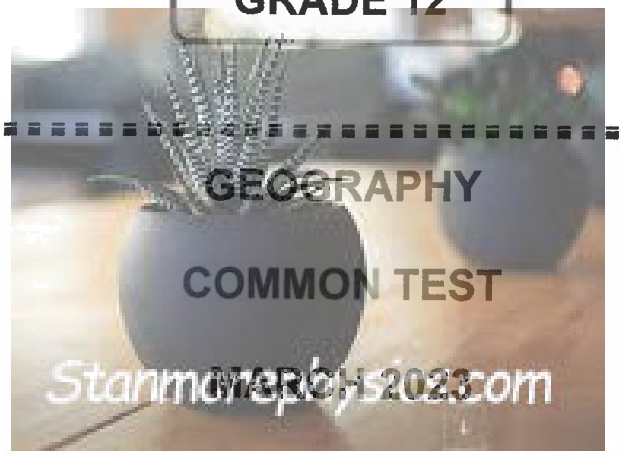
KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12



MARKS: 60

TIME: 1 hour

This question paper consists of 7 pages.

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INSTRUCTIONS AND INFORMATION

1. The paper consists of **TWO** QUESTIONS:

   QUESTION 1: CLIMATE AND WEATHER

   QUESTION 2: GEOMORPHOLOGY

2. Answer **ALL** questions.

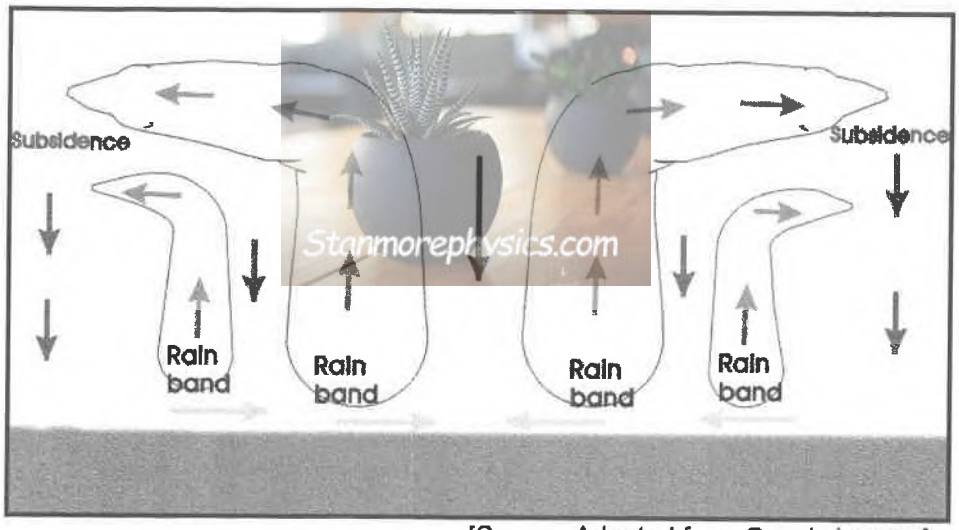
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SECTION A

QUESTION 1: CLIMATE AND WEATHER

1.1 Refer to Figure 1.1 Cross Section of a Low pressure cell.

FIGURE 1.1 CROSS SECTION OF A LOW PRESSURE CELL



[Source: Adapted from Google images]

1.1.1 What is the name given to this Low pressure cell in Australia? (1 x 1) (1)

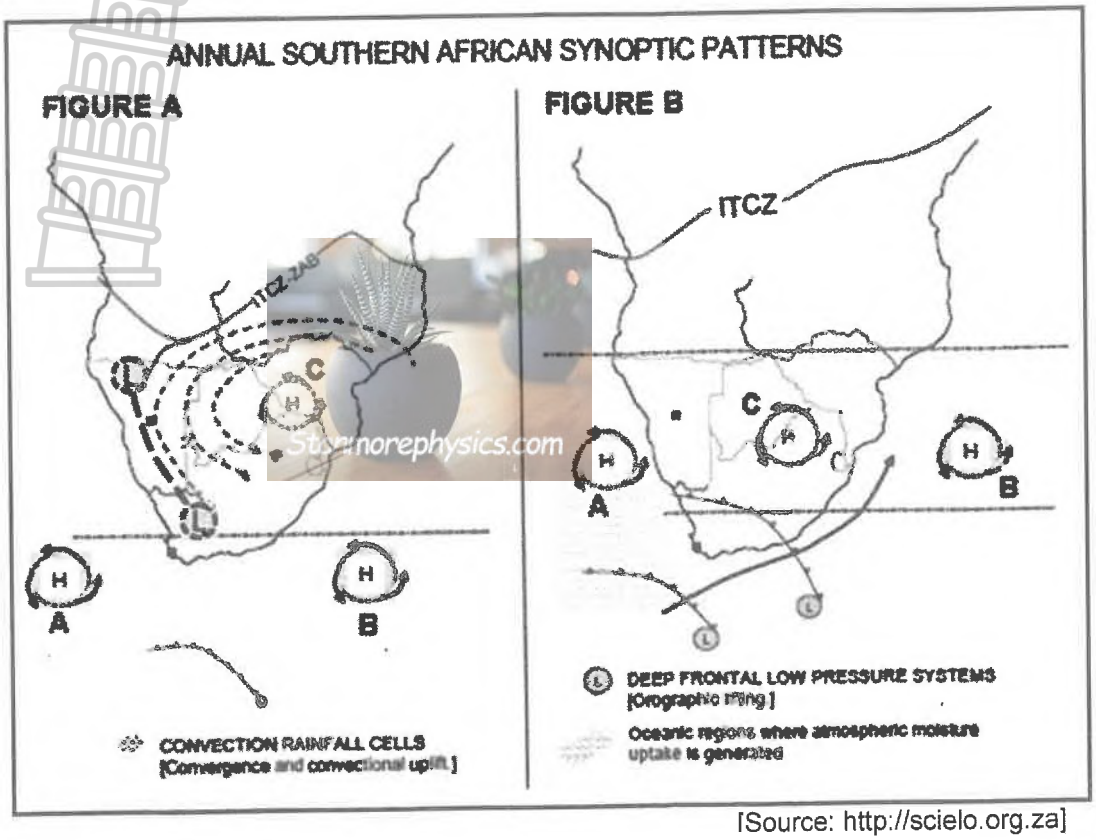
1.1.2 State the prevailing winds that drive this Low pressure cell. (1 x 1) (1)

1.1.3 Name the clouds found around the centre of this Low pressure cell. (1 x 1) (1)

1.1.4 Name the zone where the weather is cool calm and cloudless. (1 x 1) (1)

1.1.5 Where does this system originate? (1 x 1) (1)
[5]

1.2 Refer to FIGURE 1.2 which shows High pressure systems over Southern Africa.



[Source: http://scielo.org.za]

1.2.1 Identify the pressure cells at A and C respectively. (2 x 1) (2)

1.2.2 What weather feature could develop along the Low Pressure trough indicated in Figure **A**? (1 x 2) (2)

1.2.3 Identify the season represented by:

(a) Figure **A**

(b) Figure **B** (2 x 1) (2)

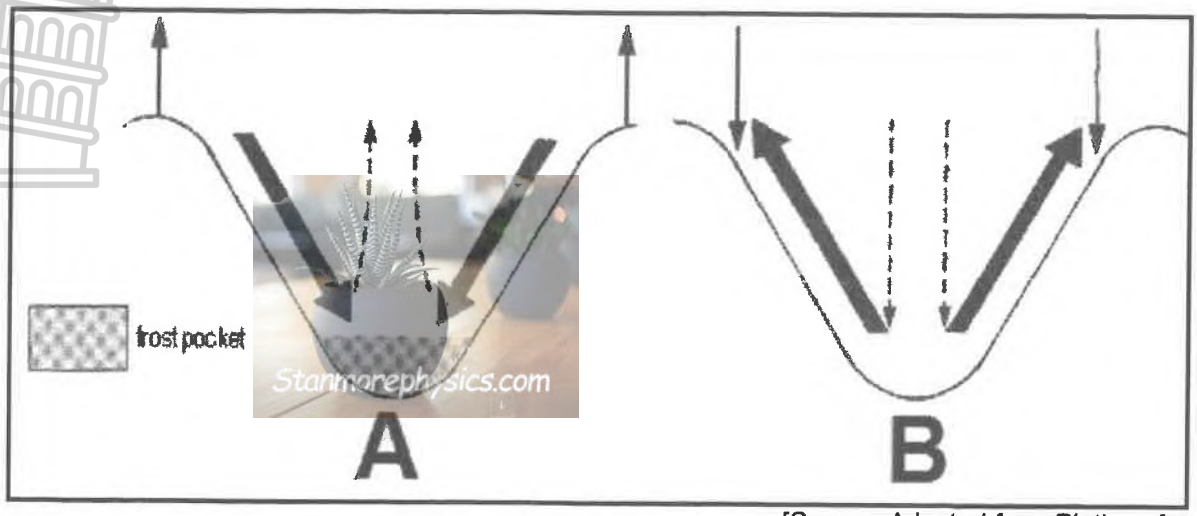
1.2.4 Provide reasons for your answers to 1.2.3 **(A)** and 1.2.3 **(B)**. (2 x 2) (4)

1.2.5 Describe the formation of the weather feature that would develop along the trough as identified in question 1.2.2. (2 x 3) (6)

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1.3 FIGURE 1.3 shows two different types of air movements in a valley.

FIGURE 1.3: AIR MOVEMENTS IN A VALLEY



[Source: Adapted from Platinum]

1.3.1 Identify the TWO types of air movements at **A** and **B**. (2 x 1) (2)

1.3.2 Account for the change in direction of the air flow at **A** and **B**. (1 x 2) (2)

1.3.3 Give ONE condition that promote a frost pocket forming at the bottom of the valley in winter. (1 x 2) (2)

1.3.4 Suggest TWO strategies that farmers can use to overcome the challenge that frost poses to their crops. (2 x 2) (4)

QUESTION 2: GEOMORPHOLOGY

2.1 Choose a term from COLUMN B that matches the geomorphological description in COLUMN A. Write only the letter (A – G) next to the question number (2.1.1 to 2.1.6) in the ANSWER BOOK, for example 2.1.7 H.

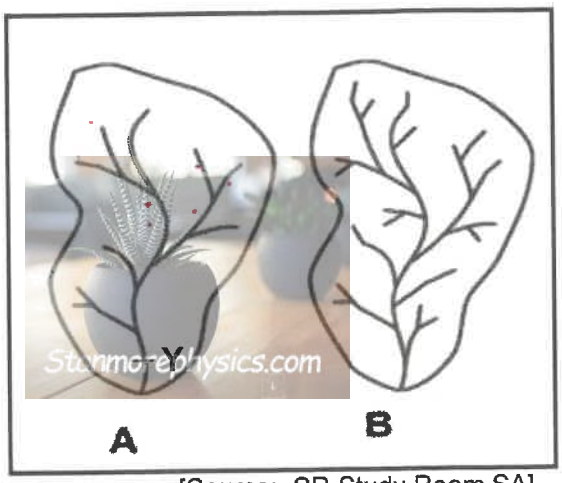
COLUMN A	COLUMN B
2.1.1 High-lying area that separates two drainage basins.	A. Catchment area
2.1.2 High-lying area separating streams in the same drainage basin.	B. Base flow
2.1.3 Area from where a river gets its source of water.	C. Confluence
2.1.4 Point where two or more streams join.	D. Interfluve
2.1.5 Ground water that contributes to river flow.	E. Watershed
	F. Run-off

(6 x 1) (6)

E D A C B

5

2.2 Refer to the sketch below on drainage density.



[Source: SR Study Room SA]

15

2.2.1 Define the concept *drainage density*. (1 x 2) (2)

2.2.2 What evidence indicates that **A** has a lower drainage density than **B**? (1 x 1) (1)

2.2.3 Identify drainage pattern labelled **A**. (1 x 1) (1)

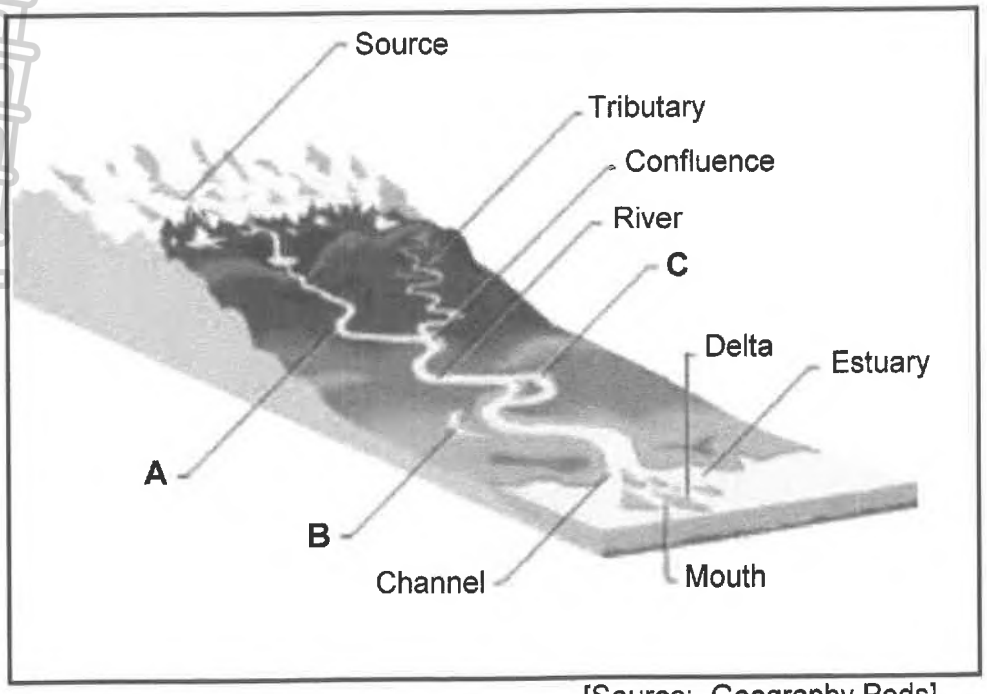
2.2.4 Give a reason for your answer to QUESTION 2.2.3. (1 x 2) (2)

2.2.5 Determine the stream order of the river system in drainage basin **A** at point **Y**. (1 x 2) (2)

2.2.6 Evaluate the influence of vegetation on drainage density. (2 x 2) (4)

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2.3 Refer to the sketch below on fluvial landforms.



[Source: Geography Pods]

2.3.1 State the river profile illustrated in the above sketch. (1 x 1) (1)

2.3.2 Give a reason for your answer to QUESTION 2.3.1. (1 x 2) (2)

2.3.3 Identify the fluvial landforms labelled **A** and **B**. (2 x 1) (2)

2.3.4 In which stage (course) of the river is the feature labelled **C** found? (1 x 1) (1)

2.3.5 In a paragraph of approximately 6 lines, explain how a delta forms at a river mouth. (3 x 2) (6)

TOTAL: [30]

GRAND TOTAL: 60

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