



NATIONAL SENIOR CERTIFICATE EXAMINATION
SUPPLEMENTARY EXAMINATION MARCH 2016

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 GEOGRAPHICAL CASE STUDY: FOCUS ON GAUTENG PROVINCE****1.1 Map work Techniques and Urban Settlement Issues**

- 1.1.1 The 3 metropolitan areas are:
 Tshwane Metropolitan.
 Johannesburg Metropolitan.
 Ekurhuleni Metropolitan. (6)
- 1.1.2 M1 and M2 are found within the Johannesburg Metropolitan area. (2)
- 1.1.3 N14 highway links West Rand and Tshwane. (2)
- 1.1.4 • M1 – major link road between the northern and southern parts of Johannesburg.
 • M1 – link between Soweto and Johannesburg, this is a very busy commuter route.
 • The M1 links the major centres of Johannesburg, Sandton, Midrand, Pretoria as seen in Figs 1 and 2.
 • People travelling into the CBD areas would use the M1.
 • N1 and N3 are the two major routes around the outskirts of Johannesburg, so anyone leaving or entering the city would be using these roads.
 • Gauteng is the economic hub of South Africa. (4)
- 1.1.5 The following strategies have been implemented to try and curb traffic congestion:
 • Gautrain: aimed at Johannesburg-Pretoria commuters, also link to the airport.
 • eTolls: charging people toll fees is aimed at encouraging car-pooling or use of public transport.
 • Public bus system.
 Rapid Bus Transport System (RBT).
 Any suitable suggestions linked to an urban centre. (6)
- 1.1.6 GIS could be used to monitor:
 • The extent of the possible road network.
 • The need for road maintenance (e.g. pothole location).
 • High frequency accident sites.
 • High frequency road usage.
 • Traffic patterns and times of high road usage.
 (Any 2 suitable suggestions.) (4)

[24]

1.2 Urban Settlements and Issues

1.2.1 Match the column

- (a) C
- (b) F
- (c) G
- (d) B
- (e) A
- (f) J
- (g) D
- (h) L
- (i) E
- (j) H

(20)

- 1.2.2
- Diepsloot and Steyn City both have a **largely residential function** in terms of land use. Although both settlement areas include retail (Steyn City in the form of offices and Diepsloot in the form of informal businesses, e.g. spaza shops, hairdressers and shebeens).
 - Both settlements are located in a similar geographical area, to the **north of Johannesburg** between the R511 and R512.
 - Both settlements are catering to the **growing need for housing** due to increased urbanisation and economic development in Gauteng over the last 20 years.
 - Diepsloot is classified as a **low-income residential area**, whilst Steyn City is planned to cater for **high-income residents**.
 - Steyn City has been designed as a **life-style estate**, with luxurious living conditions, good services and amenities, e.g. schools, a golf course, medical facilities and a health spa.
 - **Living conditions are poor** in Diepsloot, with few residents having access to formalised services in the form of sanitation, refuse removal, electricity and running water.

(Comparisons must include both differences and similarities. Any FOUR relevant points need to be discussed, 2 differences + 2 similarities.)

(8)

- 1.2.3 (a) The cartoon illustrates the harsh living conditions people in informal settlements areas such as Diepsloot face. These include; limited running water sources – hence the need to do washing in the nearby river, inadequate housing (shacks), pollution (leaking pipe), limited refuse removal systems. This cartoon illustrates the conditions which the fact file presents (housing – shacks, limited electricity, limited access to basic services, e.g. water and refuse removal). The irony of the cartoon is the government has funding for such services if budgets are more effectively managed.

(4)

- (b) The cartoon suggests that the conditions remain as poor and harsh as ever within informal settlement regions. This is despite the efforts and money being invested by the government and local municipalities. The impression for some may be that the '*basics and economic fundamentals are in place*', but this is far from reality.

(4)

1.2.4 TWO strategies:

- Housing projects.
- Installation of solar power/ solar geysers.
- Rainwater collection tanks.
- Site and service plots.
- Recreational areas (soccer field/ play park/ green zone).
- Tree planting initiatives.
- Refuse removal and urban recycling initiatives.

(Any 2 appropriate strategies aimed at a lower income context.)

(4)

- 1.2.5
- Both the SA city model and Third World city model account for urban development and land use in a **developing context**.
 - Both models **typically reflect inequality** with sharp distinctions in the living conditions and life styles of different groups of people – as represented by Diepsloot and Steyn City.
 - Both models suggest **lower income groups live further away from the city**, which is true in the case of Diepsloot, although Steyn City being a new urban development is an exception to this.

(Reference to both urban models is necessary. Analysis of the models in relation to Steyn City and Diepsloot is required.)

(4)

[44]1.3 **Drainage Systems and Catchment Management in Diepsloot**

- 1.3.1 Non-perennial drainage system.

(2)

- 1.3.2 A trellis drainage pattern is dependent on both the relief and geology of the area.

Geology: alternative bands of hard and soft rock.

Relief: parallel ranges of fold mountains.

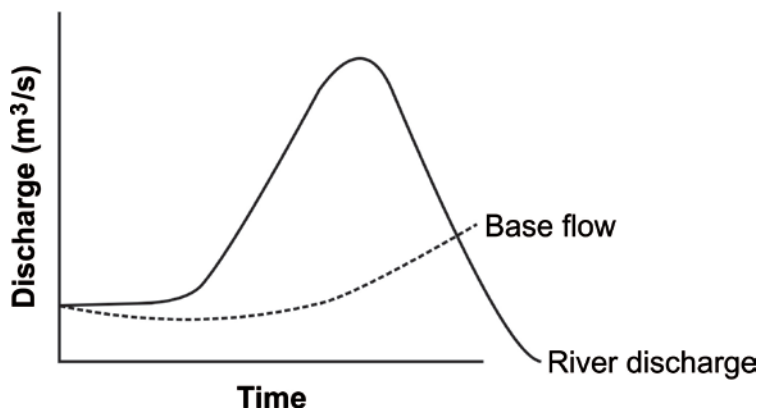
(4)

- 1.3.3 TWO ways in which humans have interfered:

- Waste dumping into river channel.
- Concrete roads and footpaths being built on the seasonal river channel.
- Damage to natural wetlands.

(4)

- 1.3.4



(4)

1.3.5 THREE reasons:

- Housing developed along the banks/ flood plain of the river channel.
- River is non-perennial, many homes have been built within the dry river course which are very vulnerable in summer months.
- Housing is substandard, making it more vulnerable to damages/ being washed away.
- River channels are highly disturbed, meaning that during heavy rains water will not remain within channel.
- Natural wetlands are disturbed/ damaged impacting upon the natural function of a wetland to absorb additional water during the rainy season.

(Any 3 appropriate points.)

(6)
[20]

1.4 Urban Climates

1.4.1 Urban heat island

(2)

1.4.2 City areas are built up consisting of roof tops, concrete pavements, and dark road surfaces. These **artificial surfaces absorb heat and also reflect heat back into the air**. **Pollution** from transport and industry also produce and trap heat. This leads to **inner city areas experiencing higher temperatures in comparison to the outlying suburban areas**. This is known as the urban heat island.

(4)

1.4.3 Sketch could include:

- Evidence of more trees (evidence of carbon sink areas)/ parks/ green 'lungs'.
- Greenbelts/ parks.
- Evidence of roof top gardens on sky scrapers.
- Use of bicycles/ electric cars/ pedestrians.
- Filter systems on chimneys.
- Use of more natural building materials that reflect less heat.
- Water features.
- 'Clean'/ 'green' energy sources.

(Any 3 appropriate strategies aimed at heat and pollution reduction.)

(6)
[12]

100 marks

SECTION B CLIMATE AND WEATHER, AND GEOMORPHOLOGY**QUESTION 2****2.1 Climate and Weather – Synoptic Weather Maps**

- 2.1.1 B (2)
 2.1.2 C (2)
 2.1.3 A (2)
 2.1.4 C (2)
 2.1.5 D (2)
[10]

2.2 Cape Town's Cold, Wet Winter Weather

- 2.2.1 Flooding: damage to homes and properties.
 Heavy rain/ floods: road damage/ road closure/ increase in accidents.
 Snow: closure of cable car – impact upon tourism and the economy, possible damage to crops in the Worcester/ Ceres area. (6)
- 2.2.2 Residents of the Cape Flats have been severely impact upon by the poor weather for the following reasons:
 • Many people live in informal/ sub-standard housing which provides little protection and is vulnerable to damage.
 • Low lying area.
 • More vulnerable. (4)
- 2.2.3 The synoptic chart illustrates that Cape Town is **cold with an air temperature of 15 °C** and a dew point of 10 °C. The dew point and air temperature are close, indicative of a high chance of rain. Cape Town is also overcast. The chart shows a family of MLCs over the south western part of the country. A **large cold front system is about to hit Cape Town** which will bring **rain and possibly snow**. The **news article the following day speaks of the heavy rain, cold temperatures and snow** which are associated with the arrival of the cold front.
 (Response must show a clear link between the synoptic chart and news article.) (6)
[16]

2.3 Climate terminology

- 2.3.1 C
 2.3.2 H
 2.3.3 A
 2.3.4 G
 2.3.5 L
 2.3.6 J
 2.3.7 K
 2.3.8 E
 2.3.9 D
 2.3.10 B

[20]

2.4 Limpopo Drainage Basin

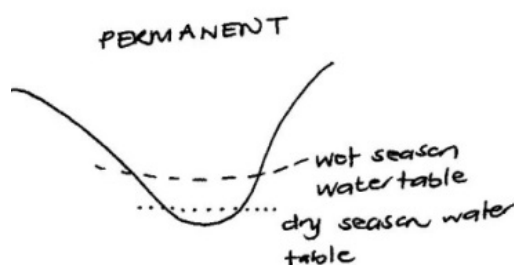
2.4.1 A low-medium drainage density is reflected by the extensive and fine network of streams. (2)

2.4.2 (a) **Ground water:** is the **water** found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves slowly through geologic formations of soil, sand and rocks. (2)

(b) **Watershed:** high lying ground, normally a mountain range, separating one drainage basin from another. (2)

2.4.3 Botswana, Zimbabwe, Mozambique. (6)

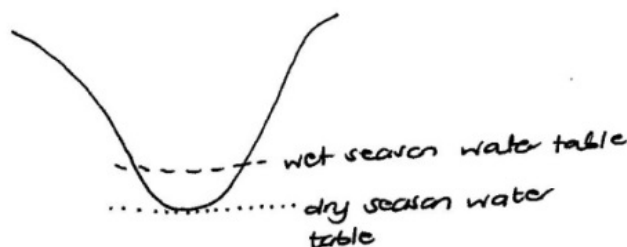
2.4.4



(1) mark for sketch

(1) mark each for correct placement of water tables (2)

PERIODIC



(2 × 3 = 6)

2.4.5 Limpopo is a hot province and can be very dry in the winter months.

Ground water will be useful in dry months.

Ground water, due to its nature of being stored underground, is normally cleaner – useful for watering animals in dry months, and also for use in rural households or farmsteads.

Wells.

Drinking.

Agriculture.

(Any 2 appropriate reasons.)

(4)

2.4.6 Lower course stage of the Limpopo River:

- Large, wide flood plain.
- Meandering channel.
- Wide channel.
- Flat gradient.
- Yazoo stream.

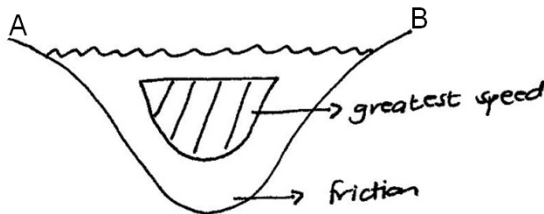
(Any 2 of the above.)

(4)

2.4.7 River feature at C = Confluence, or yazoo stream. (2)

2.4.8 Cross section diagram of river channel A – B. (2)

(a) 2 marks for the sketch. (2)

(b)  (2)

(c) Laminar flow. (2)

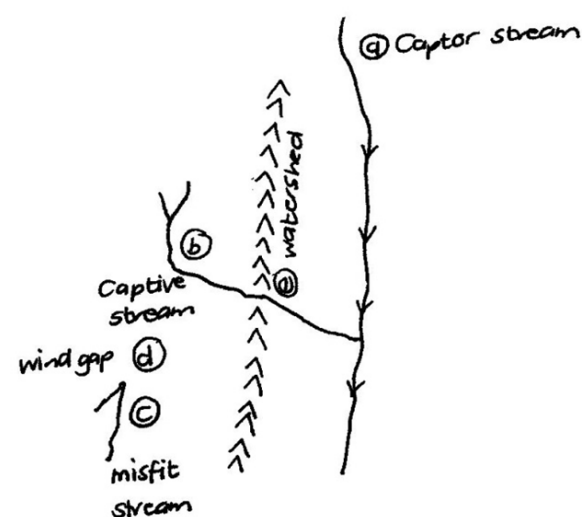
[34]

2.5 Abstraction and River Capture

2.5.1 Abstraction is when the **position** and the **gradient of the watershed are changed**, such that the gradient on either side of the watershed is the same. (2)

2.5.2 Abstraction will occur at point **B**. Figure 10 illustrates the watershed and has a **river flowing downstream which is capable of eroding back into the watershed, lowering it**. (4)

2.5.3 Stream piracy/ river capture. (2)

2.5.4 

Sketch accuracy and application to actual example = 2 marks.

Each correct label is worth 2 marks. (5 × 2 = 10)

(12)

[20]

100 marks

SECTION C RURAL AND URBAN SETTLEMENT AND ECONOMY OF SOUTH AFRICA

QUESTION 3

3.1 Terminology

3.1.1	secondary activities	B
3.1.2	GDP	E
3.1.3	tertiary activities	H
3.1.4	quaternary activities	K
3.1.5	break-of-bulk point	J
3.1.6	market-orientated industries	L
3.1.7	ubiquitous industry	C
3.1.8	agglomeration	D
3.1.9	food insecurity	G
3.1.10	SDI	A

[20]

3.2 Rural Settlement and Social Justice Issues

- 3.2.1
- in the countryside.
 - housing close together; in a linear manner.

(4)

- 3.2.2 Farming (primary activities)

(2)

- 3.2.3 THREE physical factors:

Located in a valley – protected from winds.

Fertile soils as there is a wide flood plain.

Flat land – easy to build and farm on.

A river runs through the area – close to a water source.

Foot of the hillslope – easier to build and access to roads.

(Any 3 site factors which are suitable.)

(6)

- 3.2.4 Social justice issues

- (a) Describe communal land tenure.

Communal land tenure is a land tenure where the whole community has the right to own and use a piece of land. This kind of land ownership is common in tribal communities in Africa. It is a traditional ownership of land by the tribal community.

(2)

- (b)
- Could provide larger pieces of land for farming – small-scale farmers can generate an income.
 - Women and those who did not have access to land previously may receive land for farming; the conditions under which they live become more secure.
 - With more income, primary health care can be more easily addressed as there is money to get to a clinic; food security means less starvation and malnutrition.

(Accept any 2 explanations.)

(4)

3.2.5 THREE reasons why the area has experienced rural decline:

- **Decline in population numbers:** both farmers who offer employment in some cases and farm workers, who have had to seek employment elsewhere (out of the valley).
- **Unemployment** has increased as a result of shops closing; farms becoming abandoned or bought for redistribution purposes.
- **Services decline** and as the community is small become ineffective.
- **Tertiary activities** close – shops and the need for a post office becomes less so an agency will run from one or other shop.
- **Less income generated in the area** – threshold population of many functions declines and so a general shut down of services and other functions.

(Any 3 suitable suggestions.)

(6)

[24]

3.3 The Informal Sector

3.3.1 ONE area in which each of the activities will be found:

Photograph 4 – taxi rank – usually in the centre of town (CBD) as this is where work is for most users. The rank may also service as a junction point to move out into the suburbs.

Photograph 5 – on the street pavements – also centralised as it is quite specialised and reliant on the daily foot traffic; could be close to taxi rank.

(4)

3.3.2 ONE reason why an important service:

- Public transport is offered. Most cities do not have a good public transport system. Taxi's operate everywhere – from residential areas to town and back.
- Muti trade offers urbanised people a chance of purchasing medicine and traditional materials – which would not be sold in a shop.

(4)

3.3.3

Aspects of informal trading	Photograph 5/ Muti
Low or high order functions	Relatively high-order function Won't find in every town – only large cities
Sphere of influence	Large – people will come from all over the city to buy the medicine
Threshold population	Small

(3 × 2 = 6)

3.3.4 ONE strategy. Refer to **either** Photograph 4 **or** Photograph 5.

Taxi industry – more regulated; make sure drivers are 'safe' drivers.

Registration is important; must belong to a taxi association; make sure the taxis are roadworthy and also fine for overloading.

Muti trade – provide proper trading space for informal traders – off the street.

Make sure all are registered; set aside an area for informal traders where they have cover; and some facilities – can lock up their goods and not have to sleep on the street.

(4)

[18]

3.4 Mining: A Case Study of Coal Mining in the Hluhluwe Area, KwaZulu-Natal

3.4.1 THREE reasons why coal mining is important:

- Contributes to the GDP.
- Export value.
- Major raw material for electricity generation.
- Taxes and revenue for the government.
- Employer of a large work force.
- Creates multiplier effect as so many manufacturing industries rely on a secure coal supply.

(Any 3 reasons.)

(6)

3.4.2 TWO reasons:

- Atmospheric pollution (sulphur-dioxide released, causing acid rain).
- Can lead to degradation of environment as shown in picture.
- Pollution of water sources – water less potable – problem of acid mine drainage.
- Destroys habitats/ ecosystems.

(4)

3.4.3 (a) This area protects the conservation area from being encroached on. Wildlife in the area is safe – from poaching and other such activities. The natural vegetation is protected which lessens the impact of soil erosion and infiltration of rainwater.

(2)

(b) TWO impacts of mining:

- Health aspects – high sulphur content – leads to respiratory problems.
- Access to health care may be limited – thus people suffer from ill health.
- Water pollution (acid mine drainage) – this will affect flora and fauna – decrease in tourism – less income in the area.
- Animals habitats affected, poaching will increase as boundaries are easy to transgress– food security threatened.

Must indicate whether they feel mining is justified.

(6)

[18]

3.5 Gauteng Industrial Region

Essay content knowledge – discuss the following:

Factors influencing the location of the GIDZ in the Gauteng industrial area

Abundant supply of raw materials – minerals, metals, water and good soils.

Excellent transport infrastructure in place – the flat, undulating terrain has made the development of transport routes easy.

Abundant labour supply – from the original homelands but also from the metropolitan areas, which are densely populated.

Competitive industry has led to the multiplier effect.

Market-orientated industries – both local, regional and international (OR Tambo International airport).

Agglomeration of industries – centralisation of industry led to a well-developed service industry in Gauteng. But also increases competitiveness and the likelihood of success.

Access to power supply, due to nearby coal-fired power stations in Mpumalanga.

Comment on the trend of developing specialised, light-industry precincts in Gauteng

Jewellery design industry – easy access to raw materials; provision of a training sector to produce the products for export.

The specialised nature means that the precinct has a captive market – there is no other precinct like this in the country.

The precinct is close to the airport therefore products are efficiently distributed to the international markets.

Light-industry suggests that these industries are not large polluting industries and therefore the environment would not be affected.

Factors which hinder the industrial sector in Gauteng

Agglomeration of heavy industry contributes to the large scale pollution in Gauteng.

This places pressure on resources such as water, space, and clean air.

Agglomeration leads to congestion – mainly in terms of traffic – thus distribution not always efficient.

Lack of a harbour.

Overconcentration of industry can lead to a decline in competitiveness.

Labour unrest is a large factor in industry as unions negotiate wage increases and improved working conditions – could affect the overall productivity in the industrial sector.

(Credit any geographically relevant points.)

(20)

[20]

100 marks

Total: 300 marks

Essay rubric for Question 3.5

CRITERIA	(LEVEL 3) EXCELLENT-GOOD	(LEVEL 2) SATISFACTORY	(LEVEL 1) POOR
<i>Writing skills</i> <ul style="list-style-type: none"> • Taking into consideration structure and presentation. • Use of brief introduction and conclusion. • Logical discussion and use of sub-headings. <p>(Recommending 5 marks allocated to this component.)</p>	<p>Suitable introduction and conclusion. Sophisticated, coherent and structured writing. Subheadings and paragraphs have been effectively used. Essay is concise, well-structured and succinct.</p> <p>(5 – 4 marks)</p>	<p>Introduction and conclusion present, although not ideal. Attempts to adhere to subheadings and use of paragraphs. Essay deviates from the point in places and lacks brevity.</p> <p>(3 – 2 marks)</p>	<p>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. Essay is repetitive. Bullet points may have been used.</p> <p>(1 mark)</p>
<i>Content knowledge</i> <ul style="list-style-type: none"> • Correct use of geographical terminology and concepts. • Adherence to topic and sub-headings. <p>(Recommending a minimum 50% of total marks be allocated here.)</p>	<p>Relevant content and detailed discussion of topic. Good usage of geographical terminology and concepts. Appropriate number of facts presented/ subheading. At least TWO factors have been discussed under each subheading</p> <p>(6 or more facts) (10 – 8 marks)</p>	<p>Some relevant content. An overview/ general discussion of key issues. Basic usage of geographical concepts and terminology. (50 – 60% of required facts presented/ sub-heading). At least ONE factor has been discussed under each subheading, with an additional TWO factors in two of the sections.</p> <p>(5 – 4 facts) (7 – 5 marks)</p>	<p>Digression from the topic. Weak grasp of concepts and terminology. Superficial/ poor discussion. Almost no relevant facts/ subheading.</p> <p>Only ONE factor has been outlined in each subheading or some of the sections have not been addressed, for example THREE factors are discussed under the one subheading and none in the other sections.</p> <p>(3 or less facts) (4 – 1 marks)</p>
<i>Supporting evidence – analysis and understanding</i> <ul style="list-style-type: none"> • 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. <p>(Recommending 5 marks allocated to this component.)</p>	<p>The candidate is able to argue and evaluate appropriately. There is strong evidence of accurate application of understanding and evidence provided. Essay demonstrates understanding and integration of relevant case study/ fact file/ source material in the context of the essay discussion.</p> <p>(5 – 4 marks)</p>	<p>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 sub-heading or context of discussion. Discussion lacks depth.</p> <p>(3 – 2 marks)</p>	<p>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.</p> <p>(1 mark)</p>