KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

ANNEXURE

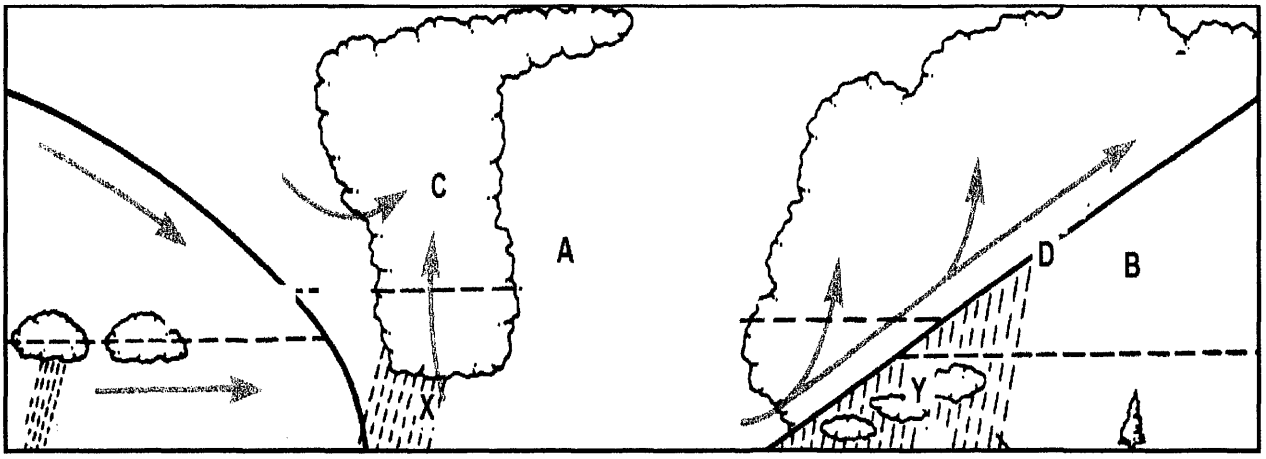
SEPTEMBER 2021

PREPARATORY EXAMINATION

This Annexure consists of 7 pages.

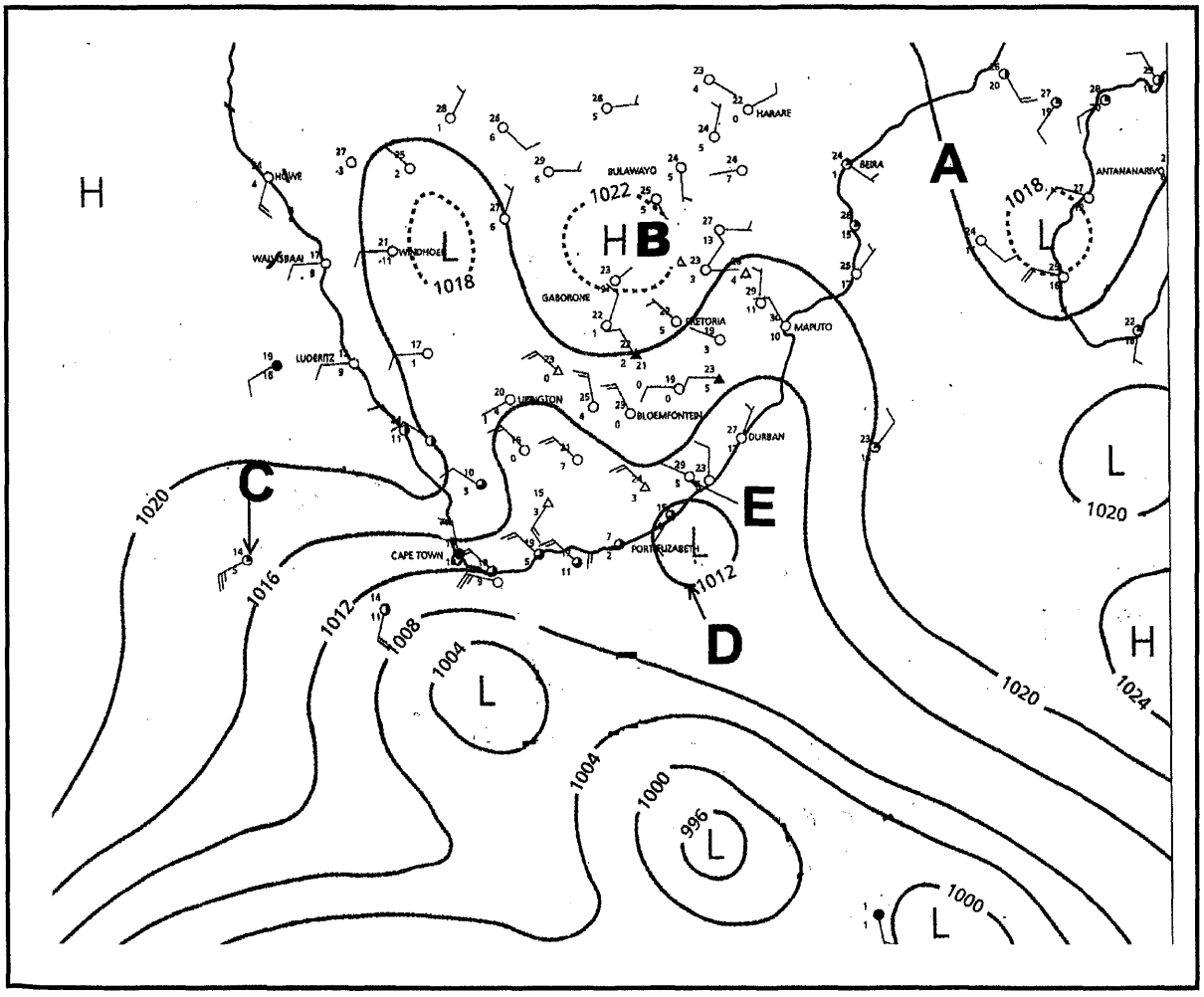
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FIGURE: 1.1 CROSS SECTION OF A MID-LATITUDE CYCLONE



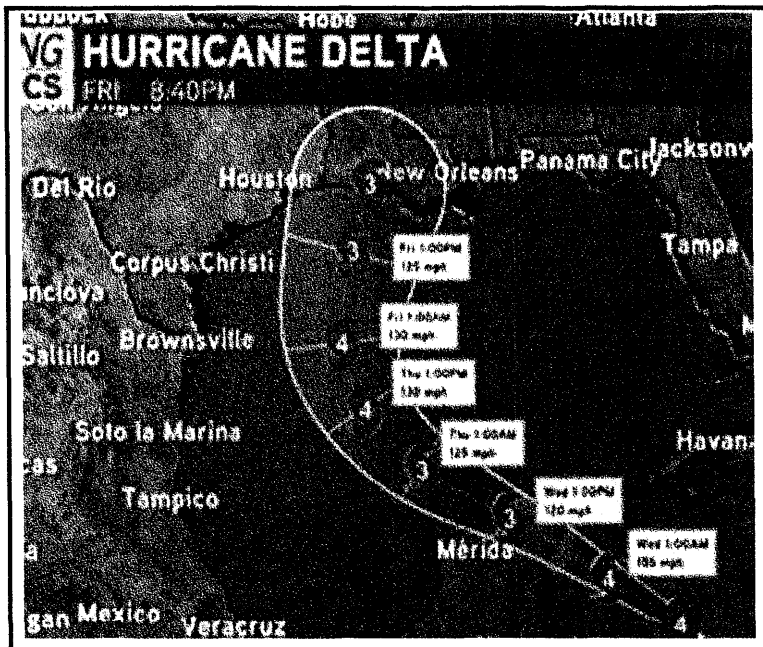
[Source: Adapted from South African Weather Patterns]

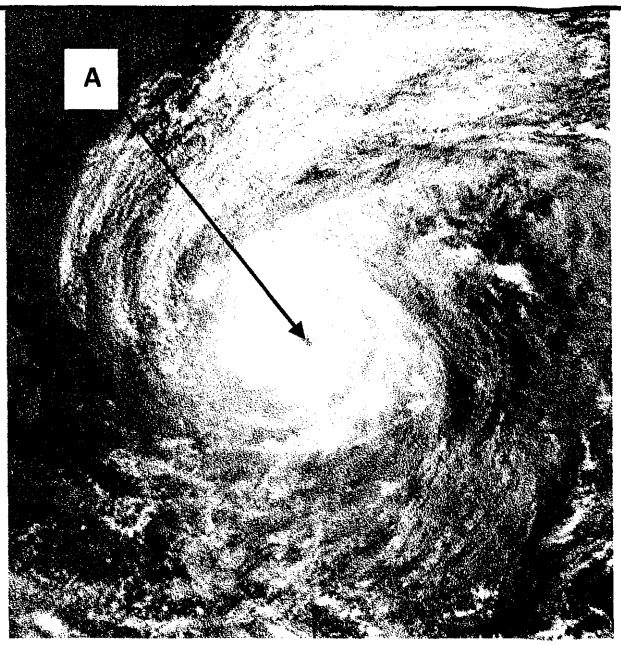
FIGURE 1.2 SYNOPTIC WEATHER MAP



[Source: Adapted from South African Weather Services]

FIGURE 1.3: HURRICANE DELTA





Hurricane Delta nearing its secondary peak intensity east of Texas on October 8

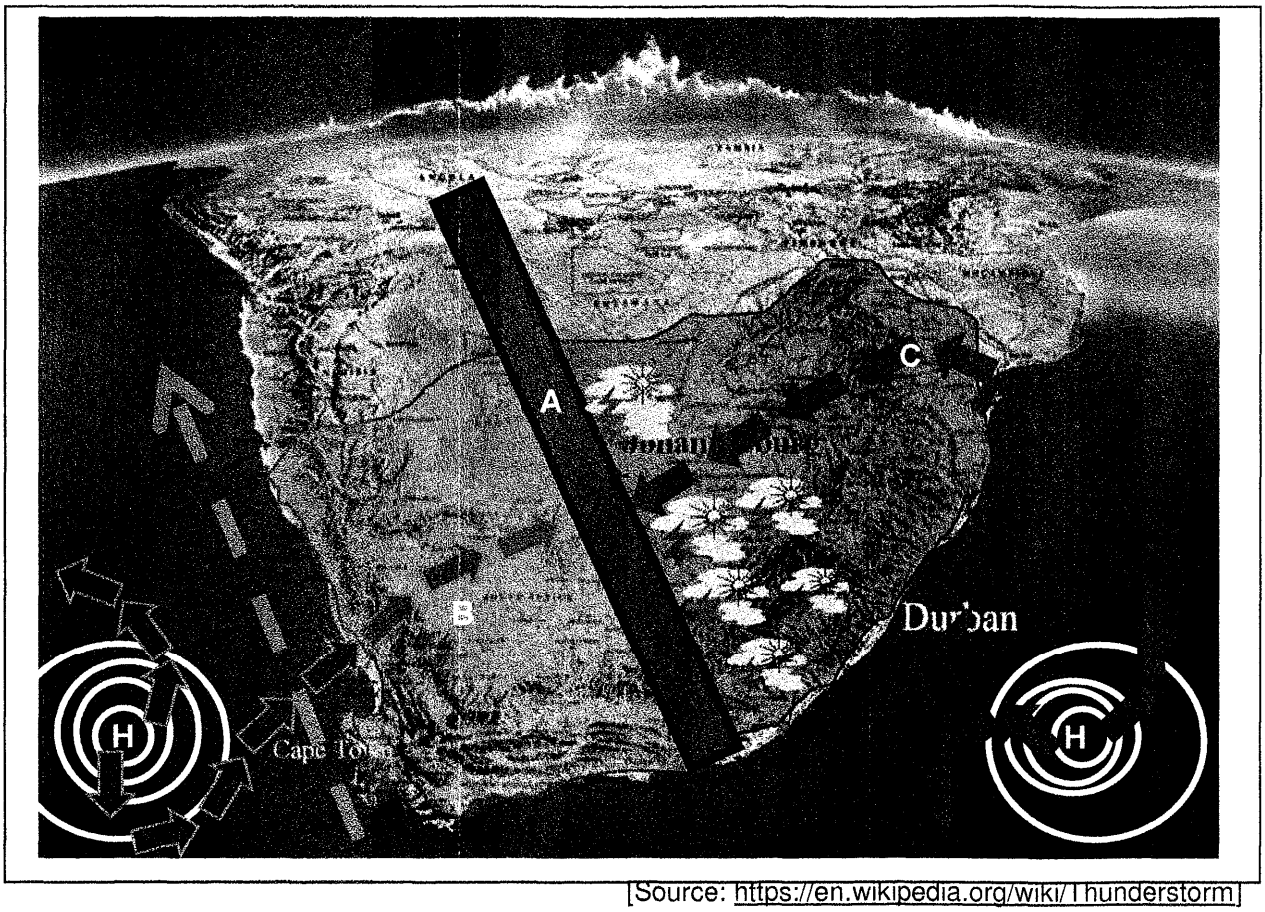
Formed	October 5, 2020
Dissipated	October 12, 2020
Highest winds	230 km/h
Lowest pressure	953 mbar (hPa)
Fatalities	6 total
Damage	$3.09 billion (2020 USD)

Hurricane Delta was the record-tying fourth named storm of 2020 to strike Louisiana. Delta formed from a tropical wave. The next day, the system was sufficiently organized to be designated as Tropical Depression and soon thereafter, Tropical Storm Delta. Extreme rapid intensification ensued throughout October 5 into October 6, with Delta becoming a Category 4 hurricane within 28 hours of attaining tropical storm status. The storm quickly weakened before making landfall in Puerto Morelos, Mexico, as a high-end Category 2 hurricane with winds of 175 km/h. States of emergency were declared in the U.S. states of Louisiana, Mississippi, and Alabama and several coastal and low-lying areas were ordered to evacuate. In Mexico, trees and power lines were blown down, and roofs were ripped off homes and other buildings. Louisiana and Southeast Texas were hit by heavy rain, high winds, and storm surge. Delta then began to turn more north-northeastward into an area of cooler waters, higher wind shear, and dry air, causing it to weaken back to Category 2 status. Delta then made landfall at 23:00 UTC near Creole, Louisiana with winds of 155 km/h and a pressure of 970 mb. The storm began to weaken more rapidly after landfall, becoming tropical low just 22 hours later.

[Source: Adapted https://www.usgs.gov/special-topic/hurricane-delta]

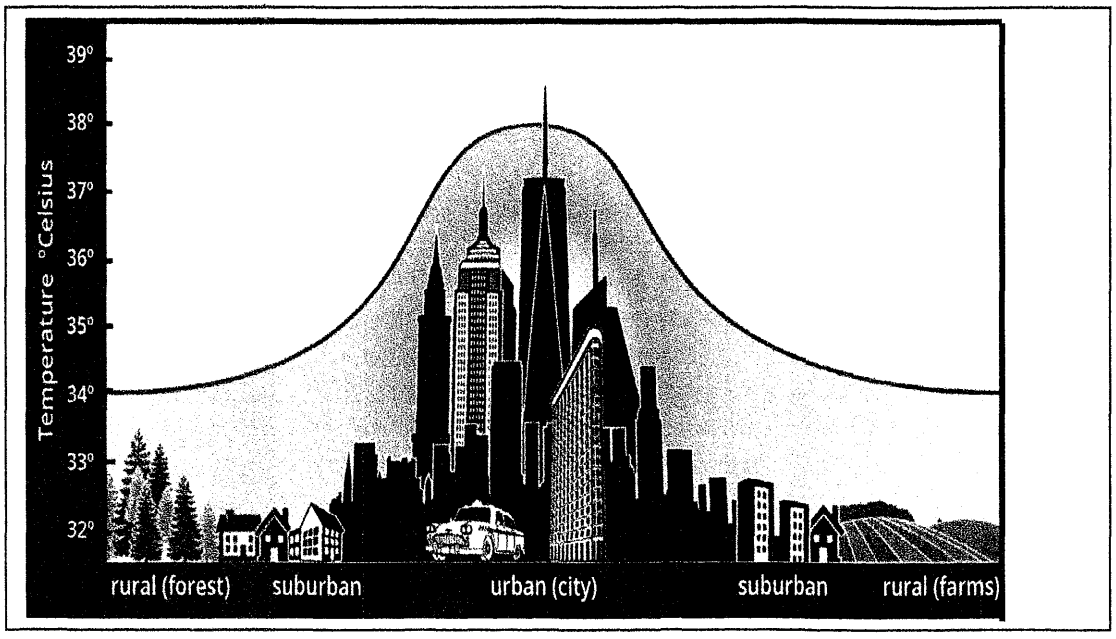
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FIGURE: 1.4 LINE THUNDERSTORMS



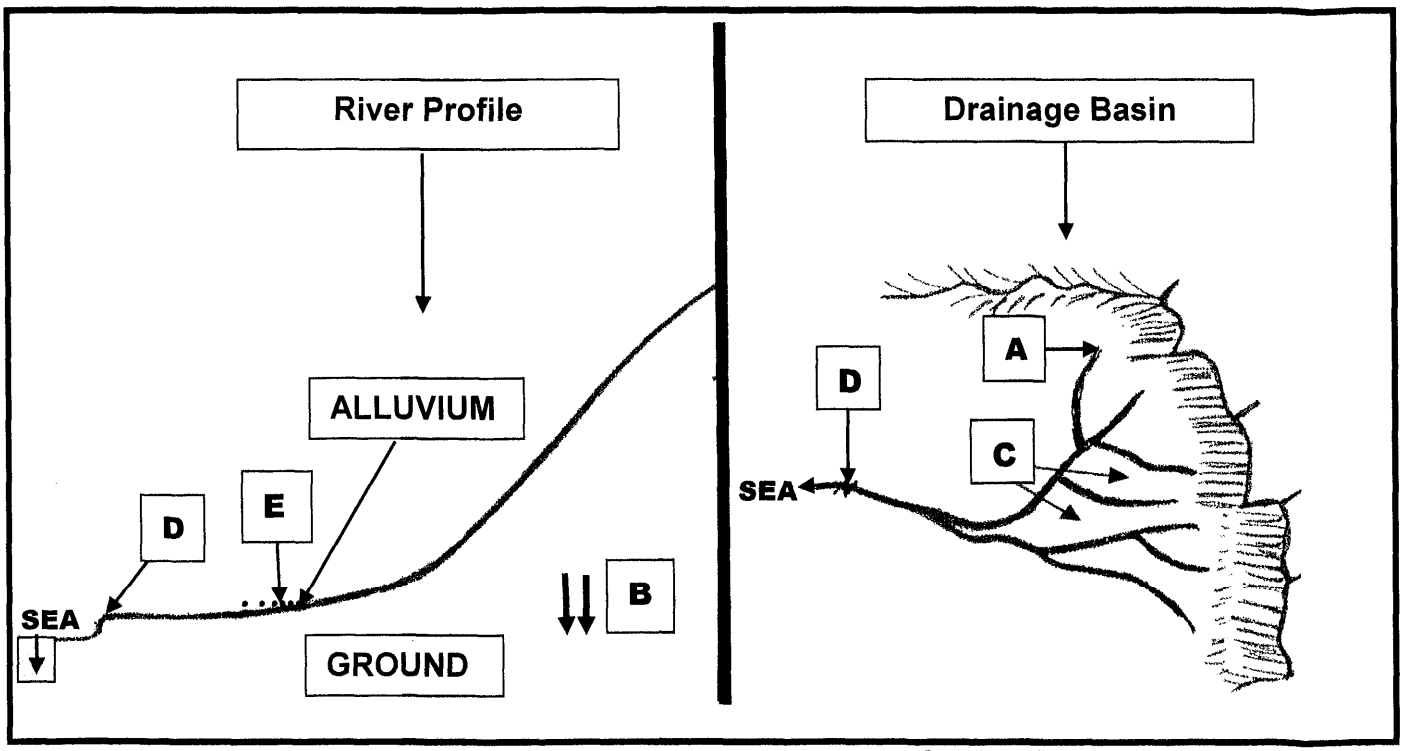
[Source: https://en.wikipedia.org/wiki/Thunderstorm]

FIGURE 1.5: URBAN HEAT ISLAND



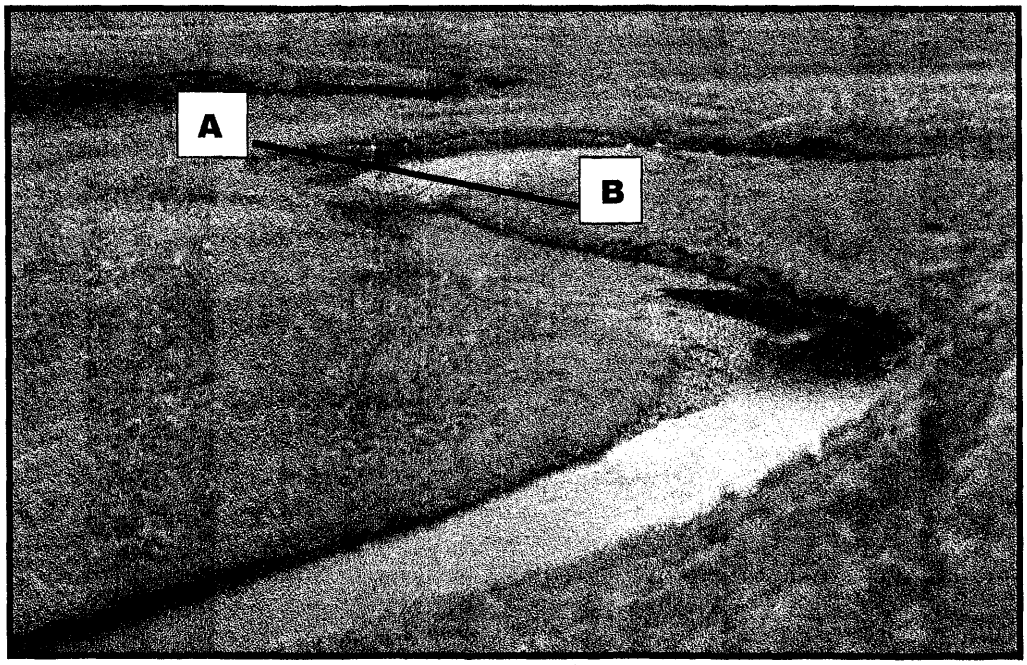
[Source: https://www.bing.com/images/search]

FIGURE 2.1: DRAINAGE BASIN AND ITS PROFILE



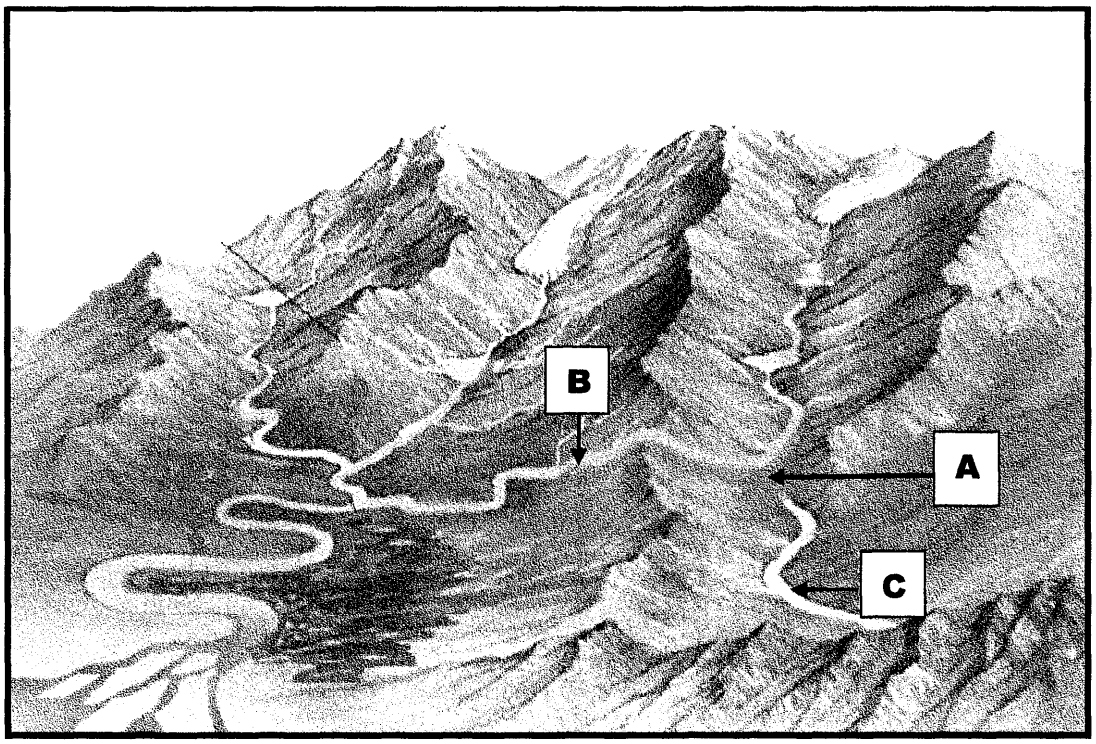
Source: [Examiners own sketch]

FIGURE 2.3: COURSE OF A RIVER



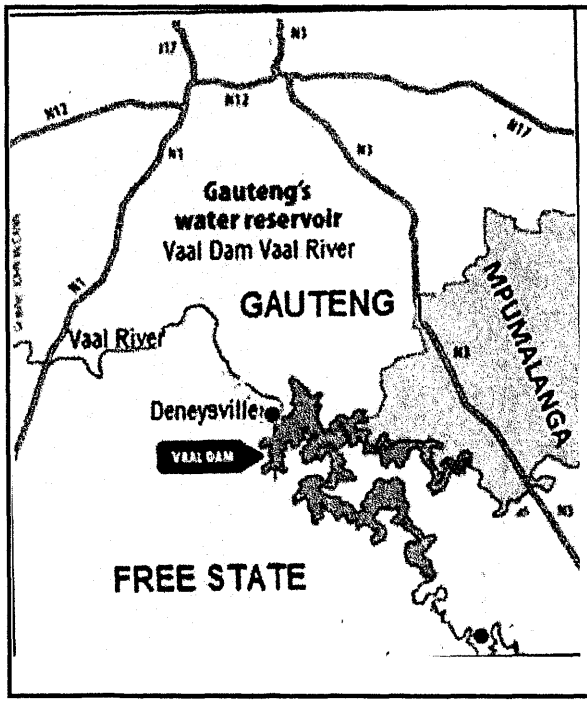
Source: https://upload.wikimedia.org/wikimedia/commons/5/15/meander

FIGURE 2.4: RIVER CAPTURE



Source: http://www.bing.com/images/seaarch?q=River + Piracy

FIGURE 2.5: HUMAN IMPACT ON THE VAAL RIVER



CASE STUDY:
Vaal River pollution is beyond acceptable levels

By Timeshare: 17 February 2021

Kilometres of untreated sewage entering the river because of dysfunctional wastewater treatment plants which have been unable to process sewage and other wastewater products. The Department of Water and Sanitation (DWS) has allocated 120 million to refurbish the treatment plant. Water from the Lesotho Highlands has been badly contaminated by the raw sewage spills. One of the consequences of pollution is on the natural ecosystem that directly depends on the water. Evidence provided and accepted regarding the decrease in tourism and recreational activities on the river is due to the severity of the pollution in the Vaal River.

[Adapted from www.fse.org.za]

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FIGURE 3

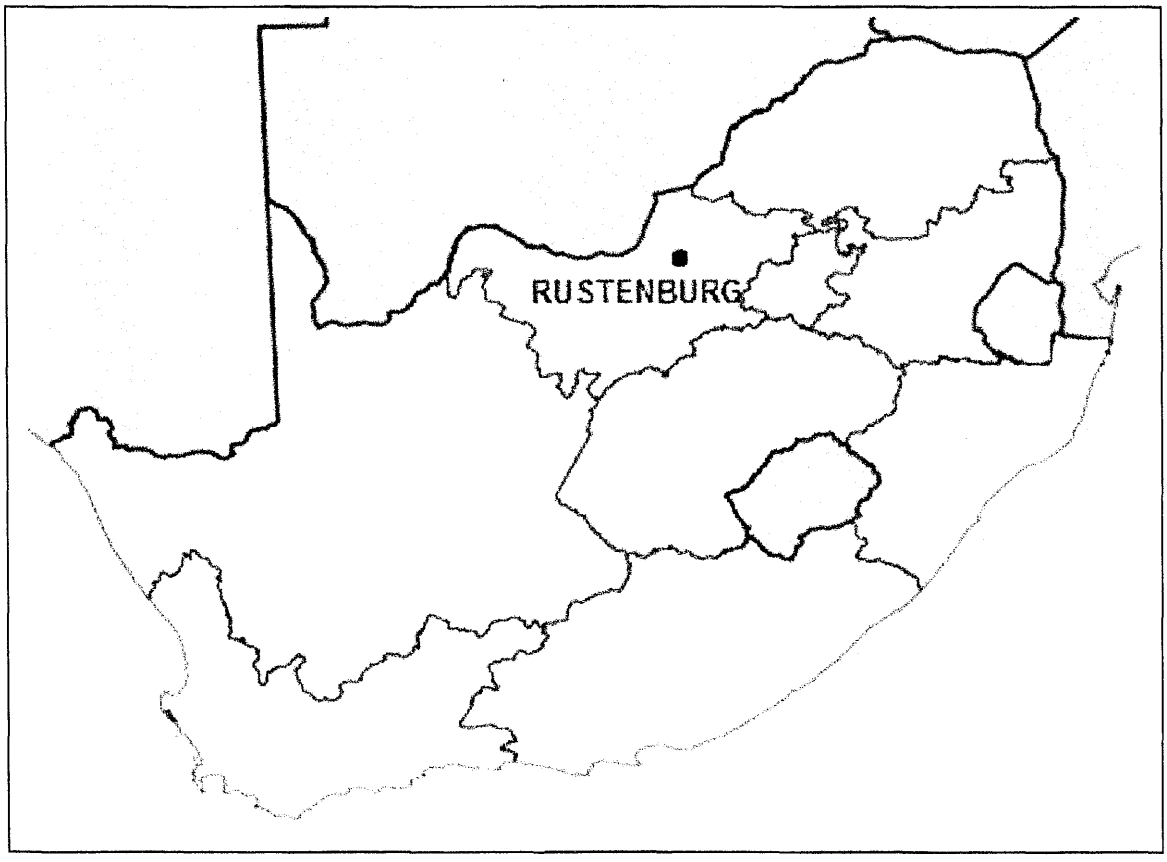
GENERAL INFORMATION OF RUSTENBURG

Rustenburg was established in 1851 as a central place town to support a fertile farming area producing citrus fruit, tobacco, peanuts, sunflower seeds, maize, wheat and cattle. The area became a primary agricultural region with vast citrus estates due to the favourable climate.

Rustenburg is home to the two largest platinum mines in the world and the world's largest platinum refinery, which processes around 70% of the world's platinum.

Lately, the vast citrus estates in the region have been in constant decline due to pollution from increased smelting and beneficiating processes by the mines.
(Beneficiation is when value is added to the raw materials.)

Rustenburg has a temperate climate, it has very warm summers and mild winters. Due to the altitude, summers are not quite as hot as one might expect. Precipitation occurs mainly in summer.



[Source: http://en.wikipedia.org/wiki/rustenburg]

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