HIGHER GRADE   (OUDTSHOORN)

REFER TO THE 1:50000 TOPOGRAPHICAL MAP 3322 CA AND THE 3322 CA ORTHOPHOTO MAP OF OUDTSHOORN AND ANSWER THE QUESTIONS THAT FOLLOW.

SECTION A

QUESTION 1

MULTIPLE CHOICE

For each of the following statements, **four** alternatives are provided. Write the letter of the correct answer in the block provided on the right hand side of each sub-question.

1.1. The **topographical** map scale is … times **smaller** than the   **orthophoto** map scale.

A   20
B   5
C   10
D   50

1.2   The contour interval of the **orthophoto** map is … metres.

A   10
B   20
C   5
D   50

1.3.   The map reference number in the index of sheets to the east of Oudtshoorn on the **topogrphical** map 3322CA is:

A   3322AC
B   3321DB
C   3322CC
D   3322CB

1.4.   The feature found at grid reference **33° 43 ' 10 " S and 22° 11 ' 35 " E** on the **topographical** map is a …

A   spot height.
B   trigonometrical station.
C   bench mark..
D   dam .

1.5.   The **physical** feature found at **A** (in block I 6 / 7) on the
         topographical map is a/an …

     A   ox-bow lake.
     <u>B</u>   river island.
     C   waterfall.
     D   rapid.

1.6.   The **primary** economic activity taking place at **B** on the
         orthophoto map is…

     A   forestry.
     B   mining.
     <u>C</u>   crop farming.
     D   fishing.

1.7.   The **tertiary** economic activity found at **C** on the **orthophoto**
         map is a …

     A   shop.
     B   golf course.
     C   post office.
     <u>D</u>   hospital.

1.8.   The **secondary** economic activity taking place at **D** on the   **orthophoto** map is …

     A   farming.
     <u>B</u>   industry.
     C   sewage disposal.
     D   education.

1.9.   The roads that link De Rust in the **east** to Calitzdorp in the
         west on the **topographical** map are the …..

     A   R62 and N2.
     B   main road and other road.
     C   N2 and N12.
     <u>D</u>   N12 and R62.

1.10.   The main means of transporting water from the rivers to the
         agricultural land on the **topographical** map is by …

     A   furrows and windpumps.
     <u>B</u>   canals and furrows.
     C   canals and windpumps.
     D   pipelines and furrows.

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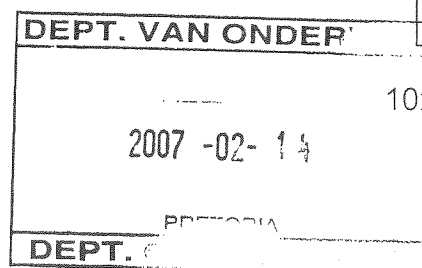
10x2=[20]

SECTION B

QUESTION 2

MAPWORK TECHNIQUES AND CALCULATIONS

2.1   Explain the meaning of the term magnetic declination.

It is the difference in degrees between true north and magnetic
north / angle between true north line and magnetic north line (2)   1x2=(2)

2.2   Give the approximate **height** of the brickfields at **E** on the   **topographical** map.

Accept a range between 340 to 360m   1x2=(2)

Calculate the **area** in square kilometres (km²) of the region
covered by the orthophoto map on the **topographical** map.
Show all calculations.

Area = L X B

Length = 13,1 x 0,5

*   = 6.55 km*

Breadth = 12 x0,,5

*   = 6 km*

L X B = 6,55 x 6

*   = 39,3km²*   (4)

2.4   Calculate the **average gradient** between spot height 317
      (at **F** in block G 15) and trigonometrical station 286
      (at **G** in block E 14) on the   topographical map.
      (Show all calculations)

Gradient = $\frac{VI}{HE}$

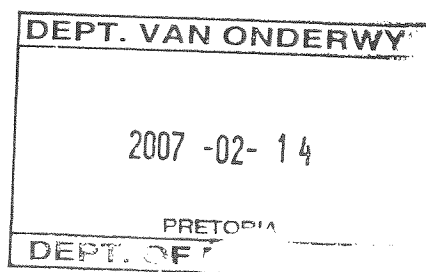   *= $\frac{462,1 - 317}{9,1 \times 0,5}$*   OR   *$\frac{462,1 - 317}{91mm \times 50\,000}$*

          = $\frac{145,1\ m}{4,55\ km}$ *$\frac{145,1}{4550}$*

          = $\frac{145,1\ m}{4550}$ *1 : 31,35*

          = 1: 31,35   (6)

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2.5   What do contour lines, trigonometrical stations, spot
       heights and benchmarks all have in **common** ?

       All represent height or altitude above sea level (2)   1x2=(2)

2.6   Refer to Grootkop (at **G** in block **E 14**) and the brickfields
       (at **E** in block **E 13**). Are these two places intervisible?
       Give **ONE** reason for your answer.

       Answer: *Yes (2)*   1x2=(2)

       Reason: *Contour readings decrease towards the brickfields (2)*
                  Grootkop is higher than the brickfields (2)
                  There is no obstruction between Grootkop and the   brickfields (2)

              [Any ONE]   1x2=(2)
                                                                        [20]

QUESTION 3

RELIEF AND DRAINAGE

3.1   Give a reason for the winding course of the N12 to the
       south east of Oudtshoorn on the **topographic map**

       Hilly (2)
       Mountainous (2)
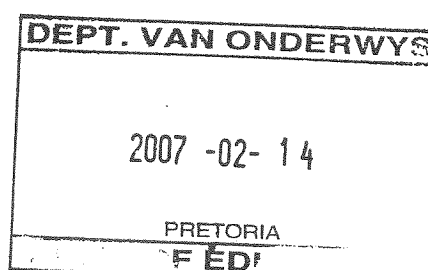   *Rugged landscape (2)*

       [Any ONE]   1x2=(2)

3.2   "Rainfall over the map area is **seasonal** and at times **unreliable**".
       Provide map evidence of any **TWO** measures farmers have used
       to over come the   problem of water shortage during times of
       low rainfall.

       Furrows (2)
       Wind pumps (2)
       Canals (2)
       Dams (2)

                                      [Any TWO]   2x2=(4)

3.3   In which general **direction** is the Olifantsrivier (**H**) flowing?
Give **TWO** reasons for your answer.

     ANSWER: *East to west (2)*   1x2=(2)
     REASON: *Contour and spot height readings decreases*
             from east to west(2).
                  Tributaries join the main river at acute angles in a
                  westerly direction (2)   2x2=(4)

3.4   Refer to the stream pattern labelled I (in block K 7)

     3 4.1   Identify the stream pattern.

          Dendritic (2)   1x2=(2)

     3.4.2   Name the type of rock responsible for the pattern identified in
          question 3.4.1

          Rocks that have a uniform resistance to erosion (2)

          Horizontal sedimentary rocks (2)

          Massive igneous rocks and metamorphic rocks (2)   *[Any ONE]*

                                 1x2=(2)

3.5   Expansion of the town of Oudtshoorn towards the **north east**
is limited. Provide map evidence of **TWO** physical factors
hindering expansion of the town in this direction .

     Hilly/ mountainous/ rugged terrain (2)
     Numerous rivers (2)   2x2=(4)
                                       [20]

QUESTION 4

SETTELMENT AND ECONOMIC ACTIVITIES

4.1   The town of Oudtshoorn has a rich cultural heritage. Give **TWO**
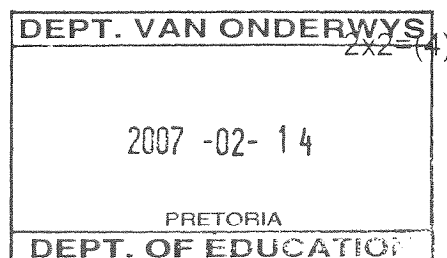pieces of map evidence to support this statement .

     St . Jades church 1863 (2)
     Numerous monuments (2)
     Old Boys School (2)
     Hartebeeshuisie (2)   *[Any TWO]*

                         2x2=(4)

4.2   Name the services found in the **rural urban fringe** at the following places on the **orthophoto map.**

     4.2.1   **J**   *Cemetery/ graveyard (2)*   1x2=(2)

     4.2.2   **K**   *Railway station (2)*   1x2=(2)

     4.2.3   Give **TWO** reasons why services **J** and **K** are found in the rural-urban fringe.

            Land is cheaper (2)
            Flat land and open spaces (2)
            Tranquil environment for cemetery (2)
            Less noise pollution (2)
            More space for parking (2)

                                         [Any TWO]   2x2=(4)

4.3   Refer to the **street pattern** at **L** (block G13)on the **topographical map**.

     4.3.1   Identify the street pattern.

            Gridiron / block /rectangular (2)   1x2=(2)

     4.3.2   Give **ONE** disadvantage of this street pattern.

   -   *Associated with traffic congestion (2)*
              -   *Pattern is monotonous (2)*
              -   *Causes wastage of travelling time and fuel (2)*
              -   *Causes frustration on the part of the driver (2)*
              -   *Causes accidents (2)*

              [Any ONE]   1x2=(2)

4.4   The area of Bongoletu (**T**) on the **orthophoto map** shows characteristics of a **low income** residential area. Give **ONE** piece of evidence from the map to support this statement.

      Small plots (2)
      Small buildings (2)
      Lack of trees and vegetation (2)
      Close to employment (2)
      Homes appear in rows (2)
      Houses of similar architectural design (2)
      [Any ONE]   1x2=(2)

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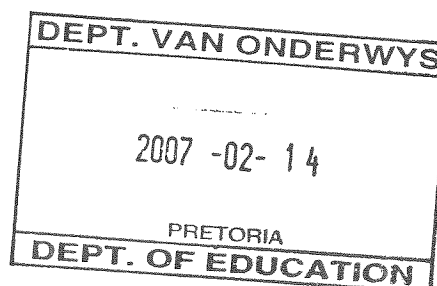
4.5   Name the **physical** feature that separates the town of
       Oudtshoorn into the **eastern** and **western** parts .

       River / flood plain   1x2=(2)

4.6   Identify the **rural settlement pattern** at each of the following
       places on the **topographical** map .

       4.6.1 **M (C14)**   *Nucleated / clustered (2)*   1x2=(2)
       4.6.2 **N (E5)**   *Dispersed / scattered / isolated (2)*   1x2=(2)

4.7   **Commercial** farming occurs along all the major perennial
       rivers. Explain any **THREE** factors (besides the factors related
       to water supply), that favoured this type of farming .

       Extensive flat land (2)
       Fertile soil on the flood plain (2)
       Good network of roads and railways (2)
       Good supply of electricity (2)
       [Any THREE]   3x2=(6)

4.8   Oudtshoorn is an important **tourist** destination. Using **map**

       evidence list any **TWO** recreational opportunities that the town

       offers to tourists .

       Cango Caves (2)
       Golf course (2)
       Rrifle range (2)
       Show grounds (2)
       Tourist camp (2)
       Crocodile ranch (2)
       Ostrich farm (2)
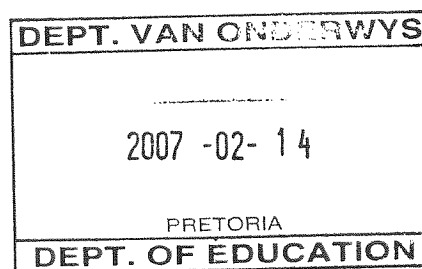   *Recreational grounds (2)*
       Monuments (2)
       Drive-in theater (2)
       Hiking (2)
       [Any TWO]   2x2=(4)

4.9   The economic activity occurring at **O (F15)** on the topographical
       map leads to environmental damage.

       4.9.1 Identify the activity responsible for this environmental
              problem.

              Quarrying (2)   1x2=(2)

4.9.2   Suppose you are an environment officer in Oudtshoorn, suggest **TWO** recommendations you would make to the authorities to restore (make good) the affected area.

Land fill excavation sites (2)
Rehabilitate area with vegetation (2)
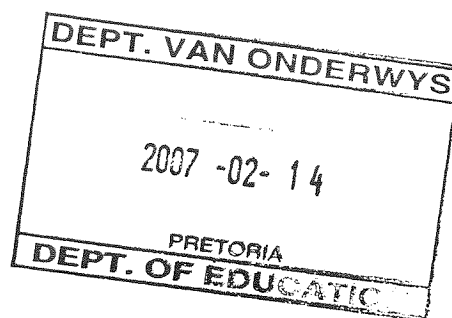*Create lakes for recreation (2)*
Fence off area (2)
[Any TWO]   2x2=(4)

                                                       [40]

                                TOTAL MARKS : 100

AFDELING A

VRAAG 1

MEERVOUDIGE KEUSEVRAE

Verwys na die 1: 50 000 topografiese kaart 3322CA en 3322CA ortofotokaart van Oudtshoorn en beantwoord die vrae wat volg:

Vir elk van die volgende stellings is vier alternatiewe voorsien. Skryf die letter van die korrekte antwoord van elke sub-vraag in die blokkie wat voorsien is aan die regterkant van die bladsy.

1.1   Die **topografiese** kaart se skaal is ... keer **kleiner** as die **ortofotokaart**.
     A   20
     B   5
     C   10
     D   50

1.2   Die kontoerinterval van die **ortofotokaart** is ... meter.
     A   10
     B   20
     C   5
     D   50

1.3   Die kaartverwysingsnommer by die indeks van velle, oos van die topografiese kaart **3322CA** Oudtshoorn is ...
     A   3322AC
     B   3321DB
     C   3322CC
     D   3322CB

1.4   Die kenmerk by ruitverwysing **33° 42' 30" S en 22°11' 35" O** op die **topografiese** kaart is 'n ...
     A   punthoogte.
     B   trigonometriese stasie.
     C   hoogte merk
     D   dam.

1.5   Die **fisiese** kenmerk **A** (ruit I6/7) op die **topografiese** kaart is 'n ...
     A   hoefystermeer.
     B   eiland.
     C   waterval
     D   stromversnelling
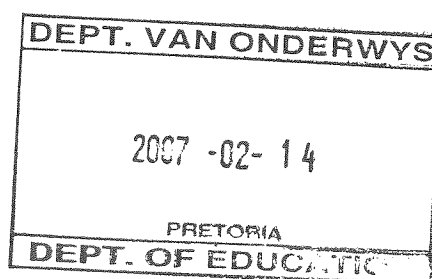
1.6   Die **primêre** ekonomiese aktiwiteit wat by **B** plaasvind op die
       ortofotokaart is ...

       A   bosbou.
       B   mynbou.
       <u>C</u>   groente boerdery.
       D   vissery.

1.7   Die **grondgebruik** by **C** op die **ortofotokaart** is 'n ...
       A   winkel.
       B   gholfbaan.
       C   poskantoor.
       <u>D</u>   hospitaal.

1.8   Die **sekondêre** ekonomiese aktiwiteit by **D** op die **ortofotokaart** is ...

       A   boerdery
       <u>B</u>   nywerhede.
       C   rioolwerke.
       D   povoedkunde.

1.9   Die paaie op die **topografiese** kaart wat De Rust in die **ooste** en
       Calitzdorp in die **weste** met mekaar verbind is die ...

       A.   R62 en N2
       B.   Hoofpad en ander paaie.
       C.   N2 en N12.
       <u>D.</u>   N12 en R62.

1.10   Wateroordrag vanaf die riviere na landbougrond, op die **topografiese** kaart, geskied
       hoofsaaklik deur middel van ...

       A   vore en windpompe.
       <u>B</u>   kanale en vore.
       C   kanale en windpompe.
       D   pyplyne en vore.

                                            10x2=(20)
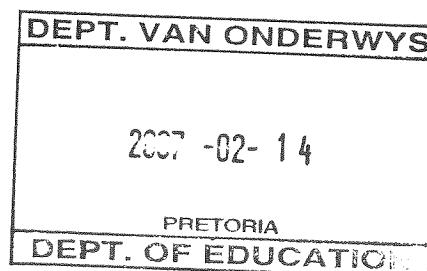
AFDELING B

VRAAG 2

KAARTWERKTEGNIEKE EN BEREKENINGE

2.1 Verduidelik die betekenis van die woord **magnetiese deklinasie.**

Is die verskil in grade tussen ware Noord en magnetiese Noord/

Hoek tussen ware Noord en magnetiese Noord. 1x2=(2)

2.2 Die presiese **hoogte** van die baksteenwerke by **E** op die **topografiese** kaart.
*Aanvaar tussen 340 en 360m* 1x2=(2)

2.3 Bereken die **oppervlak** in vierkante kilometer (km²) van die gebied
Wat deur die **ortofotokaart** op die **topografiese** kaart beslaan word.

Oppervlak = L x B

$$(13,1 \times 0,5) \times (12 \times 0,5) \quad \textbf{OF} \quad (13 \times 0,5) \times (12 \times 6)$$

= 6,55km x 6km		6,5 X 6
= 39,3km²		39,0km² (4)

2.4 Bereken die **gemiddelde gradiënt** tussen punthoogte 317 (**F** in ruit G **15**)
en trig.stasie 286 (**G** in ruit **E 14**) op die **topografiese** kaart. (Toon alle bewerkings).
Gradiënt = VA

    HE

    $= \dfrac{462,1 - 317}{9,1cm \times 0,5}$ $\dfrac{462,1}{91mm \times 50\,000}$

    $= \dfrac{145,1m}{4,55km}$ **OF** $\dfrac{145,1}{4550}$

    $= \dfrac{145,1\,m}{4550m}$ 1: 31,35

    $= 1: 31,35$ (6)
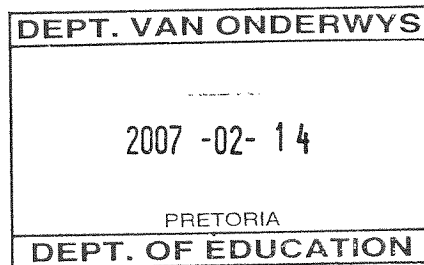
2.5 Wat het kontoere, trigonomertriese stasies, punthoogtes en hoogtemerke **in gemeen?**

Almal verteenwoordig hoogte bo seevlak 1x2=(2)

2.6   Verwys na Grootkop (**G** in ruit **E 14**) en die steenwerke (**E** in ruit **E 13**).

In hierdie twee plekke sigbaar vir mekaar? Gee 'n rede vir jou antwoord.

Antwoord: *Ja*   1x2=(2)

Rede: *Kontoerhoogtes daal in die rigting van die steenwerke(2)*

Grootkop is hoër as die steenwerke(2)

Daar is geen obstruksie tuusen Grootkop en die steenwerke   nie(2)

[Enige EEN]   1x2=(2)

[20]

VRAAG 3

RELIëF EN DREINERING

3.1   Gee 'n rede waarom die N12 so baie kronkels maak na die **suidooste**
Van Oudtshoorn op die **topografiese** kaart.
Heuwelagtig (2)

Bergagtig (2)

Ongelyke landskap(2)   *[Enige EEN]   1x2=(2)*

3.2   Reënval oor die gekarteerde gebied is **seisoenaal** en **onbetroubaar**.
Verskaf **TWEE** maniere vanaf die kaart hoe die boere die probleem van
Watertekort oplos gedurende periodes van lae reënval.

Vore(2)

Windpompe(2)

Kanale(2)

Damme(2)   *[Enige TWEE]*   *1x2=(2)*

3.3   In watter algemene **rigting** vloei die **Olifantsrivier(H)**? Gee
TWEE redes vir jou antwoord.

Antwoord: *Oos na Wes*   1x2=(2)

Rede: *Hoogtes daal van oos na wes(2)*

*Sytakke sluit met skerphoeke in 'n westelike rigting by die hoofstroom aan(2)*

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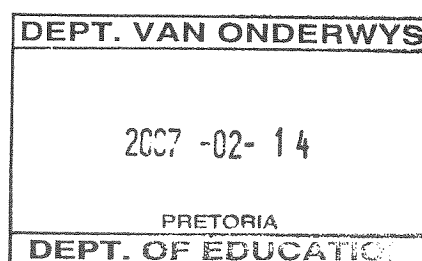
3.4   Verwys na die **stroompatroon** genommer I op die **topografiese** kaart.

3.4.1 Identifiseer die patroon.

Dendrities   1x2=(2)

3.4.2 Benoem die tipe gesteente wat vir die stroompatroon in

vraag 3.4.1 verantwoordelik is.

Gesteentes met gelyke weerstandbiedendheid(2)

Horisontale sedimentere gesteentes(2)

Massiewe stollings – en metamorfiese gesteentes.(2)

[Enige EEN]   1x2=(2)

3.5   Die uitbreiding van Oudtshoorn na die **noordooste** word beperk.

Verskaf **TWEE** fisiese faktore vanaf die kaart wat die uitbreiding na

hierdie rigting beperk.

Heuwelagtig / Bergagtig / ongelyke terrain (2)

Baie riviere (2)   2x2=(4)

[20]

VRAAG 4

NEDERSETTINGS EN EKONOMIESE AKTIWITEITE

4.1   Oudtshoorn is ryk aan kulturele erfenis. Gee **TWEE** bewyse vanaf die

kaart om hierdie stelling te staaf.

St. Jades Church 1863 (2)

Baie monumente(2)

Old Boys School (2)

Hartebeeshuisie (2)   *[Enige TWEE]*   2x2=(4)

4.2   Benoem die dienste wat in die **landelik-stedelike oorgangsone** van Oudtshoorn

voorkom op die ortofotokaart:

4.2.1 **J**   *Begraafplaas*   1x2=(2)

4.2.2 **K**   *Spoorwegstasie*   1x2=(2)
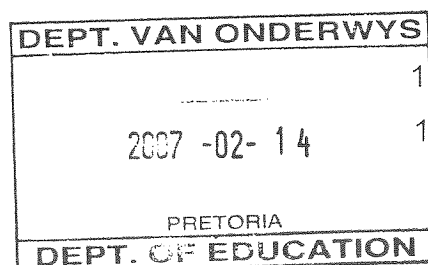
4.2.3   Gee **TWEE** redes waarom dienste soos **J** en **K** in die
        landelik-stedelike oorgangsone voorkom.

Grond is goedkoper (2)

Gelyk oppervlak en oop ruimtes (2)

Rustige omgewing vir die begraafplaas (2)

Minder geraasbesoedeling (2)

Meer parkeerplek (2)   *[Enige TWEE]*   2x2=(4)

4.3   Verwys na **straatpatroon L**(ruit G13) op die **topografiese** kaart.

4.3.1   Identifiseer die straatpatroon.

Rooster   1x2=(2)

4.3.2   Gee **EEN** nadeel van hierdie straatpatroon.

Verkeersopeenhoping (2)

Is eentonig (2)

Tydrowend en petrolvermorsing (2)

Veroorsaak frustrasie by bestuurders (2)

Ongelukke (2)   *[Enige EEN]*   1x2=(2)

4.4   Die gebied Bongoletu (**T**) op die ortofotokaart toon kenmerke van 'n
          lae inkomste woonbuurt. Gee **EEN** bewys vanaf die **ortofotokaart** om hierdie
          stelling te staaf.

Klein erwe (2)

Klein geboue (2)
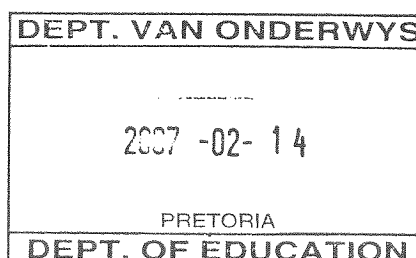
Geen bome of plantegroei nie (2)

Naby aan werk (2)

Huise kom in rye voor (2)

*Huise het dieselfde boustyle (2)*   *[Enige EEN]*   1x2=(2)

4.5   Noem die **fisiese** faktor wat Oudtshoorn in 'n **ooste** en **westekant** deel.

Rivier   1x2=(2)

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4.6 Identifiseer die **landelike nedersettingspatrone** van die volgende
plekke op die **topografiese** kaart:

4.6.1 **M** (ruit C14) *Kern / kompak* 1x2=(2)

4.6.2 **N** (ruit E5) *Verspreid / geïsoleerd* 1x2=(2)

4.7 Kommersiële boerdery kom al langs die belangrikste standhoudende
riviere voor. Behalwe vir watervoorsiening, verduidelik enige ander
DRIE faktore wat hierdie tipe boerdery begunstig.

Baie groot gelyk oppervlak (2)

Vrugbare grond op die vloedvlaktes (2)

Goeie pad en spoorvervoernetwerke (2)

Goeie elektrisiteitsvoorsiening (2) *[Enige DRIE]* 3x2=(6)

4.8 Oudtshoorn is 'n belangrike **toeristebestemming**.
Deur van die kaart gebruik te maak, lys **TWEE** ontspannings=
geleenthede wat die dorp aan die toeris bied.

Cango Grotte (2)

Gholfbaan (2)

Skietbaan (2)

Skougronde (2)

Toeristekamp (2)

Krokodilplaas (2)

Volstruisplaas (2)

Ontspanningsgronde (2)

Monumente (2)

Inry- teater(2)

Staproetes (2) *[Enige TWEE]* 2x2=(4)

4.9 Die ekonomiese aktiwiteit wat by **O** voorkom (F/E15) op die
topografiese kaart, kan lei tot omgewingsvernietiging.

4.9.1 Identifiseer die aktiwiteit verantwoordelik vir hierdie
omgewingsprobleem.

Klipgroefwerk / uitgrawings (2) 1x2=(2)

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PRETORIA
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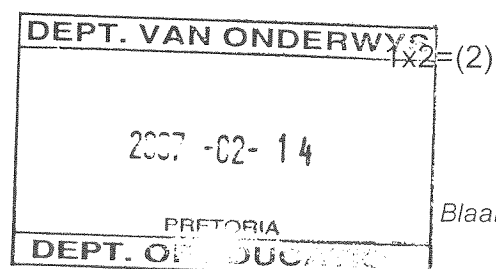
4.9.2 Veronderstel jy is 'n omgewingsbestuurder in Oudtshoorn, maak **TWEE** aanbevelings vir die stadsowerhede om die gebied te herwin.

Vul die uitgrawings op (2)

Herstel gebied met plantegroei (2)

Skep mere vir ontspanning (2)

Span die gebied af (2)   *[Enige TWEE]*   2x2=(4)

[40]

TOTAAL: 100