.

3.2.1 (a) What is a *settlement*? (1 x 2) (2)

(b) Is the settlement shown in this figure a rural or an urban settlement? (1 x 2) (2)

(c) Give ONE reason for your answer to QUESTION 3.2.1(b). (1 x 2) (2)

3.2.2 (a) Distinguish between a *low-order function* and a *high-order function*. (2 x 2) (4)

(b) From FIGURE 3.2, identify ONE low-order function and ONE high-order function. (2 x 2) (4)

(c) Explain the meaning of the term *sphere of influence* of a function/service. (1 x 2) (2)

(d) Which one, the bakery or the hospital, will have a larger sphere of influence? (1 x 2) (2)

(e) Explain your answer to QUESTION 3.2.2(d). (2 x 2) (4)

3.2.3 (a) The Star Bakery is an example of a light industry. What is a *light industry*? (1 x 2) (2)

(b) Unlike a heavy industry the Star Bakery can be located close to the hospital. Explain why this bakery does not have to be located outside the city. (2 x 2) (4)

(c) Why is it important for the Star Bakery to have a central location? (2 x 2) (4)

3.2.4 (a) With reference to FIGURE 3.2, explain why many people from the surrounding rural areas are attracted to this settlement. (2 x 2) (4)

(b) Explain why it is important for the illustrated settlement to slow down the movement of people from rural areas to this settlement. (2 x 2) (4)

