GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

PREPARATORY EXAMINATION

2020

10781

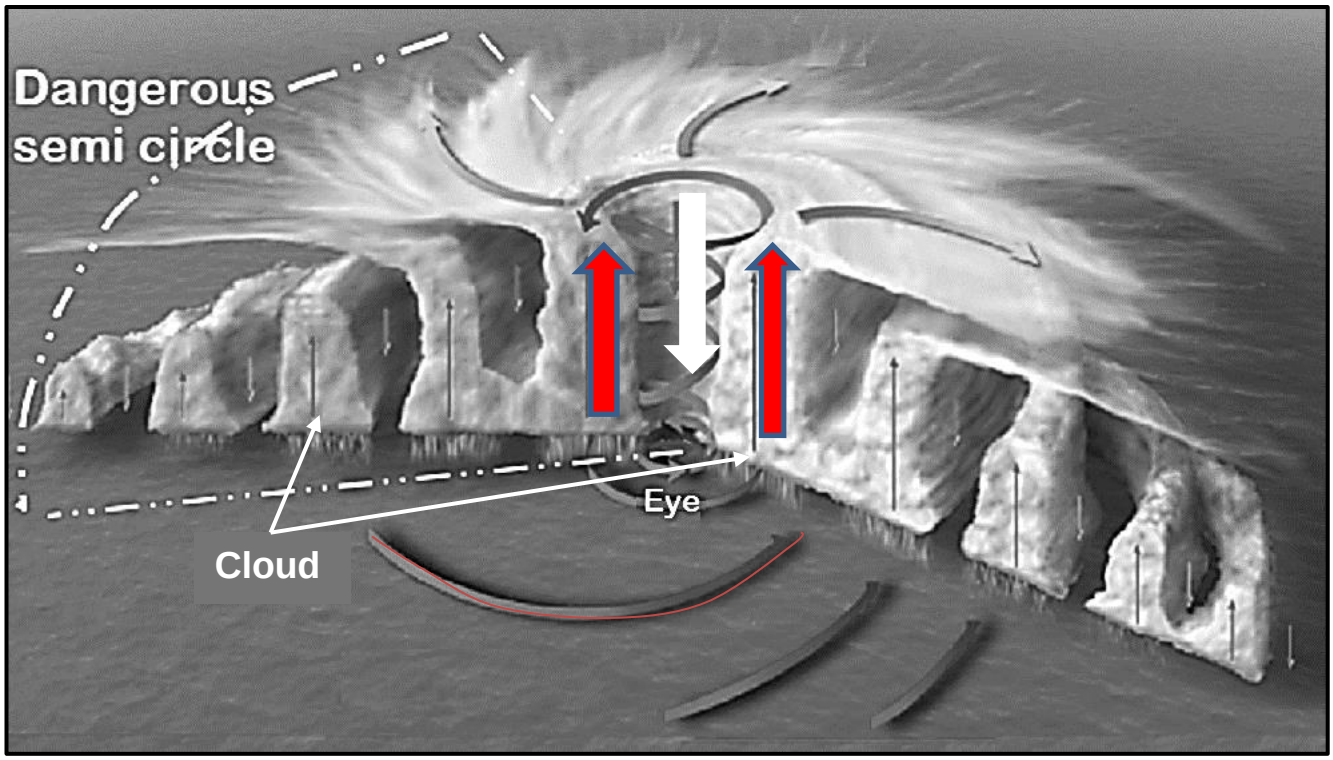
GEOGRAPHY

PAPER 1

ADDENDUM

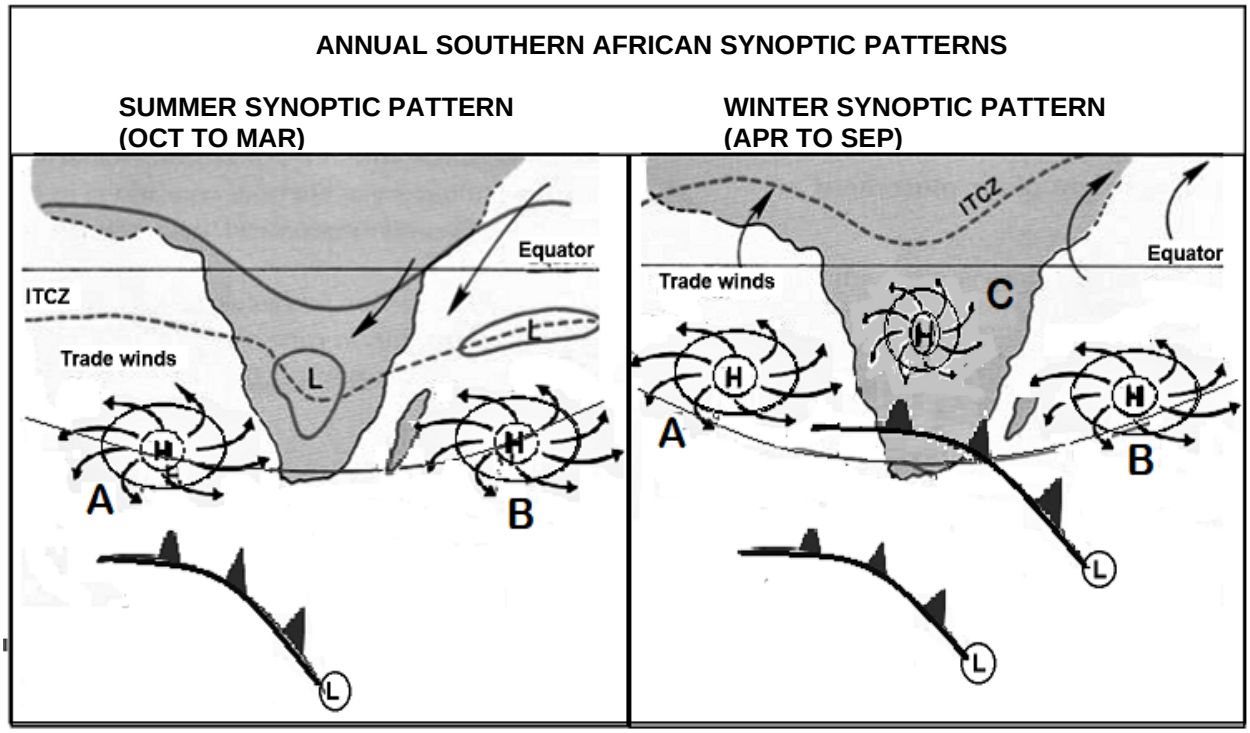
14 pages

FIGURE 1.1: TROPICAL CYCLONE



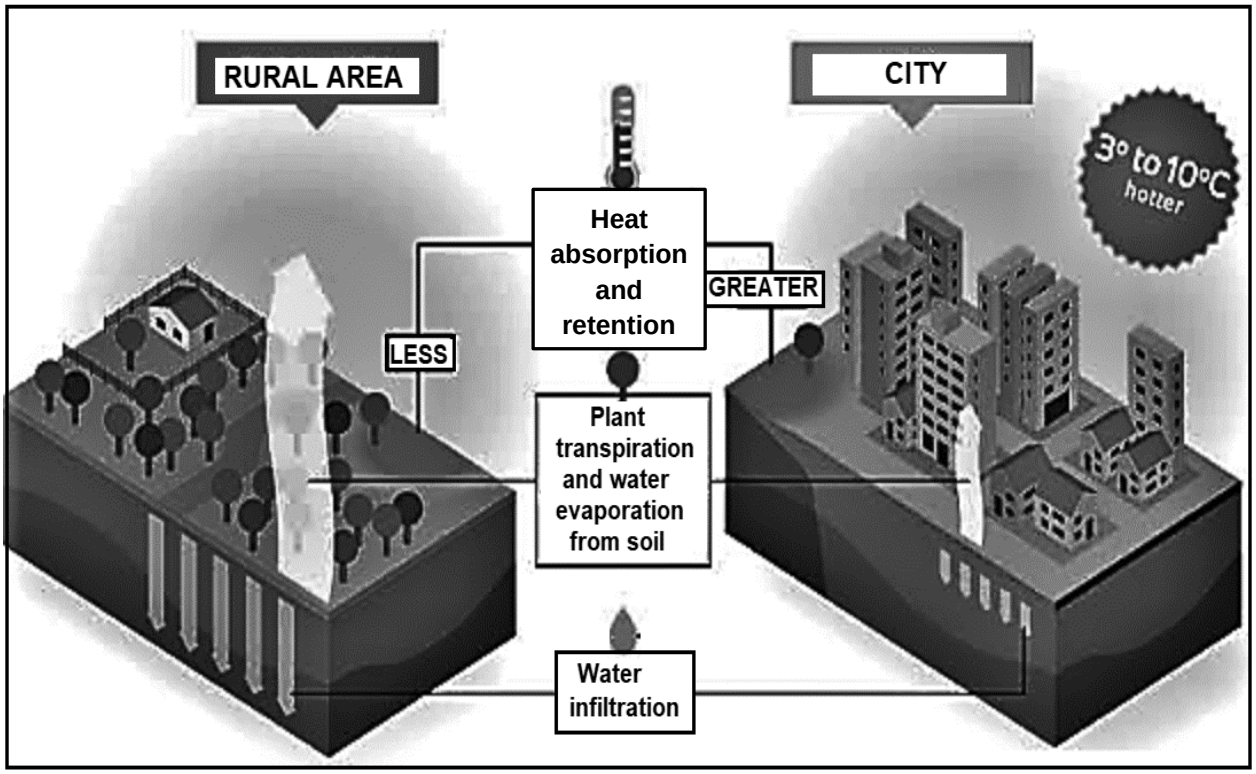
[Source: Adapted from https://magicseaweed.com/news/what-is-a-tropical-cyclone/11135/]

FIGURE 1.3: ANTI-CYCLONES



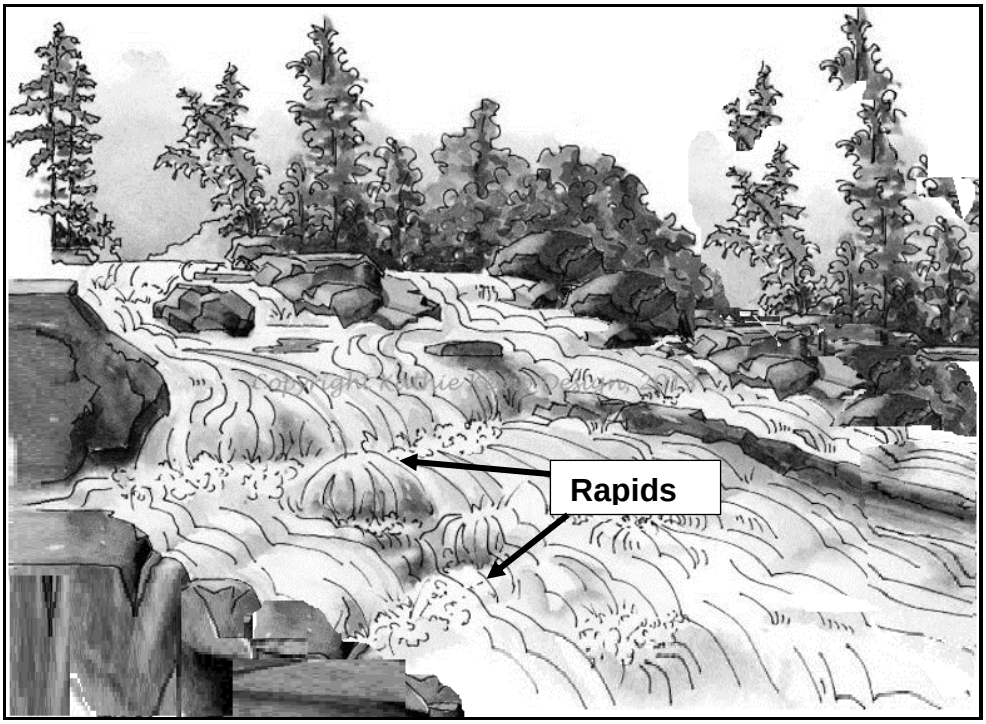
[Source: Adapted from www.scielo.org.za/pdf/wsa/v37n2/v37n2a03.pdf]

FIGURE 1.4: RURAL AND URBAN HEATING



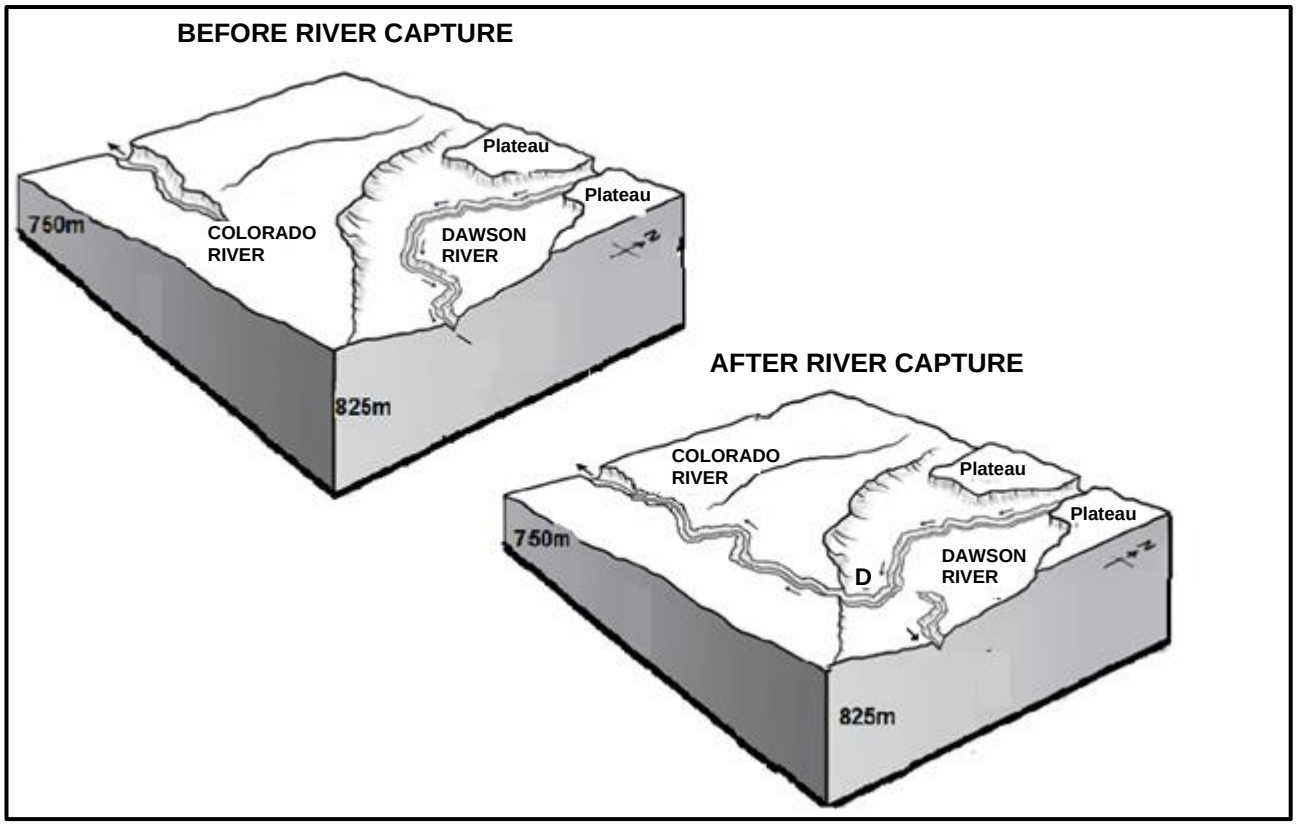
[Source: Adapted from https://land8.com/how-landscape-architecture-mitigates-the-urban-heat-island-effect/]

FIGURE 1.5: FLUVIAL FEATURE



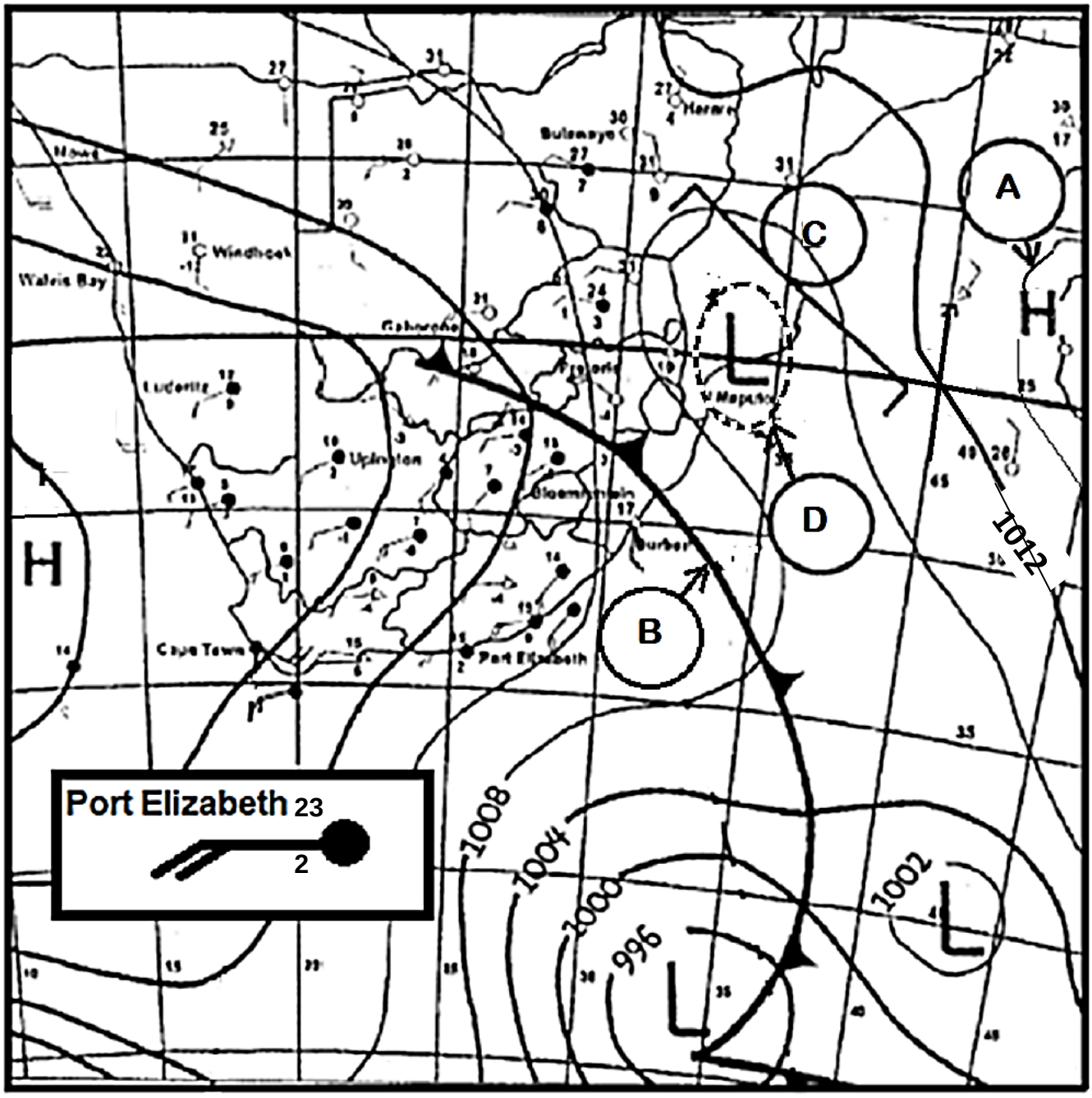
[Source: https://www.etsy.com/listing/174888960/]

FIGURE 1.6: RIVER CAPTURE



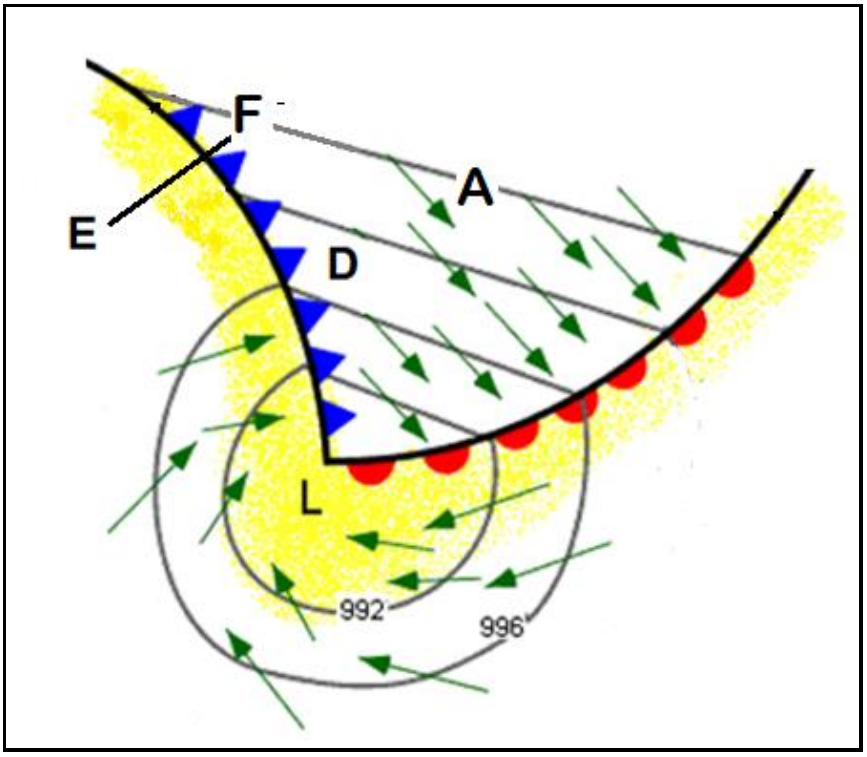
[Source: Adapted from https://answersingenesis.org/geology/grand-canyon-facts/when-and-how-did-the-grand-canyon form/]

FIGURE 2.1: SYNOPTIC WEATHER MAP



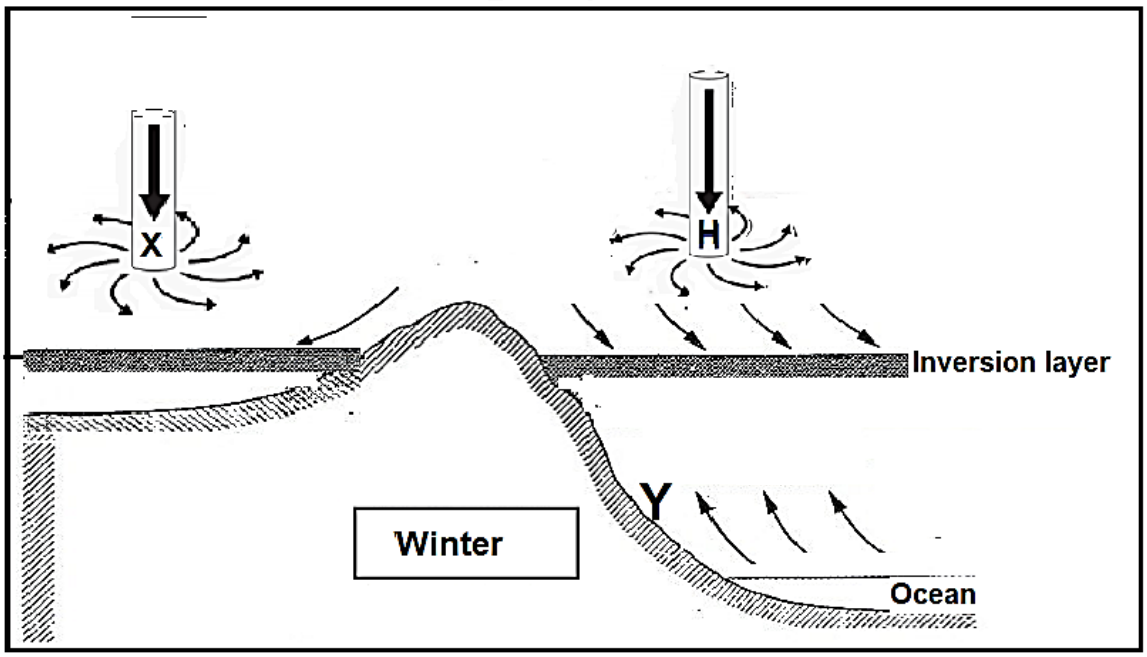
[Source: Adapted from South African Weather Service]

FIGURE 2.3: MID-LATITUDE CYCLONE



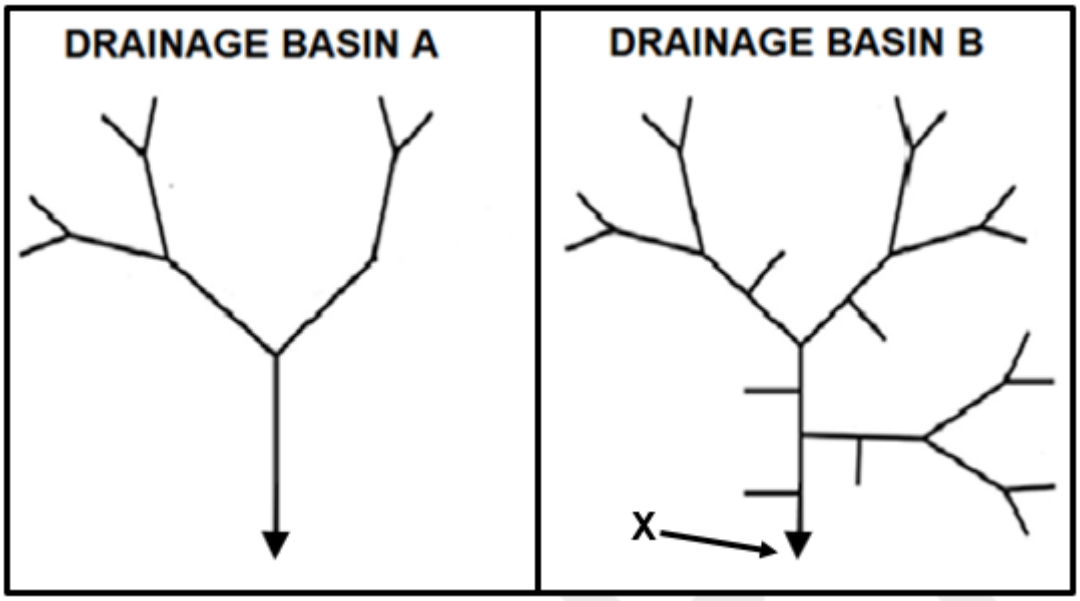
[Source: Adapted from https://researchspace.csir.co.za/dspace/bitstream]

FIGURE 2.4: WINTER CONDITIONS OVER SOUTH AFRICA



[Source: Adapted from https://researchspace.csir.co.za/dspace/bitstream]

FIGURE 2.5: DRAINAGE DENSITY



[Source: https://www.chijournal.org/C455]

FIGURE 2.6: CATCHMENT MANAGEMENT

VAAL RIVER CATCHMENT MANAGEMENT AGENCY

Government Notice: GN 81 in GG 39636 of 29 January 2016
Date of commencement: 29 January 2016

This notice establishes the Vaal River Catchment Management Agency in the Vaal Water Management Area.

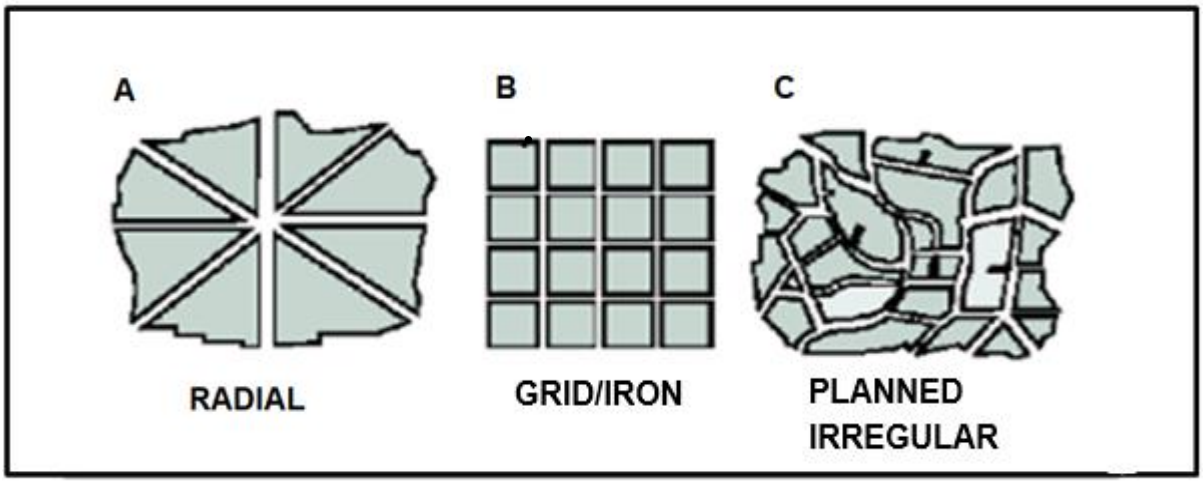
In terms of the National Water Act, a catchment management agency may be established for a specific water management area, after public consultation with the community and stakeholders concerned.

The duties of such a catchment management agency is to investigate and advise interested persons on the protection from various types of pollution, use, development, conservation, management and control of water resources and to promote community participation in the management and control of its water management area.

The major water uses in the water management area include industrial, mining sectors, power generation, agriculture, irrigation schemes, forestry, nature conservation and urban and rural human settlements.

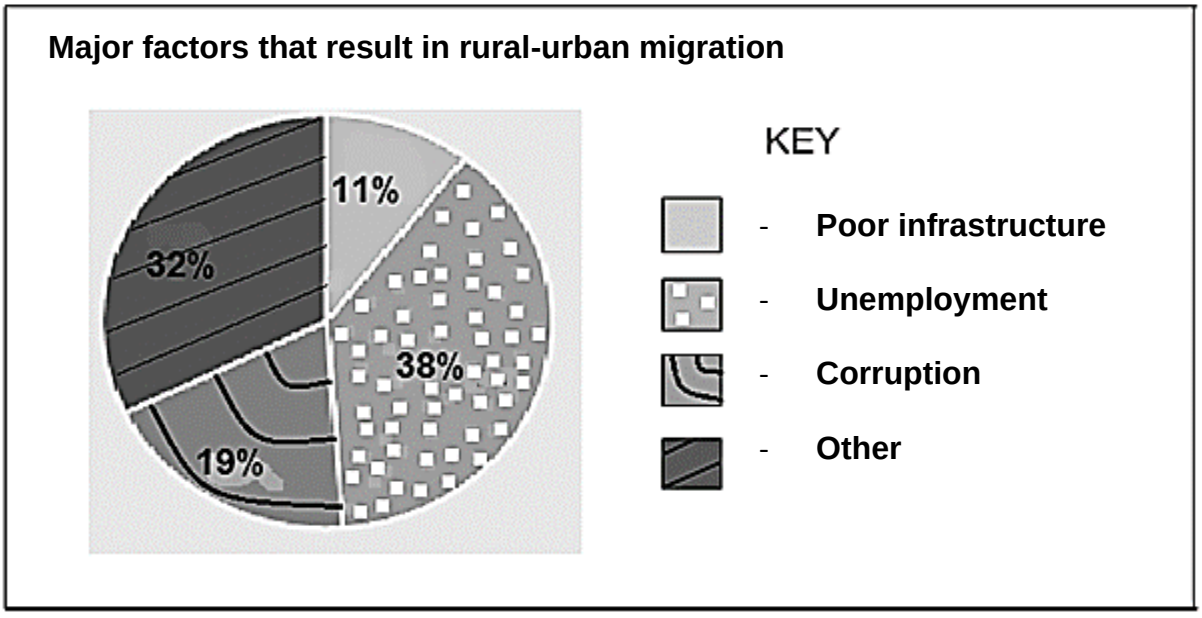
[http://www.shangoni.co.za/vaal-river-catchment-management-agency/]

FIGURE 3.1: STREET PATTERNS



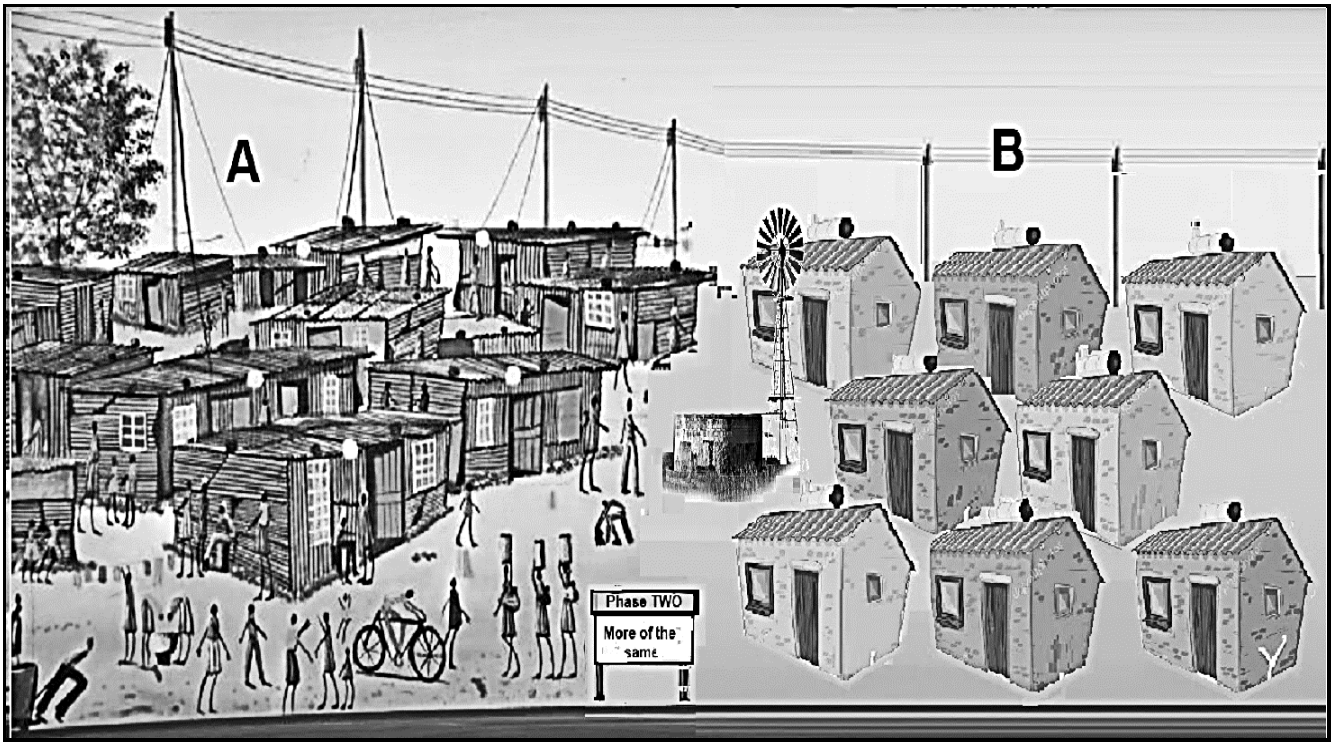
[Source: www.globalsecurity.org/military/library/policy/army/fm/3-06/chap2.htm]

FIGURE 3.3: RURAL-URBAN MIGRATION



[Adapted from:www.google.com/search?q=reasons+for+migration&safe Gram Vaani]

FIGURE 3.4: INFORMAL SETTLEMENT AND LOW COST HOUSING



[Source: Examiner's own sketch]

FIGURE 3.5: FOOD SECURITY AND HYDROPONIC FARMING

Hindering factors such as insufficient water, unreliable rainfall and droughts, less arable land due to bad farming methods, poor soil and soil erosion, have resulted in food insecurity. Because of unreliable food production, these factors gave birth to hydroponic farming.

Hydroponics is a method for growing crops without soil where water serves as the substrate for growing the plants. Although research projects to produce crops in a fertilizing solution (liquid) began as early as 1933, it was only fifty years later that this idea of cultivating crops directly in a solution with no soil, moved from research projects to modern farming applications.

Growing plants in a nutrient solution offers a number of advantages. Plant nutrients in fertilizers can be applied directly to the roots without the problems associated with the soil's composition. There is no need for heavy machinery to prepare beds for seeds or planting. Weeds and diseases can be controlled without spraying chemicals and no irrigation systems have to be installed for fertigation. Erosion of the soil by repeated cultivation is avoided. Hydroponics also cuts labour costs as fewer employees are needed. Utilization of the maximum cultivated area leads to a 40% increase in the yield produced.

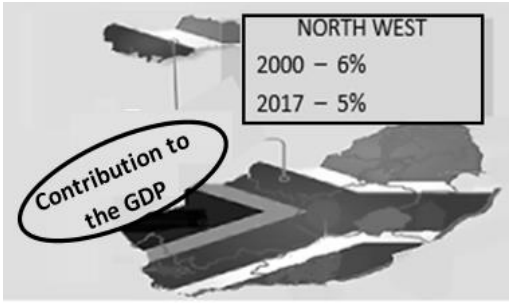
Among the system's disadvantages is the initial high investment required in the infrastructure, electricity outages that might disrupt the processes and the need for constant monitoring of the water source.

[Source Adapted from: https://www.google.com/search?safe=strict&rlz=hydroponic+farming
Shahar Tavor, Agronomist, Gatfertilizers May 15, 2016]

FIGURE 3.6: THE PLATINUM SDI

The Platinum Spatial Development Initiative (SDI) in the North West Province was initiated 20 years ago to address the spatial economic development challenges of the region. A revised commentary aimed to re-evaluate the development was conducted. As part of the effectiveness study, the following indicators were used to research why the Platinum SDI was not successful. The indicators for effectiveness are:

Effectiveness Index	2000	2017
% of the population with post-matric qualifications	10%	10%
% of the population who live below the food security border	8%	9%
% crime rate	22%	30%



The paper concluded that after more than a decade there was still little evidence that the Platinum SDI will in the near future be efficient. At present, the Platinum SDI has very little to offer. Success will require more effort by all concerned, and especially much more commitment from the relevant governmental structures.

[Adapted from: https://journals.co.za/content/jefs/4/1/EJC138473/https://www.alexanderforbes.co.za]

FIGURE 4.2: TYPES OF FARMING

SMALL SCALE FARMING

A



[Growing the Garden: How to Use by Ann Maslova]

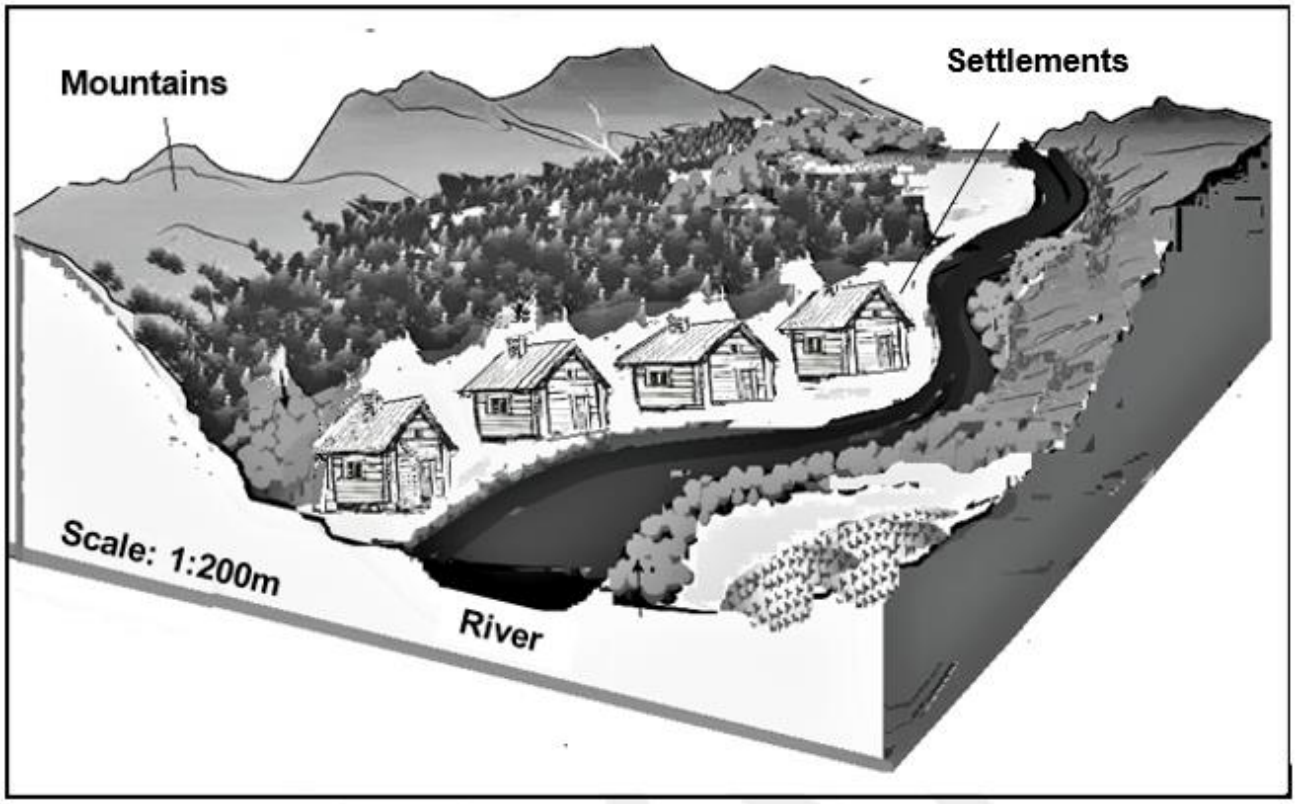
LARGE SCALE FARMING

B



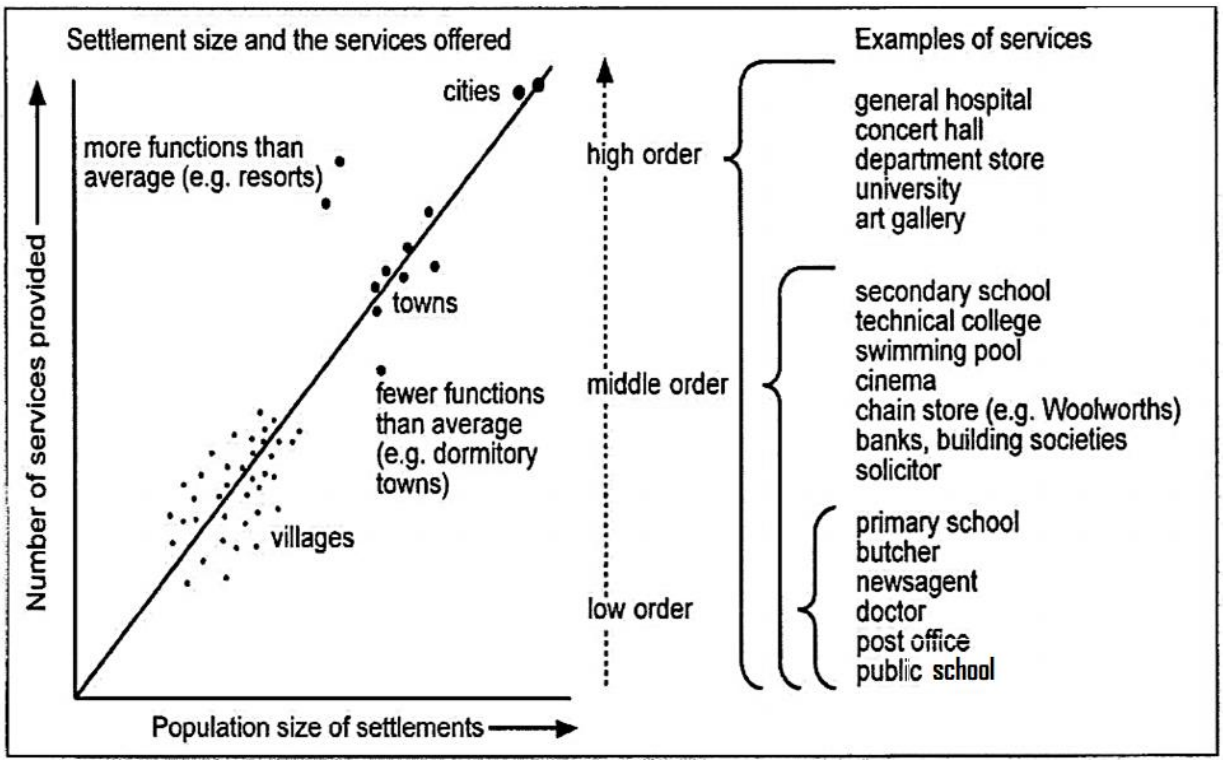
[https://www.large+scale+farming+animation&oq=large+scale+farming]

FIGURE 4.3: LOCATION OFSETTLEMENTS



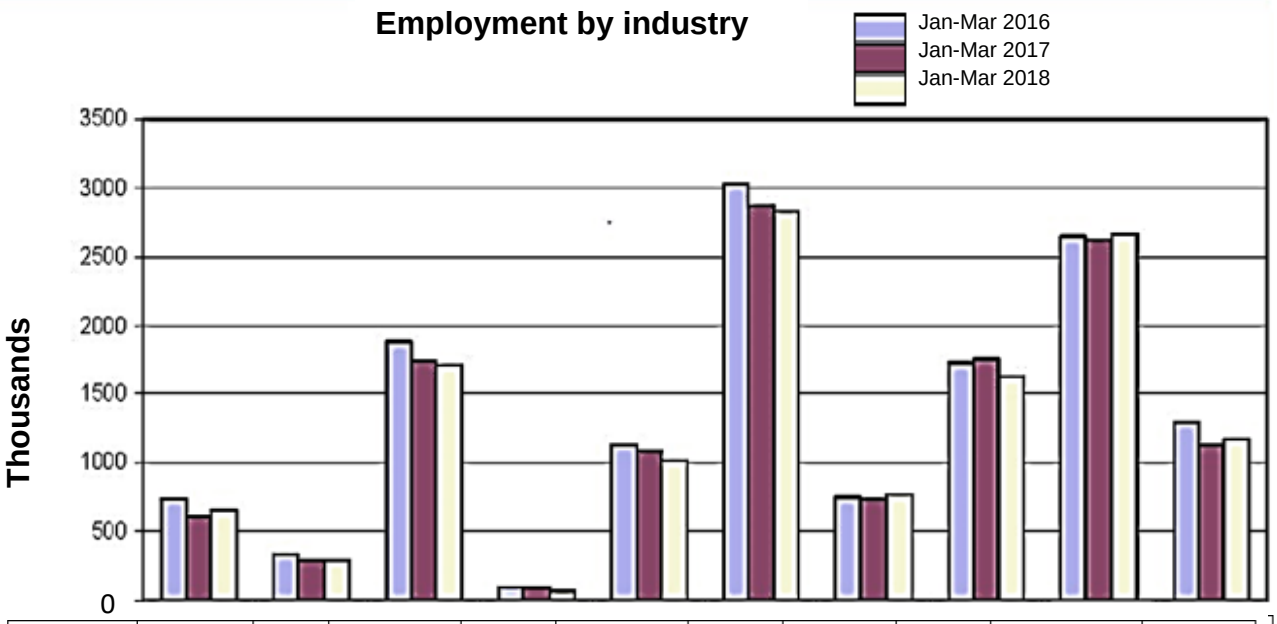
[Source: Examiner's own sketch]

FIGURE 4.4: GRAPH ON URBAN FUNCTIONS



[Adapted from: www.learnxtra high and low order services]

FIGURE 4.5: CONTRIBUTION OF ECONOMIC SECTORS TO EMPLOYMENT



	Agriculture	Mining	Manufacturing	Utilities	Construction	Trade	Transport	Finance	Community and social services	Private households
Jan-Mar 2016	738	333	1 982	100	1 126	3 021	757	1 725	2 651	1 299
Jan-Mar 2017	615	296	1 742	98	1 085	2 873	739	1 759	2 628	1 135
Jan-Mar 2018	650	296	1 709	70	1 021	2 825	767	1 633	2 657	1 169

[Source: Adapted from https://nicborain.wordpress.com/2010/05/05/ unemployment-growth-is-a-deep-systemic-threat]

FIGURE 4.6: PWV INDUSTRIAL ZONE

THIS IS HOW ESKOM THROTTLES THE ECONOMY IN THE PWV REGION.

Reserve Bank analysis shows the effect of load-shedding on economic growth, particularly on the manufacturing industry.

Smaller businesses can counter the effects of load-shedding for a few hours by using standby generators – at a cost – but large enterprises such as ISCOR/Mittal Steel, simply cannot operate without steady and adequate power.

The ongoing problems at Eskom have had such a huge effect that it urged the Reserve Bank to look into it closely, with an analysis showing that electricity disruptions during the three months to the end of March were the worst ever.

It listed various other factors that probably impacted economic growth, such as a number of long labour strikes, maintenance and weak domestic and global demand, as well as political uncertainty, which affected business and consumer confidence.

Since the beginning of the fourth industrial revolution[1], there seems to be an uncanny correlation between load-shedding and a declining economy.

The results show that as the intensity of load-shedding increases, South Africa's real GDP growth decreased by a statistically significant 0,06%.

In short, the report proves what everybody already knows – businesses cannot operate without electricity and without operating businesses, the economy cannot grow.

Solving Eskom's problems will solve a lot of other problems too.

[1]Fourth industrial revolution: A technological revolution where one or more technologies is replaced by another technology over a short period of time e.g. artificial intelligence such as self-driven cars, drones and robotics.

[Adapted from:https://www.moneyweb.co.za/news/companies-and-deals/this-is-how-eskom-throttles-the-economy]

END