Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2023

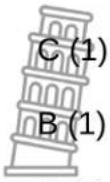
GEOGRAPHY P1 MARKING GUIDELINE

MARKS: 150

This marking guideline consists of 10 pages.

SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: THE ATMOSPHERE



1.1 1.1.1 A (1)

1.1.2 C (1)

1.1.3 B (1)

1.1.4 C (1)

1.1.5 A (1)

1.1.6 B (1)

1.1.7 A (1)

1.1.8 D (1) (8 x 1) (8)

1.2 1.2.1 isobars (1)

1.2.2 5280 (1)

1.2.3 Pressure gradient (1)

1.2.4 Coriolis (1)

1.2.5 northern (1)

1.2.6 stronger (1)

1.2.7 flow (1) (7 x 1) (7)

1.3 1.3.1 Zone where the tropical easterlies meet / generally found at the equator where its position changes seasonally (2)
[CONCEPT] (1 x 2) (2)

1.3.2 Hadley cell (1) (1 x 1) (1)

1.3.3 Warm subtropical air meets cold polar air (2)
The two air masses do not mix as they have different temperature and water vapour content (2)
The two air masses move parallel to each other and in opposite directions (2)
[ANY TWO] (2 x 2) (4)

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1.3.4 **TROPICAL EASTERLIES**

Pressure gradient between subtropical high (30° north and south) and the low pressure at the equator (2)
Convergence takes place at this belt to form the ITCZ (2)
These winds are associated with heavy rainfall (2)
They steer tropical cyclones from east to west (2)
Warm, steady winds (2)
Converges at the ITCZ causing thunderstorms (2)

TROPICAL WESTERLIES

The south westerlies and the north westerlies diverge from the subtropical high-pressure belt and blow towards the sub-polar low-pressure zone (2)
Convergence takes place at this belt to form the polar front (2)
They steer the mid-latitude cyclones from west to east (2)
Moderate the temperatures sub-polar regions (2)
Winds are irregular and fluctuate from a breeze to a very strong wind (2)
[ANY FOUR – MUST MENTION BOTH MOVEMENT AND WEATHER OF BOTH WINDS] (4 x 2) (8)

1.4 1.4.1 summer (1) (1 x 1) (1)

1.4.2 Southwest (1) (1 x 1) (1)

1.4.3 Contains high amounts of moisture (1) (1 x 1) (1)

1.4.4 Surface run-off would fill up rivers etc (2)
Infiltration increases water table (2)
Brings moisture to the soil (2)
Natural vegetation increases (2)
More grazing land available (2)
Increases biodiversity (2)
Revives habitat for ecosystems (2)
[ANY TWO] (2 x 2) (4)

1.4.5 Temperatures drop / becomes colder (1)
Pressure increases (1)
Dry / little rain (1)
[ANY TWO] (2 x 1) (2)

1.4.6 A lack of rainfall would decrease the water supply available for agricultural crops (2)
There would be food insecurity as certain crops e.g. rice is a staple crop (2)
Food prices would increase as the country would have to import food (2)
There would be less agricultural products to export (2)
Foreign exchange would decrease (2)
Farmworkers would lose their jobs (2)
[ANY THREE] (3 x 2) (6)

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1.5	1.5.1	A process where fertile land becomes arid (2) **[CONCEPT]**	(1 x 2)	(2)
	1.5.2	Sahara (1)	(1 x 1)	(1)
	1.5.3	Loss of biodiversity (1) Loss of aquifers (1) **[ANY ONE]**	(1 x 1)	(1)
	1.5.4	It is on the edge of the Sahara Desert (1)	(1 x 1)	(1)
	1.5.5	Smaller harvests especially in staple crops would lead to widespread famine/malnutrition (2) There would be widespread poverty and deaths (2) There would be job losses in farming and industry (2) It would result in migration of people from rural to urban areas (2) People would move to other countries creating conflict (2) **[ANY TWO]**	(2 x 2)	(4)
	1.5.6	Practice crop rotation (2) Planting of trees (2) Using organic fertilisers (2) Practice contour ploughing (2) Plant ground covers (2) Allowing land to lie fallow (2) **[ANY THREE]**	(3 x 2)	(6)
				[60]

QUESTION 2: GEOMORPHOLOGY

2.1	2.1.1	Y (1)		
	2.1.2	Y (1)		
	2.1.3	X (1)		
	2.1.4	X (1)		
	2.1.5	Y (1)		
	2.1.6	X (1)		
	2.1.7	Y (1)		
	2.1.8	Y (1)	(8 x 1)	(8)
2.2	2.2.1	Batholith (1)		
	2.2.2	Dyke (1)		
	2.2.3	Lava (1)		
	2.2.4	Laccolith (1)		
	2.2.5	Sill (1)		
	2.2.6	Lopolith (1)		
	2.2.7	Volcanic cone (1)	(7 x 1)	(7)
2.3	2.3.1	The original height remains the same (1)	(1 x 1)	(1)
	2.3.2	Resistant cap rock (1)	(1 x 1)	(1)
	2.3.3	Not uniformly (1)	(1 x 1)	(1)
	2.3.4	Steep-sided valley with rocks vary in resistance to erosion (2) Rivers incise into joints in rocks (2) Backwasting widens the joints (2) Resistant layers form from vertical cliffs and softer rock form gentle slopes (2) **[ANY TWO]**	(2 x 2)	(4)
	2.3.5	Mesas form from a plateau that is reduced in size by backwasting (2) Continuing erosion (backwasting) reduces the size of the mesa to form a butte (2)	(2 x 2)	(4)

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2.3.6 The impressive scenery associated with canyons can be used as a tourist attraction (2)
Canyons can be utilised for recreational activity (accept examples) (2)
The pediplain below canyons, mesas and buttes can be used for livestock farming (2)
[ANY TWO] (2 x 2) (4)

2.4.1 A – tors (1)
B – granite dome (1) (2 x 1) (2)

2.4.2 Rocks have no strata/bedding planes (1) (1 x 1) (1)

2.4.3 A – laccoliths (1)
B – batholith (1) (2 x 1) (2)

2.4.4 Erosion of overlying strata/material (2) (1 x 2) (2)

2.4.5 **Tors**
Water seeps into joints of igneous rocks underneath the earth's surface (2)
This causes chemical weathering to take place (2)
Chemical weathering causes the rock to break into rectangular blocks (2)

Granite domes
Once the dome is exposed the outer layers of rock are exposed to expanding and contracting (2)
Exfoliation a type of mechanical weathering takes place (2)
Peeling of rock layers take place due to expansion and contracting (2)
[ANY FOUR] (4 x 2) (8)

2.5 2.5.1 A large mass of land has broken loose and plunged down a slope (2)
(1 x 1) (1)

2.5.2 Geology of the area (1 x 1) (1)

2.5.3 'the region is subtropical' (1) (1 x 1) (1)

2.5.4 Water pressure pushes particles apart reducing their strength (2)
Some soils like clays are more slippery (2)
Slopes become unstable causing masses of land to break off (2)
[ANY TWO] (2 x 2) (4)

2.5.5 Collapsing land would lead to death and injury to people (2)
Property damage and loss of homes (2)
Destruction of infrastructure (accept examples) (2)
Loss of jobs (2)
Interruption of basic services (accept examples) (2)
[ANY TWO] (2 x 2) (4)



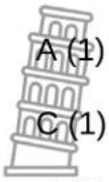
2.5.6 Careful planning and management needed when making use of slopes (2)
Development in landslide-prone areas must be restricted (2)
Regrade slopes (2)
Reduce deforestation on slopes (2)
Provide adequate drainage on slopes (2)
Plant vegetation covers on slopes (2)
[ANY TWO] (2 x 2) (4)
[60]

TOTAL SECTION A: 120

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SECTION B

QUESTION 3: MAP SKILLS AND CALCULATIONS



3.1	3.1.1	B (1)	(1 x 1)	(1)
	3.1.2	A (1)	(1 x 1)	(1)
	3.1.3	C (1)	(1 x 1)	(1)
	3.1.4	D (1)	(1 x 1)	(1)
	3.1.5	FORMULA: **Area = length (L) x breadth (B)** 3 cm x 1,3 cm (3 x 100) x (1,3 x 100) 300 m (1) x 130 m (1) Area: 39 000 m^2 (1)	(3 x 1)	(3)
	3.1.6	Total change: 22 x 4' = 88' (1) Magnetic Declination for 2023: 23° 46' W + (1) 88' (23° 134' W) 25° 14' W of true north (1)	(3 x 1)	(3)

3.2 MAP INTERPRETATION

3.2.1 Mediterranean (1)

Caledon is in the Western Cape (1)
Latitude 34° (1) (western side of South Africa)
[ANY ONE] (1 + 1) (2)



3.2.2 (C) Silo (1) (1 x 1) (1)

3.2.3 Dams (1)
Wind pumps (1) (2 x 1) (2)

3.2.4 Mountainous landscape could attract hiking (2)
Protected area (Caledon Nature Reserve) opened up to visitors (2)
Wild Flower Garden would attract visitors (2)
Hot Spring would attract visitors (2)
Golf course could have organised events (2)
Showgrounds could hold events (2)
Caledon Casino and Spa Resort could advertise to have regular visitors (2)
[ANY TWO – Must justify answer] (2 x 2) (4)

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3.2.5 Tertiary (1) (1 x 1) (1)

3.2.6 Accessible by roads/national route (2)
Close proximity to residential areas (2)
Available land makes provision for parking (2)
Land available for future expansion (2)
[ANY ONE] (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 C – Vector (1) (1 x 1) (1)

3.3.2 Spatial data describes the location of features using coordinates (1)
[CONCEPT] (1 x 1) (1)

3.3.3 Line (1) (1 x 1) (1)

3.3.4 Secondary road (1)
Dirt/Gravel road (1)
[ANY ONE – Accept other suitable answers] (1 x 1) (1)

3.3.5 (a) Surveys or questionnaires (1)
Physical water samples taken from the river for analysis (1)
Photographs (1)
Satellite images (1)
Remote sensing devices (1)
[ANY TWO] (2 x 1) (2)

(b) Identify causes of pollutions (2)
Collected data can show the severity of the problem (2)
Collected data can help develop strategies to minimize the problem (2)
Use data to create buffer zones around the river (2)
Make decision-makers aware of the problem (2)
[ANY TWO] (1 x 2) (2)

TOTAL SECTION B: 30
GRAND TOTAL 150

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