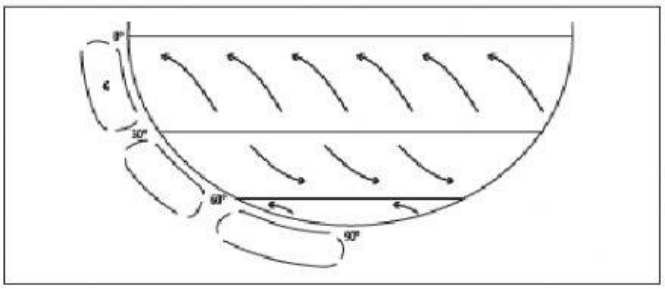
Memorandum, Teacher's Guide page 195 Time: 45 minutes	Test 2	The atmosphere
	TOTAL: 60 MARKS	

1. Refer to the diagram below and then choose one of the four options provided below to complete each statement. Write only the letter next to each question number.



1.1 Identify the cell labelled G, which occurs between 0° – 30° North and South of the equator.
- A Hadley
- B Ferrell
- C polar
- D equatorial

1.2 The area near the equator where the winds converge is the …
- A polar front
- B Intertropical Convergence Zone
- C subtropical high pressure belt
- D sub-polar low pressure belt

1.3 South Africa lies in the following pressure belt:
- A Equatorial Low Pressure Belt
- B Subtropical High Pressure Belt
- C Tropical Low Pressure Belt
- D Polar High Pressure Belt

1.4 Air rises at the equator and sinks at the poles due to …
- A divergence at the equator and convergence at the poles
- B divergence at the poles and convergence at the equator
- C surplus heat at the equator and heat deficit at the poles
- D surplus heat at the poles and heat deficit at the equator

1.5 A force that influences the speed of winds is called the …
- A pressure gradient force
- B Coriolis force
- C geostrophic force
- D primary force

(5 × 2)
[10]

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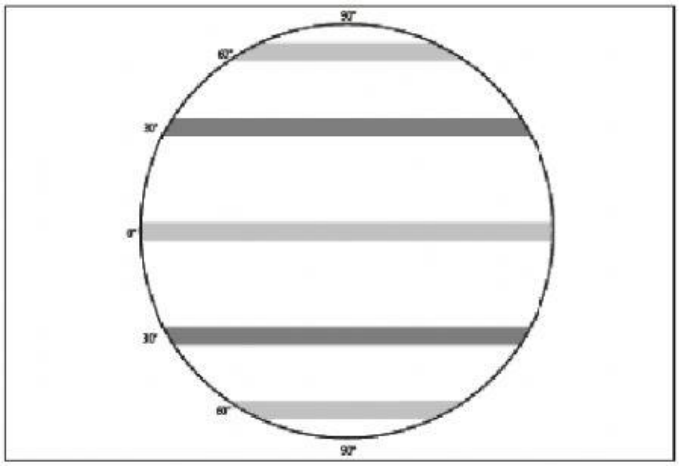
2. Match the geographical terms in column A with the definitions in column B.

COLUMN A		COLUMN B	
2.1	Geostrophic wind	A.	A wind system that reverses direction with the seasons
2.2	Pressure gradient	B.	The process in which air gains heat as it is compressed.
2.3	Adiabatic cooling	C.	High speed, high altitude wind
2.4	Monsoon	D.	The change in pressure over a given distance
2.5	Jet stream	E.	The process in which air loses heat as it expands
		F.	Dry, dusty West Africa trade wind
		G.	A wind balanced by the pressure gradient and Coriolis force

(5 × 2)
[10]



[2,7]

3. On the diagram of the primary circulation of the atmosphere, complete the following:
   3.1 Label the four pressure belts. (4 × 2) (8)

4.1 What is the Intertropical Convergence Zone and how does it form? (1 × 2) (2)

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4.2 What causes the ITCZ to shift North and South of the equator? (1 × 2) (2)

4.3 How is the polar front formed? (1 × 2) (2)

4.4 Describe the difference between a summer and winter monsoon. (3 × 2) (6)

4.5 Give the name of the monsoon and describe how it plays an important role in the climate of North West Africa. (3 × 2) (6)

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