



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10

GEOGRAPHY P2

EXEMPLAR 2012

MEMORANDUM

MARKS: 75

This memorandum consists of 9 pages.

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

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 The map reference of the topographical map north of Humansdorp is ...

- A 3325AA.
- B 3424BD.
- C 3324DD.
- D 3424BA.

C

1.2 The topographical map number 3424 refers to ...

- A contours and isobars.
- B isobars and contours.
- C longitude and latitude.
- D latitude and longitude.

D

1.3 The types of scales used on the topographical map are:

- (i) Ratio
- (ii) Fraction
- (iii) Word
- (iv) Line

Choose the correct combination:

- A (i) and (ii)
- B (ii) and (iii)
- C (iii) and (iv)
- D (i) and (iv)

D

1.4 The scale of the orthophoto map is ... times larger than the scale of the topographical map.

- A 5
- B 10
- C 20
- D 40

A

1.5 The contour interval of the orthophoto map is ... metres.

- A 5
- B 10
- C 20
- D 50

A

1.6 Contour lines, trigonometrical stations, spot heights and benchmarks represent ...

- A lines joining places of equal height.
- B places of similar vegetation.
- C altitude (height above sea-level).
- D lines joining places of equal temperature.

C

1.7 The road on the topographical map that links Humansdorp with Jeffrey's Bay is the ...

- A R102.
- B R330.
- C N2.
- D N12.

C

1.8 The exact height of **T** in block **A5** on the topographical map is ... metres.

- A 20
- B 200
- C 2 000
- D 20 000

B

1.9 The human-made feature found at **W** in block **A7** on the topographical map is a ...

- A dam wall
- B bridge.
- C railway.
- D waterfall.

A

1.10 The feature found at **1** on the orthophoto map is a/an ...

- A cemetery.
- B small dam.
- C excavation.
- D orchard.

B

1.11 The physical/natural feature found at **X** in block **F4/5** on the topographical map is a ...

- A dam.
- B waterfall.
- C marsh and vlei.
- D river island.

C

1.12 The main method used to transport water to the agricultural land in block **F3** on the topographical map is by means of ...

- A wind pumps.
- B pipelines.
- C canals.
- D furrows.

D

1.13 The feature marked **3-4** on the orthophoto map is a ...

- A spur.
- B valley.
- C saddle.
- D ridge.

B

1.14 The feature labelled **10** on the orthophoto map is a/an ...

- A house.
- B industry.
- C school.
- D church.

B

1.15 The slope marked **5-6** on the orthophoto map is ...

- A concave.
- B convex.
- C terraced.
- D even.

A

(15 x 1)

[15]

QUESTION 2: MAP CALCULATIONS

2.1 Calculate the straight-line distance along the N2 between benchmark 209 (**A3/4**) and the Plettenberg Bay exit point (**A1**) in kilometres.

$$\begin{aligned} \text{Distance} &= 8,6 \text{ cm} \checkmark \times 0,5 \text{ km} \checkmark \quad (\text{Range: } 8,4 \text{ cm to } 8,8 \text{ cm}) \\ &= 4,3 \text{ km} \checkmark \end{aligned}$$

(3)

2.2 Give the following:

2.2.1 The compass direction between spot height 25 in block **H6** and trigonometrical station 124 in block **H6/7** on the topographical map

Southwest ✓

(1)

2.2.2 The true bearing between spot height 25 in block **H6** and trigonometrical station 124 in block **H6/7** on the topographical map

40° (38° to 42°) ✓

(1)

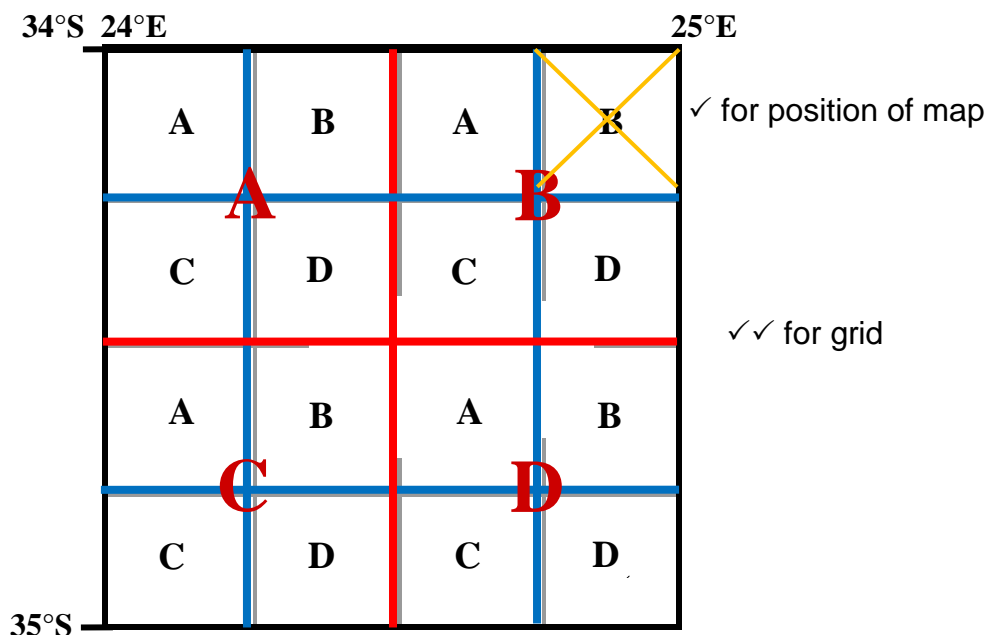
2.3 Which ONE, compass direction or true bearing, is a more accurate way of indicating direction? Give ONE reason for your answer.

Answer: *True bearing* ✓

Reason: *Gives exact location in degrees* ✓

(2)

2.4 With the aid of a simple diagram, explain how the map 3424BB HUMANSDORP was named.



34 refers to latitudinal position ✓

24 refers to longitudinal position ✓

First B refers to big block B ✓

Second B refers to small block B in big block B ✓

Humansdorp is the largest settlement on the topographic map ✓

(8)

2.5 Give the exact coordinates of spot height 77 in block **E2**.

34°04'11"S ✓✓ 24°46'15"E ✓✓

(4)

2.6 By how much must the 3424BB HUMANSDORP topographical map be enlarged to be the same size as reality?

50 000 times ✓

(1)

[20]

QUESTION 3: APPLICATION AND INTERPRETATION

3.1 You are a first-time hiker who is not very fit. You can choose to hike from point **4** to point **3** or from point **6** to point **5**.

3.1.1 Which ONE will you choose?

4 to 3 ✓✓

(1 x 2)

(2)

3.1.2 Give a reason for your answer to QUESTION 3.1.1.

Steepness of slope more or less the same throughout 4 to 3 ✓✓✓

Slope steeper at 5 than starting point at 6 ✓✓✓

[Any ONE]

(1 x 3)

(3)

3.2 Distinguish between the Krom River in block **G2** and the Kamste River in block **E6** by indicating which one is perennial/permanent and which one is non-perennial/periodic.

Krom River is perennial/permanent ✓

Kamste River is non-perennial/periodic ✓

(1 x 2)

(2)

3.3 Indicate the flow direction of the Seekoei River running through Broadlands in block **D2** and give a reason for your answer.

Direction: *East*

Reason: *The dam wall is to the east of the river ✓✓ OR*

The height of the land decreases to the east ✓✓

[Any ONE]

(2 x 2)

(4)

3.4 Give ONE piece of evidence from the topographical map to show that nature conservation is a priority in the mapped area.

The area has a lot of woodlands ✓✓

Many rows of trees ✓✓

[Any ONE]

(1 x 2)

(2)

- 3.5 No rivers flow through block **B8**. Name ONE method that farmers have introduced to obtain water in the area.

They use a water reservoir ✓✓

Underground water from wind pump ✓✓

[Any ONE]

(1 x 2) (2)

- 3.6 Many people visit Jeffrey's Bay during the summer holiday. The huge number of visitors may lead to pollution of the ocean. Name ONE source of pollution by the visitors and ONE effect it will have on the ocean environment.

Source: Litter e.g. plastics and bottles ✓✓

Effects: Spoil the environment ✓✓

Plastics trap seabirds and animals ✓✓

If plastic is swallowed by the seabirds and ocean animals, it blocks their digestive systems and they starve to death ✓✓

Plastics do not break down easily ✓✓

[Any ONE effect]

(2 x 2) (4)

- 3.7 The Seekoei River can overflow its banks during heavy rains. Give TWO negative effects that may be experienced in the area adjacent to the river as it flows to the ocean.

Destruction of houses ✓✓

Damage to infrastructure such as roads, bridges and electricity supplies ✓✓

Outbreak of water-borne diseases ✓✓

Loss of life ✓✓

Destruction of the ecosystem ✓✓

Destruction of animals' habitats ✓✓

The nature reserve might be destroyed ✓✓

High costs to rebuild the infrastructure ✓✓

[Any TWO – Accept other reasonable answers]

(2 x 2) (4)

- 3.8 Imagine you are a tourist information officer. You must compile a tourist brochure for Humansdorp and the surrounding areas. Name ONE important attraction which you will include in the brochure.

Jeffrey's Bay ✓✓

Caravan park ✓✓

Sea Lion Point/Seekoeipunt ✓✓

Claptons Beach ✓✓

Paradise Beach ✓✓

Foulkes Point ✓✓

Water activities at dams ✓✓

Krom River Holiday Resort ✓✓

Marina Martinique ✓✓

[Any ONE]

(1 x 2) (2)

[25]

QUESTION 4: GEOGRAPHIC INFORMATION SYSTEMS

4.1 Write the acronym *GIS* in full.

Geographic Information Systems ✓ (1 x 1) (1)

4.2 Name any ONE component of a GIS.

Hardware ✓✓
Software ✓✓
User ✓✓
Data ✓✓
Processes ✓✓
 [Any ONE] (1 x 2) (2)

4.3 Choose a term from COLUMN B that matches a statement in COLUMN A. Write only the letter (A–E) next to the number (1–4) below.

COLUMN A	COLUMN B
1. The science of acquiring information about the earth's surface without actually being in contact with it	A spatial data B points
2. A real world phenomenon of which the location and/or shape can be described in terms of a spatial reference system	C lines D spatial objects
3. Data described in terms of location or grid reference	E remote sensing
4. The type of symbol cartographers use to describe roads, rivers and railways	

1 E ✓
 2 D ✓
 3 A ✓
 4 C ✓ (4 x 1) (4)

4.4 Spatial data can be managed as points, lines or polygons. Name ONE line feature in block **A3**.

N2 ✓✓

Fence ✓✓

Hiking trail ✓✓

[Any ONE]

(1 x 2) (2)

4.5 Name ONE attribute of the N2 running from west (block **A1**) to east (block **A10**) across the topographic map.

Has a tarred surface ✓✓

Has many lanes ✓✓

[Any ONE]

(1 x 2) (2)

4.6 Why was GIS developed?

For collecting, ✓✓ analysing, ✓✓ managing, ✓✓ modelling ✓✓ and presenting ✓✓ geographic data ✓✓

[Any TWO]

(2 x 2) (4)

[15]

TOTAL: 75