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# **National Senior Certificate**

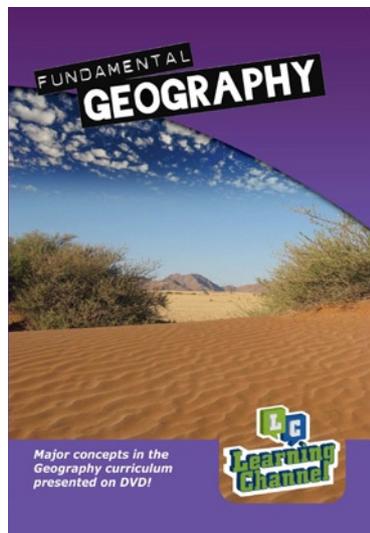
## **Grade 12**

# **Geography**

## **Paper 1**

## **MEMORANDUM**

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**SECTION A: PHYSICAL GEOGRAPHY****QUESTION 1**

1.1 1.1.1 I

1.1.2 B

1.1.3 A

1.1.4 E

1.1.5 H

1.1.6 C

1.1.7 L

1.1.8 D

1.1.9 K

1.1.10 G

10 × 2 (20)

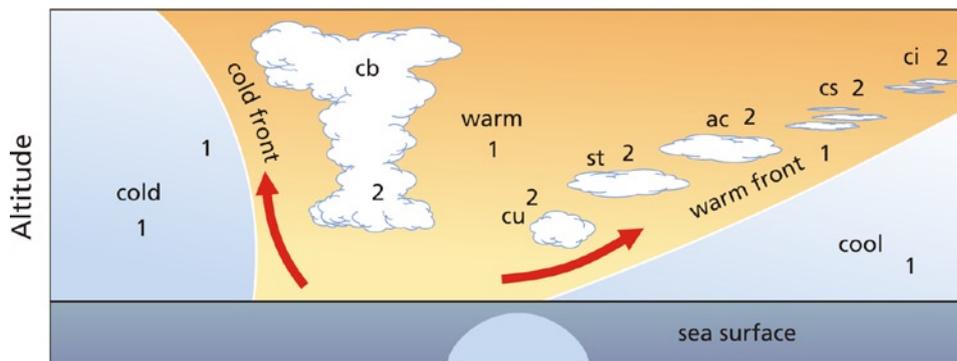
1.2 1.2.1 AB: cold front

BC: warm front

BD: occluded front

(3)

1.2.2



(2)

(3)

6 × 2 (12)

1.2.3 18° C

1 × 2 (2)

1.2.4 Temperate cyclones, frontal depressions, or extra-tropical cyclones.

ANY ONE.

1 × 2 (2)

1.3 1.3.1 It is a low-pressure system; steep-pressure gradient; vortex (with concentric/circular isobars can be seen); system is named *Alda*. Gale to hurricane force winds are visible from the synoptic station models.

Any 2 × 2 (4)

1.3.2 One. Tropical cyclones are named alphabetically according to their incidence in a season. *Alda* is the first one of the season.

2 × 2 (4)

1.3.3 1: Calm eye of the storm; descending/subsiding air causes downdrafts – creating warm air and stable weather conditions.

2: Intense updrafts within the vortex; mass evaporation; condensation and build-up of tall, towering cumulonimbus clouds.

3: Cumulonimbus clouds.

4: Upper-level jet streams/divergence and occurrence of cirrus cloud.

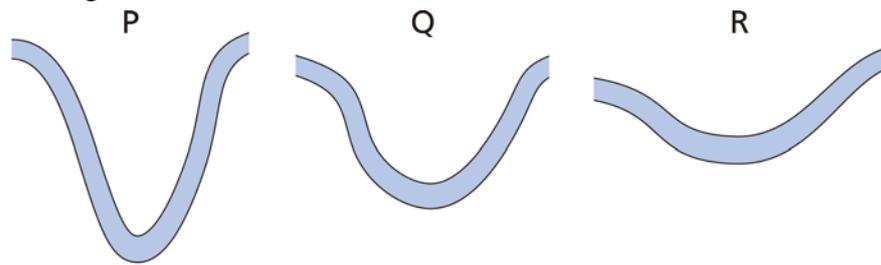
(4)

1.3.4 The ship in the first part of the vortex experienced SSE winds as a result of the clockwise circulation of air in a tropical cyclone (since Coriolis force deflects moving air to the LEFT according to Ferrel’s Law); while the ship in the second part of the vortex recorded NNE winds. 2 × 2 (4)

1.3.5 Hurricanes 1 × 2 (2)

1.4 1.4.1 P: youthful stage or upper course  
 Q: mature stage or middle course  
 R: old stage or lower course (3)

1.4.2 (a) See diagram:



(3)

(b) P: Narrow and deep (V-shaped valley) because of more vertical erosion (downcutting) as a result of steep gradients in the upper course.

Q: Wider and less deep (U-shaped valley) due to lateral (mass wasting/ weathering) and vertical erosion in the middle course.

R: Flat, open/wide (floodplain valley) because of gentle gradients and more deposition in the lower course. 3 × 2 (6)

1.4.3 Ungraded profile refers to a river in disequilibrium because of an imbalance between erosion and deposition, changed by its gradient, volume and shape. (2)

1.4.4

Landforms of river erosion	Landforms of river deposition
W	Y
X	

3 × 2 (6)

1.4.5 Meandering/braided stream channel. 1 × 2 (2)

1.4.6 The gradient of the landscape has flattened or become more gentle, which slows the river’s flow. More lateral erosion widens the floodplain and allows the river to meander. 2 × 2 (4)

1.4.7 Canoeing; paddling 1 × 2 (2)

1.4.8 (a) The cross-sectional view of the ground from the surface to a depth of about 2–3m. It shows the various layers. 1 × 2 (2)

(b) 1.4C R  
 1.4D P 2 × 2 (4)

(c) Weathering (mechanical or chemical); erosion and mass movement 2 × 2 (4)

**100 marks**

**QUESTION 2**

- 2.1 2.1.1 Jan: 60° N and S.  
July: 60° N and S. (4)
- 2.1.2 The ITCZ shifts north and south of the Equator, due to the vertical tilt of the Earth on its own axis, which causes the 'heat' equator to move seasonally. In winter the ITCZ moves north, allowing the low-pressure belt at 60° N/S to move north/south of its relative position, thus bringing cold and warm fronts to many places, in the Ferrel cell, and Westerlies. 4 × 2 (8)
- 2.1.3 MLCs occur between 30° and 60°S, and move relative to the ITCZ. The SW Cape experiences a Mediterranean climate, with rain in winter as a result of the frontal systems. The interior experiences cold, dry winters as a result of the predominant Kalahari anticyclone. Summers are hot, where NE winds bring rain in the interior. 5 × 2 (10)
- 2.1.4 Summer 1 × 2 (2)
- 2.1.5 With the shift of the ITCZ seasonally, sea-surface temperatures vary. 1 × 2 (2)
- 2.1.6 1. Warms (27°C SST), with latent heat; mass evaporation causes convective air to rise.  
2. Pressure starts to drop and a low pressure develops.  
3. Gale-force winds develop and air spirals upwards.  
4. The eye of the storm starts to develop. 4 × 2 (8)
- 2.1.7 Satellite imagery; scouting planes, Weather Bureau. 2 × 2 (4)
- 2.1.8 No: Seldom affect our coast, most of South Africa is too far south of the equator.  
OR  
Yes: To be able to warn people of any danger coming, to work with scientists from other countries. 2 × 2 (4)
- 2.2 2.2.1 Kalahari High 1 × 2 (2)
- 2.2.2 In summer, it is weaker since the ITCZ has shifted southwards. In winter, when the ITCZ moves northwards, the SAA and SIA strengthen the Kalahari. 3 × 2 (6)
- 2.2.3 As the cool air from the Kalahari descends, it warms adiabatically and creates a temperature inversion at the level of the escarpment. Onshore flow with moisture is prevented from entering the plateau from the coastal regions, thus yielding cold, dry winters. 3 × 2 (6)
- 2.2.4 The SW Cape receives winter rainfall and is known for its Mediterranean climate. The mid-latitude cyclones bring cold and wet weather, with the advancing cold fronts. Orographic rain along the escarpment. 3 × 2 (6)
- 2.3 2.3.1 A: Captured stream  
B: Captor stream  
C: Misfit river  
D: Wind gap  
E: Elbow of capture 5 × 2 (10)

- 2.3.2 A gap or poort 1 × 2 (2)
- 2.3.3 It will migrate upstream, with headward erosion occurring. 1 × 2 (2)
- 2.3.4
- |   |                         |                            |
|---|-------------------------|----------------------------|
| A | Stream volume unchanged | Force of erosion normal    |
| B | Stream volume increased | Force of erosion increased |
| C | Stream volume decreased | Force of erosion decreased |
- 3 × 2 (6)
- 2.4 2.4.1 September 1 × 2 (2)
- 2.4.2 200 mm 2 × 2 (4)
- 2.4.3 Wetter – receives more rain throughout the year. 2 × 2 (4)
- 2.4.4 The volume of water measured in CUMECS, passing a particular point of the river. 2 × 2 (4)
- 2.4.5 Normal – laminar; the discharge coincides with rates and levels of precipitation throughout the year. 2 × 2 (4)

**100 marks**

## SECTION B: PEOPLE AND PLACES: RURAL AND URBAN SETTLEMENTS, PEOPLE AND THEIR NEEDS

### QUESTION 3

- 3.1 3.1.1 Dispersed (2) 1 × 2 (2)
- 3.1.2 (a) Isolated farmstead (2) 1 × 2 (2)
- (b)
- | Advantages   | Disadvantages            |
|--|--------------------------|
| Economically better (2)  | Inhabitants isolated (2) |
| Farmer lives on his/her own land, reducing the time factor of accessing fields (2) | Less secure (2)          |
| Single continuous stretch of land (2)  | No community support (2) |
| Uses own initiative for own profit (2)   | Less sociable (2)        |
| No interference from community (2)   | Any 2 × 2 (4)            |
| Any 2 × 2 (4)  |                          |
- 2 × 2 (4)
- 3.1.3 (a) The loss of valuable soil through erosive mechanisms (such as moving water or air). 1 × 2 (2)
- (b) Contour ploughing (2) and trees or windbreaks (2) 2 × 2 (4)
- 3.1.4 (a) Farm has a river frontage (2) or easy access to water for irrigation (2)
- (b) Abundant supply of renewable trees (2) or supply of stone from the ridge to the south of the farmhouse (2)
- (c) Warm north-facing slope (2); shelter from the SW cold wind associated with cold fronts in winter (2); farmhouse situated in the thermal belt (2)
- 3 × 2 (6)

3.2	3.2.1	High-density dwellings (residential) (2)	1 × 2 (2)
	3.2.2	River frontage (2); Direct access to the river for water and recreational purposes (2); or any reasonable answers Too close to the river – flooding (2); base of the valley in the frost pocket (2); or any reasonable answers.	2 × 2 (4)
	3.2.3	Relatively high, in view of the distance from the CBD River frontage makes land very valuable. Street plan typical of a newer development (2), etc.	(2) (2) 2 × 2 (4)
	3.2.4	Planned Irregular.	1 × 2 (2)
3.3	3.3.1	Industrial (2)	1 × 2 (2)
	3.3.2	(a) Heavy (2) (b) Single level (2); flat land (2); fumes from power stations/industries, etc.	1 × 2 (2) 2 × 2 (4)
	3.3.3	Easy access to water (cooling towers) (2); cheapest bulk mode of transport (2); high chimney stacks (pollution) (2); open, extensive land for factories to be built (2); Flat land (2), etc.	2 × 2 (4)
	3.3.4	Air pollution (2); noise pollution (2); water pollution (2), etc.	2 × 2 (4)
3.4	3.4.1	Recreation (2)	1 × 2 (2)
	3.4.2	Swimming (1); fishing (1), etc.	(2)
	3.4.3	Sailing (1); canoeing (1), etc.	(2)
	3.4.4	Recreation is a tertiary activity (2); provides services (2), etc.	2 × 2 (4)
3.5	3.5.1	Rural-urban migration (2) – do not accept rural depopulation!	1 × 2 (2)
	3.5.2	(a) Decrease in the number of rural dwellings (2), etc. (b) Increase in the number of urban dwellers, (2), etc.	2 × 2 (4) 2 × 2 (4)
	3.5.3	Metropolitan overspill (developing rural areas as recreational areas (2); encouraging the development of business in the rural-urban fringe (2), etc.; RDP and SDI (2), etc.; bringing urban services and functions to rural areas	3 × 2 (6)
3.6	3.6.1	Zone of transition between urban and rural areas; land use merges and open spaces become more congested and densified.	1 × 2 (2)
	3.6.2	Airports; golf courses; light industry; cemeteries, etc. (2)	(2)
3.7	3.7.1	Nucleated	1 × 2 (2)
	3.7.2	Farmstead/village	1 × 2 (2)
	3.7.3	T-shape	1 × 2 (2)
	3.7.4	(a) Road intersection (2); houses radiate away from the intersection, along the roads (2), etc. (b) Field sizes too small (2); time-consuming to move between plots (2), etc. Prevents farmers from moving out of the cycle of poverty.	2 × 2 (4) 2 × 2 (4)

- 3.7.5 (a) A planning initiative to make rural villages more economically efficient (2) 1 × 2 (2)
- (b) Mechanisation possible (2); scientific farming methods can be used (2), etc. 2 × 2 (4)
- (c) Monopolisation of resources and administrations. 1 × 2 (2)

**100 marks****QUESTION 4**

- 4.1 4.1.1 Secondary activities
- 4.1.2 Wet-point settlement
- 4.1.3 Extensive farming
- 4.1.4 Subsistence farming
- 4.1.5 Depopulation
- 4.1.6 Land redistribution
- 4.1.7 Refugee
- 4.1.8 Range
- 4.1.9 GDP
- 4.1.10 Globalisation
- 4.1.11 Free trade
- 4.1.12 Balance of trade
- 4.1.13 Food security
- 4.1.14 Riparian rights 14 × 2 (28)
- 4.2 4.2.1 1: Cape Town
- 2: Port Elizabeth
- 3: Bloemfontein
- 4: Durban
- 5: Johannesburg
- 6: Rustenburg
- 7: Pretoria
- 8: Nelspruit
- 9: Polokwane (9)
- 4.2.2 Limpopo: Polokwane
- Gauteng: Pretoria and Johannesburg
- Eastern Cape: Port Elizabeth
- Kwazulu-Natal: Durban
- North West: Rustenburg
- Free State: Bloemfontein
- Mpumalanga: Nelspruit
- Western Cape: Cape Town (9)

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- |       |   |            |
|-------|---|------------|
| 4.2.3 | Northern Cape   | (1)        |
| 4.3   | 4.3.1 Yes   | (1)        |
|       | 4.3.2 Tourism; improvements to infrastructure; higher levels of income for various businesses   | 3 × 2 (6)  |
|       | 4.3.3 Congestion; crime; noise pollution  | 3 × 2 (6)  |
| 4.4   | Use your discretion. Tourism; job creation; local economic development, etc.  | 5 × 2 (10) |
| 4.5   | 4.5.1 5.2 million   | 1 × 2 (2)  |
|       | 4.5.2 9 million   | 1 × 2 (2)  |
|       | 4.5.3 3,8 million   | 1 × 2 (2)  |
|       | 4.5.4 South Africa a desired location for international tourists since the demise of Apartheid; comfortable climate; inexpensive, etc.  | 2 × 2 (4)  |
|       | 4.5.5 2001  | 1 × 2 (2)  |
|       | 4.5.6 (a) <b>Business tourism</b>   |            |
|       | South Africa is also increasingly targeting business travellers, who spend on average three times more than their leisure counterparts while crossing over significantly into leisure travel themselves, through tours before or after their business activities and through return trips in subsequent years. Example: conferences at Cape Town and Durban International Conference Centres.                         |            |
|       | (b) <b>Cultural tourism</b>   |            |
|       | South Africa is home to diverse cultures, ranging from the Zulus who resisted European conquest to the nomadic San of the Karoo desert. Each culture has evolved its own distinctive art forms, music and traditional rituals, while the descendants of colonial settlers have evolved variations of their European roots. Example: Lesedi Cultural Village (Magaliesberg).   |            |
|       | (c) <b>Ecotourism</b>   |            |
|       | South Africa's diverse climates range from tropical in the southeast to desert in the central region. The scenery runs the gamut from spectacular mountain ranges to vast grass plains, from coastline to meandering rivers to desert dunes. The country's wildlife is far more varied than just the celebrated "Big Five", and is supported by an extraordinary biological diversity. Example: Kruger National Park. |            |
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(d) **Paleo-tourism**

South Africa boasts numerous sites of great archaeological significance. The best-known of these are the Sterkfontein, Swartkrans and Kromdraai sites that make up the Cradle of Humankind, one of the world's richest concentrations of hominid fossils. Others include the uKhahlamba Drakensberg Park, host to the largest and most concentrated series of rock art paintings in Africa, and the Mapungubwe Cultural Landscape; site of an ancient and sophisticated African kingdom that long predated European colonisation. All three of the above are Unesco World Heritage sites.

(e) **Adventure tourism**

Being at the southern tip of a large continent, South Africa offers 3 000 kilometres of coastline along with breathtaking mountains – often side by side. The country's diverse terrain, together with a climate suited to outdoor activities; make it an ideal hunting ground for adrenaline seekers. South Africa offers world-class climbing, surfing, diving, hiking, horseback safaris, mountain biking, river rafting – and just about any other extreme activity you can name, all supported by dedicated operators.

(f) **Sports Tourism**

World-class venues and supporting infrastructure, top international events and South Africans' passion for sport combine to make the country a huge drawcard for sports fans. More than 10% of foreign tourists come to South Africa to watch or participate in sport events, with spectators accounting for 60% to 80% of these arrivals.

There are numerous world-class sporting events on South Africa's calendar every year, and the country has proved that it can successfully pull off the really big events. These have included the 1995 Rugby World Cup, the 2003 Cricket World Cup, the Women's World Cup of Golf 2005–2008, the inaugural World Twenty20 Cricket Championships in 2007 and the only street race in the A1GP World Cup of Motorsport, held in Durban in 2006, 2007 and 2008. Now the country is gearing up for the biggest of them all: the 2010 FIFA World Cup.

6 × 3 (18)

**100 marks**

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