basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P2

FEBRUARY/MARCH 2011

MEMORANDUM

MARKS: 100

MARK SCORED	100
MARKER	
SENIOR MARKER	
CHIEF MARKER	
MODERATOR	
TOTAL	
	100

This memorandum consists of 10 pages.

RESOURCE MATERIAL

1. An extract from topographical map 3424BB HUMANSDORP.

2. Orthophoto map 3424 BB 1 HUMANSDORP.

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

INSTRUCTIONS AND INFORMATION

1. Fill in your centre number and your examination 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 3424BB HUMANSDORP and an orthophoto map of a part of the mapped area.

4. You must hand in 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.

7. You may use a non-programmable calculator.

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

ENGLISH	AFRIKAANS
Diggings	Uitgrawings
Caravan park	Karavaanpark
Sewage works	Rioolwerke
Wetland	Vlei

QUESTION 1

The questions below are based on the 1:50 000 topographical map 3424BB HUMANSDORP, as well as the orthophoto map of a 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 Jeffreys Bay is situated next to the … Ocean.

A Atlantic
B Pacific
C Indian
D Mozambique

C

1.2 The height of the national road in block A4 is …

A 209 m.
B 346 m.
C 20,9 m.
D 297,3 m.

A

1.3 The direction of **X** from **Y** on the topographical map is …

A west.
B east.
C north-west.
D south-west.

D

1.4 The true bearing (geographic bearing) of **X** from **Y** on the topographical map is …

A 42°.
B 132°.
C 222°.
D 312°.

C

1.5 The word scale of the orthophoto map is …

A 1 cm represents 0,01 km.
B 1 cm represents 0,1 km.
C 1 cm represents 1 000 m.
D 1 cm represents 10 m.

B

1.6 Jeffreys Bay can be classified as a/an …

A holiday town.
B industrial town.
C gap town.
D break-of-bulk point.

A

1.7 The slope between **5** and **6** on the orthophoto map is …

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

A

1.8 The order of the stream at the point labelled **V** on the topographical map is …

A first.
B second.
C third.
D fourth.

B

1.9 The feature that is found at 34°05,8′S 24°50,2′E/34°05′48″S 24°50′30″E is a …

A furrow.
B reservoir.
C wetland.
D dam.

D

1.10 Paradise Beach (G8 and G9) developed a … shape.

A round
B cross-road
C linear
D stellar

C

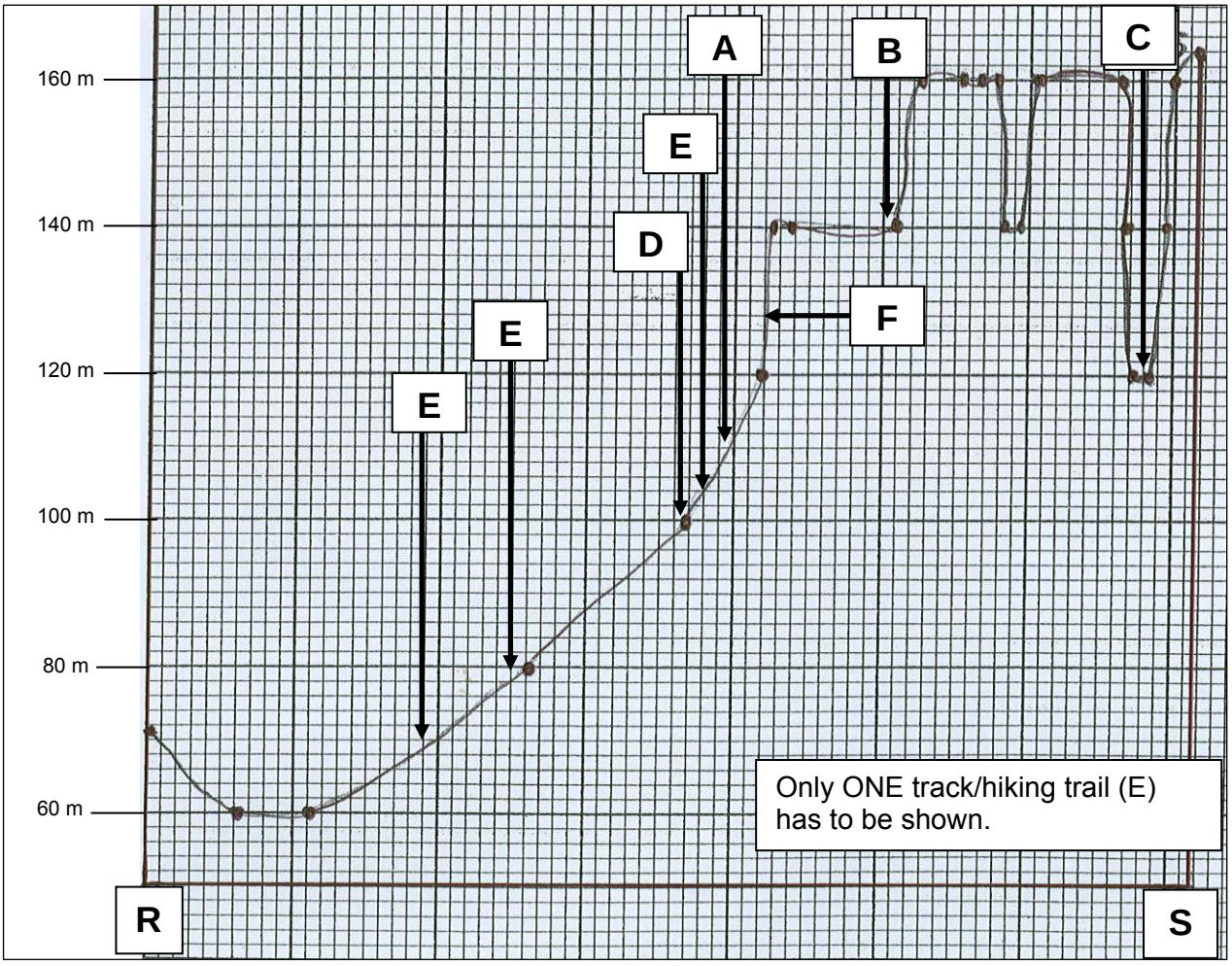
(10 x 2) **[20]**

QUESTION 2

2.1 Cross sections provide geographers with valuable information.

2.1.1 The diagram below is a cross section drawn from **R** in block D4 to **S** in block A7. Indicate the exact location of the following features by means of arrows on the cross section drawn:

(a) Power line
(b) N2
(c) Dam
(d) Railway line
(e) Tracks and hiking trails
(f) Cliff/Scarp slope



(1 x 6) (6)

2.1.2 Is there any intervisibility between points **R** and **S** on the cross section?

No √√ (1 x 2) (2)

2.2 Calculate the vertical exaggeration of the cross section drawn in QUESTION 2.1. Show ALL calculations. Marks will be allocated for calculations.

VE = $\frac{VS}{HS}$ √
= $\frac{1}{1\,000}$ X $\frac{1}{50\,000}$ √
= $\frac{1}{1\,000}$ X $\frac{50\,000}{}$ √
= 50 times √ (4)

2.3 Why are cross sections exaggerated when they are drawn?

To see the relief of the landscape √ (1)

2.4 Calculate the average gradient of the main road between benchmark 97,1 and 101,7 in block B10 on the topographical map. Show ALL calculations. Marks will be allocated for calculations.

VI = 101,7 – 97,1
= 4,6 m √

HE = (0,9 – 1,1 cm) √ x 500 √
= 450 m – 550 m √

Gradient = $\frac{VI}{HA}$ √

= $\frac{4,6}{500}$

= $\frac{1}{108,68}$

= 1 : 108,7 √√ (Accept 1 : 97,8 tot 1 : 119,6) (7)
[20]

QUESTION 3

3.1 Identify the landforms below indicated by letters **P**, **Q** and **T** on the topographical map.

3.1.1 **P** *Rocky beach/Sea cliff/Coastal rocks (2)* (1 x 2) (2)

3.1.2 **Q** *Sandy beach (2)* (1 x 2) (2)

3.1.3 **T** *Ravine (2)* (1 x 2) (2)

3.2 Refer to the drainage pattern in blocks D6 and D7.

3.2.1 Identify the drainage pattern found in blocks D6 and D7.

Dendritic (2) (1 x 2) (2)

3.2.2 Give ONE reason for your answer to QUESTION 3.2.1.

Looks like the branches of a tree (2)
Tributaries meet main stream at acute angles (2)
[Any ONE] (1 x 2) (2)

3.2.3 Name ONE characteristic of the rock type underlying the drainage pattern mentioned in QUESTION 3.2.1.

Rock with uniform resistance (2) (1 x 2) (2)

3.3 Refer to block G1 on the topographical map.

3.3.1 Identify the stream channel pattern in block G1.

Meandering stream channel pattern (2) (1 x 2) (2)

3.3.2 In which course of the stream will the stream channel pattern mentioned in QUESTION 3.3.1 be found?

Lower reaches (2) (1 x 2) (2)

3.4 Refer to number **10** on the orthophoto map.

3.4.1 Identify the man-made feature at **10**.

Industry/Factory (2) (1 x 2) (2)

3.4.2 Why is the man-made feature mentioned in QUESTION 3.4.1 located at that place?

Away from built-up area (2)
Large tracts of land available (2)
Land cheaper on outskirts of the city (2)
Next to transport routes (2)
[Any TWO] (2 x 2) (4)

3.5 Refer to the settlement at Sanddrift in block E5 on the topographical map.

3.5.1 Identify this settlement in terms of its size and function respectively.

Size: *Isolated farmstead (2)*

Function: *Farming/single functional/primary activity (2)* (2 x 2) (4)

3.5.2 (a) What type of farming (commercial/subsistence) is practised in this settlement?

Commercial (2) (1 x 2) (2)

(b) Give TWO reasons for your answer to QUESTION 3.5.2(a).

Farms have reservoirs (2)
Farms have boundaries (2)
Farms are specialised (2)
Large areas cultivated (2)
[Any TWO] (2 x 2) (4)

3.6 Refer to the residential areas numbered **11** and **12** on the orthophoto map.

3.6.1 Which ONE of the residential areas **11** and **12** will be a higher income residential area?

11 (2) (1 x 2) (2)

3.6.2 Give ONE reason for your answer to QUESTION 3.6.1.

Larger stands at 11 than at 12 (2)
Larger houses at 11 (2)
More trees at 11 than at 12 (2)
[Any ONE] (1 x 2) (2)

3.7 Refer to **13**, which is part of Graslaagte, on the orthophoto map.

3.7.1 In which land-use zone is Graslaagte situated?

Rural-urban fringe (2) (1 x 2) (2)

3.7.2 State ONE problem that people living in **13** might experience.

Accessibility to Humansdorp's CBD (2)
Dirty roads (2)
No station (2)
[Any ONE] (1 x 2) (2)

[40]

QUESTION 4

4.1 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A – E) next to the question number (4.1.1 – 4.1.3), for example 4.1.4 F.

COLUMN A	COLUMN B
4.1.1 The raw facts that are collected about a feature	*E (2)*
4.1.2 Gathering of data about the Earth from a distance, using satellites such as Landsat	*C (2)*
4.1.3 Data represented by pixels in the form of grid cells or pixels	*A (2)*

(3 x 2) (6)

4.2 Name any TWO functional elements of GIS.

Digitilising maps (2)
Image processing (2)
Data management (2)
Spatial analysis (2)
[Any TWO] (2 x 2) (4)

4.3 With reference to the term buffering:

4.3.1 Define the term *buffering*.

Process of demarcating an area around a feature or an object (2)
[Concept] (1 x 2) (2)

4.3.2 Explain how buffering can be used to protect the coastal environments visible on the topographical map.

Create a buffer zone next to the coast where no development may take place (2)
[Concept] (1 x 2) (2)

4.4 Which ONE, the topographical map or the orthophoto map, is an example of vector data?

Topographic map (2) (1 x 2) (2)

4.5 The police have not been able to track a car hijacking gang in the greater Jeffreys Bay area. How can they use GIS to narrow their search?

Check database to see if any clues left behind by the gang correspond with other crime scenes (2)
Check the crime scene and surroundings and see if there is a pattern (2)
Demarcate the areas within which the crime takes place (2)
Research the modus operandi of gangs that were involved in similar crimes (2)
[Any TWO. Accept other reasonable answers.] (2 x 2) (4)
[20]

TOTAL: 100