



education

Department:
Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATION – 2008

GEOGRAPHY P2

HIGHER GRADE

MAY/JUNE 2008

MEMORANDUM

MARKS: 100

This memorandum consists of 8 pages.

SECTION A**QUESTION 1: MULTIPLE- CHOICE**

Refer to the 1:50 000 topographical map 3319CB and the 3319CB orthophoto map of Worcester (attached) to answer the following questions:

Various possible options (answers) are provided for the following questions / statements. Write only the letter (A – D) next to the question number (1.1 – 1.10) in the block provided on the right – hand side of the page.

- 1.1 The mean annual change of the magnetic declination on the topographical map is ...
- A 2' Eastwards.
B 23°12' West.
C 2' Westwards.
D 23°12' East.
- C**
- 1.2 The contour interval on the topographical map is ... metres.
- A 20
B 10
C 50
D 60
- A**
- 1.3 The two types of scale shown on the topographical map are ...
- A ratio scale and word scale.
B Richter scale and line scale.
C word scale and line scale.
D line scale and ratio scale.
- D**
- 1.4 The physical feature found at J (block A6) on the topographical map is a ...
- A mesa.
B butte.
C conical hill.
D plateau.
- C**
- 1.5. What primary activity is found at K on the orthophoto map?
- A Orchards and vineyards.
B Mining.
C Fishing.
D Quarrying.
- A**

1.6. The orthophoto number 3319 refers to ...

- A longitude and contour line.
- B contour line and isobar.
- C latitude and contour line.
- D latitude and longitude.

D

1.7 What the recreational facility is found at 33°39'45"S and 19°25'45"E on the topographical map?

- A golf course.
- B horse riding club.
- C caravan park.
- D model aircraft club.

B

1.8. The man-made feature found at L (block C4/5) on the topographical map is a ...

- A reservoir. p
- B dam.
- C sewage disposal works.
- D lake.

B

1.9. At M on the orthophoto map the land use is a/an ...

- A park.
- B hospital.
- C school.
- D industry.

B

1.10 The type of road labelled N on the orthophoto map is a/an ... road.

- A other
- B arterial
- C secondary
- D main

B

TOTAL SECTION A: 10 x 2 = (20)

SECTION B**QUESTION 2: MAPWORK TECHNIQUES AND CALCULATIONS.**

- 2.1 Calculate the average gradient from spot height • 212 (block E12) to trigonometrical station 207 (block C8)

$$\begin{aligned} \text{Gradient} = \frac{VI}{HE} \sqrt{\quad} &= \frac{289,5 - 212}{14,1 \text{ cm} \sqrt{\quad} \times 0,5} & \text{OR} & \frac{VI}{HE} \sqrt{\quad} = \frac{289,5 - 212}{141 \text{ mm} \sqrt{\quad} \times 50\,000} \\ &= \frac{77,5 \text{ m} \sqrt{\quad}}{7,05 \sqrt{\quad} \times 1000} & & = \frac{77,5 \text{ m} \sqrt{\quad}}{7050 \text{ m} \sqrt{\quad}} \\ &= 1:90,96 \sqrt{\quad} & & = 1:90,96 \sqrt{\quad} \\ &(\text{Range } 1:90,3 - 1:91,6) & & (\text{Range } 1:90,3 - 1:91,6) \end{aligned}$$

$$\begin{aligned} \text{Gradient} = \frac{VI}{HE} \sqrt{\quad} &= \frac{289,5 - 212}{14,1 \text{ cm} \sqrt{\quad} \times 500} \\ &= \frac{77,5 \text{ m} \sqrt{\quad}}{7,05 \sqrt{\quad} \times 1000} \\ &= 1:90,96 \sqrt{\quad} \\ &(\text{Range } 1:90,3 - 1:91,6) \end{aligned}$$

(5)

- 2.2 Calculate the magnetic declination for the year 2007. Show all calculations.
Difference in years = 2007 – 1997

$$= 10 \text{ years} \sqrt{\quad}$$

$$\text{Mean annual change} = 10 \times 2' W$$

$$= 20' W \sqrt{\quad}$$

$$\begin{aligned} \text{MD for 2007} &= 23^\circ 12' \\ &\quad + \sqrt{\quad} \frac{20'}{23^\circ 32' W} \sqrt{\quad} \end{aligned}$$

(5)

- 2.3 Calculate the area in square kilometers (km²) of block G8 on the topographical map.

$$\text{Area} = L \times B$$

$$L = 3,7\text{cm} \sqrt{} \times 0,5 \\ = 1,85 \sqrt{}$$

$$\frac{(37\text{mm} \sqrt{} \times 50\,000)}{1\,000\,000} \times \frac{(30\text{mm} \sqrt{} \times 50\,000)}{1\,000\,000}$$

$$B = 3\text{cm} \sqrt{} \times 0,5 \\ = 1,5\text{km} \sqrt{}$$

$$\text{OR} \quad = \frac{185}{100} \quad \times \quad \frac{150}{100}$$

$$L \times B = 1,85 \times 1,5$$

$$= 1,85 \sqrt{} \quad \times \quad 1,50 \sqrt{}$$

$$= 2,775\text{km}^2 \sqrt{}$$

$$= 2,775\text{km}^2 \sqrt{}$$

$$(\text{Range: } 2,61\text{km}^2 - 2,94\text{km}^2)$$

$$(\text{Range: } 2,61\text{km}^2 - 2,94\text{km}^2)$$

(5)

- 2.4 Calculate the vertical exaggeration of a cross section if the vertical scale is 1cm represents 40m and the horizontal scale is 1:50 000. Show ALL calculations.

$$VE = \frac{VS \sqrt{}}{HS} \times \frac{1}{4000} \quad \times \quad \frac{50\,000}{1}$$

1 cm represents 40m

1 cm = 40m x 100

1 : 4000 $\sqrt{}$ $\sqrt{}$

$$= \frac{50}{4 \sqrt{}}$$

$$= 12,5 \text{ times} \sqrt{}$$

(5)

TOTAL SECTION B: [20]**SECTION C****QUESTION 3: RELIEF AND DRAINAGE**

- 3.1 Identify the following physical features on the topographical map :

P (block E7): *Braided streams / sand island* (2)Q (block D5): *Marshes and vlei* (2)R (block G10): *Neck / saddle / pass* (2)

3x2 = (6)

- 3.2 Give two physical factors that favour the location of the Brandvleidam?

- *Mountains form the natural dam walls* (2)- *High altitude reduces the evaporation rate* (2)- *Surrounded by a large catchment area providing good water supply* (2)

[Any TWO]

2x2 = (4)

- 3.3 In which general direction is the Breërivier flowing? Give TWO reasons for your answer.

Answer: *South eastwards (2)* 1x2 = (2)

Reasons: *The contour heights decreases south-eastwards(2)*

The spot heights decreases south-eastwards. (2)

Most tributaries join the main river at acute angles south-easterly (2)

[Any TWO] 2x2 = (4)

- 3.4 Identify the drainage pattern associated with the feature named Voorsorgsberg (block H6).

Radial (2) 1x2 = (2)

- 3.5 Suggest ONE physical factor hindering(preventing) the northwards expansion of the town of Worcester.

Mountain range (2) 1x2 = (2)

TOTAL SECTION C: [20]

SECTION D

QUESTION 4: SETTLEMENT AND ECONOMIC ACTIVITIES

- 4.1 The residential area of Van Riebeeckpark, **S** on the orthophoto map, shows characteristics of a high income residential area. Give THREE reasons to support this statement.

Houses are large (2)

Stands are large (2)

High lying –scenic view (2)

Low density (2)

[Any THREE]

3x2 = (6)

- 4.2. 4.2.1 Identify the urban functional zone, on the topographical map, where the sewage works (block D/E 10) is situated.
- Rural-urban fringe* 1x2 = (2)
- 4.2.2 Give TWO reasons why is it located here?
- Away from built up area-odour (smell)(2)*
Flat land (2)
Cheaper land (2)
[Any TWO] 2x2 = (4)
- 4.3 Give TWO advantages of the location of land use labelled M on the orthophoto map
- Easy access for residents (2)*
Located away from the CBD (2) 2x2 = (4)
- 4.4 The industrial area of Worcester (block C10) has an ideal (good) location. List and explain THREE factors that influenced its' location.
- good transport network(road/ rail).(2)*
-flat land for expansion.(2)
-cheaper land away from city centre.(2)
away from built up area –less threat of pollution.(2)
-water supply from Worcester dam.(2)
-good labour supply from the surrounding residential areas (2)
[Any THREE] 3x2 = (6)
- 4.5 Identify the type of street pattern found in the CBD of Worcester.
- Gridiron (2)* 1x2 = (2)
- 4.6 Worcester enjoys an excellent location as a gap town. With reference to this statement:
- 4.6.1 Explain the meaning of the term gap town.
- A town located between or at the entrance of two mountains or poort* 1x2 = (2)
- 4.6.2 Give TWO advantages of a gap town.
- economic advantage in terms of passing trade (2)*
- mountains offer protection against strong winds (2)
- serves as a refreshment point for tourists (2)
[Any TWO] 2x2 = (4)

4.7 Environmental damage has taken place at block C12 on the topographic map. Name the type of primary activity that is responsible for this damage.

diggings / excavation (2) 1x2 = (2)

4.8 Fruit farming is an important economic activity in Worcester. List and explain any TWO factors that have favoured this type of activity in this area

-Mediterranean climate-winter rainfall (2)
-numerous rivers and dams (2)
-fertile soil found on banks of rivers (2)
-sheltered valley .(2) 2x2 = (4)
 [Any TWO]

4.9 Suggest TWO reasons for the orientation of the runways of the Worcester aerodrome in a northwest-southeast direction.

-avoid the built up area –risk of casualties which may result from accidents during take-off and landing is reduced (2)
-possibly well located in terms of prevailing winds (2) 2x2 = (4)

TOTAL SECTION D: 40
GRAND TOTAL: 100