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SEDIBENG EAST

NOVEMBER EXAMINATION 2024

PAPER 2

SUBJECT	:	GEOGRAPHY
GRADE	:	10
TERM	:	4
TIME	:	3 HOURS
TOTAL	:	150
DATE OF IMPLEMENTATION	:	14 NOVEMBER 2024

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This exam paper consists of 21 pages

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO SECTIONS:

   SECTION A:
   QUESTION 1: Population (60)
   QUESTION 2: Water resources (60)

   SECTION B:
   QUESTION 3: Geographical Skills and Techniques (30)

2. Answer ALL THREE questions.
3. All diagrams are included in the QUESTION PAPER.
4. Leave a line open between sub-sections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Draw fully labelled diagrams when instructed to do so.
9. Answer in FULL SENTENCES, except when you have to state, name, identify or list.
10. Units of measurement MUST be indicated in your final answer, e.g. 1 020 hPa, 14 °C and 45 m.
11. You may use a non-programmable calculator and a magnifying glass
12. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

13. Question 3 Mapwork is based on the 1: 50 000 2820 CB AUGRABIES topographical map and 1: 10 000 2820 CB 7 orthophoto. For the purposes of this exam snippets (parts) of the topographical map and orthophoto has been provided in the question paper. The reference can be referred to when answering questions.
14. Show ALL calculations. Marks will be allocated for this.

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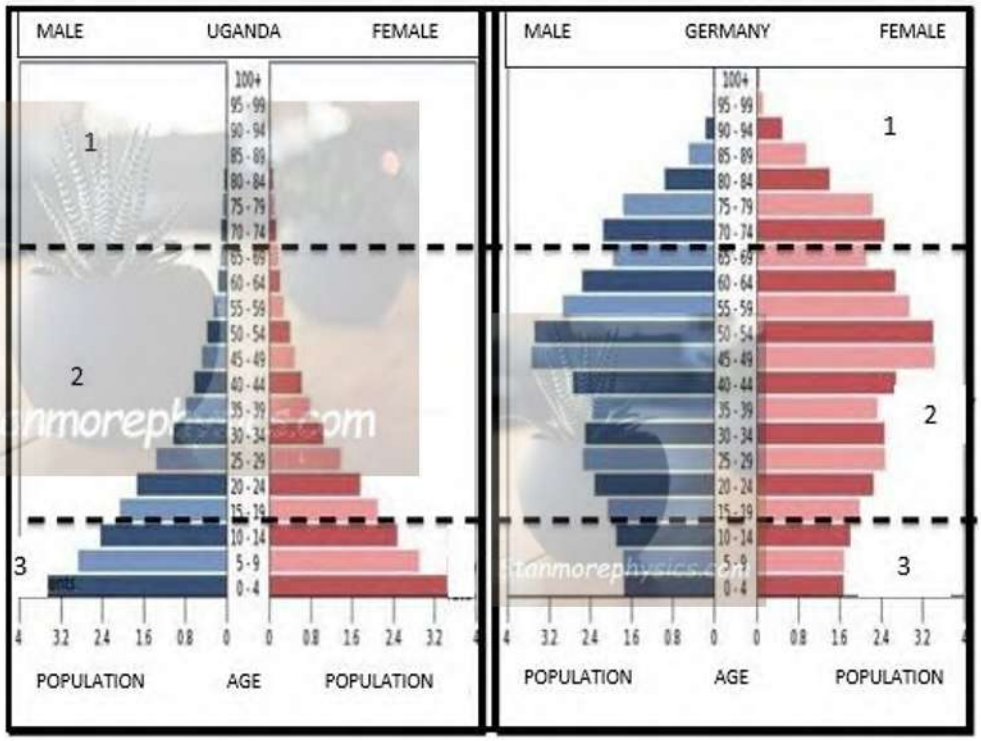
SECTION A: POPULATION AND WATER RESOURCES

QUESTION 1: POPULATION

1.1 Refer to the DIAGRAM below and complete the statements in COLUMN A with the options in COLUMN B. Write down only **Y** or **Z** next to the question numbers (1.1.1 to 1.1.7) in the ANSWER BOOK, e.g. 1.1.8 **Y**.

A **B**



Keys:

- 1: Old Age (Dependant)
- 2 : Economic Active
- 3: Young Age (Dependant)

	Column A	Column B	
1.1.1	Pyramid A indicates a … country	Y Z	developed developing
1.1.2	Pyramid B indicates a … shaped pyramid	Y Z	symmetrical bell
1.1.3	Pyramid A shows a … birth rate	Y Z	high low
1.1.4	Pyramid B indicates a … labour force	Y Z	big small

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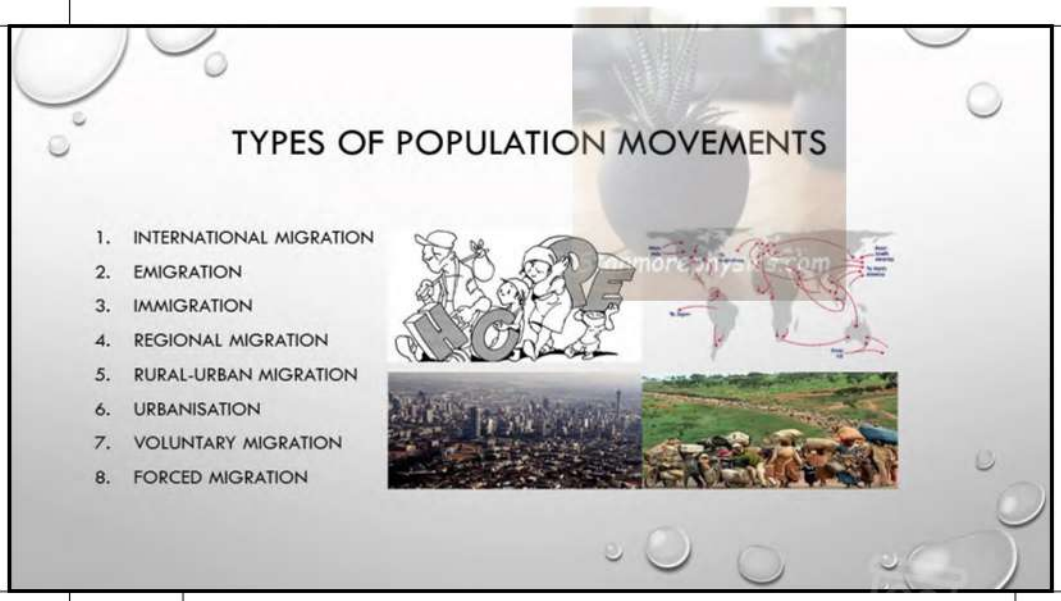
1.1.5	Pyramid B indicates a low death rate because of … health services	Y Z	good poor
1.1.6	Pyramid A shows fewer old people because of a … death rate	Y Z	high low
1.1.7	Pyramid B will have a … group of young dependants	Y Z	big small

(7 x 1) (7)

1.2 Study the figure below which shows the different types of population movements and answer the questions that follow by only writing down the number (1 to 8) next to the question number (1.2.1 to 1.2.8) in your ANSWER BOOK, e.g. Answer BOOK. 1.2.9 9.
(Numbers cannot be repeated)



1.2.1	Movement of people to a new country as home.
1.2.2	Person forced to migrate.
1.2.3	Movement of people across national borders.
1.2.4	The result of rural-urban migration, where more people settle in towns and cities.
1.2.5	Movement of people to our country (South Africa) as home
1.2.6	Movement of people within a region.

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		1.2.7	Person who migrate out of free will.		
		1.2.8	Movement of people from rural areas to towns and cities.		
				(8 x 1)	(8)
					[15]
	1.3	Refer to the infographic on population density and answer the questions that follow			

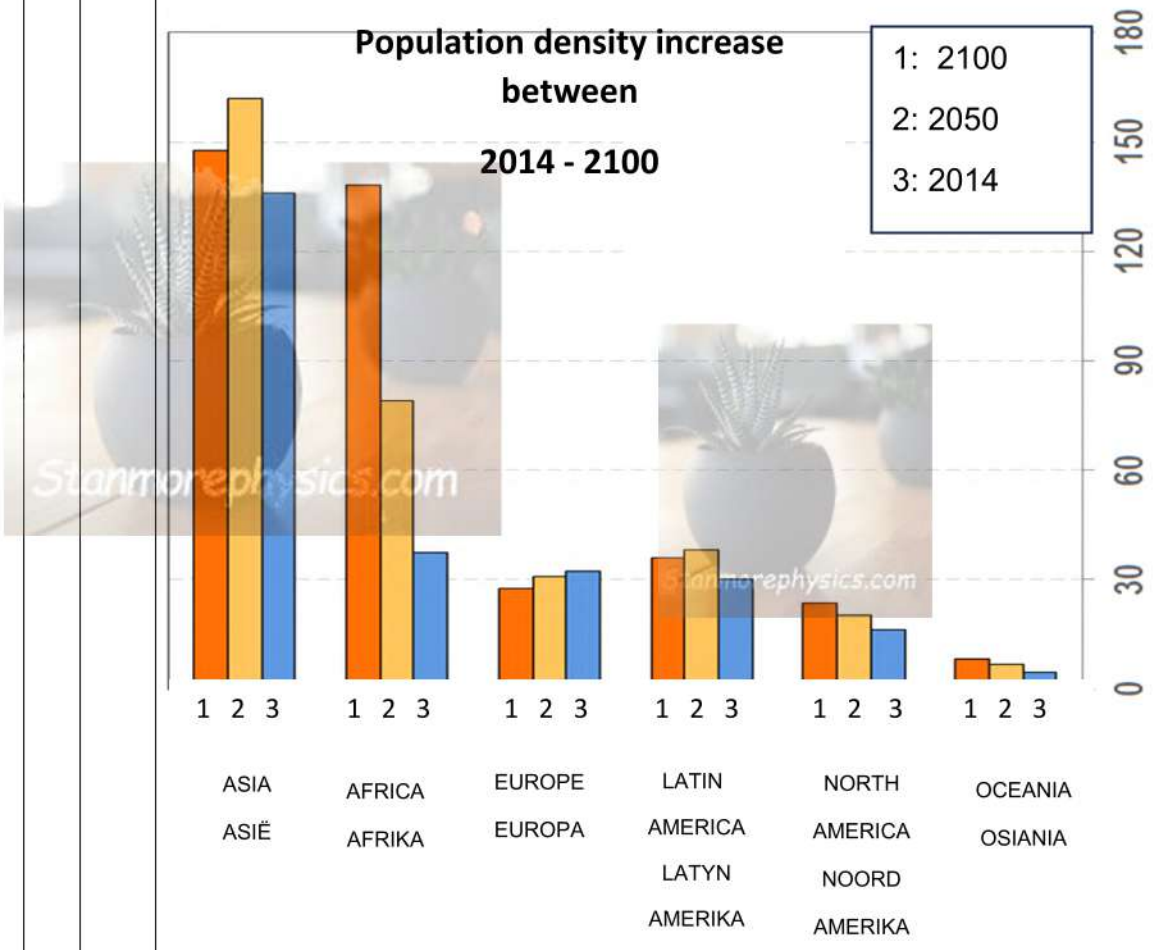

Chart prepared by Gerhard K. Heilig, 2014; Data source: United Nations, WPP2012: Medium Variant.
Asia and Africa are the most densely populated regions.
Africa is already more densely populated than Europe - if one includes the Russian Federation in Europe. This may surprise people who imagine Africa as an "empty continent". But Africa includes large inhabitable, and almost uninhabited areas, such as the Sahara or the tropical rainforests.By the end of the century, Europe may be more sparsely populated than Latin America and the Caribbean - due to Europe's projected population decline.However, huge differences in population density exist within these regions.

[https://www.demographics.at/density.html]

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		1.3.1	Explain the concept *population density* (1 x 2)	(2)	
		1.3.2	Refer to the graph and identify the continent with the highest population density in 2014 (1 x 1)	(1)	
		1.3.3	Give one possible reason why this continent consist of such a high population density (1 x 2)	(2)	
		1.3.4	Refer to the graph and compare Africa with Latin America according to the population density increase between 2014 - 2100.Determine the country with the highest population density increase. (1 x 1)	(1)	
		1.3.5	Explain your answer in QUESTION 1.3.4 by referring to the continents birth rate. (1 x 2)	(2)	
		1.3.6	According to the extract which continent will experience a decline in population density. (1 x 1)	(1)	
		1.3.7	Explain your answer in QUESTION 1.3.6 by referring to the woman's fertility rate. (1 x 2)	(2)	
		1.3.8	Compare the availability of natural resources with the population density of an area. (2 x 2)	(4)	
				[15]	

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	1.4	Refer to the extract on xenophobia and answer the following questions.			
		Johannesburg, South Africa – For years, Freeman Bhengu tried to earn a living in Soweto, the township on the outskirts of the country's commercial capital, Johannesburg, where he grew up. He wired houses, he helped renovate them and he even managed the local football talent. But nothing stuck. On June 16, 2021, Bhengu, then 45, took a nine-hour bus trip from Hanover, a town in the Northern Cape province, to Soweto. He was eager to attend the launch of Operation Dudula, a grassroots movement lobbying against undocumented means "push out" in the Zulu language. For years, people from neighbouring countries have come to Africa's most industrialised economy seeking economic prosperity. Many are Black, like most of South Africa, where the 7.7 percent white minority still control the levers of wealth. During the last two decades, tensions have arisen between Black South Africans and these migrants. Locals say they have taken jobs that should belong to them and have accused many migrants of running thriving drug trades within townships Since 2021, about a third of South Africans have been unemployed. "People are desperate, people are suffering and as a result, they turn to the most vulnerable, and the easiest targets, which are migrants, and particular, illegal migrants and those who don't have documentation," McKinley told Al Jazeera. Against this backdrop, Bhengu joined hundreds of other disgruntled people at a community hall in Diep Kloof, Soweto, for Operation Dudula's launch. **[students https://www.aljazeera.com/features/2023/9/26/south-africas-operation-dudula-vigilantes-usher-in-new-wave-of-xenophobia]**			
		1.4.1	Define the term *xenophobia*. (1 x 2)	(2)	
		1.4.2	Where did the people from Soweto gather for Operation Dudula (1 x 1)	(1)	
		1.4.3	Explain the phrase "He wired houses, he helped renovate them and he even managed the local football talent. But nothing stuck." (1 x 2)	(2)	
		1.4.4	What was the aim of the launch of Operation Dudula according to the source? (1 x 2)	(2)	
		1.4.5	Give ONE reasons why the local population shows their anger towards foreign immigrants (1 x 2)	(2)	
		1.4.6	Discuss THREE factors that will force people to leave their country of origin (3 x 2)	(6)	
				[15]	

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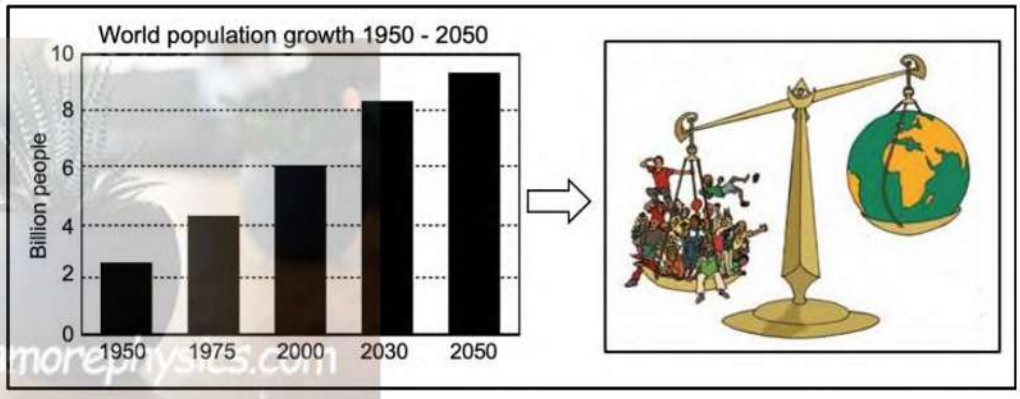
1.5 Refer to the infographic Over Population and answer the questions that follow.

OVER POPULATION



Homo sapiens commonly known as human beings have evolved 130,000 years ago. Initially the growth was very slow, the life expectancy was low and death rate was high because of diseases, climate change, lack of proper sanitation, illiteracy, poverty and lack of vaccination. But by early 1800's there has a steady and quick growth of population. This was because of the improvements in the health, growth of science, awareness of hygiene among the people, discovery of vaccines, literacy, proper waste removal and effective nutrition. All these increased the life expectancy reducing the death rates. Now the human population is growing at a rate of 78 million people per year i.e 7 billion people exist now. As per the experts the population will touch 15 billion by 2100

[https://www.dreamstime.com/graph-population-growth-graph-rapid-growth-red-word-population-rocket]

1.5.1	Explain the term *overpopulation.* (1 x 2)	(2)
1.5.2	Refer to the graph and determine what the world population was in the year 2000 (1 x 1)	(1)
1.5.3	Discuss TWO negative effects of overpopulation on the environment (2 x 2)	(4)
1.5.4	In a paragraph of approximately EIGHT lines discuss TWO causes of overpopulation and suggest TWO measures that can be implemented to control population growth. (4 x 2)	(8)
		[15]
	TOTAL: 60 MARKS	

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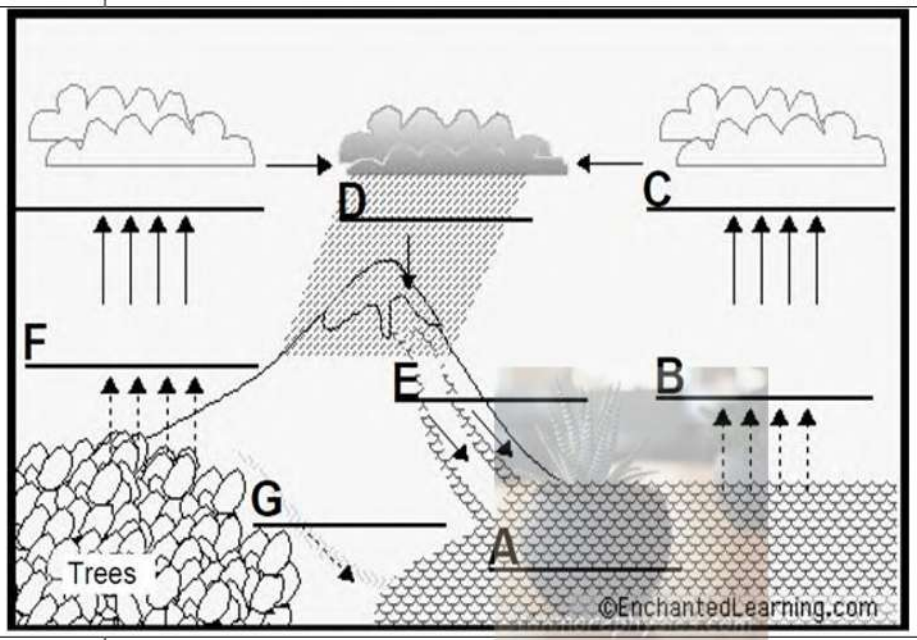
QUESTION 2: WATER MANAGEMENT

2.1 Refer to the FIGURE which is a simplified representation of the water cycle. Read the following statements and choose the appropriate word(s) in brackets which will make the statements TRUE. Write down only the question number (2.1.1 to 2.1.7) and the answer. Example: 2.1.8 Rain



2.1.1 The feature labelled **A** is a/an (dam/ ocean), the largest water source on earth.

2.1.2 **B** indicates the process of (condensation/ evaporation) .

2.1.3 The process of (condensation/ evaporation) is indicated by point **C**,

2.1.4 Water stored in the clouds (at point **D**), may return to earth as any form of (precipitation/ transpiration).

2.1.5 **E** indicates the process of (surface run-off/ groundwater flow) which is a result of rainfall.

2.1.6 At **F** water evaporates from trees during the process of (evaporation/ transpiration).

2.1.7 At **G** some of the water may move vertically underground, which we refer to as (infiltration/ surface run-off).

(7 X 1) (7)

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2.2 Complete the statements in COLUMN A with the options in COLUMN B. Write down only **Y** or **Z** next to the question numbers (1.1.1 to 1.1.7) in the ANSWER BOOK, e.g. 1.1.8 **Y**.

	Column A		Column B
2.2.1	Process of planning, developing, and managing water resources is called water …	Y Z	management control
2.2.2	The spread of rainfall across an area refers to …	Y Z	rainfall distribution number of rain
2.2.3	… are a natural body of water that is surrounded by land	Y Z	Dams Lakes
2.2.4	… exists underground in saturated zones beneath the Earth's surface	Y Z	Oasis Ground water
2.2.5	The … is the upper level of groundwater.	Y Z	water table aquifer
2.2.6	A … is a man-made feature where water is stored to increase water availability	Y Z	dam lake
2.2.7	Plants, introduced into South Africa from other countries, that spread very quickly, and crowd local plants is known as … plants	Y Z	alien local
2.2.8	Amount of water that is lost through evaporation in an area is called evaporation …	Y Z	percentage rate

(8 X 1) (8)

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2.3 Refer to the infographic on the Lesotho Vaal water transfer scheme and challenges to supply urban areas with basic water



PERIOD OF TRANSFER

1. Transfer of Water 2016/2017
2. Transfer of Water 2017/2018

Delays, leaks

This comes after Rand Water, the water supplier for Gauteng, this month warned over high water consumption and instructed municipalities to impose daily limits."Water storage could soon be depleted if municipalities do not implement our recommendations. It is essential to act now to prevent the impending disaster," Rand Water said in a statement on October 12.The water company is not just worried about consumers leaving taps on. There are also leaks and "illegal connections", or theft by individuals who divert pipelines and do not pay bills."We are losing an average of over 40 percent (of our water) if you look at it in Gauteng," Makenosi Maroo, a spokeswoman for the utility, told AFP.Municipalities often cite leaks as a reason for maintenance-related outages.

[https://phys.org/news/2024-10-south-africa-shortages]

2.3.1	Explain the term *inter-basin water transfer*. (1 x 2)	(2)
2.3.2	According to the infographic give ONE reasons why Gauteng experience a water shortage. (1 x 2)	(2)
2.3.3	Refer to the graph and determine in what month and period the biggest volume of water were transferred. (1 x 1)	(1)

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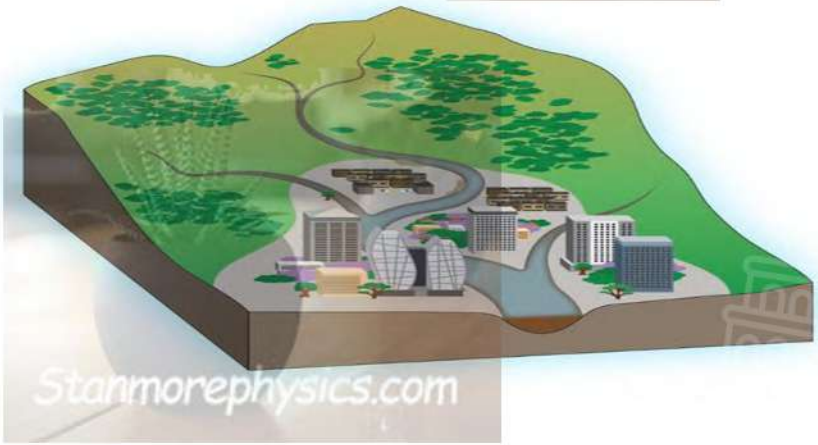
		2.3.4	Give one possible climatological reason for your answer in QUESTION 2.3.3 (1 x 2)	(2)	
		2.3.5	Explain the process how the *Lesotho Vaal water transfer scheme takes place* to increase the water shortage in the Vaal dam . (2 x 2)	(4)	
		2.3.6	Discuss TWO disadvantages of dams on the environment. (2 x 2)	(4)	
				[15]	
	2.4	Refer to the infographic on managing floods in the Jukskei river upper basin and answer the following questions.			
		The Jukskei catchment encompasses densely developed formal and informal residential areas, agriculture zones, and retail centres. Informal settlements within these regions are especially vulnerable to flooding impacts—damaged infrastructure, loss of goods, and health-related threats are commonplace during flood events.In collaboration with local partners, SUNCASA will prioritize removing alien invasive species clogging the city's waterways, rehabilitating the riverbank, managing urban heat, and boosting water security. Additionally, activities will focus on expanding green spaces through tree planting and horticultural activities to increase indigenous plants and vegetation.			



JUKSKEI CATCHMENT BASIN

[https://www.iisd.org/suncasa/johannesburg]

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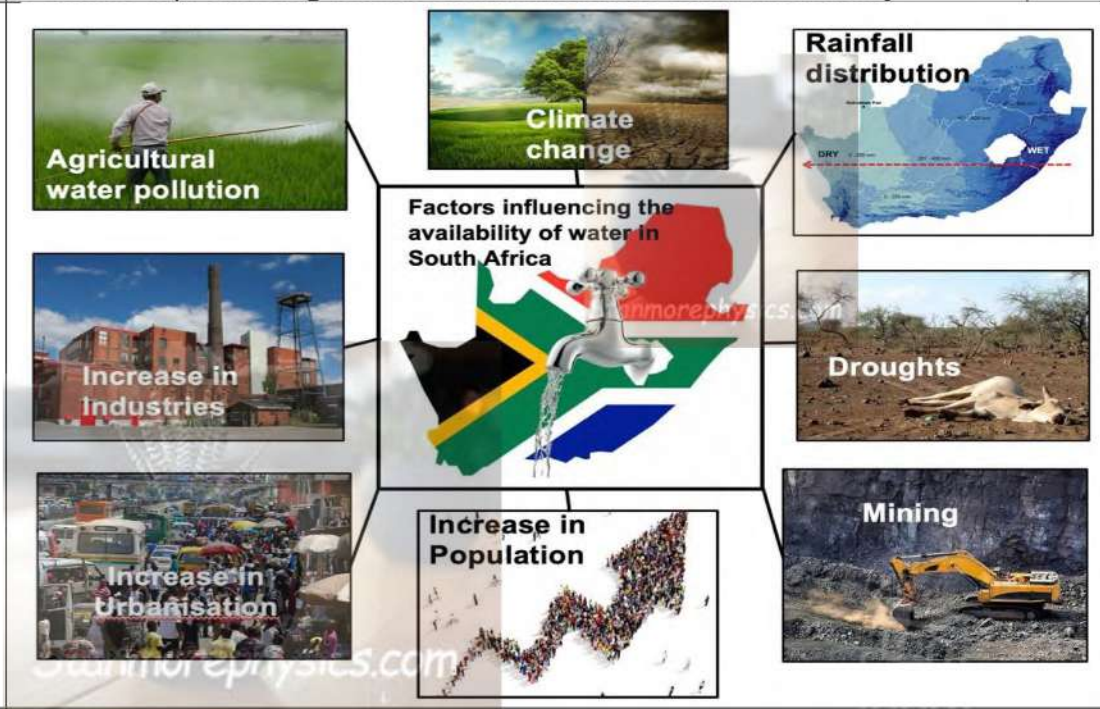
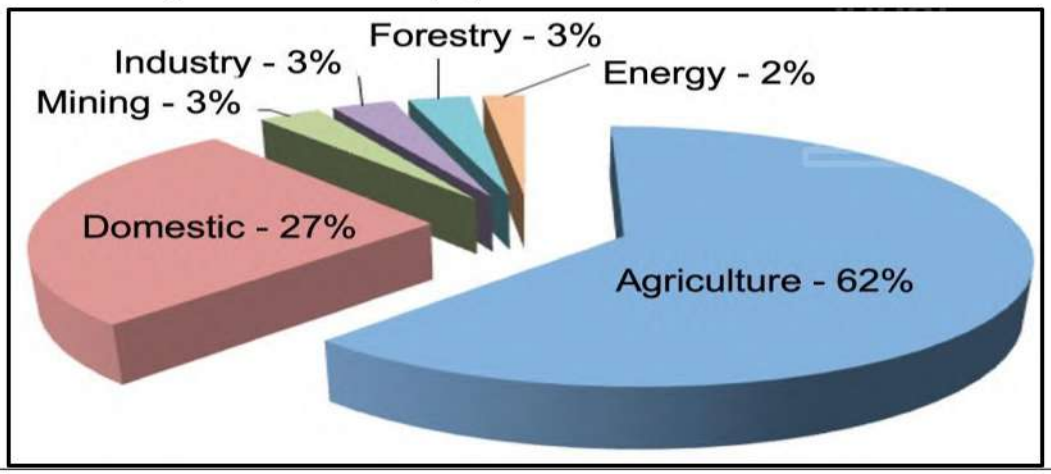
		2.4.1	Identify from the source the organisation responsible for removing of alien invasive plants (1 x 1)	(1)	
		2.4.2	Refer to the infographic and discuss ONE impact of flooding on the people in informal settlements (1 x 2)	(2)	
		2.4.3	Explain TWO human causes that increase flooding in formal and informal settlements. (2 x 2)	(4)	
		2.4.4	In a paragraph of approximately EIGHT lines discuss strategies how municipalities can manage flooding in formal and informal settlements (4 x 2)	(8)	
				[15]	
	2.5	Refer to the diagram on factors that influence water availability and answer the following questions.			
	Pictures representing factors which influence water availability				



Water usage in South Africa (%)



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		2.5.1	Which TWO sector use the most water in South Africa? (2 x 1)	(2)	
		2.5.2	Calculate the combined water usage percentage of the sectors identified in QUESTION 2.5.1 (1 x 2)	(2)	
		2.5.3	Explain why the domestic sector (population) will increase the water usage in the future. (1 x 2)	(2)	
		2.5.4	Refer to the pictures and identify ONE climatical factor which influence water usage in South Africa. (1 x 1)	(1)	
		2.5.5	Explain how increase in rainfall will affect the water table. (1 x 2)	(2)	
		2.5.6	Refer to the pictures and explain how agriculture can reduce the quality of water in rivers and dams. (1 x 2)	(2)	
		2.5.7	Discuss how shortage of water will affect production of industries and their profits (2 x 2)	(4)	
				[15]	
			TOTAL: [60]		
			TOTAL OF SECTION A: [120]		

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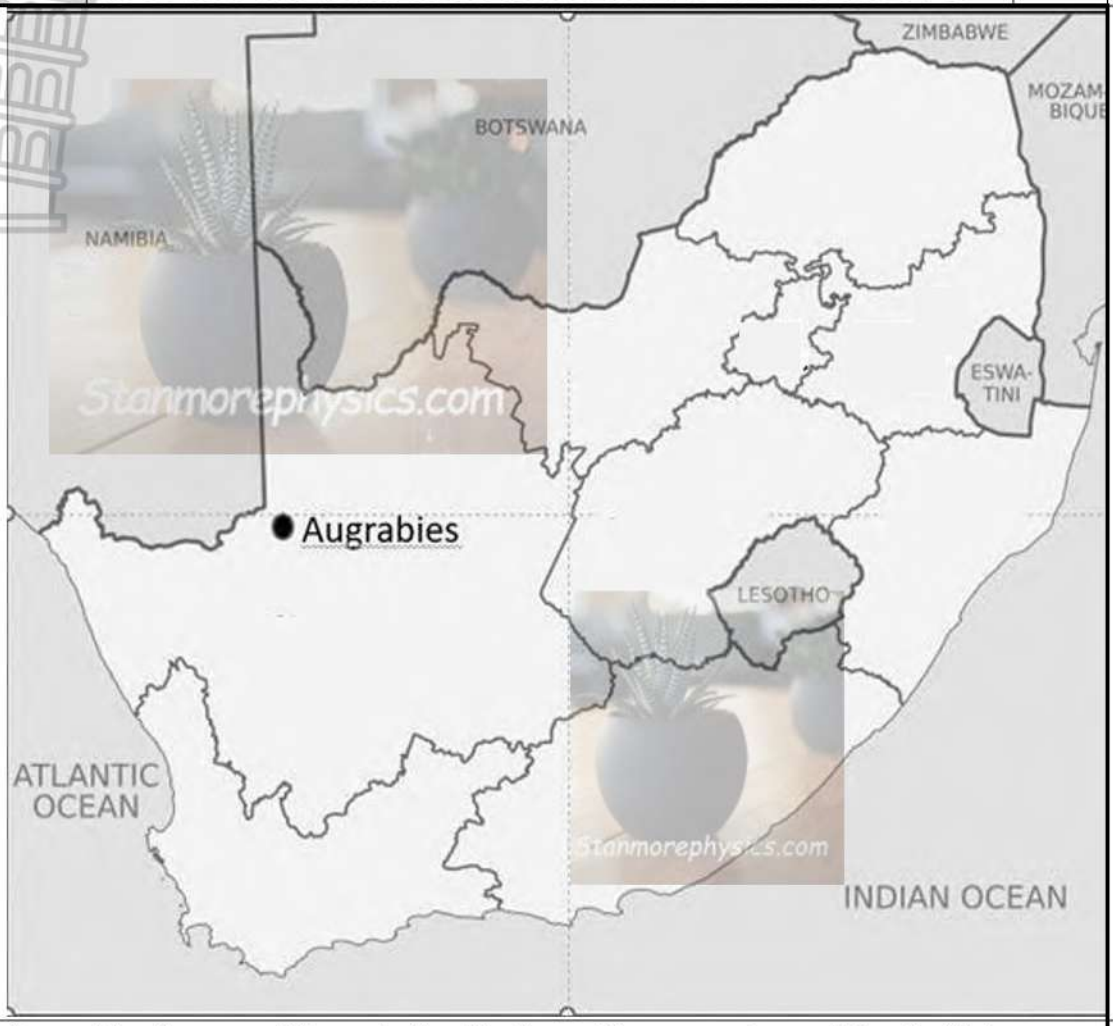
QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON AUGRABIES WATERFALLS



Augrabies is a small town in the Northern Cape province of South Africa, situated on the south bank of the Orange River, which is an exotic river about 100 km downstream from Upington. It is located on the R359 road just outside the Augrabies Falls National Park, which contains the Augrabies Falls, after which the town was named

[Source: https://en.wikipedia.org/wiki/Augrabies,_Northern_Cape]

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

ENGLISH	AFRIKAANS
Diggings	Delwerye/Uitgrawings
River	Rivier
Estate	Landgoed
Nature Reserve	Natuurreservaat
Magnetic Declination	Magnetiese Deklinasie

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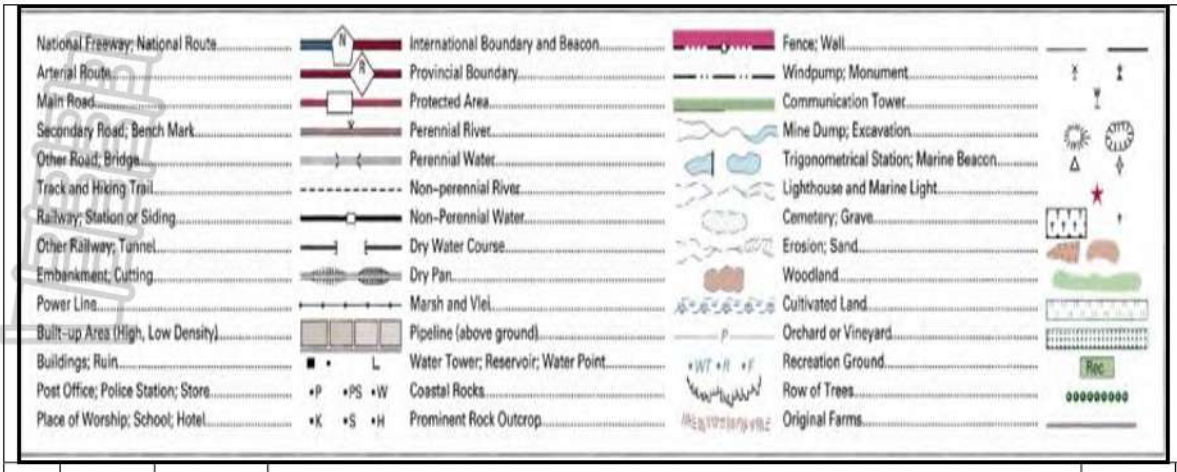


3.1 MAPWORK SKILLS AND CALCULATIONS

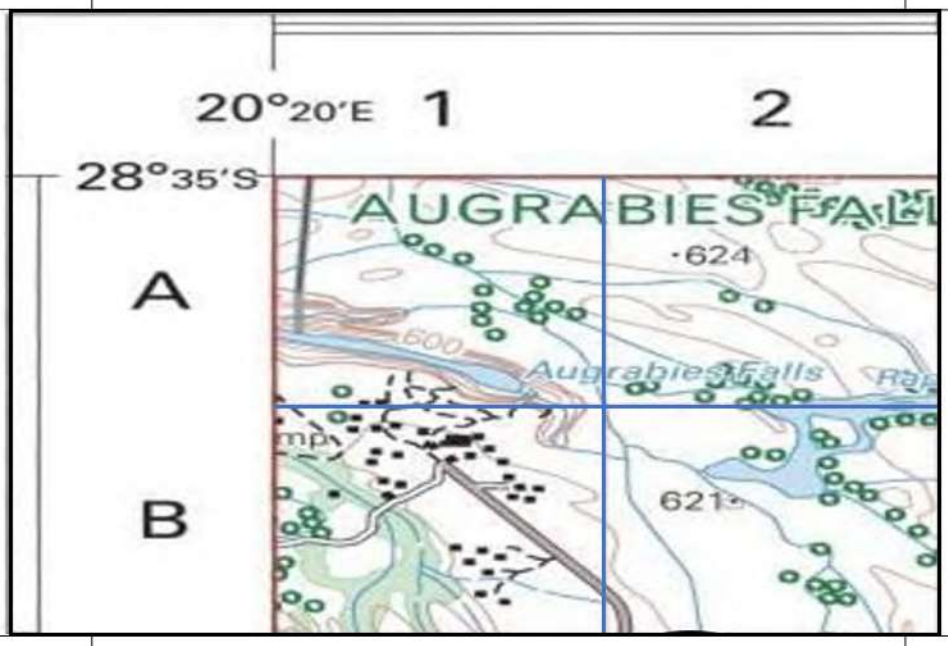
3.1.1 Augrabies is located in the … province.

A Limpopo
B Gauteng
C Western Cape
D Northern Cape (1 x 1) (1)

3.1.2 The numbers **2820** in **2820CB** represent

A 28° E and 20° S.
B 28° S and 20° E.
C 28° W and 20° N.
D 28° S and 20° W. (1 x 1) (1)

Refer to the insert below and answer the following question.



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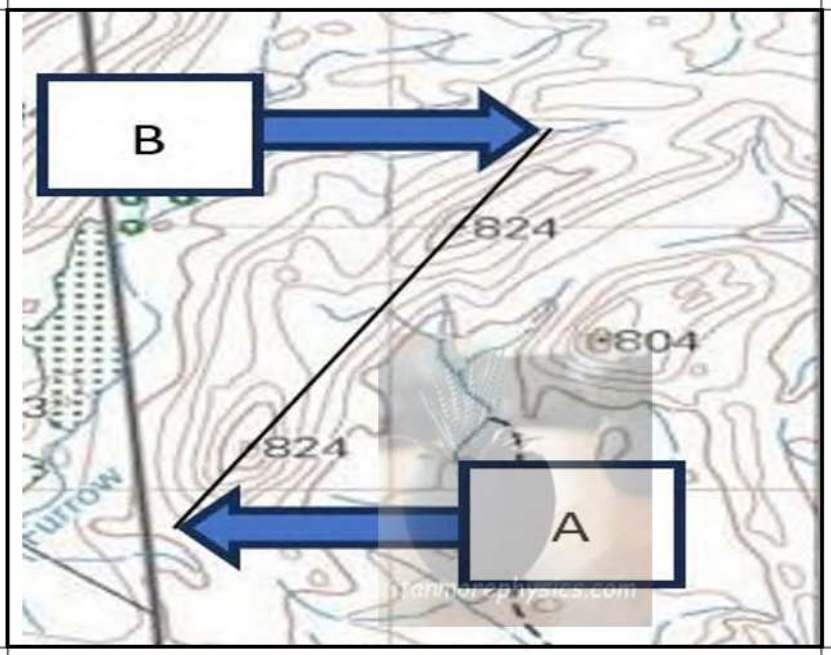
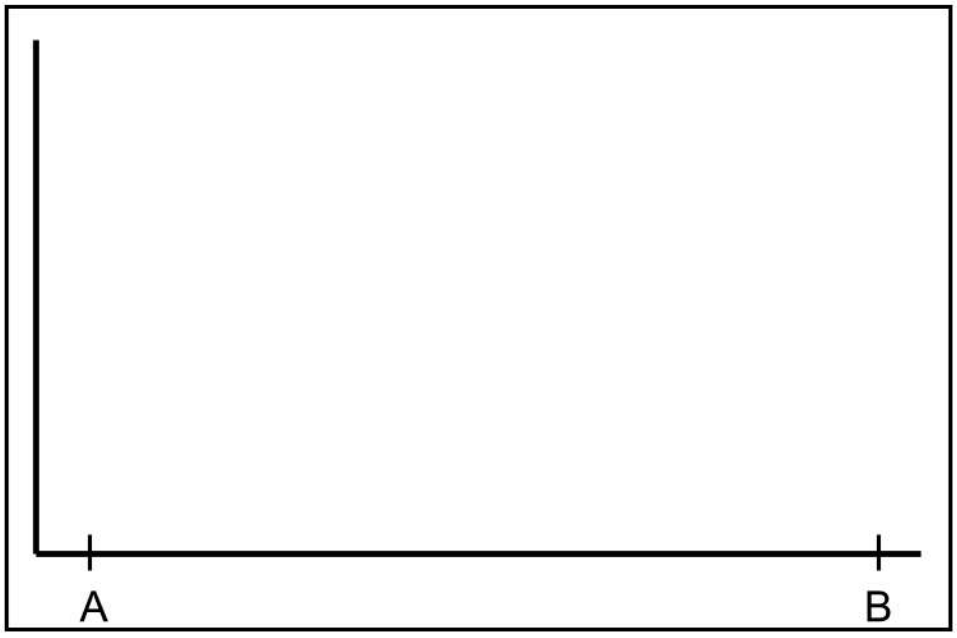
3.1.3 The coordinates of spot height **621** (Block **B2**) is …

A 20º 21' 13" E ; 28º 36' 21" S
B 28º 36' 21" S ; 20º 21' 13" E
C 28º 36' 21" E ; 20º 21' 13" S
D 20º 21' 13" S ; 28º 36' 21" E (1 x 1) (1)

3.1.4 Refer to the insert below and draw a free hand cross section from A to B on the given graph



3.1.4 Draw the graph below on your answer paper and complete the cross section. (2 X 1) (2)



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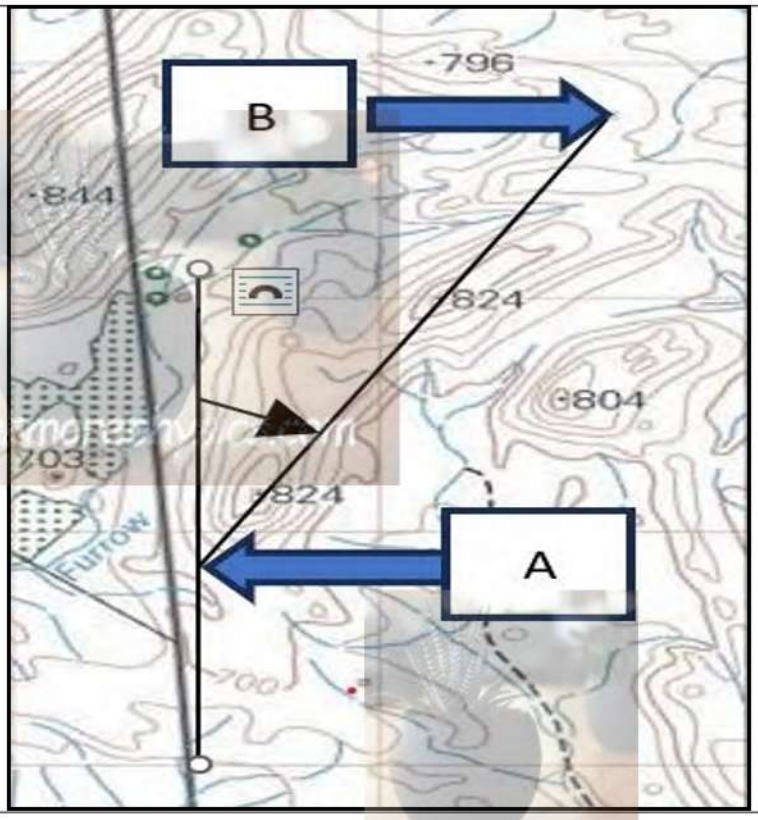
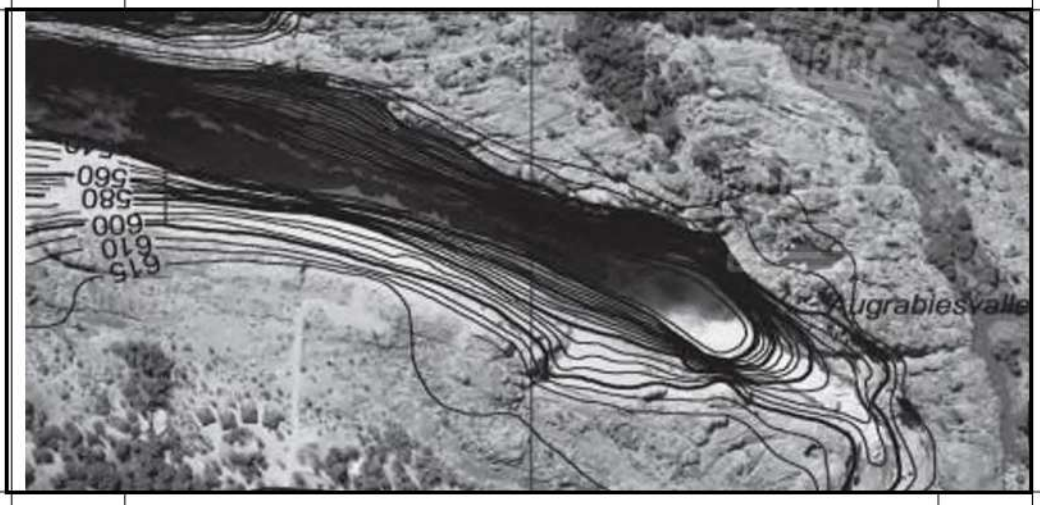
Refer to the insert below and answer the questions that follow.



3.1.5 (a) Determine the true bearing from **A** to **B** (1 x 2) (2)

(b) Name the direction from point **A** to point **B** (1 x 1) (1)

3.1.6 Refer to the insert from the orthophoto map and answer the following questions



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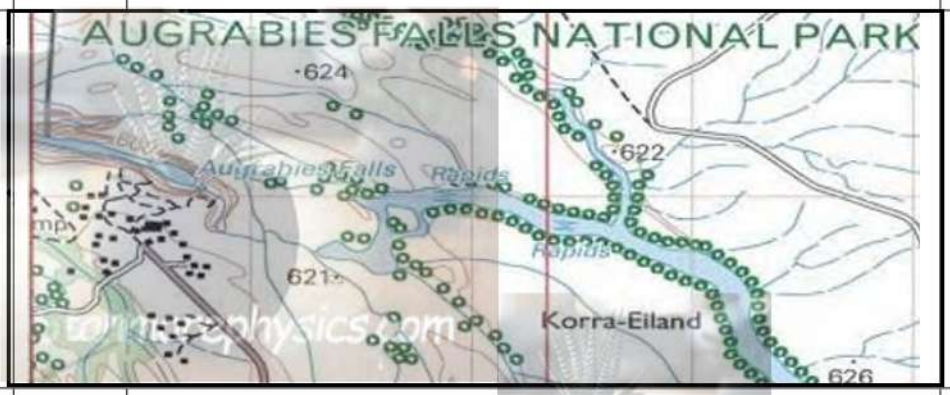
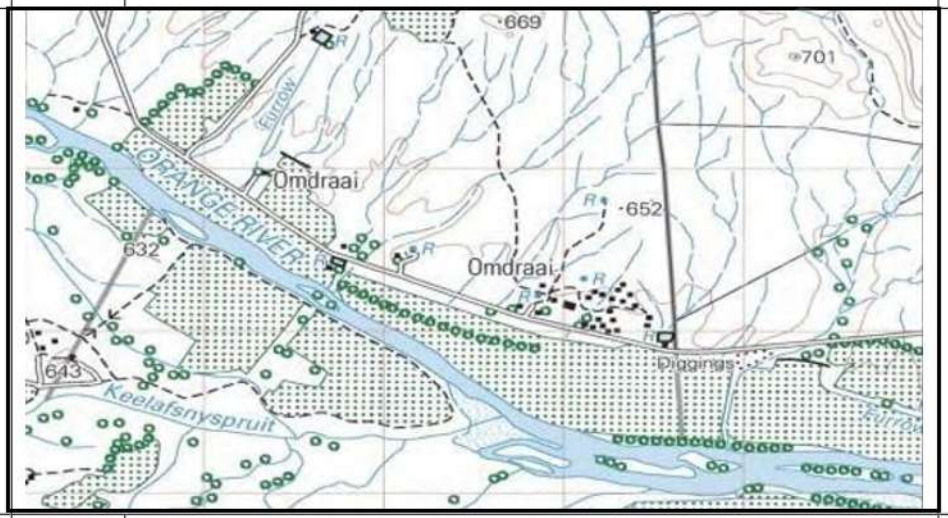
		3.1.6	Use the information on the orthophoto map and calculate the depth of the Augrabies Waterfalls in m. (The contour on the bottom of the waterfalls is 540m)		
			(1 x 2)	(2)	
				[10]	
	3.2	**MAPWORK INTERPRETATION**			
		Refer to the insert below from the topographic map and answer the questions that follow			
					
		3.2.1	(a) Define the term *population density*. (1 x 2)	(2)	
			(b) Will you describe the area depicted on the topographic map as a (high / low) populated area (1 x 1)	(1)	
			(c) Give a possible reason for your answer in **3.2.1 b** (1 x 2)	(2)	
		Refer to the insert below and answer the questions that follow			
					

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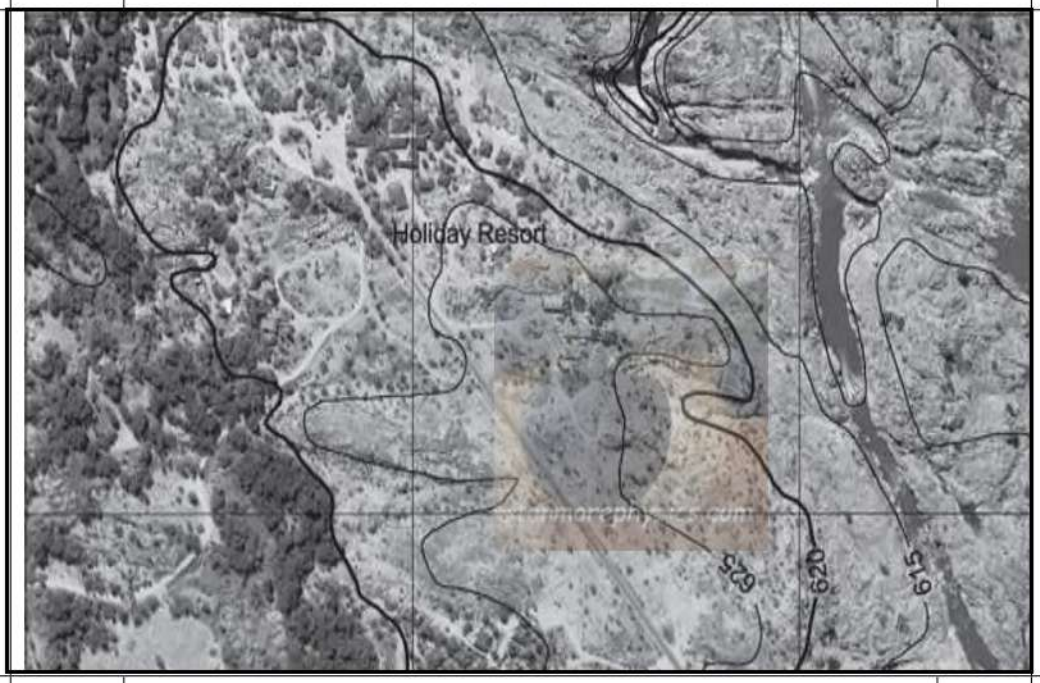
		3.2.2	(a) The type of crop farming practiced along the banks of the Orange river is (vineyards / cultivated land) (1 x 1)	(1)	
			(b) The farmers in this area farm with grapes to produce wine. Explain how flooding of the Orange River can have a negative economic effect on the farmers of this area (1 x 2)	(2)	
		Refer to the insert from the orthophoto map and answer the questions that follow			
					
		3.2.3	(a) What is the contour interval on the orthophoto map. (1 x 1)	(1)	
			(b) Determine the hight of the Holiday Resort above sea level (1 x 1)	(1)	
			(c) Refer to the contour lines and explain why the Holiday Resort is well situated (1 x 2)	(2)	
				[12]	

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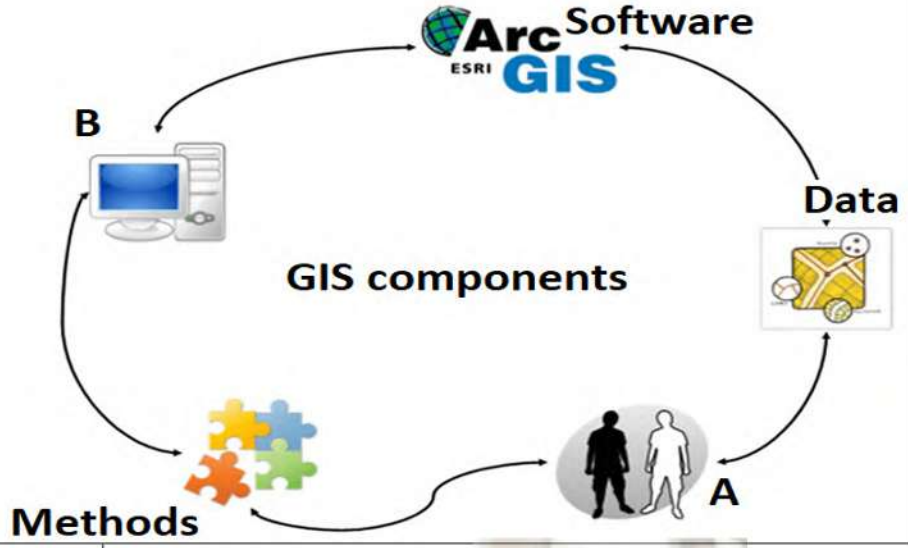
	3.3	**GEOGRAPHIC INFORMATION SYSTEMS (GIS)**			
		Refer to the diagram below and answer the following questions			
					
		3.3.1	Define the term *GIS* (1 x 2)	(2)	
		3.3.2	Identify the components labelled **A** and **B** in the diagram (2 x 1)	(2)	
		3.3.3	Briefly explain the concept *spatial data* (1 x 2)	(2)	
		3.3.4	Give two methods how geographical data is collected. (2 x 1)	(2)	
				[8]	
			TOTAL: 30 MARKS		
			GRAND TOTAL: 150 MARKS		

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SEDIBENG EAST

NOVEMBER EXAMS 2024

PAPER 2

MARKING GUIDELINES

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SUBJECT	:	GEOGRAPHY
DEGREE	:	10
TERM	:	4
TIME	:	3 HOURS
TOTAL	:	150
DATE OF IMPLEMENTATION	:	NOVEMBER 14, 2024

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MARKING PRINCIPLES FOR GEOGRAPHY – 2023

The following marking principles have been developed to standardize marking processes.

MARKING

- ALL questions MUST be marked, regardless of whether they are correct or
- incorrect. Where the maximum marks have been awarded for a specific about the rest of question, place a**M** the text to indicate the maximum marks obtained. A clear,
- neat tick mark must be used:- oh
  If ONE mark is awarded, ONE tick must be used:- If TWO marks are awarded,
  oh TWO ticks must be used:-- The tick must be placed at the FACT for which a
  oh mark is awarded.
  oh Ticks should be kept SMALL, as multiple layers of moderation can occur.

- Incorrect answers must be marked with a clear, neat cross:**X**
  oh Use MORE than one cross over a paragraph/discussion style question to indicate that all facts have been taken into account.
  oh DO NOT cross out a wrong answer. DO NOT underline
  oh the wrong facts.

NOTE THE FOLLOWING

- If the numbering is incorrect or omitted, as long as the order of answers to questions is followed, candidates can be credited.
- Spelling errors – if recognizable, award the marks, provided the meaning is correct. Be
- sensitive to the meaning of an answer, which could be stated in a different way. In questions
- where a letter is the accepted answer, but the learner writes the actual answer – award marks.

TOTAL AND TRANSFER OF MARKES

- Each sub-question must be added up. oh
  Questions in Section A have five subsections, therefore five subtotals are required per question. Section B has three subsections and three subtotals.
  oh Subsection totals should be written in the right-hand margin at the end of the subsection and underlined.
  oh Subtotals must be written legibly.
  oh Leave space to write in moderated points at different levels.
- Total subtotals and carry totals to the top left-hand margin next to the question number.
- Transfer total to the cover of answer book.

MODERATION

Marking at each level of moderation is done in the same way as the initial marking. All marking guidelines must be adhered to.

If a mark for a sub-question is changed after moderation, the moderator must cross out the marker's mark and write down the new mark, 12~~16~~

The total for the question must be recalculated, and similarly deleted and the new total must be written down as follows, ~~26~~ 36

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	SECTION A:	**POPULATION AND WATER RESOURCES**			
	QUESTION 1: POPULATION				
	1.1				
		1.1.1 Z- 1.1.2 Z- 1.1.3 Y- 1.1.4 Y- 1.1.5 Y- 1.1.6 Y- 1.1.7 Z-	(7 x 1)	(7)	
	1.2				
		1.2.1 (2)- 1.2.2 (8)- 1.2.3 (1)- 1.2.4 (6)- 1.2.5 (3)- 1.2.6 (4)- 1.2.7 (7)- 1.2.8 (5)-	(8 x 1)	(8)	
	1.3	1.3.1 Number of people living in a particular area--	(1 x 2)	(2)	
		1.3.2 Asia -	(1 x 1)	(1)	
		1.3.3 Because India and China are the most populous countries on this continent--	(1 x 2)	(2)	
		1.3.4 Africa -	(1 x 1)	(1)	
		1.3.5 Africa is the continent with the highest birth rate in the world and will cause an increase in population density.--	(1 x 2)	(2)	
		1.3.6 Europe -	(1 x 1)	(1)	
		1.3.7 Women in Europe have a low fertility rate with fewer babies being born and will cause a population decline--	(1 x 2)	(2)	

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		1.3.8 - Areas with many resources will attract more people than places with limited resources-- - This will cause a higher population density-- OR - Areas with limited resources will attract fewer people than places with many resources-- This will - result in a lower population density. cause--	(2 x 2)	(4)	
				[15]	
	1.4	1.4.1 Negative attitudes towards refugees and immigrants.-- [Concept]	(1 x 2)	(2)	
		1.4.2 Community Hall in Diepkloof -	(1 x 1)	(1)	
		1.4.3 - He worked hard to make a living in Soweto but lost his job each time-- Couldn't make a - living in Soweto despite all his efforts to keep a job [Accept answers similar to above answers]	(1 x 2)	(2)	
		1.4.4 - To drive out undocumented people (immigrants)-- - To get rid of/drive out illegal immigrants. - [Accept answers similar to the above answers]	(1 x 2)	(2)	
		1.4.5 - Illegal immigrants are taking jobs from local people-- - Illegal immigrants deal drugs in informal settlements [Any answer]	(1 x 2)	(2)	
		1.4.6 - Political unrest-- - Racial discrimination-- - Religious persecution--	(3 x 2)	(6)	

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		- Revolutions and wars - Adverse physical environment - Natural disasters - Industrial and scientific revolutions - Poverty in society - Unemployment [Any three answers]			
				[15]	
	1.5	1.5.1 Overpopulation is an undesirable condition where the number of existing human population exceeds the actual carrying capacity of the Earth. -- [Concept]	(1 x 2)	(2)	
		1.5.2 -6 billion people-	(1 X 1)	(1)	
		1.5.3 - Loss of agricultural land/fertile soil as cities increase-- - Depletion of water resources-- - Poor people make fires to cook food, increasing air pollution - Deforestation to create more space for people - Decline in natural habitats More energy - needed which causes more air pollution Firewood is in demand in overpopulated - areas and natural trees are being destroyed - Overfishing is occurring to meet the world's demand for food. [Any two answers]	(2 x 2)	(4)	
		1.5.4 **CAUSES:** - Improving health-- Growing - science-- - Literacy has improved - Effective nutrition - Increase in life expectancy - Decrease in mortality rate	(4 x 2)	(8)	

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		MEASURES: • Try to understand people's attitudes and culture towards birth rates. alter.-- • Give incentives to small families-- (accept examples) • Teach women about family planning. • Provide contraceptives to communities • Laws by the government to limit birth rates **[ANSWER MUST CONTAIN BOTH CAUSES AND MEASURES]**			
				[15]	
		TOTAL QUESTION 1: [60]			
	QUESTION 2: WATER MANAGEMENT				
	2.1				
		2.1.1 Ocean - 2.1.2 Evaporation - 2.1.3 Condensation - 2.1.4 Precipitation - 2.1.5 Surface -runoff- 2.1.6 Transpiration - 2.1.7 Infiltration -	(7 x 1)	(7)	
	2.2				
		2.2.1 Y – Water Management- 2.2.2 Y – Rainfall distribution- 2.2.3 Z – Multi- 2.2.4 Z – Groundwater 2.2.5 Y – Water table 2.2.6 Y – Dam- 2.2.7 Y – Alien plants- 2.2.8 Z – Evaporation rate-	(8 x 1)	(8)	
	2.3	2.3.1 -How water is transferred from an area where there is a surplus (more) to an area where there is a need (less).--	(1 x 2)	(2)	
		2.3.2 - Taps are left open - Daily - leaks - Illegal connections - Theft by individuals who divert pipelines and do not pay bills	(1 x 2)	(2)	

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		[Any answer]			
		2.3.3 -April 2017/2018 period- **[MUST MENTION MONTH AND PERIOD]**	(1 x 1)	(1)	
		2.3.4 -Drought--	(1 x 2)	(2)	
		2.3.5 - Water from Lesotho dams is transferred to rivers that flow into the Vaal Dam-- These - rivers provide additional water to the Vaal Dam-- - The water from the Vaal Dam supplies the water to the Vaal municipalities for purification.	(2 x 2)	(4)	
		2.3.6 - Overflow/overflow of potential cultivated land-- - Negatively affects biodiversity downstream - Overflows and destroys natural habitats-- - Less water available downstream - Interfering with the natural flow of the river **[ANY TWO ANSWERS]** **[ACCEPT OTHER POSSIBLE ANSWERS]**	(2 x 2)	(4)	
				[15]	
	2.4	2.4.1 -SUNCASA-	(1 x 1)	(1)	
		2.4.2 - Damaged infrastructure-- - Loss of goods - Health-related threads [Any answer]	(1 x 2)	(2)	
		2.4.3 - Deforestation leads to more runoff and flooding-- - Poor farming practices lead to reduced water infiltration and increased surface runoff leading to flooding-- Poorly - constructed dams that collapse easily lead to flooding. - Dam water is released too quickly, flooding areas downstream.			

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		- Floating debris such as vegetation and logs in water can build up at an obstruction, such as a bridge, and block the flow of water, resulting in a river overflowing its banks. - In cities, certain building materials are impermeable – tar, concrete and roofing material – leading to rapid surface runoff and rivers overflowing. Vegetation removed - in cities leads to more runoff and flooding - air pollution from humans leads to climate change and increased rainfall with more flooding [Any two answers]	(2 x 2)	(4)	
		2.4.4 - Build dams to regulate flooding downstream-- - Building 'top shelters' as places of refuge in floods-- - Flood warning system-- Temporary - measure e.g. sandbags-- Build banks/high - embankments on the side of rivers - Land use zoning so that less damage is caused, e.g. open spaces along the river - Plant trees - Straighten rivers - Evacuate people from flood-affected areas - Widen rivers - Proliferate indigenous plants on the riverbanks - Remove alien invasive plants that are clogging the city's waterways.	(4 x 2)	(8)	
				[15]	
	2.5	2.5.1 - Agricultural- - Domestic-	(2 x 1)	(2)	
		2.5.2 -62% + 27% = 89%--	(1 x 2)	(2)	
		2.5.3 -Because the population is growing and the demand for water is increasing--	(1 x 2)	(2)	

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		2.5.4 - Climate change- - Rainfall distribution - Drought [Any answer]	(1 x 1)	(1)	
		2.5.5 -More rainfall will cause more infiltration and higher water tables--	(1 x 2)	(2)	
		2.5.6 -Farmers use pesticides to protect crops and when it rains these pesticides flow into rivers and pollute the rivers and dams--	(1 x 2)	(2)	
		2.5.7 - If water is not available to industries, they will not be able to produce products-- If - industries cannot produce products, they cannot sell products-- Will not be able to - make any profit [Any two answers}	(2 x 2)	(4)	
				[15]	
		TOTAL QUESTION 2: [60]			

	QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES				
	AUGRABIES WATERFALLS				
	3.1	**MAP WORK SKILLS AND CALCULATIONS**			
		3.1.1	D / Northern Cape-	(1x1)	(1)
		3.1.2	N / 28° S and 20° E.-	(1 x 1)	(1)
		3.1.3	W / 28° 36' 21" S ; 20° 21' 13" E-	(1 x 1)	(1)
		3.1.4	Refer to the inset below and draw a freehand cross-section from A to B on the given graph.		

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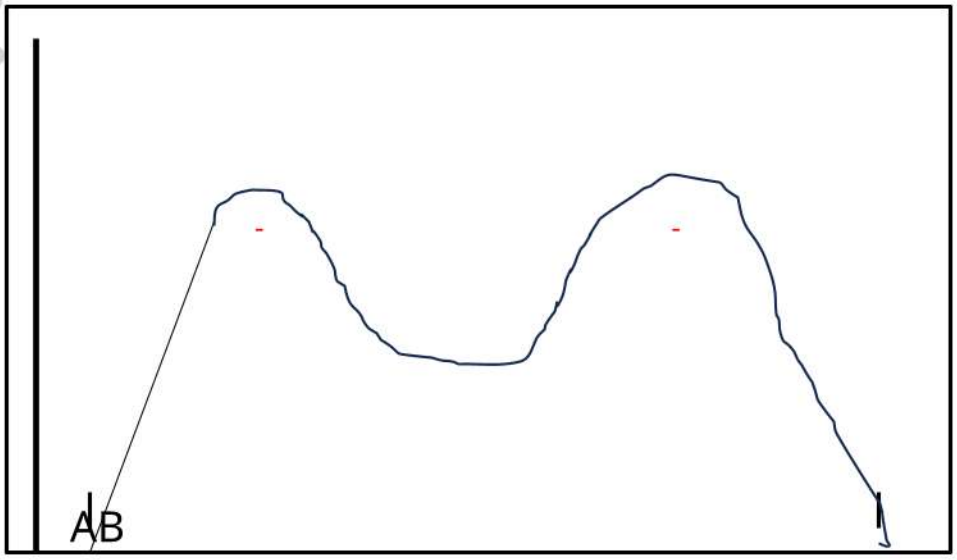
3.1.4 Cross section



(2 x 1) (2)

3.1.5 (a) Determine the true bearing of **A** after **B** (1 x 2) (2)

-38°--

(b) Name the direction of point **A** to point **B**

-Northeast

(1 x 1) (1)

3.1.6 Use the information on the orthophoto map and calculate the depth of the Augrabies Falls.
(The contour at the bottom of the waterfalls is 540m)

- 615m – 540m = 75m--

(1 x 2) (2)

[10]

3.2 MAPWORK INTERPRETATION

3.2.1 (a) Define the term population density. (1 x 2) (2)

- Number of people settled per square kilometer (area)--

(b) Would you describe the area depicted on the topographic map as a (highly / lowly) populated area? (1 x 1) (1)

-Layer-

(c) Give a possible reason for your answer in 3.2.1 b (1 x 2) (2)

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			- Augrabies is located in a protected area-- - Located in a National Park.		
		3.2.2	(a) The type of crop farming practiced along the banks of the Orange River is (vineyards / cultivated land. (1 x 1) -Vineyards -	(1)	
			(b) The farmers in this area grow grapes to produce wine. Explain how flooding of the Orange River could have a negative economic impact on the farmers in this area. (1 x 2) - Vineyards will be destroyed, and farmers will lose income because no grapes will be sold on the market-- - Wine production will be less and wine-producing farmers will make less profit - Fewer exports of grapes/wine with fewer profits [Any answer] [Accept similar answers]	(2)	
		3.2.3	(a) What is the contour interval on the orthophoto map? (1 x 1) -5 m-	(1)	
			(b) Determine the height of the Holiday Resort above sea level. (1 x 1) - 615 m / 620 m / 625 m- [Any one]	(1)	
			(c) Refer to the contour lines and explain why the holiday resort is well located. (1 x 2) - Contours far apart-- Flat - area	(2)	
				[12]	
	3.3	**GEOGRAPHIC INFORMATION SYSTEMS (GIS)**			
		3.3.1	Define the term GIS (1 x 2) - A computer-based technology and method for collecting, analyzing, managing,	(2)	

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			modeling and presentation of geographic data for a wide variety of users.--		
		3.3.2	Identify the components marked **A** and **B** in the diagram (2 x 1) - A / People- - B / Computer / hardware-	(2)	
		3.3.3	Briefly explain the concept of spatial data. (1 x 2) -Refers to a certain point or coordinate --	(2)	
		3.3.4	Give two methods of collecting geographic data. (2 x 1) - People complete surveys;- - Using existing data and documents and capturing them on a computer;- - Remote sensing / satellites / aerial photographs- - Photos;- - Testing of natural environment, e.g. testing of soil and water quality;- - Physical measurements using secondary data / / Use existing maps-	(2)	
				[8]	
			TOTAL: 30 POINTS		
			GRAND TOTAL: 150 POINTS		