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CANDIDATE NAME

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8786975644

ENVIRONMENTAL MANAGEMENT **0680/21**

Paper 2 Management in Context **May/June 2026**

1 hour 45 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen. Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- You may use a calculator.
- You should show all your working and use appropriate units.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **20** pages.

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[Turn over

world map showing the location of Nigeria



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map of Nigeria

key

★ capital city

● major city

—·— international boundary

river



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Area of Nigeria: 923 768 km^2

Population of Nigeria: 237 million (in 2024)

Children per woman: 4.52 (in 2024)

Life expectancy: 61.8 years

Currency: Nigerian naira (891 NGN = 1USD in 2024)

Language: English, regional languages

Climate of Nigeria: hot, dry in north, high rainfall in south

Terrain of Nigeria: flat land in north and south, hills in centre, mountains in southeast

Main economic activities of Nigeria: oil extraction, telecommunications, finance industries and agriculture

54% of the population of Nigeria live in urban areas. Lagos has the largest urban population. Unemployment is high. Approximately 40% of the population have very low incomes.

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1 **(a)** **(i)** Lagos is the largest city in Nigeria.

Use the map to estimate the distance from Lagos to the capital city.

Circle your answer.

100 km **300 km** **500 km** **700 km**

[1]

(ii) Suggest **one** reason why Lagos has the largest population in Nigeria.

.....

..... [1]

(iii) Calculate the population density of Nigeria in 2024.

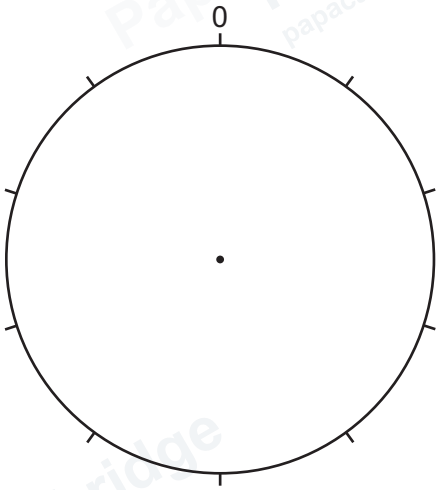
Include a unit in your answer.

population density = ... unit ..... [2]

(b) The table shows the percentage of the Nigerian population in different age ranges.

age range	percentage of population
0–14	43
15–64	54
65+	3

(i) Complete the pie chart using the information from the table.



key

☐ .....

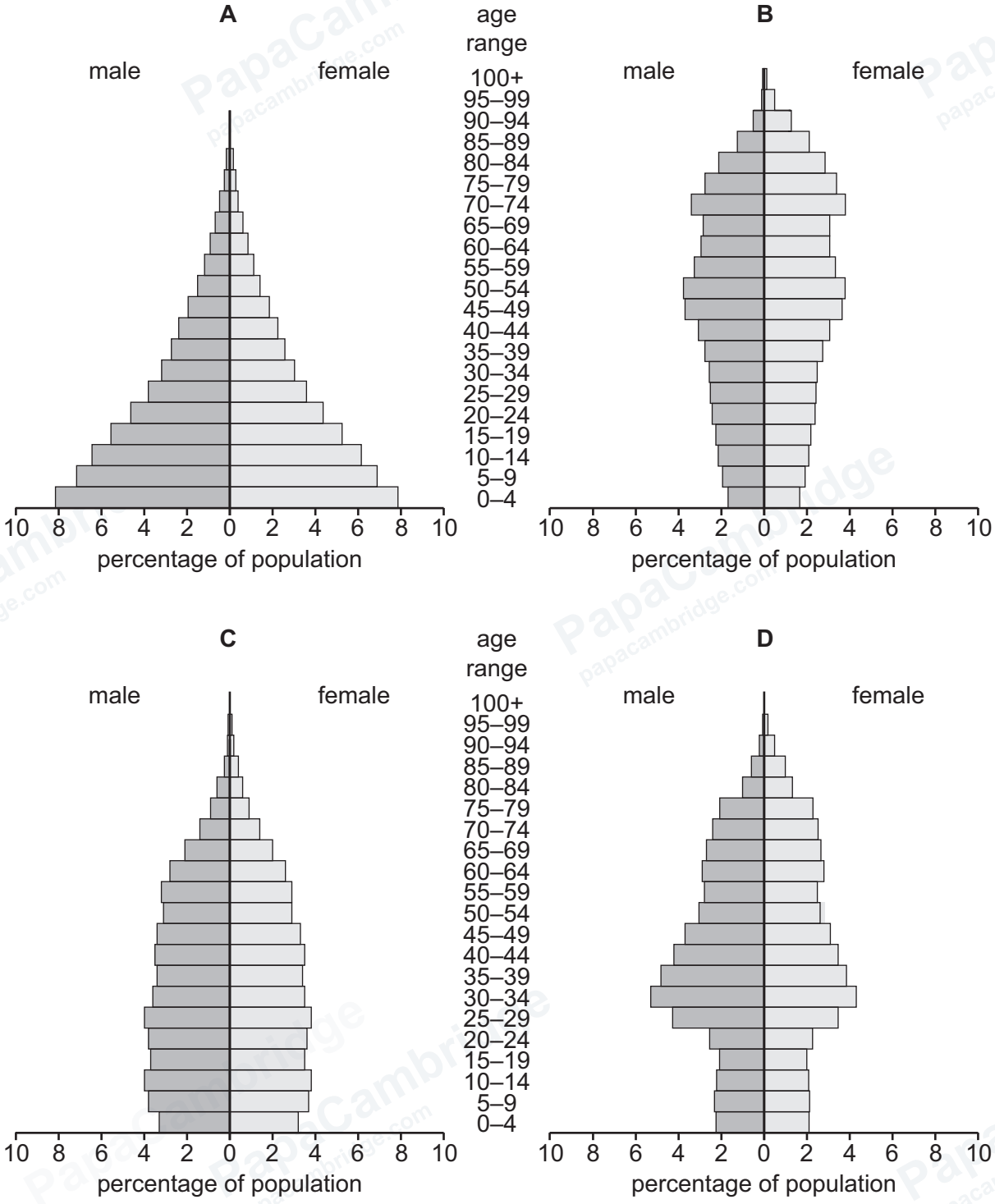
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[4]

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(ii) Use the information from the table to select the population pyramid, **A**, **B**, **C** or **D**, that best represents the population of Nigeria.



pyramid ..... [1]

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(iii) The population of Nigeria is predicted to double in the next 25 years.

Suggest why this population increase will impact the economy of Nigeria.

.....

.....

.....

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.....

..... [3]

(iv) State **three** reasons why a country has a high birth rate.

1 .....

.....

2 .....

.....

3 .....

.....

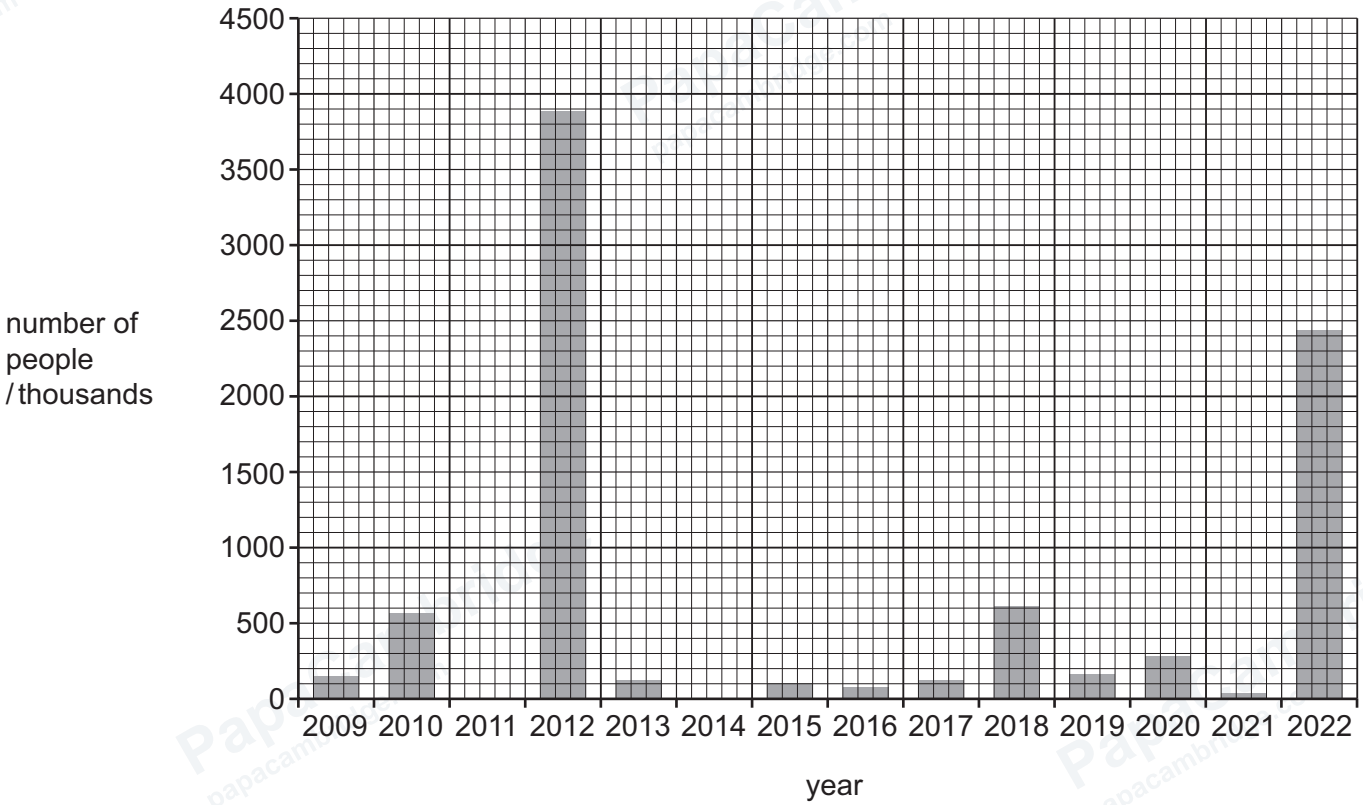
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(c) Natural hazards are a reason for people to migrate within a country.

The bar chart shows migration due to natural hazards in Nigeria between 2009 and 2022.



(i) State the year where the greatest number of people migrated due to natural hazards.

year ..... [1]

(ii) Suggest **one** reason why it is difficult to describe a trend from this data.

.....

..... [1]

(iii) Tectonic events did **not** cause any of the natural hazards experienced in Nigeria between 2009 and 2022.

Suggest **three** natural hazards that may have caused migration in Nigeria between 2009 and 2022.

1 .....

2 .....

3 .....

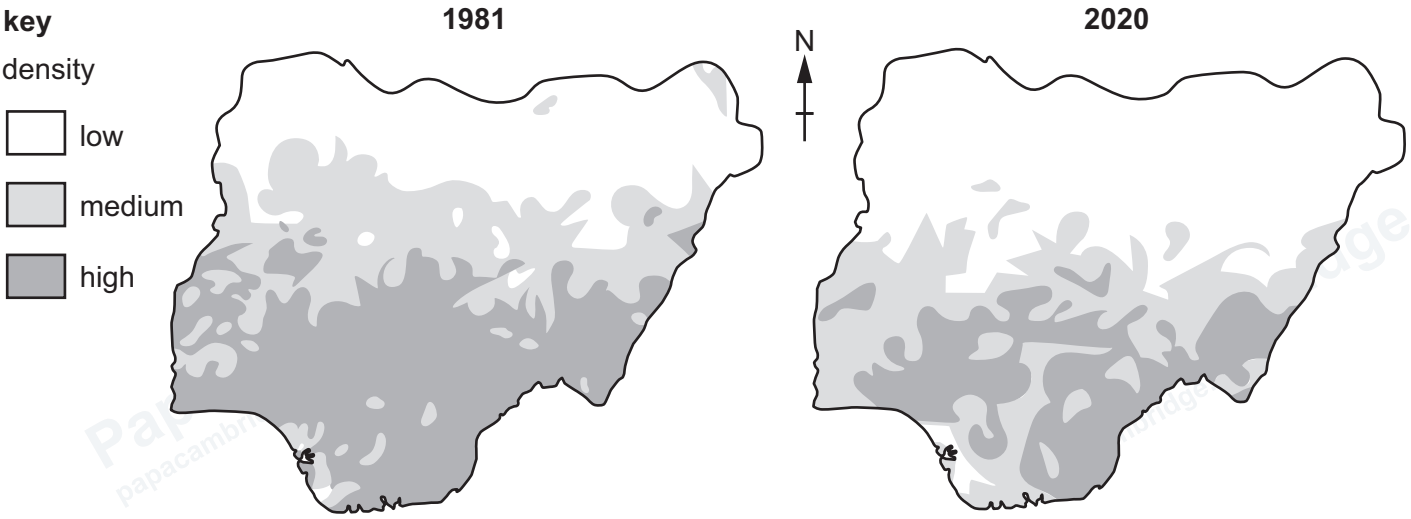
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2 **(a)** The diagrams show the distribution of three densities of natural vegetation in Nigeria in 1981 and 2020.



(i) Describe the change in the distribution of low-density vegetation between 1981 and 2020.

.....

.....

.....

..... [2]

(ii) Suggest **three** reasons for the change in the density of vegetation between 1981 and 2020.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(iii) The change in the density of vegetation affects the biodiversity of many species.

Explain what is meant by the term biodiversity.

.....

..... [1]

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(b) The pangolin is an animal found in Nigeria.



An adult pangolin is approximately 50 cm in length.
They live in the forests of Nigeria and are mainly active at night.
Some people hunt pangolins.

Scientists think that pangolins are endangered. The exact number of pangolins is **not** known.

(i) Suggest **one** reason why it is difficult to calculate the number of pangolins in Nigeria.

.....

..... [1]

(ii) A scientist estimates the pangolin population in a forest. A random sampling method is used.

Explain how a map of the forest is used to select random sampling sites.

.....

.....

.....

..... [2]

(iii) The scientist counts pangolins and calculates the pangolin population per km^2.

This number is then scaled up to the total area of the forest to obtain an estimate of the total pangolin population.

Suggest **one** way to improve the method used to obtain this estimate.

.....

..... [1]

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(c) Many conservation organisations are concerned about the risk of extinction of the pangolin. These organisations support an event called World Pangolin Day.

On this day, they publish all the latest information about pangolins, their habitats and their population.

(i) Explain how World Pangolin Day helps conserve pangolins.

.....

.....

.....

..... [2]

(ii) Some organisations create wildlife reserves and wildlife corridors to conserve pangolins.

Describe how these strategies conserve pangolins.

wildlife reserves .....

.....

wildlife corridors .....

.....

[2]

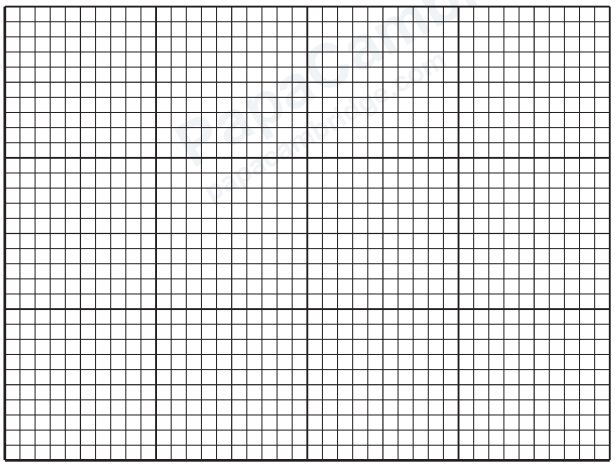
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(d) Some information about a food chain is shown.

> Pangolins hunt insects at night. Feeding at night means they are less likely to be eaten by lions.
>
> The number of insects depends on the availability of the plants which they feed on.
>
> Plant growth is dependent on water availability, temperature and sunlight.

(i) Use this information to construct and label a pyramid of energy for this food chain.



[3]

(ii) State the tertiary consumer in this food chain.

..... [1]

(iii) Explain why food chains contain larger numbers of primary consumers than secondary consumers.

.....

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..... [3]

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(iv) Scientists think that a decrease in the pangolin population will impact the populations of other organisms at the same trophic level.

Suggest why the populations of other organisms at the same trophic level will:

increase .....

.....

decrease. .....

.....

[2]

[Total: 23]

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3 **(a)** The table shows information about oil extraction in different African countries in 2022.

country	oil extraction /million tonnes
Algeria	63.6
Angola	57.8
Egypt	29.9
Libya	51.0
Nigeria	69.0
other	13.8

(i) Calculate the percentage of the total oil extraction that took place in Nigeria in 2022.

.....% [2]

(ii) Describe the formation of oil.

.....

.....

.....

.....

.....

..... [3]

(iii) Oil is a non-renewable energy resource.

Describe what is meant by the term non-renewable.

.....

..... [1]

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(iv) Suggest **three** reasons why oil is an important energy resource in Nigeria.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

(v) Suggest **two** reasons why domestic demand for energy fluctuates from year to year.

1 .....

.....

2 .....

.....

[2]

(b) Most oil extraction sites in Nigeria are surrounded by towns and villages.

Suggest **two** reasons why people live near oil extraction sites.

1 .....

.....

2 .....

.....

[2]

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(c) Oil extraction releases methane gas.

(i) Explain why the release of methane gas has a negative impact on the environment.

.....

.....

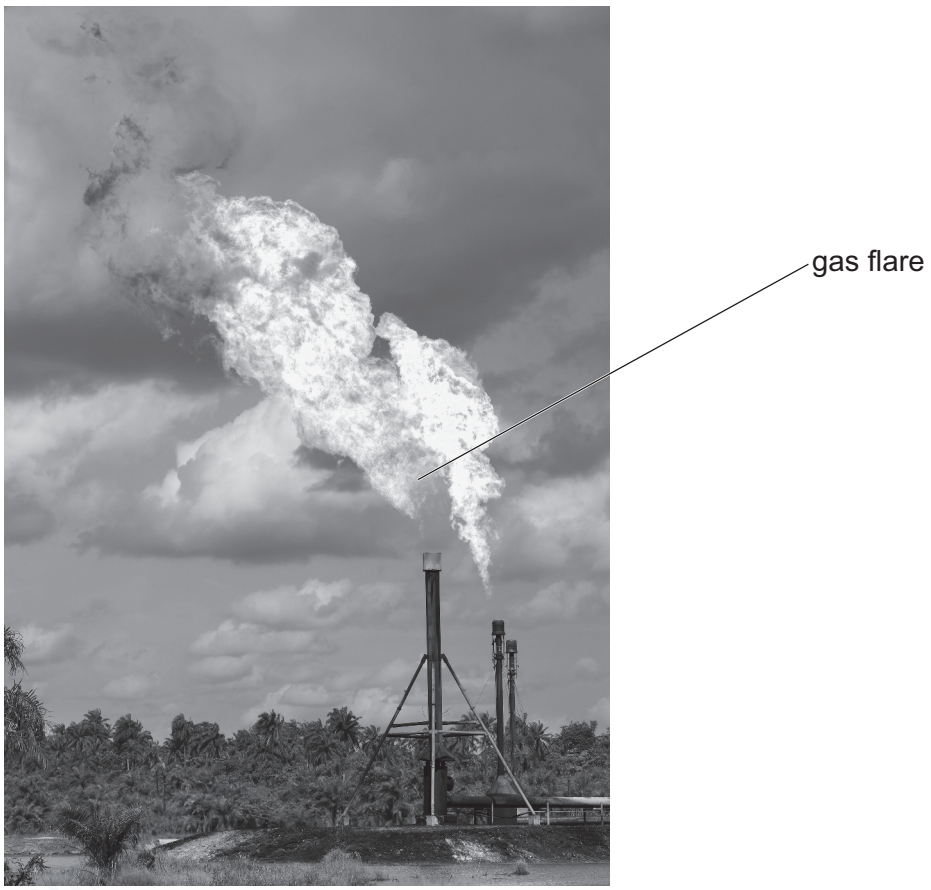
.....

..... [2]

(ii) Oil extraction companies burn the methane gas released to form gas flares.

This technique helps to prevent unexpected explosions from large volumes of methane gas.

The photograph shows a gas flare.



Suggest how gas flares harm local people.

.....

..... [1]

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(iii) The table shows the volume of methane gas burnt in gas flares in Nigeria between 2013 and 2022.

year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
volume of methane gas burnt /million m^3	9341	8419	7658	7073	7646	7539	7760	7195	6627	5318

Calculate the mean annual volume of methane gas burnt between **2018** and **2022**.

Give your answer to the nearest whole number.

..... million m^3 [2]

(iv) Describe the trend in the data shown in the table.

.....

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..... [2]

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(d) Oil extraction on land can pollute coastal ecosystems.

(i) Suggest how an oil spill on land reaches a coastal ecosystem.

.....

.....

.....

..... [2]

(ii) Explain how oil spills impact birds in a coastal ecosystem.

.....

.....

.....

.....

.....

..... [3]

(iii) Booms, detergent sprays and skimmers are strategies to minimise the impacts of oil spills in a coastal ecosystem.

Describe how these strategies minimise the impacts of oil spills.

booms .....

.....

detergent sprays .....

.....

skimmers .....

.....

[3]

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(e) Nigeria has an estimated 5 894 130 000 000 dm^3 of oil reserves.

It is predicted that this oil reserve will last for 237 years.

(i) Calculate the mean annual rate of oil use in Nigeria.

..... dm^3 / year [1]

(ii) Suggest **two** reasons why the current oil reserves may be used up before 237 years.

1 .....

.....

2 .....

.....

[2]

(iii) One method to reduce the consumption of oil is the introduction of transport policies.

State **two** transport policies that reduce the consumption of oil.

1 .....

.....

2 .....

.....

[2]

(iv) Describe **two** advantages of biofuels compared to fossil fuels.

1 .....

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2 .....

.....

[2]

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(v) Describe **two** limitations of biofuels compared to fossil fuels.

1 .....

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2 .....

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[2]

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