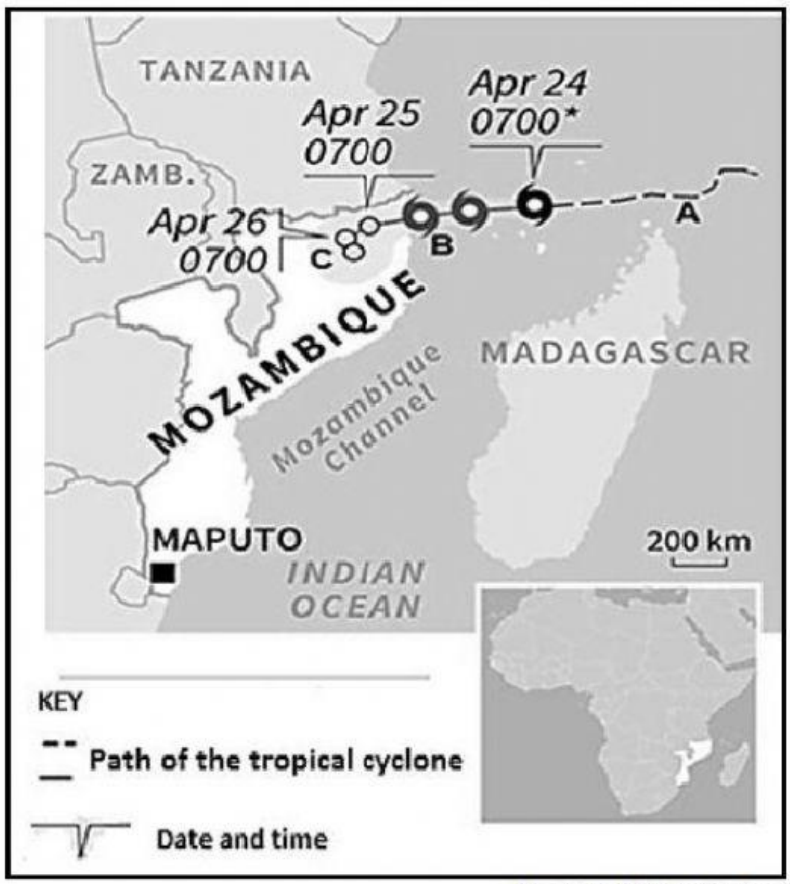
FIGURE 2.3: TROPICAL CYCLONE



[Source: Meteo France]

2.3 Refer to FIGURE 2.3, which shows the path of a tropical cyclone.

2.3.1 Give evidence that this tropical cyclone is in the Southern Hemisphere. (1 x 1) (1)

2.3.2 Why is the Mozambique Channel usually ideal for the increase in temperature within the tropical cyclone? (1 x 2) (2)

2.3.3 Explain how the intensity of the tropical cyclone increased as it moved from area **A** to area **B**. (2 x 2) (4)

2.3.4 Discuss the conditions that could have caused the cyclone to weaken as it reached area **C**. (2 x 2) (4)

2.3.5 Evaluate the physical (natural) negative impact of tropical cyclones along the coastline of Mozambique. (2 x 2) (4)

FIGURE 2.4: URBAN HEAT ISLANDS

CITY DWELLERS ARE BEARING THE BRUNT OF EXTREME TEMPERATURES

Thanks to a phenomenon that makes urban areas hotter than their surroundings, cities such as Pretoria are as much as 6 °C hotter than they could be.

The heat comes from decades of poor planning. Since the 1950s, the global focus of city infrastructure planning has been on cars and on getting as many people as possible into tall buildings (skyscrapers).

In South Africa's six big cities, this means tarred roads crisscrossing what used to be fields, big cement slabs providing parking for the cars, high-rise apartments and office blocks overcrowding their occupants. This both creates and traps heat, which leads to an urban heat island. This effect is worse at night, with cities storing heat.

The World Health Organisation (WHO) says urban heat islands, which both raise temperatures and trap pollutants, will have to disappear in this century if future generations are to live healthy lives in cities. A possible way of addressing the issue of heat islands is introducing 'green' strategies. Green strategies are sustainable and do not harm the environment.

[Adapted from https://mg.co.za/article/2016-01-16-beyond-the-inferno-how-sa-cities-must-green]

2.4 Refer to FIGURE 2.4, an extract based on urban heat islands.

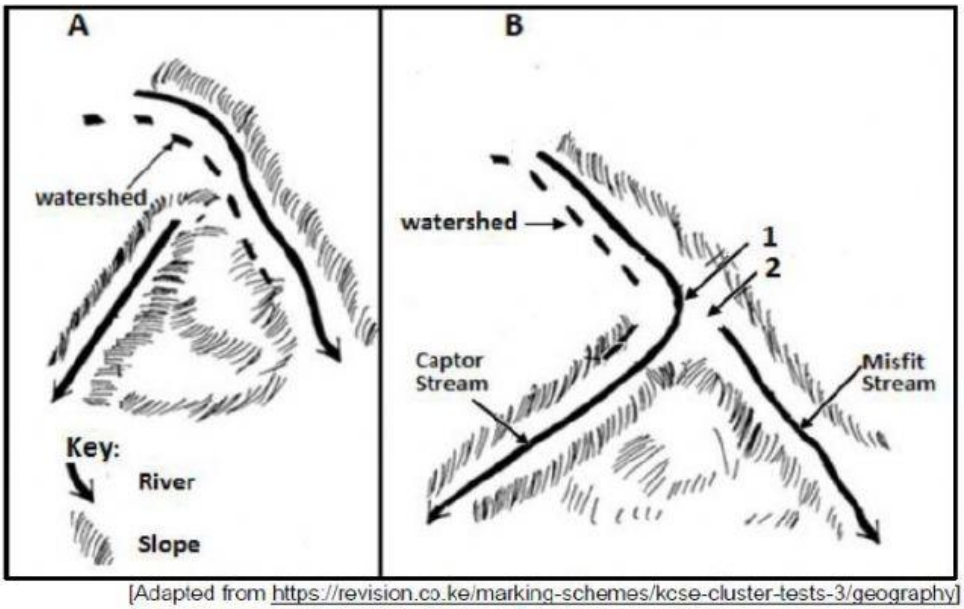
2.4.1 Define the concept *urban heat island*. (1 x 1) (1)

2.4.2 Give TWO quotations from the extract that suggests that poor planning is responsible for increasing temperatures in cities. (2 x 1) (2)

2.4.3 Why is the urban heat island effect more concentrated at night? (2 x 2) (4)

2.4.4 In a paragraph of approximately EIGHT lines, provide sustainable green strategies, as referred to in the extract, that can reduce the heat island effect. (4 x 2) (8)

FIGURE 2.5: RIVER CAPTURE (STREAM PIRACY)



[Adapted from https://revision.co.ke/marking-schemes/kcse-cluster-tests-3/geography]

2.5 Refer to FIGURE 2.5, which shows river capture (stream piracy).

2.5.1 Define the concept *river capture* as shown in sketch **B**. (1 x 1) (1)

2.5.2 Identify features **1** and **2** of river capture in sketch **B**. (2 x 1) (2)

2.5.3 What could have caused the captor stream to erode through the watershed? (2 x 1) (2)

2.5.4 Explain the process that resulted in the formation of the misfit stream. (2 x 2) (4)

2.5.5 Describe the change in the flow characteristics of the captor stream.
(3 x 2) (6)