education
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY
TASK 2
MARKING GUIDELINES
04 MARCH 2026

MARKS: 60

TIME: 1 HOUR

This question paper consists of 4 pages.

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1.1

1.1.1	temperature inversion (1)		
1.1.2	frost pocket (1)		
1.1.3	anabatic wind(1)		
1.1.4	hygroscopic nuclei (1))		
1.1.5	Isotherm (1)		
1.1.6	Albedo (1)		
1.1.7	radiation fog (1)		
1.1.8	thermal belt (1)	(8 x 1)	(8)

1.2

1.2.1	C (1)		
1.2.2	A (1)		
1.2.3	A (1)		
1.2.4	D(1)		
1.2.5	D (1)		
1.2.6	B (1)		
1.2.7	D (1)	(7 x 1)	(7)

1.3

1.3.1	(SW) Indian (1) (Ocean)	(1 x 1)	(1)
1.3.2	Summer(1)	(1 x 1)	(1)
1.3.3	12 days(1)	(1 x 1)	(1)
1.3.4	Steered by the Easterlies / Trade winds (2) Located in the Tropical Easterly wind belt (2) [ANY ONE]	(1 x 2)	(2)

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1.3.5 **CLEAR SKIES:**
No condensation takes place (2)
Air subsides / descends (2)
Air heats up / adiabatic warming (2)
Evaporation of moisture /air dries out (2)
Sinking air reduces cloud formation (2)
[ANY ONE]

CALM:
Very weak pressure gradient (2)
Air descends (downwards not horizontal movement of air) (2)
Winds converge toward the eyewall (2)
Air spirals upwards in eye wall before reaching the eye (2)
[ANY ONE]
[ANY TWO – MUST GIVE ONE ON "CLEAR CONDITIONS" AND ONE ON "CALM CONDITIONS" OF THE EYE] (2 x 2) (4)

1.3.6 The rate of evaporation increases which draws more water vapour that is necessary for the formation of clouds (2)
Rising warm air causing large-scale condensation forming cumulonimbus (Cb) clouds (2)
High humidity (high moisture content) provides the moisture necessary for the formation of clouds (2)
Convection currents cause warm, moist air to rise rapidly and to cool at higher altitudes (2)
The rapid rising warm air will cool down and the moisture condenses into water droplets (clouds) (2)
Latent heat is released (through condensation) which intensifies updrafts (2)
[ANY THREE]
[NO PART MARKING – A REASON AND A QUALIFIER IS NECESSARY] (3 x 2) (6)

1.4

1.4.1 Development and strengthening of cyclones (2) (1 x 2) (2)

1.4.2 A – Cold front (1)
B–Warm front (1) (2 x 1) (2)

1.4.3 Backing (1) (1 x 1) (1)

1.4.4 The change is due to clockwise circulation of wind in a mid-latitude cyclone (2) (1 x 2) (2)

1.4.5 Cold front occlusion occurs when the coldest air is found behind the cold front (2)
The coldest air causes the warm air to be uplifted along the cold front (2)
The cold front undercuts the warm front (2)
The rising air cools, condenses and forms the nimbostratus clouds (2)
Warm front occlusion occurs when the coldest air is found ahead of the warm front (2)
The coldest air causes the air to be uplifted along the warm front (2)
The rising air cool, condensation takes place to form the nimbostratus clouds (2) (4 x 2) (8)

1.5

1.5.1 Accumulation of soot, smoke and other pollutants that forms over the city (2) [CONCEPT] (1 x 2) (2)

1.5.2 Combustion of fossil fuel (1)
High amounts of air pollution due to heat generating activities (1)
Exhaust fumes of motor vehicles (1)
Industrial activities in the city emits large amounts of air pollution (1)
Construction activities cause dust particles (1) (3 x 1) (3)

1.5.3 At night there is strong subsidence of cold air (2)
Inversion layer is close to the surface (2)
There is less convection to distribute pollution at night (2)
Less activities to generate heat that will lift pollution dome (2)
[ANY TWO] (2 x 2) (4)

1.5.4 Emission of greenhouse gases contribute to climate change (2)
Pollutants lead to the formation of acid rain (2)
Condensation around pollutants result in the formation of smog that causes poor visibility (2)
Polluted air over the cities increases temperatures (2)
Concentration of pollutants cause greater cloud cover (2)
[ANY THREE] (3 x 2) (6)

TOTAL:60