

SENIOR CERTIFICATE EXAMINATION
SENIORSERTIFIKAAT-EKSAMEN



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2004

GEOGRAPHY

AARDRYKSKUNDE

(Second Paper: Map and Aerial
Photograph Interpretation)
(*Tweede Vraestel: Kaart- en
Lugfotovertolking*)

LG

502-3/2 LS

7 pages
7 bladsye

GEOGRAPHY LG: Paper 2
Question Paper & Maps



502 3 2

LG

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GAUTENGSE DEPARTEMENT VAN ONDERWYS
SENIORSERTIFIKAAT-EKSAMENAARDRYKSKUNDE LG
(Tweede Vraestel: Kaart- en
Lugfotovertolking)

TYD: 1½ uur

PUNTE: 60

HULPBRONMATERIAAL:

- 'n Uittreksel van die topografiese kaart van Witbank
- 'n Uittreksel van die ortofotokaart van Witbank
- 'n Vertikale lugfoto van Witbank

BENODIGDHEDE:

- Kandidate moet hulle eie instrumente voorsien en mag van 'n sakrekenaar en 'n vergrootglas gebruik maak.

INSTRUKSIES:

- Beantwoord AL die vrae.
- Die hulpbronmateriaal (dit wil sê, die topografiese kaart, die ortofotokaart en vertikale lugfoto) moet deur die skole ingeneem word vir hul eie verdere gebruik.
- Kandidate moet van hulle kennis van fisiese en menslike aardrykskunde gebruik maak om die vrae te beantwoord.
- Die ligging van verskynsels word soos volg aangetoon:
 - Hoofletters op die topografiese kaart
 - Syfers op die ortofotokaart
 - Kleinletters op die vertikale lugfoto

Die volgende Engelse terme met hul Afrikaanse vertalings verskyn op die topografiese kaart.

Conveyor belt	–	<i>Vervoerband</i>
Old diggings	–	<i>Ou mynwerke</i>
Open cast mine	–	<i>Oopgroefmyn</i>
Sinkhole	–	<i>Sinkgat</i>
Slimes dam	–	<i>Slykdam</i>
Subsiding ground	–	<i>Insakkende grond</i>

GAUTENG DEPARTMENT OF EDUCATION
SENIOR CERTIFICATE EXAMINATION

GEOGRAPHY LG
(Second Paper: Map and Aerial
Photograph Interpretation)

TIME: 1½ hours

MARKS: 60

RESOURCE MATERIAL:

- An extract from the topographical map of Witbank
- An extract from the orthophoto map of Witbank
- A vertical aerial photograph of Witbank

REQUIREMENTS:

- Candidates must supply their own equipment and may make use of a calculator and a magnifying glass.

INSTRUCTIONS:

- Answer ALL the questions.
- The resource material (i.e. the topographical map, the orthophoto map and the vertical aerial photograph) must be collected by the schools for their own further use.
- Candidates must draw on their knowledge of physical and human geography to answer the questions.
- The positions of features are indicated as follows:
 - Capital letters on the topographical map
 - Numbers on the orthophoto map
 - Small letters on the vertical aerial photograph

The following English terms and their Afrikaans equivalents appear on the topographical map.

Conveyor belt	–	<i>Vervoerband</i>
Old diggings	–	<i>Ou mynwerke</i>
Open cast mine	–	<i>Oopgroefmyn</i>
Sinkhole	–	<i>Sinkgat</i>
Slimes dam	–	<i>Slykdam</i>
Subsiding ground	–	<i>Insakkende grond</i>

FIGUUR 1

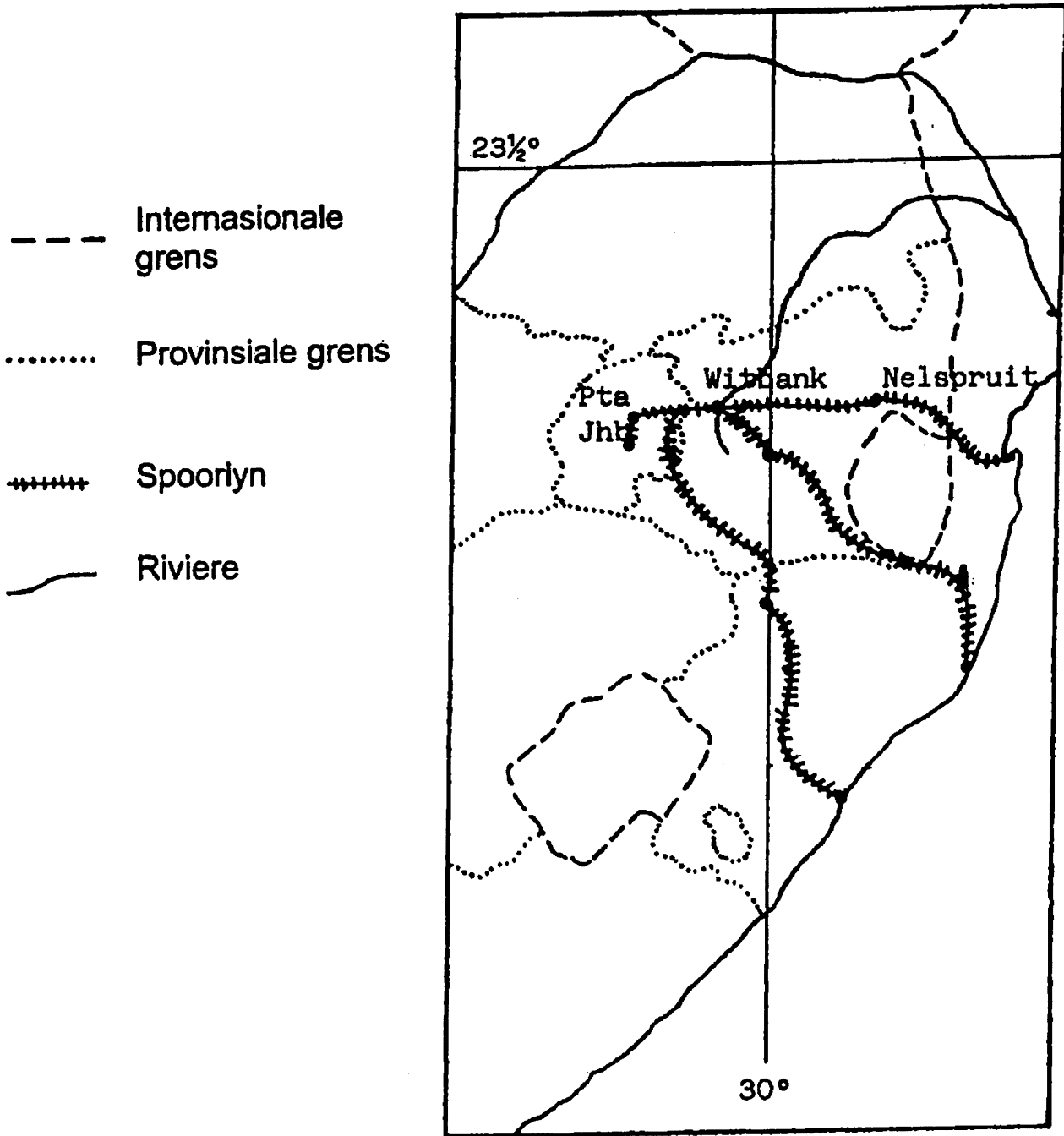
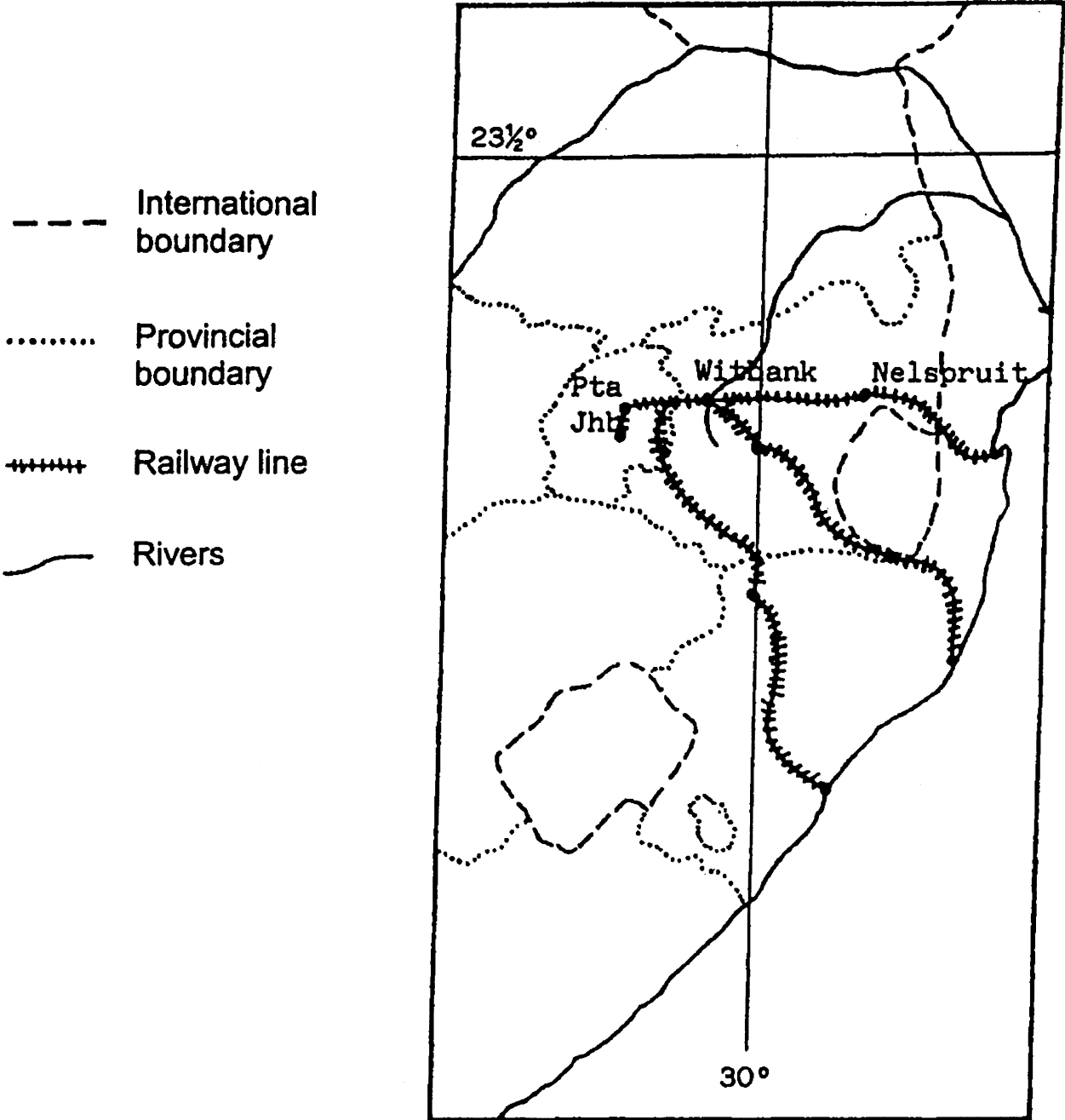


FIGURE 1



VRAAG 1

Verwys na al die hulpbronmateriaal en **Figuur 1** op bladsy 3. Kies die korrekte antwoord uit die moontlike keuses. Gebruik die antwoordblad en merk die regte blokkie met 'n kruis(X).

- 1.1 In watter provinsie is Witbank geleë?
- A. Gauteng
 - B. Noordwes
 - C. Mpumalanga
 - D. Vrystaat
- 1.2 Watter deurpad verbind Pretoria met Witbank?
- A. N1
 - B. N2
 - C. N3
 - D. N4
- 1.3 Die hoofrivier wat deur die Witbankgebied vloei is die _____ rivier.
- A. Olifants-
 - B. Vaal-
 - C. Oranje-
 - D. Limpopo-
- 1.4 Hierdie rivier (genoem in 1.3) vloei in die rigting van die _____ .
- A. Atlantiese Oseaan
 - B. Stille Oseaan
 - C. Indiese Oseaan
 - D. Middellandse See
- 1.5 Witbank se ligging is ongeveer _____ .
- A. 29° Suid 25° Oos
 - B. 25° Suid 29° Oos
 - C. 29° Noord 25° Oos
 - D. 25° Noord 25° Oos
- 1.6 Die pyl wat 'X' op die vertikale lugfoto gemerk is, wys in 'n _____ rigting.
- A. suidelike
 - B. noordelike
 - C. oostelike
 - D. westelike

QUESTION 1

Refer to all resource material and **Figure 1** on page 3. Choose the correct answer from the possible answers given. Use the answer sheet and mark the correct block with a cross (X).

1.1 In which province is Witbank situated?

- A. Gauteng
- B. North West
- C. Mpumalanga
- D. Free State

1.2 Which freeway links Pretoria with Witbank?

- A. N1
- B. N2
- C. N3
- D. N4

1.3 The main river flowing through the Witbank area is the _____ River.

- A. Olifants
- B. Vaal
- C. Orange
- D. Limpopo

1.4 This river (referred to in 1.3) flows in the direction of the _____ Ocean.

- A. Atlantic
- B. Pacific
- C. Indian
- D. Mediterranean

1.5 The position of Witbank is approximately _____ .

- A. 29° South 25° East
- B. 25° South 29° East
- C. 29° North 25° East
- D. 25° North 25° East

1.6 The arrow marked 'X' on the vertical aerial photograph points in a/an _____ direction.

- A. southerly
- B. northerly
- C. easterly
- D. westerly

- 1.7 Die natuurlike of mensgemaakte verskynsel op die vertikale lugfoto se middelpunt is 'n _____ .
- A. rugbyveld
 - B. dam
 - C. pad
 - D. landery
- 1.8 Watter primêre aktiwiteit word meestal in hierdie gebied beoefen?
- A. Wingerdbou
 - B. Bosbou
 - C. Vissery
 - D. Mynbou
- 1.9 Wat is die naam van die hoofstad van die provinsie waarin Witbank geleë is?
- A. Pretoria
 - B. Johannesburg
 - C. Nelspruit
 - D. Bloemfontein
- 1.10 Wat is die kontoertussenruimte wat op hierdie topografiese kaart gebruik word?
- A. 5 m
 - B. 10 m
 - C. 15 m
 - D. 20 m
- 1.11 Wat is die hoogte van die driehoeksbaken 179 in ruit A5?
- A. 1558,4 m
 - B. 1558,4 vt
 - C. 179 m
 - D. 179 vt
- 1.12 Watter natuurlike kenmerk word hoofsaaklik in ruit G4 aangetref?
- A. Plantasie
 - B. Moeras
 - C. Bewerkte land
 - D. Gholfbaan
- 1.13 Watter nommer op die vertikale lugfoto toon die fotonommer?
- A. 1:50 000
 - B. 13
 - C. 951
 - D. 0125

13x1=[13]

- 1.7 The natural or man-made feature at the centre point of the vertical aerial photograph is _____ .
- A. a rugby field
 - B. a dam
 - C. a road
 - D. cultivated land
- 1.8 Which primary activity is predominant in this area?
- A. Viticulture (cultivation of vines)
 - B. Forestry
 - C. Fishing
 - D. Mining
- 1.9 Name the capital of the province in which Witbank is situated.
- A. Pretoria
 - B. Johannesburg
 - C. Nelspruit
 - D. Bloemfontein
- 1.10 What is the contour interval used on the topographical map?
- A. 5 m
 - B. 10 m
 - C. 15 m
 - D. 20 m
- 1.11 What is the height at the Trigonometrical station (trig Beacon) 179 in block A5?
- A. 1558,4 m
 - B. 1558,4 ft
 - C. 179 m
 - D. 179 ft
- 1.12 What natural feature is predominant in block G4?
- A. Plantation
 - B. Marsh
 - C. Cultivated land
 - D. Golf course
- 1.13 Which number on the vertical aerial photograph indicates the photo number?
- A. 1:50 000
 - B. 13
 - C. 951
 - D. 0125

13x1=[13]

VRAAG 2

Beantwoord die volgende vrae:

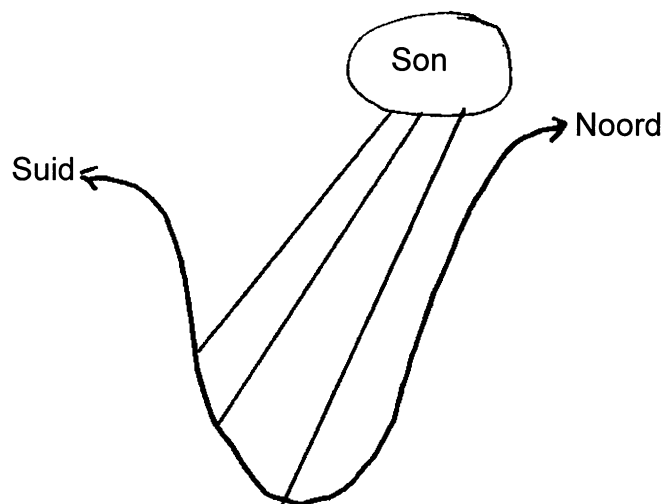
- 2.1 Met die uitsondering van paaie, noem TWEE ander vorme van kommunikasieverbindinge wat op die topografiese kaart sigbaar is. 2x1=(2)
- 2.2 In watter algemene rigting vloei die Olifantsrivier in ruit B9? (1)
- 2.3 Gee EEN rede vir jou antwoord in 2.2. (2)
- 2.4 Bereken die ware peiling vanaf die Ou Fort (ruit E8) na die driehoeksbaken 179 in ruit A5. (2)
- 2.5 Die magnetiese afwyking vir 2004 is $17^{\circ}05$ Wes vanaf Ware Noord. Bepaal die magnetiese peiling vanaf die Ou Fort na driehoeksbaken 179. Toon al die stappe. (4)
- 2.6 Skryf die skaal 1:50 000 van die topografiese kaart oor as 'n woordskaal. (1)
- 2.7 Bereken die lengte van die N12 deurpad in ruit C11. Gee jou antwoord in cm en km. (3)
- 2.8 Waarom volg die N4 nie 'n reguit lyn vanaf ruit D7 tot by ruit C12 nie? Gee EEN rede. (2)

[17]

VRAAG 3

Bestudeer die topografiese kaart en beantwoord die volgende vrae:

- 3.1 Kopieer die volgende dwarsaansig wat vanaf A na B geteken is in jou antwoordboek (Ruit E8 en F9).



- 3.1.1 Toon die oord (resort) se posisie met 'n \circ X aan op die dwarsnit. (2)

QUESTION 2

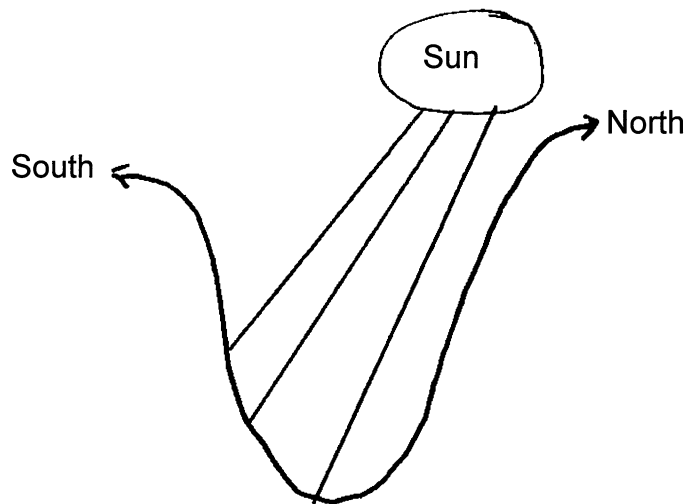
Answer the following questions:

- 2.1 Excluding roads, list TWO other types of communication links visible on the topographical map. 2x1=(2)
- 2.2 What is the general flow direction of the Olifants River in block B9? (1)
- 2.3 Give ONE reason for your answer in 2.2. (2)
- 2.4 Calculate the true bearing from the Old Fort (block E8) to the trig beacon (Trigonometrical station) 179 in block A5. (2)
- 2.5 The magnetic declination for 2004 is 17°05 West of True North. Calculate the magnetic bearing from the Old Fort to trig. beacon 179. Show all the steps. (4)
- 2.6 Rewrite the ratio scale 1:50 000 used on the topographical map as a word scale. (1)
- 2.7 Calculate the length of the N12 freeway in block C11. Give your answer in cm and km. (3)
- 2.8 The N4 does not follow a straight line from block D7 to block C12. Give ONE reason. (2)
- [17]**

QUESTION 3

Study the topographical map and answer the following questions:

- 3.1 Copy the following cross-section which is drawn from A to B in your answer book (blocks E8 and F9).



- 3.1.1 Indicate the resort with a ° X on the cross-section. (2)

- 3.1.2 Watter helling (noordelike of suidelike) sal warmer wees gedurende die dag? (2)
- 3.2 Watter plaaslike wind, katabaties of anabaties, sal gedurende die nag by die oord waai? (2)
- 3.3 Watter voorsorgmaatreël is by die oord getref om onverwagte oorstroming te voorkom? 1x2=(2)
[8]

VRAAG 4

Verwys na die ortofoto en topografiese kaarte om die volgende vrae te beantwoord:

- 4.1 Teken die volgende tabel in jou antwoordboek oor. (Laat meer spasie vir antwoorde toe.) Die tabel verwys na DRIE gebiede op die ortofotokaart, naamlik ruit M4, M6 en J7.

	Ruit M4	Ruit M6	Ruit J7
4.1.1			
4.1.2			
4.1.3			
4.1.4			

Verskaf die volgende antwoorde oor die DRIE gebiede:

- 4.1.1 Wat is die hoofgrondgebruik in elke ruit? (3)
- 4.1.2 Gee die hoofstraatpatroon. (3)
- 4.1.3 Vergelyk die hoogte van geboue as hoog / laag / hoogste. (3)
- 4.1.4 Vergelyk die graad van besoedeling as hoog / laag / hoogste. (3)
- 4.2 Gee EEN
- 4.2.1 voordeel van die straatpatroon in ruit M4. (2)
- 4.2.2 nadeel van die straatpatroon in ruit M4. (2)
- 4.3 Noem EEN probleem waarmee stadsbeplanners te kampe het met die uitbreiding van KwaGuqa in ruit C1 tot C3 op die topografiese kaart. 1x2=(2)
- 4.4 Identifiseer die grondgebruik by die volgende nommers op die ortofotokaart.
- 4.4.1 1.
- 4.4.2 2.
- 4.4.3 4.
- 4.4.4 5. (4)

[22]

TOTAAL: 60

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- 3.1.2 Which slope (northern or southern) will be warmer during the day? (2)
- 3.2 Is the local wind, blowing during the night, at the resort, a catabatic or anabatic wind? (2)
- 3.3 What precaution was taken to avoid unexpected flooding at the resort? 1x2=(2)
[8]

QUESTION 4

Refer to the orthophoto and topographical maps to answer the following questions:

- 4.1 Copy the following table in your answer book. (Allow more space for answers.)
The table refers to THREE areas on the orthophoto map, namely blocks M4, M6 and J7.

	Block M4	Block M6	Block J7
4.1.1			
4.1.2			
4.1.3			
4.1.4			

Answer the following questions on the THREE areas:

- 4.1.1 What is the main land-use in each block? (3)
- 4.1.2 Give the main street pattern. (3)
- 4.1.3 Compare the height of buildings as high / low / highest. (3)
- 4.1.4 Compare the degree of air pollution as high / low / highest. (3)
- 4.2 Give ONE
- 4.2.1 advantage of the street pattern in block M4. (2)
- 4.2.2 disadvantage of the street pattern in block M4. (2)
- 4.3 Name ONE problem city planners will experience with the expansion of KwaGuqa in blocks C1 to C3 on the topographical map. 1x2=(2)
- 4.4 Identify the land-use at the following numbers on the orthophoto map.
- 4.4.1 1.
- 4.4.2 2.
- 4.4.3 4.
- 4.4.4 5. (4)
[22]

TOTAL: 60

END