NATIONAL
SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P2

NOVEMBER 2011

MARKS: 100

TIME: 1½ hours

EXAMINATION NUMBER													
CENTRE NUMBER													

MARK SCORED	Q1	Q2	Q3	Q4	TOTAL
MARKER					
SENIOR MARKER					
CHIEF MARKER					
MODERATOR					
TOTAL	20	20	40	20	100

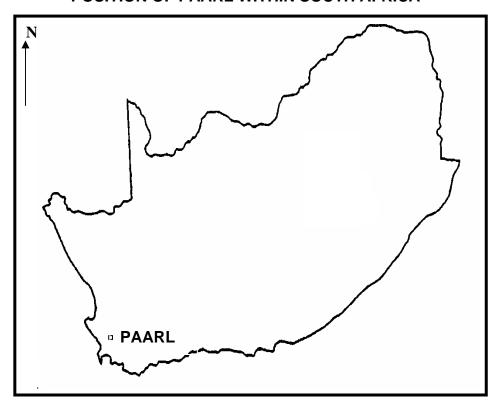**This question paper consists of 12 pages and 1 page for rough work.**

RESOURCE MATERIAL

1.   An extract from topographical map 3318DB PAARL.

2.   Orthophoto map 3318DB 25 PAARL.

3.   NOTE: The resource material must be collected by the schools for their own use.

INSTRUCTIONS AND INFORMATION

1.   Fill in your EXAMINATION NUMBER and your CENTRE NUMBER in the spaces provided on the cover page.

2.   Answer ALL the questions in the spaces provided in this question paper.

3.   You are supplied with a 1:50 000 topographical map 3318DB PAARL and an orthophoto map of a part of the mapped area.

4.   You must hand the topographical map and the orthophoto map to the invigilator at the end of this examination session.

5.   You must use the blank page at the back of this question paper for all rough work and calculations. Do NOT detach this page from the question paper.

6.   Show ALL calculations. Marks will be allocated for calculations and formulae.

7.   You may use a non-programmable calculator.

POSITION OF PAARL WITHIN SOUTH AFRICA

The following English terms and their Afrikaans translations are shown on the topographical map.

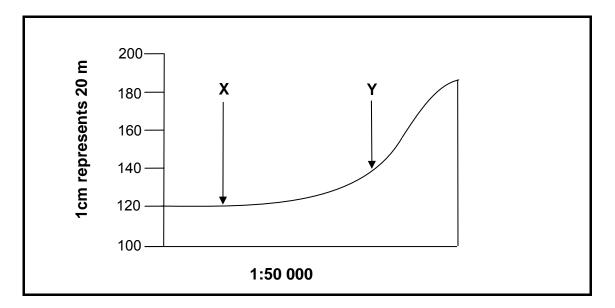| **ENGLISH**	**AFRIKAANS**
Dipping tanks	Dipbakke
Firebreaks	Voorbrande
Landing strip	Landingstrook
Stadium	Stadion
Station	Stasie
Sports club	Sportklub

      Please turn over

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

The questions below are based on the 1:50 000 topographical map 3318DB PAARL, as well as the orthophoto map 3318DB 25 PAARL as part of the mapped area. Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) in the block next to each question.

1.1   The index of the map sheet directly southeast of PAARL is …

        A   3319AC .
        B   3318DC.
        C   3319CC.
        D   3318BC.

1.2   The Earth's curved surface is represented on the topographical map by the … projection.

        A   Transversal
        B   Lambert
        C   Mercator
        D   Gauss conform

1.3   Paarl is located in the …

        A   Western Cape.
        B   Northern Cape.
        C   Eastern Cape.
        D   Free State.

1.4   The approximate time that the orthophoto was taken would be …

        A   between 08:00–10:00.
        B   between 10:00–12:00.
        C   between 12:00–14:00.
        D   exactly at 12:00.

1.5   The stream channel feature in block **D12** on the topographical map is a/an …

        A   oxbow lake.
        B   braided stream.
        C   meander.
        D   dendritic pattern.

1.6   The man-made water feature at 33°38′24″S18°52′48″E/33°38,4′S18°52,8′E is a …

        A   dam.
        B   non-perennial river.
        C   river.
        D   windmill.

1.7   The drainage pattern in blocks **F8**, **G8** and **H8** is …

        A   a trellis.
        B   dendritic.
        C   rectangular.
        D   radial.

1.8   The land-use zone marked **1** on the orthophoto map is …

        A   the zone of decay.
        B   the rural-urban fringe.
        C   a high income residential area.
        D   an industrial zone.

1.9   The slope marked **2** on the orthophoto map is …

        A   steep.
        B   gentle.
        C   concave.
        D   convex.

1.10   The building marked **3** on the orthophoto map is a …

        A   school.
        B   factory.
        C   silo.
        D   smallholding.

                                                                    (10 x 2)   **[20]**

QUESTION 2: GEOGRAPHICAL TECHNIQUES AND CALCULATIONS

2.1   Calculate the gradient between trigonometrical station 172 in block **C8** and
        spot height ·162 in block **B9**. Show ALL calculations. Marks will be allocated
        for calculations.

        _____

        _____

        _____

        _____

        _____   (6)

2.2   The following is a cross section from the windmill (block **E4**) to trigonometrical
        station 184 (block **E6**).

2.2.1   Calculate the vertical exaggeration of the cross section above.

        _____

        _____

        _____

        _____

        _____

        _____   (4)

2.2.2   Identify the features labelled **X** and **Y** on the cross section.

        X: _____

        Y: _____   (2)

2.2.3   Why are cross sections exaggerated?

        _____

        _____   (1)

2.3   Calculate the magnetic declination for the year 2011. Show ALL calculations. Marks will be allocated for calculations.

_____

_____

_____

_____

_____   (5)

2.4   Give TWO reasons why the magnetic declination will be useful to a person using a map on a field trip.

_____

_____   (2)
                                                                            [20]

QUESTION 3: APPLICATION OF THEORY/ MAP AND PHOTO INTERPRETATION

3.1   Refer to both the topographical map and the orthophoto map when answering the questions below.

      3.1.1   Identify the shape of the town Paarl.

           _____

           _____
                                                   (1 x 2)   (2)

      3.1.2   Name TWO physical factors that determine the shape of the town Paarl.

           _____

           _____
                                                   (2 x 2)   (4)

3.2   What is the direction of Boland Agricultural College in block **C7** from Paarl?

_____

_____
                                                                           (1 x 2)   (2)

3.3   Compare Dal Josafat (block **F12**) and Noorder-Paarl (block **F11**) in terms of the following:

	DAL JOSAFAT	NOORDER-PAARL
3.3.1 Main land-use zone		
3.3.2 Land value		
3.3.3 Degree of pollution		

(3 x 2)   (6)

3.4   Refer to Groenheuwel in block **E/F13** on the topographical map and marked **4** on the orthophoto map.

3.4.1   Identify the street pattern at Groenheuwel.

_____
(1 x 2)   (2)

3.4.2   Name ONE advantage and ONE disadvantage of the street pattern identified in QUESTION 3.4.1.

Advantage:_____

_____

Disadvantage:_____

_____
(2 x 2)   (4)

3.4.3   The area Groenheuwel (marked **4**) on the orthophoto map is a low income residential area. Give TWO pieces of evidence from the orthophoto map to prove this statement.

_____

_____

_____
(2 x 2)   (4)

3.5   Paarlberg in block **F/G/H 8/9/10** is an example of a volcanic intrusive landform exposed above the Earth's surface after erosion. Refer to both the topographical map and orthophoto map when answering the questions that follow.

3.5.1   State the rock type that results from volcanism before it has been exposed above the Earth's surface.
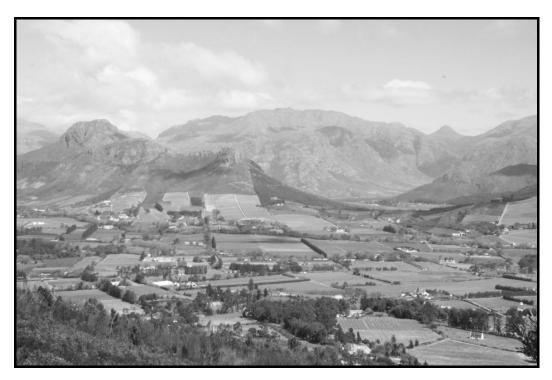
_____
(1 x 2)   (2)

3.5.2   Identify the landform referred to after it has been exposed above the Earth's surface.

_____

                                                              (1 x 2)   (2)

3.5.3   Of what potential value is the Paarlberg feature likely to be to the economy of Paarl?

_____

_____

                                                              (1 x 2)   (2)

3.6   Study the photograph of the Paarl Valley below, as well as on the topographical map (block **F12**).

3.6.1   What type of photograph is the photograph of the Paarl Valley?

_____

                                                              (1 x 2)   (2)

3.6.2   Identify the slope wind that people in the valley are likely to experience in the evenings in winter.

_____

                                                              (1 x 2)   (2)

3.6.3 Would you recommend any industrial development to take place in the Paarl Valley? Explain your answer

_____

_____

_____
(2 x 2)   (4)

3.7 Name ONE factor visible on the topographical map that indicates that nature conservation is important to the inhabitants of the Paarl.

_____
(1 x 2)   (2)
[40]

QUESTION 4: GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

4.1 Data manipulation is used to control how features are represented on small and large-scale maps.

4.1.1 Explain the meaning of the term *data manipulation*.

_____
(1 x 2)   (2)

4.1.2 Explain why it is necessary to manipulate data on maps.

_____

_____

_____
(1 x 2)   (2)

4.2 Two learners from a school in Paarl have an assignment and have to take photographs of the Berg River. One has a 2,0 megapixel camera and the other has a 3,5 megapixel camera. The resolution of the photographs taken by the boys will differ.

4.2.1 Explain the meaning of the term *resolution*.

_____

_____
(1 x 2)   (2)

    4.2.2   Which one of the cameras will take better quality pictures? Explain your answer.

_____

_____

_____

                                                            (2 x 2)   (4)

4.3   Heavy rainfall sometimes results in flooding along the Berg River, as is evident in the image below. How could the local government use GIS to manage this disaster?

_____

_____

_____

_____

                                                            (2 x 2)   (4)

4.4   Urbanisation has a negative impact on rivers. How will buffering prevent the mismanagement of the Berg River?

_____

_____

_____

_____

                                                            (2 x 2)   (4)

4.5   Why are map projections important for the users of GIS?

_____

_____

_____
                                                                    (1 x 2)   (2)
                                                                                 [20]

                                                        TOTAL: **100**

ROUGH WORK AND CALCULATIONS