NATIONAL SENIOR CERTIFICATE EXAMINATION
SUPPLEMENTARY EXAMINATION – MARCH 2018

GEOGRAPHY: PAPER I

MARKING GUIDELINES

Time: 3 hours 300 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

SECTION A GEOGRAPHICAL ISSUES

QUESTION 1 FOOD SECURITY AS A GEOGRAPHICAL ISSUE

1.1 Rural Settlement Issues

1.1.1	B
1.1.2	A
1.1.3	D
1.1.4	H
1.1.5	C

(10)

1.2 1.2.1 Maize (2)

1.2.2 (a) Sekhukhune (47.9%) (must name place) (2)

(b)
- Good quality, fertile soil.
- Good rainfall/climate.
- Accessibility (transport routes).
- Financial well-being of the community.
- Farming skills and associated technology and equipment.
- Access to irrigation/pesticides/fertiliser.
- Possible GM crops.

(Any 2 appropriate points) (4)

1.2.3 Waterberg District (2)

1.3 Food Security as an Urban Issue

1.3.1 (a) This graph illustrates how the urban population has increased from just under 50% of the total population of southern Africa in 1990 and is predicted to reach just under 70% by 2030. (Increasing % of urban dwellers.) (2)

(b)
- People looking for employment and perceived better opportunities.
- Increasing challenges within rural areas: climate change, land reform issues, rural depopulation and decline in access to services and investment in the rural areas.
- Educational opportunities.
- An urban lifestyle may offer access to modern amenities and technology.
- Push-pull factors.
- Rural-urban migration.

} 2 distinct points expanded upon

(Any 2 suitable points) (4)

1.3.2
- Limited job opportunities.
- Increasing number of migrants that arrive with limited skills / training / education or experience.
- Cost of living (food, accommodation and transport).
- Difficulty in sustaining oneself / growing one's own food.
- Rapidly growing cities.

(Any 2 suitable points) (4)

1.3.3 (a) 9,8% (2)

(b) Vegetables and fruit (18,7% each) (don't have to mention %) (4)

1.3.4
- Recent drought and other climatic issues (e.g. hail).
- Labour-related issues – strikes and increase of minimum wage.
- Fuel costs – impacting upon transport of food.
- Devaluation of the rand.
- Rising costs of inputs (seed/fertilisers/equipment, etc.).

(Credit any relevant suggestion) (6)

1.3.5
- Urban populations are likely to continue increasing according to Figure 2 – this means there will be fewer people within the agricultural industry in rural communities.
- Within sustained urbanisation (Fact File) employment opportunities will become more scarce – impacting upon the ability of people to buy food.
- Urban living is expensive and food prices are on the increase (Figure 3) – this means fewer people will be able to afford food.
- Urban expansion: less agricultural land available on rural-urban fringe.
- Climate change.
- Rooftop garden improve food security.
- Food gardens.

Positive and negative perspective food impacts.
(3 points discussed – reference must be made to graphs and Fact File) (Credit any appropriate response) (6)

1.4 Sustainable Urban Settlements and Urban Climates

1.4.1 (a) A rooftop garden is a garden created on the **flat roof** areas on **buildings** within an **urban area**. Garden on a roof. (2)

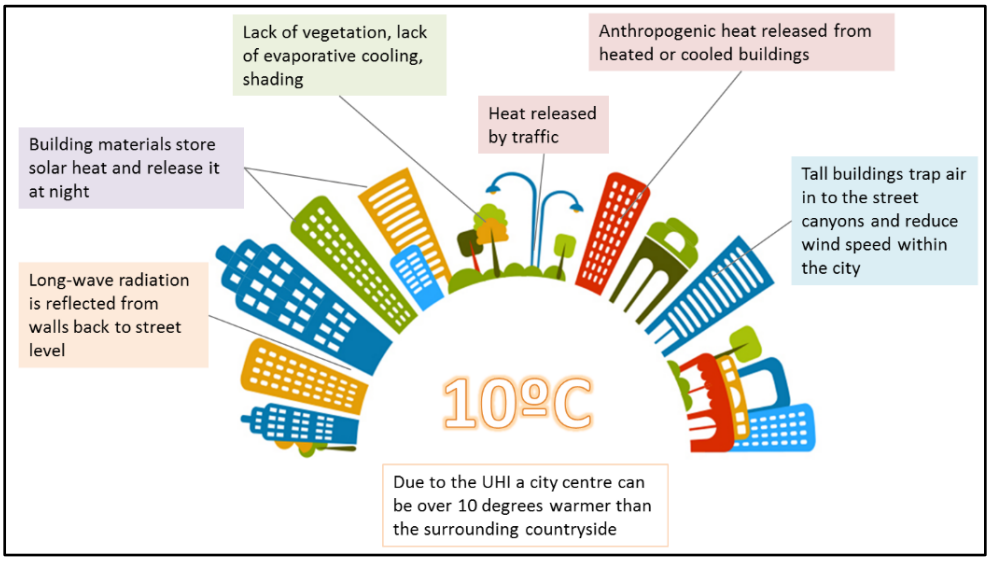
(b)
- Areas are large and flat.
- Normally have good access to sunlight.
- Unused areas of the city – sufficient space. (4)

(c)
- Limited soil is available in the inner city area – hydroponic technology would be easier.
- Roof areas may lack the necessary depth to allow for soil beds.
- Hydroponic technology may allow for more intensive farming than a soil bed.
- Reuse water. (4)

(d)
- A way of greening the city.
- Improving the appearance of derelict areas of the inner city.
- Employment opportunities are created.
- Investment in the inner city area.

(Any 2 suitable points) (4)

1.4.2



[Source: <http://ilmastotyokalut.fi/en/>]

Diagram = 2 marks (heat dome must be illustrated)
Labels and explanatory notes = 4 marks (speak to heat producing factors)
Building material
Heat producing factors (6)

1.4.3
- Plants act as **carbon sinks**, absorbing additional CO_2 and releasing additional O_2.
- Rooftop gardens have an **insulation effect** on buildings and can play a role in regulating the temperature of a building, possibly reducing the need for cooling / heating systems.
- Rooftop gardens can also become '**green zones**' in a built up cityscape, bringing people into the outdoors and improving the **quality of life** of individuals.

Same reference to garden.
(Any 2 points must be discussed) (4)

1.5 Geographical Skills and Techniques and Urban Structure and Patterns

1.5.1 Gridiron/grid (2)

1.5.2 Yes (2 marks) – arrows quite clearly indicate one-way flow of traffic. (2 marks) (4)

1.5.3 Advantages: (Any one)
- Easy to find places due to regular and predictable nature of pattern.
- Can offer motorists a more direct route.
- Less likely to get lost.

Disadvantages: (Any one)
- Frequent stop-starts, due to four-way stop nature of the gridiron pattern.
- This impacts on free flow of traffic resulting in congestion.
- One-way areas can make it tricky to navigate the inner city area and access certain areas with ease. (4)

1.5.4
- Address and contact details (emergency contact details).
- Station manager.
- Number of employees.
- Facilities, e.g. cells, interrogation rooms, offices.
- Type of security provided.
- Warnings/alerts in the area.
- Missing people.
- Crime stats.

(Any 2 suitable points) (4)

1.5.5
- Street names.
- Route numbers, e.g. M9 and M31.
- Bus stops.
- Points of interest, e.g. Con Court and Con Hill. (attractions)
- Public Services, e.g. Police Station.
- Transport network.

(Must relate to this map.) (4)

1.6 **Drainage Systems in South Africa**

1.6.1 Confluence (2)

1.6.2 River mouth (2)

1.6.3
- Steelpoort
- Changane
- Elephants
- Marico

(Any 2) (4)

1.6.4 3 (2)

100 marks

SECTION B CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 2 MID-LATITUDE CYCLONES, VALLEY CLIMATES, SUBTROPICAL ANTICYCLONES AND ASSOCIATED WEATHER CONDITIONS, TROPICAL CYCLONE FANTALA, DRAINAGE SYSTEMS, FLUVIAL FEATURES AND PROCESSES AND CATCHMENT MANAGEMENT

2.1 Mid-latitude Cyclones and Valley Climates

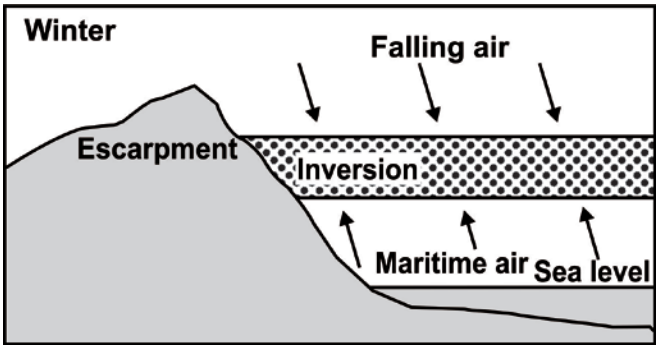
2.1.1	B
2.1.2	D
2.1.3	A
2.1.4	D

(8)

2.2 Weather Conditions in South Africa

2.2.1 Mid-latitude cyclone (if candidate says cold front, only 1 mark will be awarded) (2)

2.2.2



[Source: Mindset Geography]

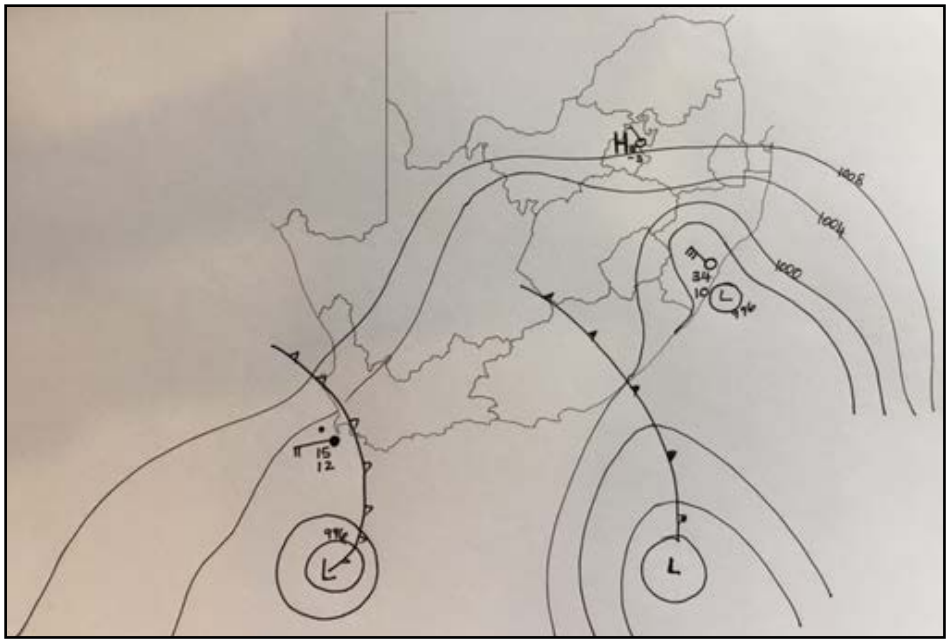
- In winter the subsiding air in the Kalahari High Pressure Cell (2 marks) heats up via the Dry Adiabatic Lapse Rate and is warmer than the air from the coastal areas.
- This causes a temperature inversion. (2 marks)
- The temperature inversion sinks below the escarpment and **prevents any moist air** from entering the central plateau. (2 marks)
- Therefore, **no or very little rain occurs** over the interior in winter.
- During winter, nights are long, temperatures may drop below zero and there is plenty of terrestrial radiation – this is responsible for **frost** over the Highveld / Gauteng area.

Must mention:
- Presence of subsiding air from KHP.
- Temperature inversion.
- Little moisture moving into interior.
- Long cold nights – frost.
- No diagram (–2 marks). (8)

2.2.3 (a) Warm dry wind that blows from the interior of SA towards the coastal plain/coast. (2)

(b)
- Berg winds are frequently associated with veld fires and the spread of fires – causing destruction to farmland and natural bush.
- Cold front conditions that follow Berg wind conditions often cause death of stock due to the rapid change (drop) in air temperature. (4)

2.2.4 Marks:
- 2 – accuracy of sketch
- 2 – weather station model
- 2 – cold front over Cape Town
- 4 – Berg winds (coastal low / wind direction / temperature / approaching cold front, any 2 factors)



(10)

2.3 **Tropical Cyclone Fantala**

- **The Indian Ocean and atmospheric conditions required for the formation of a tropical cyclone**
  - In the southern hemisphere, the tropical cyclone season traditionally occurs at the end of summer, early autumn (March–May), once the Indian Ocean has had sufficient time to reach temperatures of 27 °C and warmer.
  - This leads to a lot of evaporation and very hot, humid, unstable air.
  - The hot air starts rising and forms an intense low pressure on the surface.
  - The tropical jet stream in the upper air causes an upper-air low pressure and this intensifies the low pressure on the surface.
  - Air is sucked into the low pressure. If this happens outside 5° N and S, Coriolis force will cause the winds to spiral towards the low pressure.
  - The large-scale condensation releases latent heat in the atmosphere, which makes the air more unstable and contributes to more rising.

- **The mature stage of a tropical cyclone**
  - The pressure gradient is very strong and wind speeds reach hurricane strength.
  - The calm, clear eye is well developed and the air pressure is less than 950 hPa.
  - The south-western quadrant is the most destructive as the winds and the Tropical Easterly winds are coinciding.
  - The cyclone can cover distances of up to 300 km from the eye.
  - The low pressure and the fast wind over the ocean masses cause a storm surge, which leads to further flooding of the coastal areas hit by the cyclone.

- **Necessary cyclone-damage prevention / mitigation strategies South-West Indian Ocean islands need to put in place**
  - **Land use:** various restrictions should be put in place to prevent building and development in low-lying areas and flat coastal plains.
  - **Building codes:** building planning, engineering and construction should be such that structures are resistant to strong winds and flying debris.
  - **Education:** citizens of the Seychelles islands should be suitably educated and made aware of mitigation strategies and what to do in the case of a tropical cyclone, how to prepare.
  - **Preparedness:** actions must be put in place to minimise loss of life. These include evacuations plans and routes, food and water supplies, adequate warning systems, and plans to assist the vulnerable population (young children, elderly, disabled).
  - **Place of safety:** proper areas of safety and shelter need to be made available to house large numbers of people.

See report rubric.

Note: Diagram(s) may be included – credit accordingly. (24)

Criteria	(Level 3) Excellent – Good	(Level 2) Satisfactory	(Level 1) Poor
Writing skills • Taking into consideration structure and presentation. • Use of brief introduction and conclusion. • Logical discussion and use of subheadings. **(5 marks allocated to this component)**	**(4–5 marks)** Suitable introduction and conclusion. Sophisticated, coherent and structured writing. Subheadings and paragraphs have been used effectively. Report is concise, well-structured and succinct.	**(3 marks)** Introduction and conclusion present, although not ideal. Attempts to adhere to subheadings and use of paragraphs. Report deviates from the point in places and lacks brevity.	**(0–2 marks)** 1 = must be awarded for any form of written attempt/effort Writing is weak and almost unintelligible. No introduction or conclusion provided. No use / adherence to subheadings. Long sentences, poor grammar and ineffective use of paragraphs. Report is repetitive. Bullet points may have been used.
Content knowledge • Correct use of geographical terminology and concepts. • Adherence to topic and subheadings. **(14 marks allocated here)**	**(12–14 marks)** Relevant content and detailed discussion of topic. Good usage of geographical terminology and concepts. Appropriate number of facts presented / subheading. Min of 2 points for every subheading will earn candidate 12 marks. Extension work will provide a further 2 marks.	**(7–11 marks)** Some relevant content. An overview / general discussion of key issues. Basic usage of geographical concepts and terminology. (60–50% of required facts presented / subheading). 1 point / subheading, or 2 points provided and only 2 paragraphs.	**(0–6 marks)** Digression from the topic. Weak grasp of concepts and terminology. Superficial/poor discussion. Almost no relevant facts/ subheading.
Supporting evidence – analysis and understanding • The ability to analyse and evaluate the topic is assessed in this category. • Reference made to case study material / Fact File / source material provided. • If appropriate, reference must be made to familiar, local or other examples. **(5 marks allocated to this component)**	**(4–5 marks)** The candidate is able to argue and evaluate appropriately. There is strong evidence of accurate application of understanding and evidence provided. Report demonstrates understanding and integration of relevant case study / Fact File / source material into the context of the report. Looking for evidence of unpacking content and high order integration.	**(3 marks)** Superficial links made to case study / Fact File / source material. Although reference to supporting examples has been made, it is not clear that the candidate has a good understanding of the example / case study material. Supporting evidence does not always relate appropriately to the subheading or context of discussion. Discussion lacks depth.	**(0–2 marks)** Limited to no reference made to case study / Fact File / source material. Examples not provided. Has little to no geographical meaning. Little analysis or understanding. Demonstrates minimal understanding of topic.

2.4 Drainage Systems

2.4.1 Water table (2)

2.4.2 Base flow (2)

2.4.3 Episodic (2)

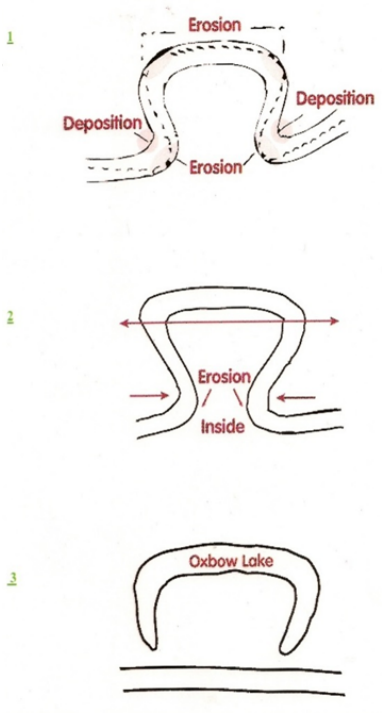
2.4.4 Rectangular / angular (2)

2.4.5 Discharge (2)

2.5 Fluvial Features

2.5.1 Oxbow lake (2)

2.5.2



1. **A river meander** – erosion on the outward curve and deposition on the inside. The river deepens.
2. The loops widen from the continued erosion on the outside curves. The neck of the loop becomes narrow due to erosion.
3. **The neck finally closes off** – through erosion and allows the water to flow in a more direct route. This cuts off the river loop, forming an oxbow lake.

More than one sketch provided to show process = 4 marks.
Explanation / short notes = 2 marks. (6)

2.5.3 Meander Scar (2)

2.5.4 Flood plain (2)

2.5.5
- Flat land
- Fertile land – due to silt deposition from flood events
- Proximity to water for irrigation

(Any 2 suitable points) (4)

2.5.6 Flooding from time to time, and loss/destruction of crops.
River valley, low lying, may be within the frost pocket area.
Poor drainage of soils, due to flat, low-lying land.
(Any 2 appropriate points) (4)

2.6 Fluvial Processes, Catchment and River Management

2.6.1 (b) Laminar and meandering (2)

2.6.2
- Lower course (2 marks).
- Due to the pronounced meandering of the river channel, also wide channel and laminar flow are common lower-course characteristics (2 marks).
- Close to the river mouth. (4)

2.6.3 An incised meander normally occurs as a result of the rejuvenation of a river. The river will maintain its meandering course, however, **vertical erosion** will lead to the meanders having **very steep valley sides**. (2)

2.6.4
- Height of the bridge.
- Strong concrete support structures.
- Shape of concrete supports to ease river flow.
- Supports likely to have deep/strong foundations.
- Material that does not erode easily. (4)

100 marks

SECTION C RURAL AND URBAN SETTLEMENT AND ECONOMIC GEOGRAPHY OF SOUTH AFRICA

QUESTION 3

3.1 Rural Settlements

3.1.1 (a) Top of the hill with a 360° view. Can see approaching enemy. High up, good views. (2)

(b) Houses follow the road – access to transport; houses appear to be built in a line. (2)

(c) No evidence of large fields; limited farming – could be cattle; poultry; too dry for any other kind of farming. Farming for immediate family only. (2)

3.1.2
- Transport: dirt roads, which indicates lack of access to good transport routes. May need to walk as limited access to even taxis; isolated.
- Water: some Jojo tanks suggest water is critical. The area looks dry therefore rain is a valuable source of water; no connection to water.
- Electricity: no evidence of power lines (poles) – no electricity. No evidence of satellite dishes, which may suggest electricity.
- Health care: isolated, remote. Possibly have to walk km to the nearest clinic/hospital. This is not really accessible to the settlement; primary health care.

(Must talk to each point to get 8 marks) (8)

3.2 Refer to Figure 9, advertisement promoting George, Western Cape.

3.2.1 (a) central place (2)

(b) winter (2)

(c) tertiary (2)

3.2.2
- Centre of Garden Route
- On N2 between Cape Town and PE
- Airport close by
- Cape Floral Kingdom – tourism

(Any 2) (4)

3.2.3

Factors	George	Uniondale
Population	*George/ 157 394 Large* (2)	*Uniondale/ 4 525 Small* (2)
Main function(s)	*Golf – tourism or recreational Central place; business hub, tertiary activities* (2)	*Cycling and adventure tourism, tertiary activities Supports surrounding farming communities* (2)

(8)

3.3 3.3.1 (a) formal, convenience, high-order (Any 2) (not suburban) (4)

(b) informal, unregistered (and maybe high-order) (Any 2) (4)

(c) suburban, (convenience) convergence point (Any 2) (4)
(May not repeat)

NB in this question (a–c) the word may only be used ONCE.

3.3.2
- In the suburbs and thus people have more time to look and buy.
- Will be well supported by the passers-by.
- On the way home from work.
- Convenience. (4)

3.3.3
- Opportunist trading; the informal trader is not inside the premises of the outlying centre.
- Trader is hoping to attract passing trade / foot traffic from nearby Woolworths.
- High order items → higher income shopper. (4)

3.4 **Gold Mining in South Africa**

3.4.1 (a) A steady/gradual decreasing annual production of gold over the years 1980–2015. (2)

(b) Approximately 350 – 80 or 355 – 75 = ± 270–280 units
(State units, but not difference = 1 mark) (2)

(c)
- Declining profits and income for the government; less tax revenue.
- Retrenchments; labour paid off.
- Less income from the trading of gold (affects balance of payments).
- Fewer mine works = less income = could increase poverty and unemployment. (4)

3.4.2
- **Infrastructure**
  - Road and rail networks.
  - Airports.
  - Electricity/water supply.

- **Employment and revenue**
  - Valuable employer.
  - Government source of income from taxes.
  - Scores on the exchange rate because of trade agreements.
  - Multiplier effect.

- **Other favourable factors, such as environmental responsibility**
  - Recycling mine dumps (closure plans).
  - Legislation.
  - Rehabilitations.
  - Tourism.

- **Factors hindering gold mining**
  - Declining markets and prices.
  - Acid mine drainage – negative impacts/other environmental hazards.
  - High labour costs and disputes/strikes/accidents.
  - Rand–dollar exchange rate.
  - Competition from other countries.
  - Rehabilitation and mine-closure projects.
  - Aging gold infrastructure.

  NB: Must be presented in mind-map format.
  At least 2 points per heading.
  Max 4 marks per heading will be awarded.
  (–2 marks if not in mindmap) (16)

3.5 **Port Elizabeth-Uitenhage Industrial Region**

3.5.1 A point where cargo is unloaded from a bulk carrier (such as a ship) to be reloaded into smaller units of transport, such as trains and trucks. (2)

3.5.2 An industrial zone that has been identified especially for export-driven industries. This zone may link nodes in a Spatial Development Initiative (SDI) to promote economic growth and job opportunities, for example: the Coega Industrial Development Zone. (2)

3.5.3
- Close to harbour.
- Good labour supply.
- Good infrastructure.
- Electricity.
- Available land/space.
- Water supply. (8)

3.5.4
- Link industries / Multiplier effect.
- Motor component industry – might give specific example.
- Good power source – 95% use electricity – essential for industry. (6)

3.5.5
- Two deep water ports – increased trade – both container ports.
- Increased production in the motor industry for export and local market.
- IDZ – good logistics and components production – linked to motor industry.
- Productive hinterland – can diversify.
- Globally competitive – world-class technology.
- Infrastructure to suggest it should be good.

(Credit any valid point) (6)

100 marks

Total: 300 marks