SMARTWIZ

GRADE 12 GEOGRAPHY EXAM

MARKS: 300

MARKS	

TIME: 3 HOURS

SCHOOL _____

CLASS (eg. 4A) _____

SURNAME _____

NAME _____

Instructions for Learners:

- Read all instructions carefully before you begin the exam.
- Write your full name and student number clearly on the answer sheet/book.
- Answer all questions unless otherwise instructed.
- Show all your work/calculations where necessary.
- Write neatly and clearly.
- Use only a blue or black pen. Do not use correction fluid or tape.
- Electronic devices (calculators, cell phones, etc.) are not allowed unless explicitly permitted.
- Raise your hand if you have any questions.
- Do not talk to other learners during the exam.
- Any form of dishonesty will result in immediate disqualification from the exam.

This exam consists of Five pages, including the cover page.

🧭 SECTION A: CLIMATE & WEATHER; GEOMORPHOLOGY (100 marks)

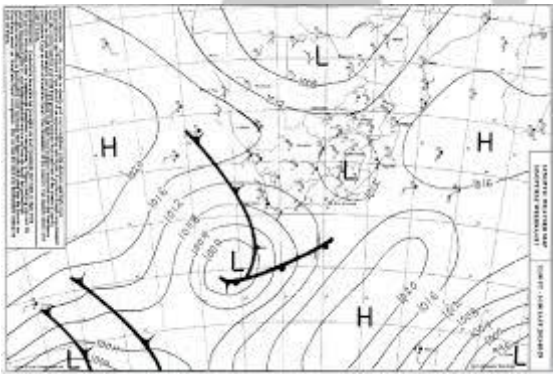
Question 1: Climate and Weather (50 marks)

1.1 Match the concepts in **Column A** with the correct explanation in **Column B**. Write only the letter (A–E) next to the question number (1.1.1–1.1.5). (5)

Column A	Column B
1.1.1 Cold front	A. Layer of warm air trapped above cooler air near the surface
1.1.2 Berg wind	B. Occurs in summer due to convective uplift
1.1.3 Temperature inversion	C. Brings rain and cooler temperatures in the Western Cape
1.1.4 Orographic rainfall	D. Warm, dry wind from the interior moving to the coast
1.1.5 Convectional rainfall	E. Rainfall caused by moist air being forced over mountains

Answers:
1.1.1 _____
1.1.2 _____
1.1.3 _____
1.1.4 _____
1.1.5 _____

1.2 Study the synoptic weather chart provided below:



1.2.1 Identify the pressure system approaching from the southwest. (2)

1.2.2 What type of weather is expected in Cape Town as the cold front passes? (2)

1.2.3 Explain how the cold front affects agriculture in the Western Cape. (4)

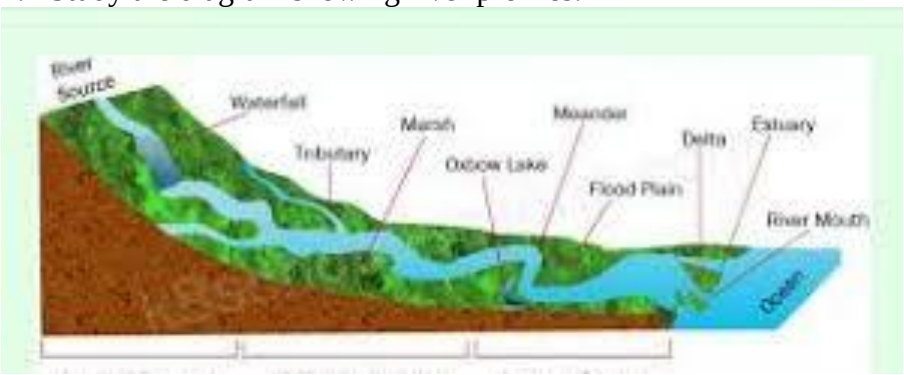
1.3 **Mid-latitude cyclones**

1.3.1 In which part of South Africa do mid-latitude cyclones mainly occur? (1)

1.3.2 Draw a labelled diagram to show the frontal structure of a mid-latitude cyclone. (6)

Question 2: Geomorphology (50 marks)

2.1 Study the diagram showing river profiles.



2.1.1 Label the three courses of the river in the diagram. (3)

2.1.2 Name one fluvial feature found in the **upper** course. (1)

2.1.3 Briefly explain how **meanders** form. (4)

2.2 River capture

2.2.1 Define the term **river capture**. (2)

2.2.2 Describe how a **misfit stream** is formed. (3)

2.2.3 What evidence would you look for to identify river capture in the field? (4)

🌎 SECTION B: RURAL & URBAN SETTLEMENTS; ECONOMIC GEOGRAPHY (100 marks)

Question 3: Rural and Urban Settlements (50 marks)

3.1 Match the land-use zones with the correct descriptions: (5)

Term	Description
3.1.1 CBD	A. Area with low-income housing often found on city outskirts
3.1.2 Informal settlement	B. High land value, commercial activity, tall buildings
3.1.3 Urban sprawl	C. Spread of urban areas into surrounding countryside
3.1.4 Residential zone	D. Area where people live; includes high- and low-income areas
3.1.5 Urban renewal	E. Rebuilding decayed parts of a city

Answers:
3.1.1 _____
3.1.2 _____
3.1.3 _____
3.1.4 _____
3.1.5 _____

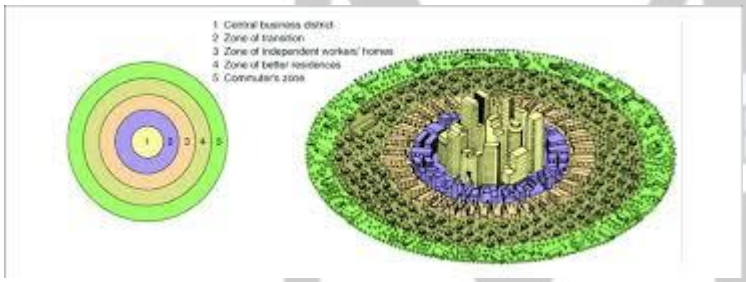
3.2 Urbanisation

3.2.1 Define the term **urbanisation**. (2)

3.2.2 State TWO causes of rapid urbanisation in developing countries. (2)

3.2.3 Give TWO consequences of urbanisation on infrastructure. (4)

3.3 Study the following urban settlement model:



3.3.1 Identify the zone that typically houses low-income earners. (1)

3.3.2 Explain how this model may differ from South African cities. (3)

Question 4: Economic Geography of South Africa (50 marks)

4.1 Different types of economic sectors:

4.1.1 Name and describe TWO primary economic activities. (4)

4.1.2 What is the role of the **tertiary sector** in the economy? (2)

4.1.3 Give one example of each of the following:
a) Secondary activity: _____ (1)
b) Tertiary activity: _____ (1)

4.2 Industrial Development Zones (IDZs)

4.2.1 Define the term **IDZ**. (2)

4.2.2 Mention ONE IDZ in South Africa. (1)

4.2.3 State TWO benefits of IDZs. (4)

SECTION C: GEOGRAPHICAL SKILLS AND TECHNIQUES (100 marks)

Question 5: Map Skills (Use topographic map provided) (50 marks)

5.1 What is the scale of the topographic map? (1)

5.2 Calculate the straight-line distance (in km) between point A and B on the map. Show all calculations. (5)

5.3 Determine the gradient between the trig beacon and the river. Use the formula: Gradient=Vertical IntervalHorizontal Distance\text{Gradient} = \frac{\text{Vertical Interval}}{\text{Horizontal Distance}}Gradient=Horizontal DistanceVertical Interval (6)

Question 6: GIS and Interpretation (50 marks)

6.1 What does **GIS** stand for? (1)

6.2 Name TWO uses of GIS in environmental management. (2)

6.3 Study the satellite image provided and answer:

6.3.1 Identify TWO visible human activities in the image. (2)

6.3.2 Suggest how GIS can help monitor changes in land use over time. (3)

✅ **END OF PAPER**

TOTAL: 300 MARKS

MEMO

✅ SECTION A: CLIMATE & WEATHER; GEOMORPHOLOGY (100 marks)

QUESTION 1: CLIMATE AND WEATHER (50 marks)

1.1 Matching (5 marks)
1.1.1 – C
1.1.2 – D
1.1.3 – A
1.1.4 – E
1.1.5 – B

1.2 Synoptic chart (8 marks)
1.2.1 Cold front (2)
1.2.2 Rain, wind, cooler temperatures (2)
1.2.3 Provides rainfall vital for crops and vineyards in the Western Cape (4)

1.3 Mid-latitude cyclones (11 marks)
1.3.1 Southern Cape / Western Cape (1)
1.3.2 Diagram (6 marks: 3 for structure, 3 for labels: cold front, warm front, wind direction, pressure)

- Cold front shown with triangle symbol
- Warm front with semi-circles
- Wind direction from NW ahead of front and SW behind
- Areas of rain and cloud identified

QUESTION 2: GEOMORPHOLOGY (50 marks)

2.1 River profiles (8 marks)
2.1.1

- Upper course
- Middle course
- Lower course (3)

2.1.2 Rapids / waterfalls / interlocking spurs (1)
2.1.3 Meanders form due to lateral erosion on the outer bend and deposition on the inner bend of a river. (4)

2.2 River capture (12 marks)
2.2.1 When one river captures the headwaters of another through headward erosion (2)

2.2.2 A misfit stream is the captured stream that flows in a deeper valley, often smaller in volume (3)
2.2.3 Elbow of capture, misfit stream, wind gap, difference in valley profiles (4 marks for any 2 valid points, well explained)

✅ SECTION B: RURAL & URBAN SETTLEMENTS; ECONOMIC GEOGRAPHY (100 marks)

QUESTION 3: RURAL AND URBAN SETTLEMENTS (50 marks)

3.1 Matching (5 marks)
3.1.1 – B
3.1.2 – A
3.1.3 – C
3.1.4 – D
3.1.5 – E

3.2 Urbanisation (8 marks)
3.2.1 Growth in the proportion of people living in urban areas (2)
3.2.2 Push/pull factors – rural poverty, job opportunities in cities (2)
3.2.3 Strain on housing, water, transport, and sanitation services (any 2 × 2 = 4)

3.3 Burgess Model (9 marks)
3.3.1 Zone 3 – Low-income housing (1)
3.3.2 South African cities were shaped by apartheid policies — e.g., townships were far from CBD, unlike the model (3)

QUESTION 4: ECONOMIC GEOGRAPHY (50 marks)

4.1 Sectors of economy (8 marks)
4.1.1 Farming, mining (2 × 2 = 4)
4.1.2 Tertiary sector provides services like education, healthcare, banking (2)
4.1.3
a) Manufacturing (1)
b) Tourism / banking / teaching etc. (1)

4.2 IDZs (7 marks)
4.2.1 Special industrial areas aimed at promoting exports and job creation (2)
4.2.2 Coega, Dube TradePort, East London (any valid one) (1)
4.2.3 Create jobs, attract investment, improve infrastructure (any 2 × 2 = 4)

✅ SECTION C: GEOGRAPHICAL SKILLS & TECHNIQUES (100 marks)

QUESTION 5: MAP SKILLS (50 marks)

5.1 Scale
1:50 000 (1 mark)

5.2 Distance
Measured on map (e.g., 6.4 cm × 0.5 km/cm = **3.2 km**)
(Formula + substitution + correct final answer = 5 marks)

5.3 Gradient
Given values:

- VI = difference in height (e.g., 160 m)
- HD = map measurement converted to meters (e.g., 2 000 m)
  Gradient=1602000=1:12.5\text{Gradient} = \frac{160}{2000} = 1 : 12.5Gradient=2000160=1:12.5
  (Formula + calculation + simplification = 6 marks)

QUESTION 6: GIS & INTERPRETATION (50 marks)

6.1 GIS
Geographical Information System (1)

6.2 Uses
Monitoring deforestation, managing urban growth, disaster management (any 2 × 1 = 2)

6.3 Satellite image
6.3.1 Farming, urban development, roads, mining (any 2 = 2)
6.3.2 GIS compares satellite images over time, tracks land use change, urban sprawl etc. (3)

✅ TOTAL: 300 MARKS