basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10

GEOGRAPHY P2

EXEMPLAR 2022

MARKS: 150

TIME: 3 hours

This question paper consists of 15 pages.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of TWO sections:

   SECTION A:
   QUESTION 1: THE ATMOSPHERE (60 MARKS)
   QUESTION 2: GEOMORPHOLOGY (60 MARKS)

   SECTION B:
   QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES (30 MARKS)

2. Answer ALL THREE questions.

3. ALL diagrams are included in the QUESTION PAPER.

4. Leave a line between subsections of questions you answer.

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 where you have to state, name, identify or list.

10. Units of measurement MUST be indicated in your final answers, e.g. 1 020 hPa, 14 °C and 45 m.

11. You may use a non-programmable calculator.

12. You may use a magnifying glass.

13. Write neatly and legibly.

SPECIFIC INSTRUCTIONS AND INFORMATION FOR SECTION B

14. A 1 : 50 000 topographic map of 2329BB LOUIS TRICHARDT and a 1 : 10 000 orthophoto map 2329 BB 04 LOUIS TRICHARDT are provided.

15. The area demarcated in RED/BLACK on the topographic map represents the area covered by the orthophoto map.

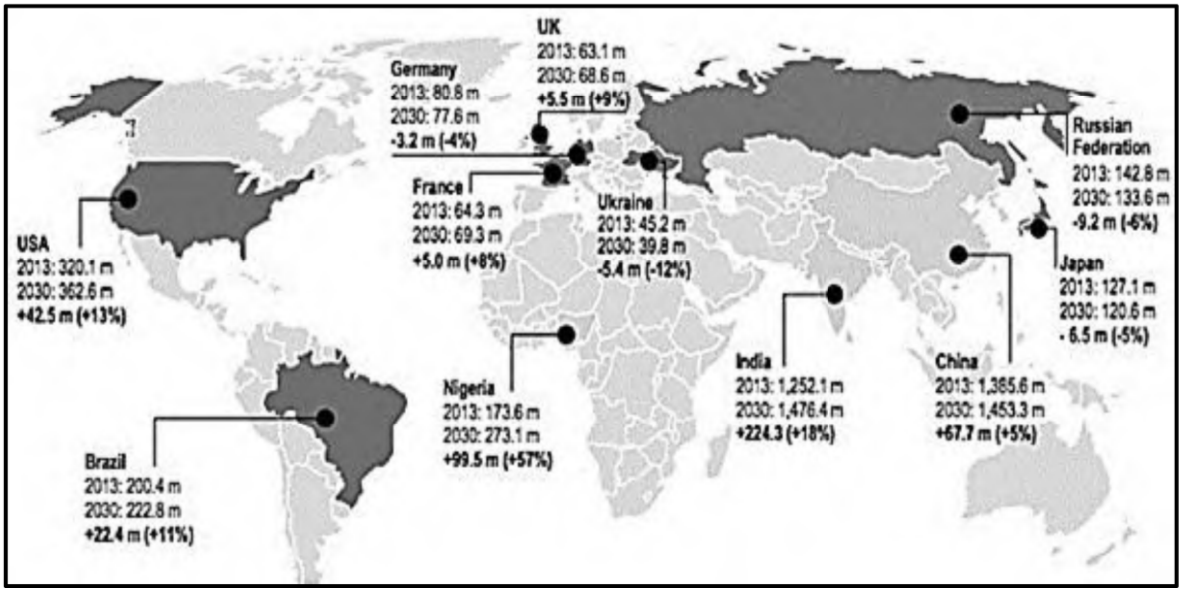
16. Show ALL calculations. Marks will be allocated for this.

17 You must hand in the topographic and orthophoto map to the invigilator at the end of the examination.

SECTION A: POPULATION AND WATER RESOURCES

QUESTION 1: POPULATION

1.1 Refer to the map below showing population growth between 2013 and 2030. Choose the correct word(s) from those given in brackets to make the statement TRUE. Write only the word(s) next to the question numbers (1.1.1 to 1.1.7) in the ANSWER BOOK, e.g. 1.1.8 decline.



[Source: https://www.consultancy.uk/news/2191/97-percent-of-population-growth-to-be-in-developing-world]

1.1.1 The country with the largest population increase between 2013 and 2030 is (Nigeria/the Ukraine).

1.1.2 The country in the world with the largest population is (China/India).

1.1.3 The country with the biggest negative growth rate is (the Ukraine/ Germany).

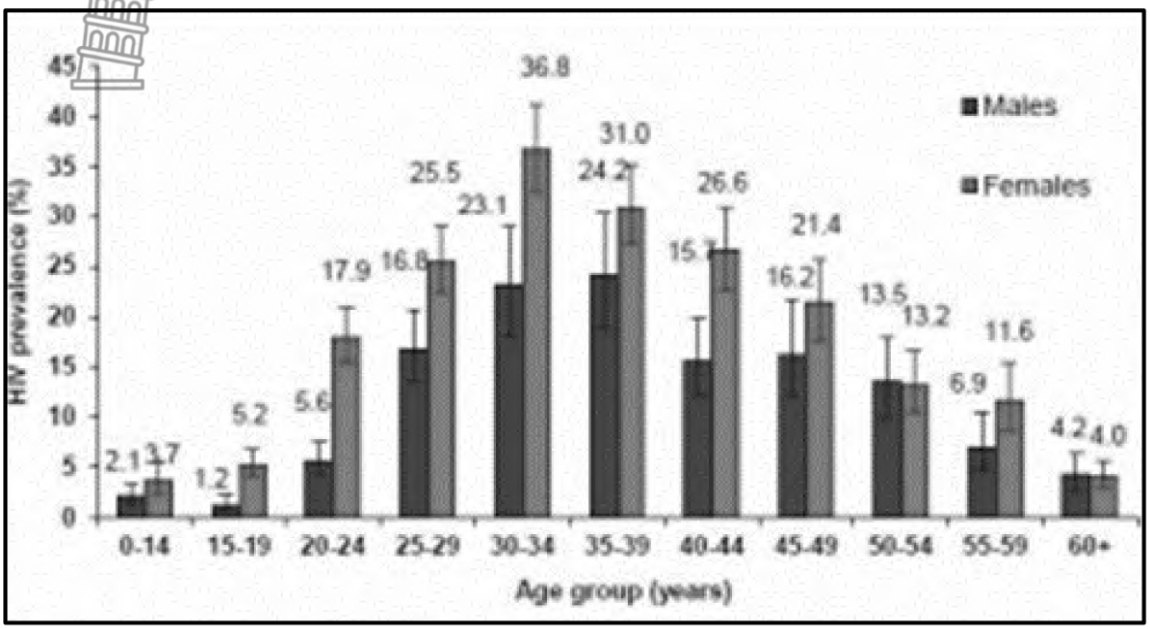
1.1.4 France's can be classified as (underpopulated/optimum populated) as the level of resources used is equal to the standard of living of its population.

1.1.5 Russia has a negative growth rate due to its (birth rate/death rate) declining drastically.

1.1.6 Brazil is classified as a (developed/developing) country despite its population growth rate not being very high.

1.1.7 The United Kingdom (UK) has a very high population growth rate compared to its size which can result in (pressure on water resources/pressure on management). (1 x 7) (7)

1.2 Refer to the graph below showing the number of HIV and Aids cases according to age and gender. Complete the following statements to make them TRUE by filling in the missing word(s) next to question numbers (1.2.1 to 1.2.8). Write only the word(s) next to the question number, e.g. 1.2.9 increase.



[Source:http://www.hsrc.ac.za/en/media-briefs/saph/plenary-session-3-20-june-2013-hiv-aids-in-south-africa-at-last-the-glass-is-half full]

1.2.1 The age group which shows the highest infection rate is …

1.2.2 The highest overall infection rate is found in the … gender group.

1.2.3 The highest infection rate is in the … active part of the population.

1.2.4 The effect of the high death rate due to HIV and Aids on the age group in the graph is that more orphaned children will place more strain on the … of a country.

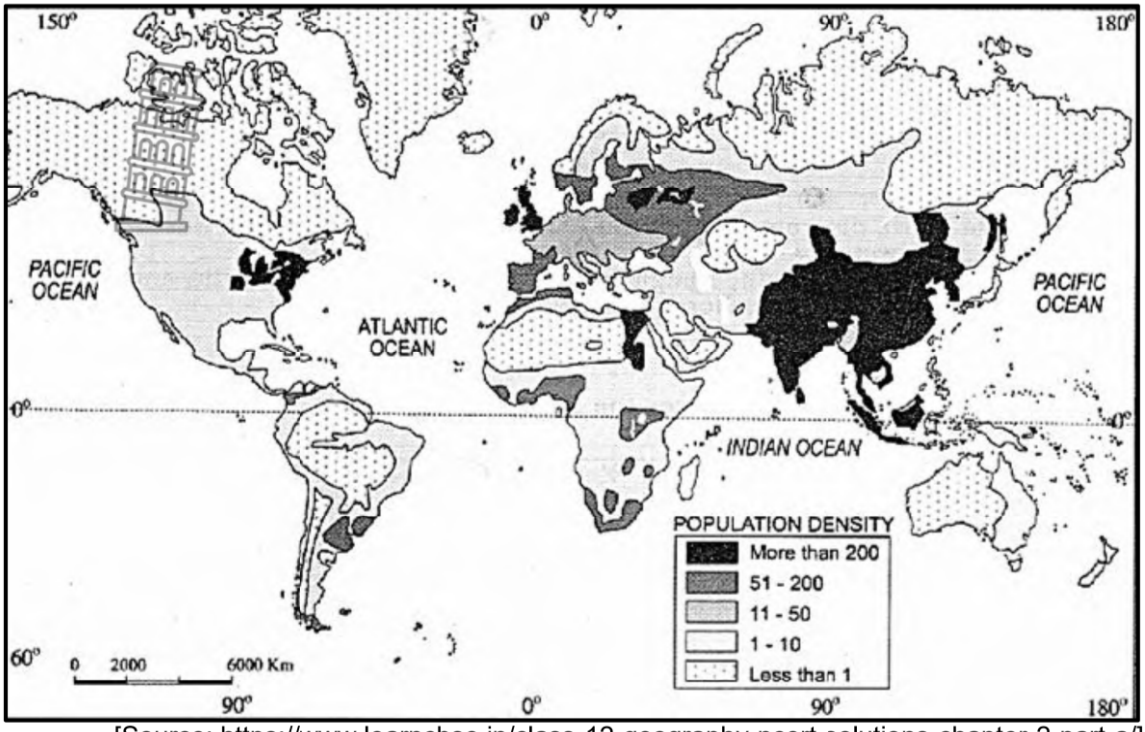
1.2.5 The lowest recorded HIV and Aids infection rate in the table is found in the … age group.

1.2.6 The gender group with the lowest HIV and Aids infection rate, as stated in QUESTION 1.2.5, is …

1.2.7 Males have a higher affection rate than females in the … age group.

1.2.8 As a result of the HIV and Aids cases depicted in graph, the population growth rate will … over time. (8 x 1) (8)

1.3 Refer to the map on population density below.



[Source: https://www.learncbse.in/class-12-geography-ncert-solutions-chapter-2-part-a/]

1.3.1 Define the term *population density.* (1 x 2) (2)

1.3.2 Identify any ONE area with a high population density of more than 200 on the map. (1 x 1) (1)

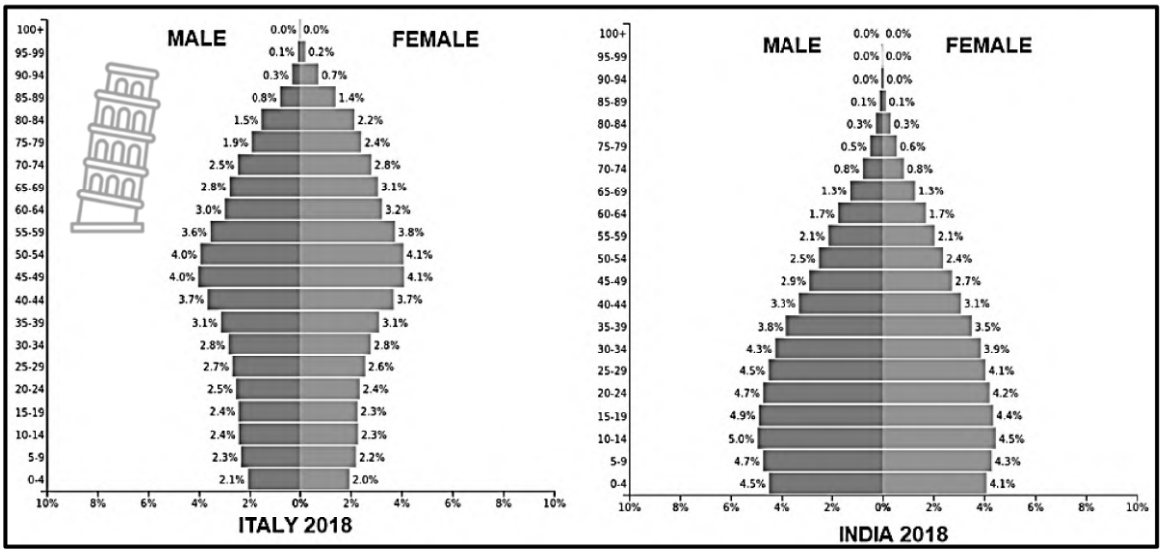
1.3.3 Suggest TWO human reasons for the high population density in those areas. (2 x 2) (4)

1.3.4 Identify any TWO areas with a low population density of less than **1** on the map. (2 x 1) (2)

1.3.5 Explain TWO physical (natural) reasons for the low population density in those areas identified in QUESTION 1.3.4. (2 x 2) (4)

1.3.6 Give ONE piece of evidence from the map to prove that there is not an even spread of people across the world. (1 x 2) (2)

1.4 Refer to the population pyramids for Italy and India in 2018 below.



[Source: https://www.populationpyramid.net/india/2018/ and https://www.populationpyramid.net/italy/2018/]

1.4.1 What does a *population pyramid* illustrate? (1 x 2) (2)

1.4.2 Define the concept *birth rate*. (1 x 2) (2)

1.4.3 Describe the shape of each of the population pyramids for Italy and India. (2 x 2) (4)

1.4.4 Give ONE reason for the shape of each of the population pyramids described in QUESTION 1.4.3. (2 x 2) (4)

1.4.5 Discuss ONE economic challenge experienced by the government of India due to such a high birth rate, as reflected in the population pyramid. (1 x 2) (2)

1.5 Refer to the extract on xenophobia below.

XENOPHOBIA ISN'T KEEPING IMMIGRANTS OUT OF SA – HERE ARE THE LATEST NUMBERS

17 February 2020, 13:59

The size of the South African economy and its relative political stability is attracting increasing numbers of immigrants, who outnumber those emigrating to other places in the world, despite recent outbreaks of violence against foreigners from other places in Africa, and a perception of widespread xenophobia.

In 2005, international migrants comprised 2,8% of South Africa's population. By 2019, this figure had risen to 7,2%.

'South Africa has experienced high volumes of immigration in recent years, attracting migrants, asylum seekers and refugees from within and outside southern Africa,' according to the World Migration report 2020, as published by the International Organization for Migration (IOM).

Other countries with a significant portion of their population made up by foreigners include Qatar, where immigrants make up 78,7% of the populace, Singapore (37,1%), Canada (21,3%), and Sweden (20%).

Worldwide migrants make up 3,5% of the global population in 2020, up from 2,8% in 2000 and 2,3% in 1970.

South Africa is the most significant migration destination country in Africa, with around four million international newcomers living in the country.

[Adapted from https://www.businessinsider.co.za/immigrant-numbers-for-south-africa-are-still-rising-despite-xenophobia-and-violence-2020-2]

1.5.1 Define the following terms:

(a) Immigration

(b) Refugees (2 x 2) (4)

1.5.2 Explain TWO reasons for the following quote from the extract: 'South Africa is the most significant migration destination country in Africa, with around four million international newcomers living in the country.' (2 x 2) (4)

1.5.3 In a paragraph of approximately EIGHT lines, discuss the reasons for the outbreak of violence towards foreigners in South Africa. (4 x 2) (8)

[60]

QUESTION 2: WATER RESOURCES

2.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (2.1.1 to 2.1.7) in the ANSWER BOOK, e.g. 2.1.8 A.

2.1.1 The percentage of salt water in the world is …

A 87%
B 3%
C 97%
D 30%

2.1.2 When water is heated it turns into …

A ice.
B water.
C snow.
D water vapour.

2.1.3 When water vapour cools down it forms …

A ice.
B water droplets.
C snow.
D water vapour.

2.1.4 The hydrological cycle is a … system.

A closed
B new
C open
D declining

2.1.5 When plants lose water to the air it is called ...

A infiltration.
B precipitation.
C transpiration.
D run-off.

2.1.6 When air rises in the water cycle it will …

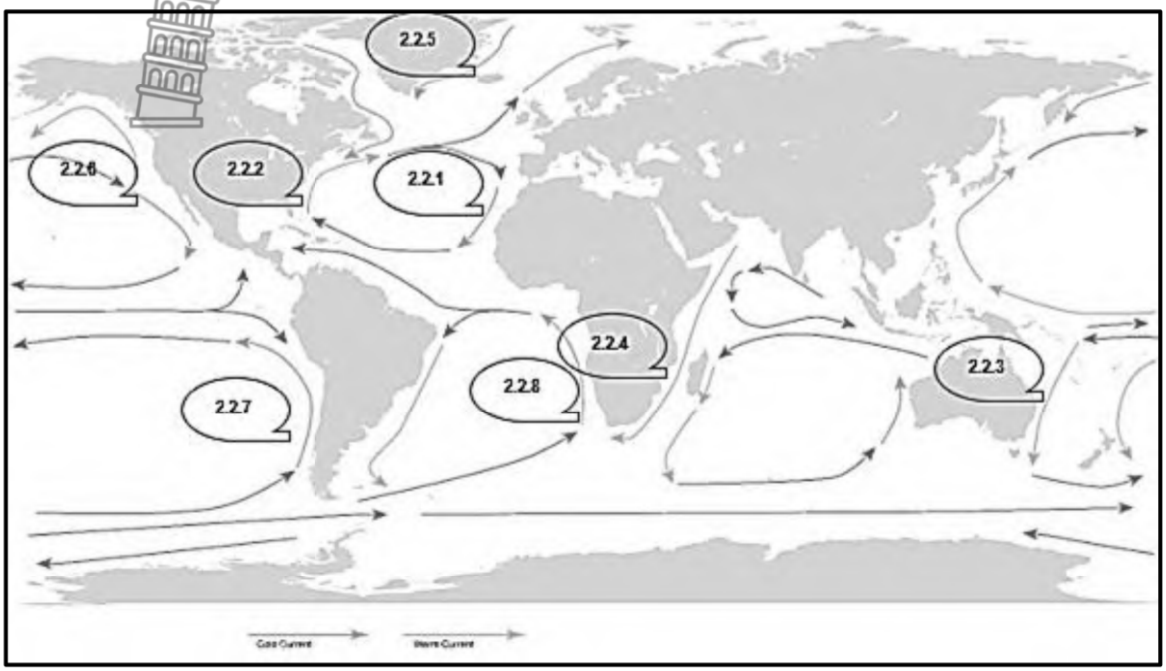
A heat up and expand.
B infiltrate into the ground.
C cool down to form tiny droplets.
D evaporate and contract.

2.1.7 The process of sublimation occurs when …

A water vapour changes to snow.
B water vapour changes to droplets.
C water vapour cools down.
D water changes to water vapour.

(7 x 1) (7)

2.2 Refer to the map showing ocean currents below. Choose an ocean current from COLUMN B that matches a statement in COLUMN A. Write only the letter (A–I) next to the question numbers (2.2.1 to 2.2.8) in the ANSWER BOOK. You may use each answer only ONCE.



[Source: https://kaylynkirbymfp.wordpress.com/2013/11/11/world-chenier-locations-ocean-currents/]

COLUMN A		COLUMN B	
2.2.1	Ocean current along the North African west coast	A	Benguela
2.2.2	Warm ocean current along the North American east coast	B	California
2.2.3	Warm ocean current along the Australian coast	C	Canary
2.2.4	Ocean current along the South African east coast	D	East Australia
2.2.5	Cold ocean current from the Arctic region	E	Gulf Stream
2.2.6	Ocean current along the west coast of North America	F	Mozambique
2.2.7	Ocean current along the west coast of South America/Peru/Humboldt	G	Peru/Humboldt
2.2.8	Ocean current on the west coast of South Africa	H	East Greenland
		I	Labrador

(8 x 1) (8)

2.3 Refer to the tables showing water management in South Africa.

YEAR	NO. OF PEOPLE LIVING IN RURAL AREAS – MILLIONS	% OF PEOPLE IN RURAL AREAS WITH ACCESS TO WATER ABOVE DWA STANDARDS
1994	16,7	44,4%
1999	17,9	48,0%
2002	18,7	58,4%
2005	19,5	69,0%
2007	19,7	75,5%
2010	20,1	79,1%

YEAR	NO. OF PEOPLE LIVING IN URBAN AREAS – MILLIONS	% OF PEOPLE IN URBAN AREAS WITH ACCESS TO WATER ABOVE DWA STANDARDS
1994	22,1	70,3%
1999	24,8	79,0%
2002	26,7	87,9%
2005	28,5	89,3%
2007	29,1	92,7%
2010	30,1	95,6%

[Compiled from *Grade 10 Platinum Geography*]

2.3.1 What does the acronym *DWA* stand for? (1 x 1) (1)

2.3.2 State ONE way in which municipalities obtain funds to pay the Water Board for the supply of water? (1 x 1) (1)

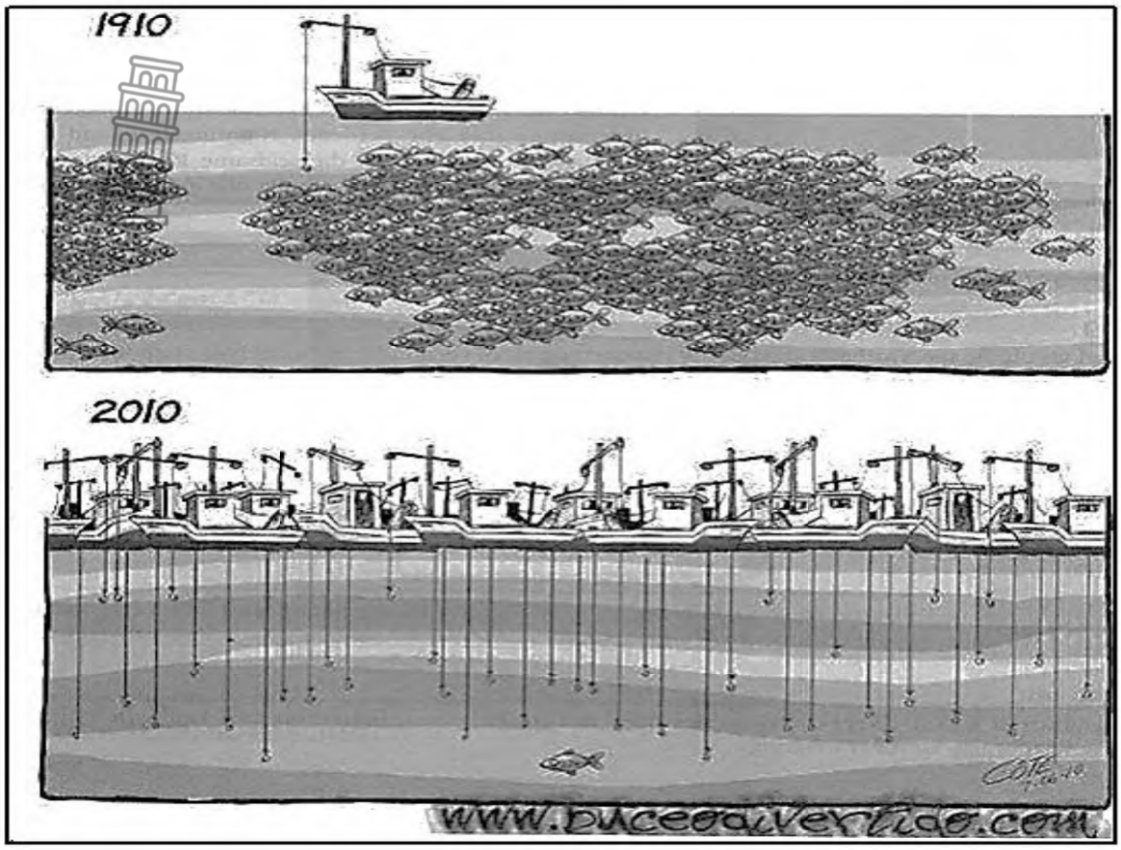
2.3.3 The percentage of people with access to water has increased from 1994 to 2010. Calculate the percentage increase for people living in rural areas. (1 x 1) (1)

2.3.4 State TWO government initiatives that can be implemented (put into practice) to secure South Africa's scarce water supply in the future. (2 x 1) (2)

2.3.5 Why it is difficult for the government to provide free basic water to all people in South Africa? (1 x 2) (2)

2.3.6 In a paragraph of approximately EIGHT lines, discuss FOUR challenges when providing water to people in rural areas in South Africa. (4 x 2) (8)

2.4 Refer to the cartoon on the world's oceans and food supply below.



[Source: https://i.pinimg.com/564x/87/3e/84/873e84f7a2dc97632340af9d35c19390.jpg]

2.4.1 Define the term *overfishing*. (1 x 2) (2)

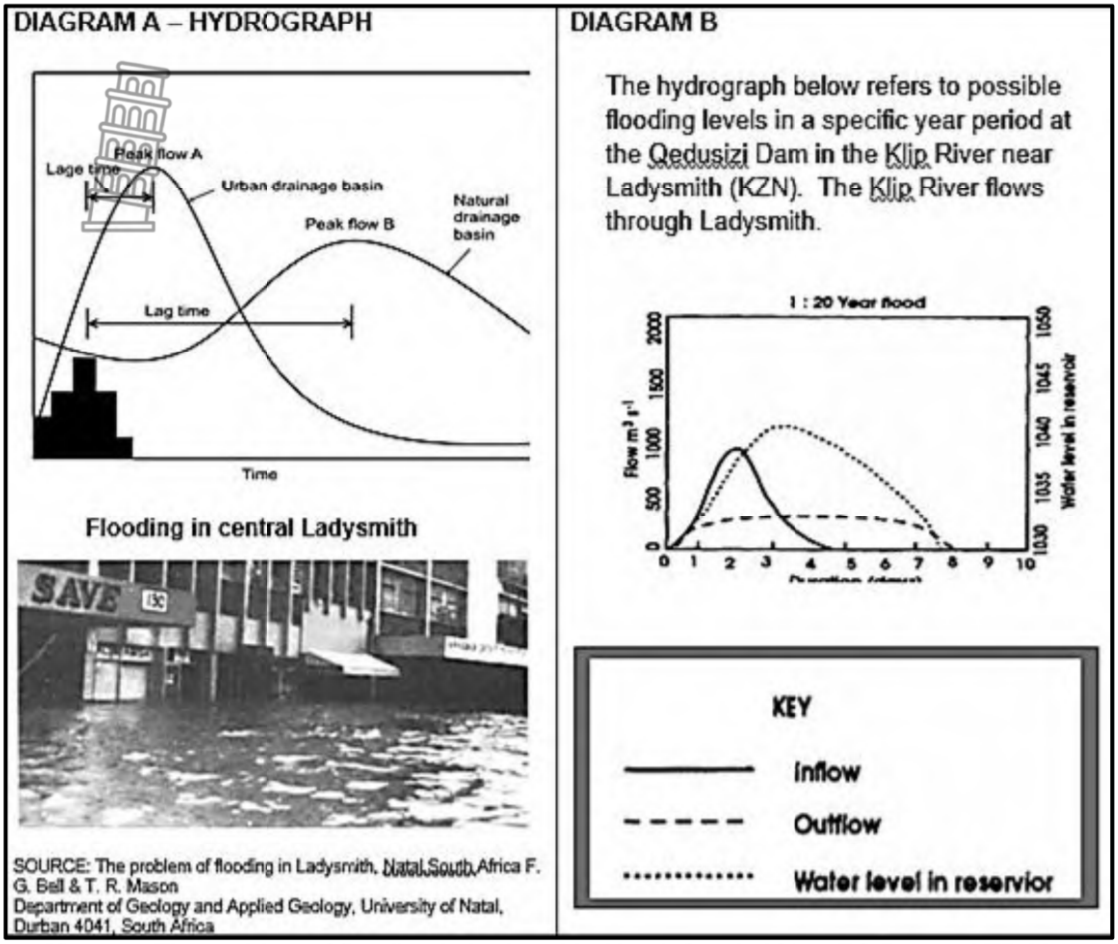
2.4.2 Compare the 1910 and 2010 cartoons and explain what message is being conveyed. (1 x 1) (1)

2.4.3 State any TWO causes of the actions in the 2010 cartoon. (2 x 1) (2)

2.4.4 Explain the impact of overfishing on humans and their livelihood. (2 x 2) (4)

2.4.5 Discuss THREE strategies that can be implemented (put into place) to prevent overfishing. (3 x 2) (6)

2.5 Refer to the infographic about floods below.



[Source: *The problem of flooding in Ladysmith, Natal, South Africa*, FG Bell and TR Mason, Department of Geology and Applied Geology, University of Natal, Durban, 4041, South Africa]

2.5.1 Define the term *flood.* (1 x 2) (2)

2.5.2 Identify which drainage basin's peak flow is the highest in DIAGRAM A. (1 x 1) (1)

2.5.3 Give TWO reasons why the drainage basin identified in QUESTION 2.5.2 has a higher peak flow. (2 x 1) (2)

2.5.4 Explain the difference in the lag time between the urban area and the natural drainage basin hydrograph as indicated in DIAGRAM A. (1 x 2) (2)

2.5.5 How can the information explained in QUESTION 2.5.4 assist people to reduce the impact of floods? (2 x 2) (4)

2.5.6 Refer to DIAGRAM B. Evaluate the purpose of the Qedusizi Dam as a strategy to manage flooding in Ladysmith. (2 x 2) (4)

[60]

SECTION B: GEOGRAPHICAL SKILLS AND TECHNIQUES

GENERAL INFORMATION ON LOUIS TRICHARDT

Coordinates: 23°02'S;29°54'E

Louis Trichardt is situated in the Vhembe region at the foot of the densely forested Soutpansberg Range in a highly fertile, rapidly growing agricultural area in Limpopo, South Africa. The town once attracted ivory hunters and traders, as well as gun runners, and is also known as Makhado.

Travelling approximately 35 km south of Louis Trichardt along the N1 there is a signpost indicating the Tropic of Capricorn.

The town is located at the base of the Soutpansberg Range and is a popular visiting spot because of its spectacular view, and is surrounded by banana and litchi groves. After about an hour's drive for 96 km, the N1 running through the town will take you to the Zimbabwe border post at Beit Bridge.

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

ENGLISH	AFRIKAANS
River	Rivier
Industry	Industrie/Nywerheid
Clinic	Kliniek
Landing Strip	Landingstrook
Drive-In-theatre	Inryteater
Diggings	Uitgrawings
Weir	Stuwal
Canal	Kanaal

QUESTION 3

3.1 MAP SKILLS AND CALCULATIONS

Various options are provided as possible answers to QUESTIONS 3.1.1 and 3.1.2. Choose the answer and write only the letter (A–D) next to the question numbers (3.1.1 and 3.1.2) in the ANSWER BOOK.

3.1.1 Louis Trichardt is situated in ... (province).

A Mpumalanga
B the Free State
C Limpopo
D Gauteng (1 x 1) (1)

3.1.2 The contour interval of the topographic map is … metres.

A 5
B 10
C 15
D 20 (1 x 1) (1)

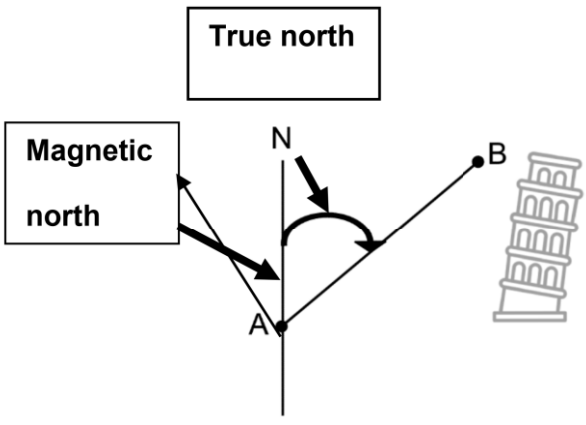
3.1.3 A group of Grade 10 boys from Tshikota intends to hike from spot height **932** in block **G4** to spot height **890** in block **K1** on the topographic map.

Calculate the distance they would have to walk in kilometres if they took a direct path from spot height **932** in block **G4** to spot height **890** in block **K1** on the topographic map.

Formula: **Map distance x scale** (3)

3.1.4 MAGNETIC BEARING

Calculate the magnetic bearing of **B** from **A** on the topographic map. Show ALL calculations. Marks will be awarded for calculations. The sketch below illustrates the methodology of calculating magnetic bearing.



(5 x 1) (5)

3.2 MAP INTERPRETATION

3.2.1 Give evidence from the topographic map that shows that the area receives seasonal rainfall. (1 x 1) (1)

3.2.2 What is the general direction of flow of Dorp River in block **J5/J6** on the topographic map? (1 x 2) (2)

3.2.3 Is Dorp River on the topographic map a perennial or a non-perennial river? (1 x 1) (1)

3.2.4 Name the border post through which the N1 passes into Zimbabwe from Louis Trichardt on the topographic map. (1 x 1) (1)

3.2.5 What is the term used to refer to the movement of people from one country into another? (1 x 1) (1)

3.2.6 Refer to block **D9/D10** and block **F8** on the topographic map. The built-up settlement of Louis Trichardt has resulted in fairly high temperatures being recorded in the area.

Identify TWO factors evident in block **D9/10** and block **F8** that could reduce the temperature in the Louis Trichardt area. (2 x 1) (2)

3.2.7 Refer to Rietvlei settlement in block **F3** on the topographic map. Rietvlei settlement is regarded as a mining settlement.

Give TWO pieces of evidence that indicate that mining activities are taking place in the Rietvlei settlement. (2 x 1) (2)

3.2.8 Refer to block **H4/5** on the topographic map where there is an airport (aerodrome).

State ONE negative and ONE positive effect of the presence of the airport (aerodrome) in the area. (2 x 1) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 Define the term *remote sensing*. (1 x 2) (2)

3.3.2 Refer to the orthophoto map and identify the following:

(a) A point feature in block **E5**

(b) A polygon feature in block **C4/5** (2 x 1) (2)

3.3.3 Louis Trichardt experiences frequent floods. Explain TWO ways in which farmers in this town can use remote sensing to reduce the effects of flooding. (2 x 2) (4)

[30]

GRAND TOTAL: 150