

Surname	Centre Number	Candidate Number
First name(s)		0



GCSE

C111U20-1



O20-C111U20-1



TUESDAY, 17 NOVEMBER 2020 – MORNING

GEOGRAPHY A – Component 2
Environmental and Developmental Issues

1 hour 30 minutes

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1	34	
2	34	
SPaG	4	
either 3	16	
or 4	16	
Total	88	

ADDITIONAL MATERIALS

In addition to this paper you may use a calculator and a ruler if required.

INSTRUCTIONS TO CANDIDATES

Answer **both** questions in Section A.

Answer **one** question in Section B.

Use black ink or black ball-point pen. Do not use pencil or gel pen. Do not use correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Write your answers in the spaces provided in this booklet.

Additional space is provided for some questions within the booklet (if required). If further space is required for any question, you should use the lined page(s) at the end of this booklet. The question number(s) should be clearly shown.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question.

Your ability to spell, punctuate and use grammar and specialist terms accurately will be assessed in your answer to question 2 (d).



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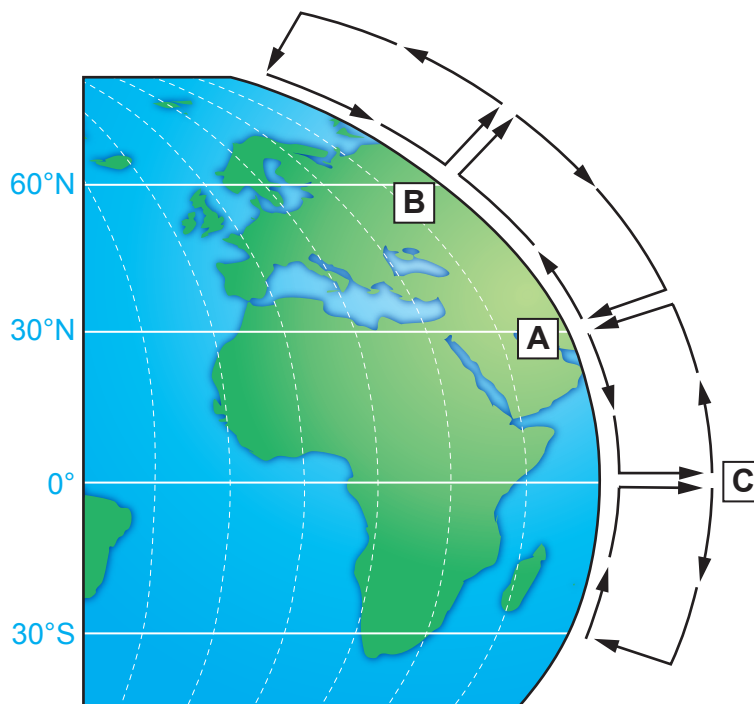
SECTION A: CORE THEMES

Answer all of the questions in this section.

CORE THEME 5: Weather, Climate and Ecosystems

1. (a) Study **Diagram 1.1**.

Diagram 1.1 –Global Circulation of the Atmosphere model.



(i) Complete the table below, adding the correct letter from **Diagram 1.1** next to each descriptor. [3]

Area of low pressure	
Air spreads out towards the poles	
Area of high pressure	



(ii) Describe the conditions associated with high pressure systems in winter and summer in the UK. [4]

Winter

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Summer

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(iii) Give **one** reason why high pressure systems can cause drought. [2]

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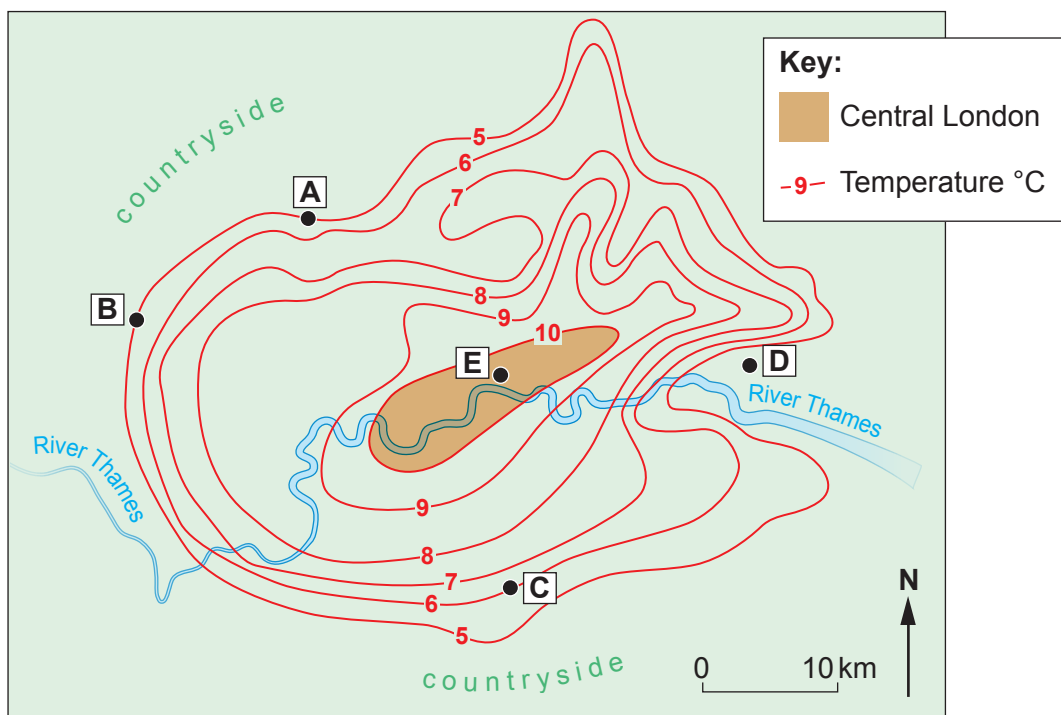
(iv) Droughts could become more frequent because of climate change.
Give **one** piece of evidence that could be used to show that climate change takes place. [1]

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- (b) Microclimate is the variation in temperature, precipitation, wind and humidity in a small area.
Study **Map 1.2** below showing temperature data for London.

Map 1.2 – An isoline map showing the minimum temperature distribution in London for an evening in May.



- (i) Tick (✓) the **three** boxes which correctly describe the pattern on **Map 1.2**. [3]

Descriptor	Tick (✓)
The temperature range shown on the map is 5°C.	
A has a higher temperature than C .	
The area within the 10°C isoline extends from south west to north east.	
Temperatures cool more rapidly between E and D than between E and B .	
The temperature range shown on the map is 10°C.	



Study **Table 1.3** below.

Table 1.3 – Annual rainfall totals for selected places around London

Location	Annual rainfall total (mm)
Kenley	795
Northwood	695
Waltham Cross	655
Wisley	650
Kew	605
Dartford	575
City	550

- (ii) Calculate the inter-quartile range of the annual rainfall totals in **Table 1.3**. Show your working in the box below. [2]

inter-quartile range

- (iii) Give **one** disadvantage of using the inter-quartile range. [1]

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(iv) Explain the different factors which create microclimates.

[6]

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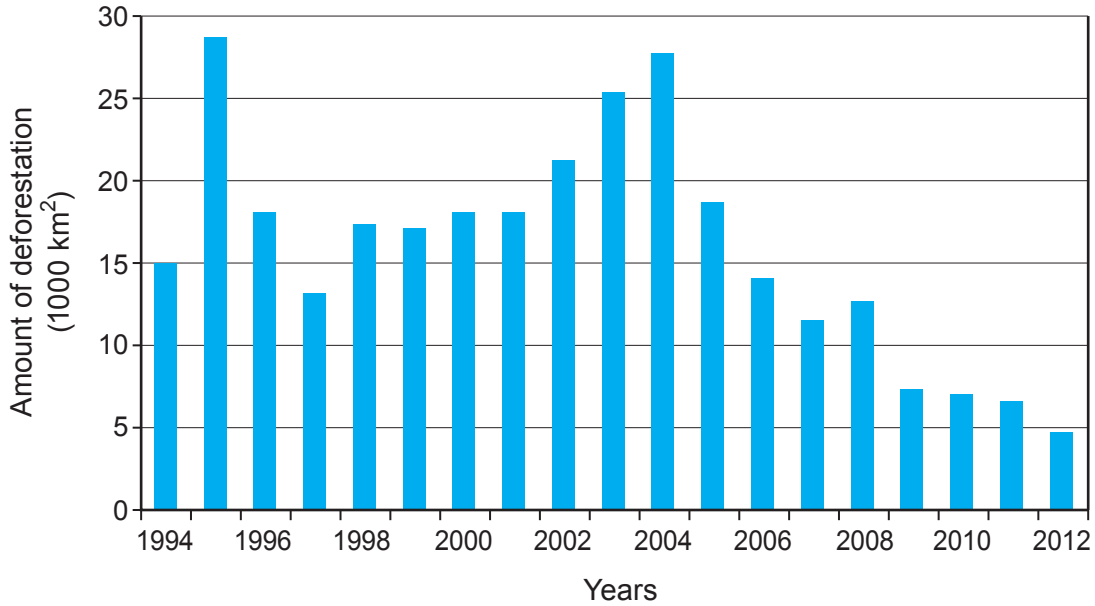
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(c) Deforestation is a process linked to climate change. Study **Graph 1.4** below.

Graph 1.4 – Deforestation in the Amazon rainforest



(i) Describe the change in deforestation in the Amazon between 1994 and 2012 as shown on **Graph 1.4**. [2]

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(ii) Deforestation often occurs to create farmland. Give **one** reason why farming can affect water cycles. [2]

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(iii) Study the resource box below.

Activities in the rainforests in Peru.



Photograph 1.5
Ecotourism



Photograph 1.6
Deforestation

Factbox 1.7

Information about the rainforest in Peru

- About 2850 square kilometres of Peru's forests are cut down every year. 80% of logging is illegal.
 - The loss of forest in Peru is mainly due to economic activity such as mining, logging, agriculture and road construction.
 - The highway joining Peru to Brazil was completed in 2011. This has opened up once isolated areas of forest. Many people have moved to these areas in search of work.
 - The government is promoting expansion of oil and gas extraction.
 - In 2014 there were 5 oil spills.
- ▶ Wildlife corridors in the forest provide migration routes for animals such as jaguars.
 - ▶ There are some tourist lodges. Tourists are encouraged to conserve the forest, and research and conservation takes place at some lodges.
 - ▶ In 2018 the government agreed to create the Yaguas National Park to protect the forest, indigenous people and endangered species.





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To what extent do you agree that the rainforest in Peru can be managed sustainably? [8]

Dotted lines for writing answer.

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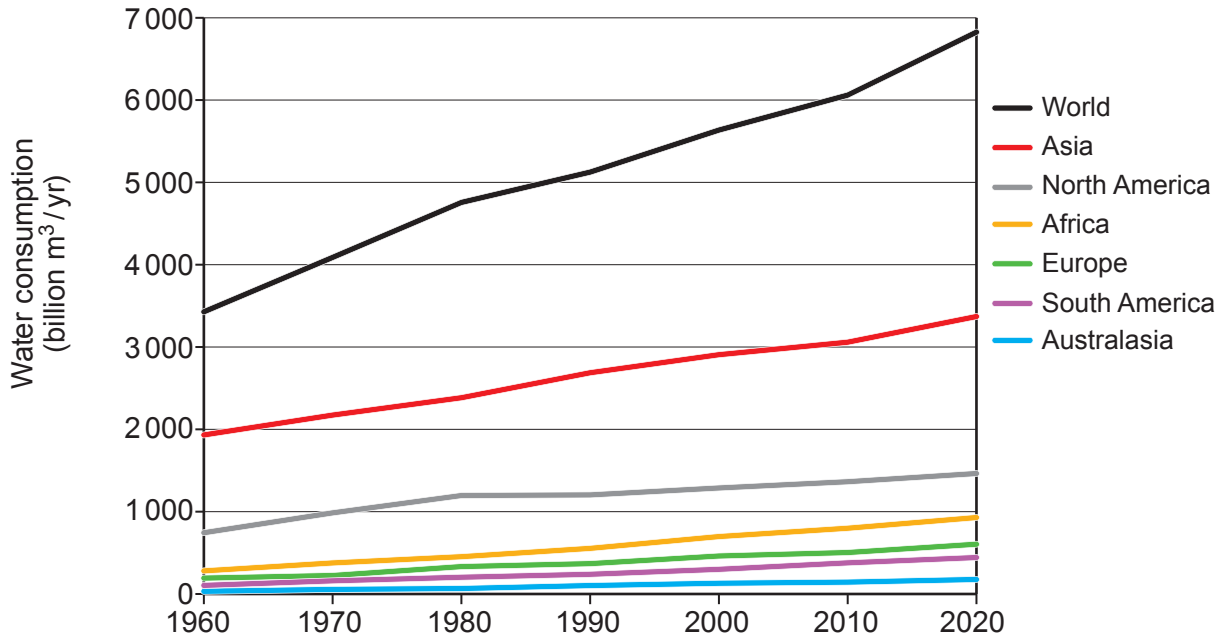
End of Question 1



CORE THEME 6: Economic Development and Resource Issues

2. (a) Study **Graph 2.1** below.

Graph 2.1 – World Water Consumption



(i) Complete the paragraph below with the correct words from the box. [4]

World water consumption has between 1960 and 2020.
 The continent of has the lowest increase in water consumption. The increase in consumption in Asia is billion m³ per year. Africa consumes approximately of world consumption in 2020.

decreased	increased	fluctuated	50%	15%	35%
Europe	Australasia	South America	2400	1400	1800

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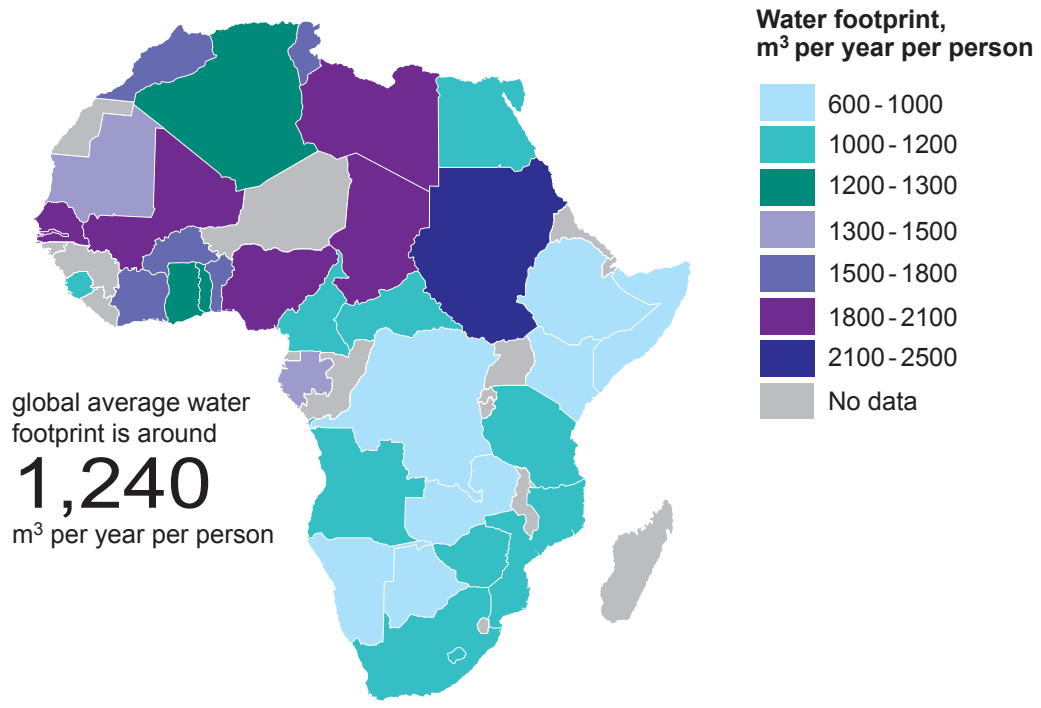
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(ii) Tick (✓) the correct definition of water footprint in the box below. [1]

Definition	Tick (✓)
The amount of water used to produce the goods and services we use.	
The amount of water wasted by individuals in their daily lives.	
The amount of precipitation falling in a particular location.	

(iii) Study Map 2.2 below.

Map 2.2 – Water footprints In Africa



Describe the pattern of water footprints in Africa. [2]

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(iv) Give **two** reasons why some countries have larger water footprints than others. [4]

1.

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2.

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(b) (i) Give **two** ways in which water resources can be managed. [2]

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2.

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(ii) Explain why water resources need to be managed sustainably. [6]

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(c) Study the information below.

Figure 2.3 – Tourism and employment in South Africa in 2015



Total number of employed people in South Africa = 15,658,412

- (i) Calculate the total number of people employed in tourism in South Africa in 2015. Show your working in the box below. [2]

Space for working:

Answer:.....

- (ii) Give **two** ways in which the growth of tourism can have an impact on employment structure. [2]

1.

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2.

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(iii) Some people in South Africa earn a living by working in the informal economy. Describe the characteristics of jobs in the informal economy. [3]

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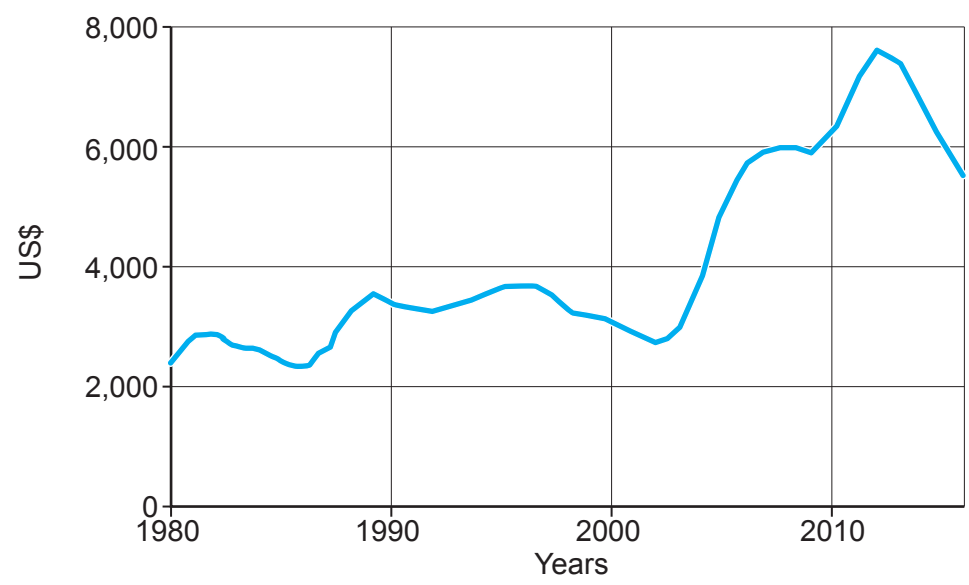


(d) Study the resource box below.

Factbox 2.4 – Information about trade in South Africa, a NIC on the continent of Africa

- GNI per capita in South Africa was US\$ 5 750 in 2018. In the UK it was US\$ 41 340.
- South Africa's main exports are low value raw materials such as corn, fruits, sugar and wool. Other raw materials exported include gold, diamonds, metals and minerals.
- More than one third of the value of imports include high value manufactured products such as machinery and cars.
- South Africa's top 5 trading partners in 2018 were the USA, China, Germany, the UK and India. Trade is growing more rapidly with China and India.
- South Africa is part of the new African Continental Free Trade Area (AfCFTA) which includes all African countries.
- In 2018 trade between African countries was only 10% of trade in Africa.
- It is hoped the AfCFTA will increase trade, manufacturing and economic growth in all African countries.

Graph 2.5 – GNI per capita in South Africa 1980 – 2016



Evaluate the impact of trade on development for NICs such as South Africa. [8]

Your ability to spell, punctuate and use grammar and specialist terminology accurately will be assessed in your answer to this question. [4]

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Additional space for **2(d)** only:

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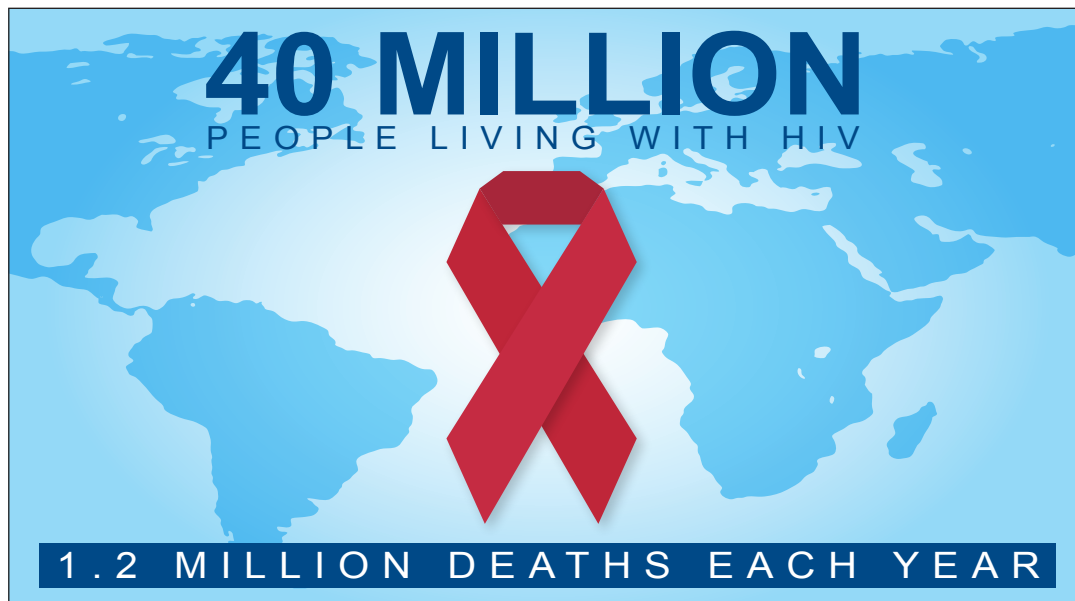
SECTION B: OPTIONS

Answer **one** question in this section.
Choose either Question 3 (Theme 7) or Question 4 (Theme 8)

THEME 7: Social Development

3. (a) Study the information below in picture **Picture 3.1**.

Picture 3.1 – Information about HIV



- (i) Calculate the percentage of people living with HIV who die each year.
Show your working in the box below.

[2]

Answer:..... %



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(ii) Explain why tackling HIV is challenging in sub-Saharan Africa. [4]

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(iii) Give **two** causes, other than HIV and AIDS, for high rates of infant mortality in sub-Saharan Africa. [2]

1.

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2.

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(b) Study the resources below about health issues in Kenya, a sub-Saharan country in Africa.

Fact Box 3.3 – Information about access to sanitation

Some health issues

- One of the United Nations' sustainable development goals is to ensure availability and sustainable management of clean water and sanitation for all by 2030 (SDG 6).
- In 2015, 61 per cent of the global population did not have safe sanitation services.
- In some slums in Kenya, residents do not have access to clean water and sanitation. Up to 100 people share a single toilet.
- In the slums there are open sewers close to congested houses.

Some bottom-up approaches

- Some charities such as Practical Action have been assisting in self-help projects to provide piped water and to build toilets.
- One village in Kenya increased toilet provision from 54% to 99% in 9 months.
- It is hoped to reduce the spread of waterborne disease such as cholera, particularly in children.



Photograph 3.2

Clean water provided by local traders for low prices



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End of Question 3



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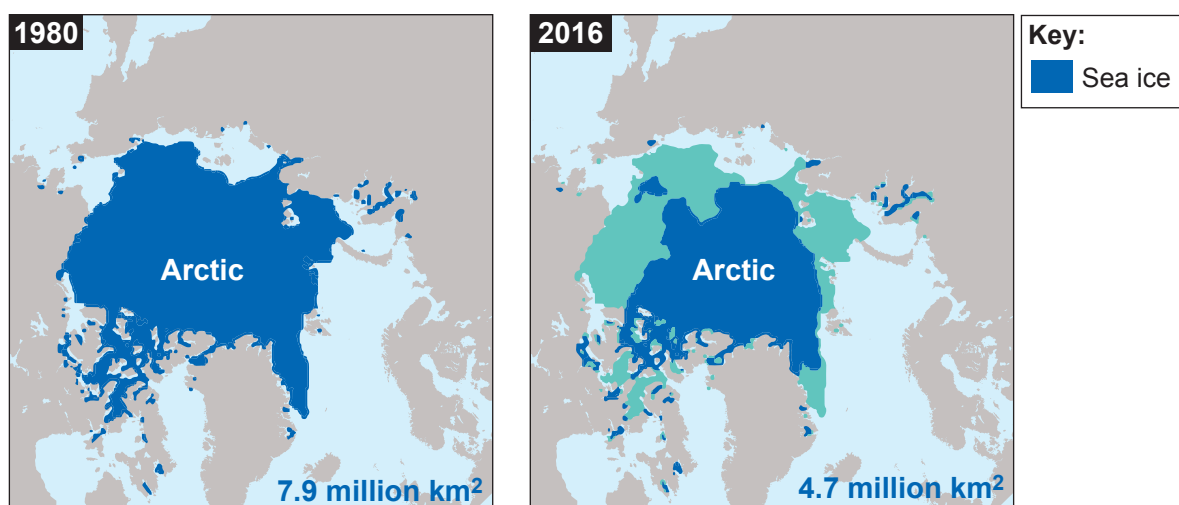


THEME 8 – Environmental Challenges

If you have answered question 3, do not answer this question.

4. (a) Study **Map 4.1** below. It shows melting sea ice in the Arctic; one of the impacts of climate change.

Map 4.1 – Changes in the extent of Arctic sea ice between 1980 and 2016 – million square kilometres



- (i) Calculate the percentage of sea ice remaining in 2016, compared to 1980. Show your working in the box below.

[2]

Answer: %



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(ii) Explain why tackling the causes of climate change on a **global** scale is challenging. [4]

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(iii) Give **two** strategies which could be used to tackle climate change on a **local** scale. [2]

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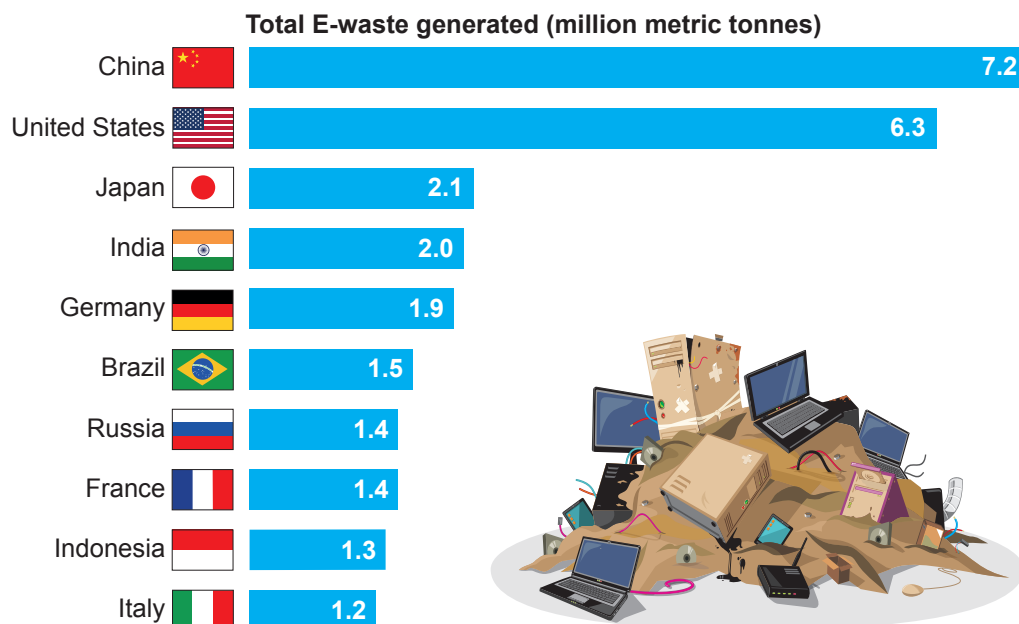
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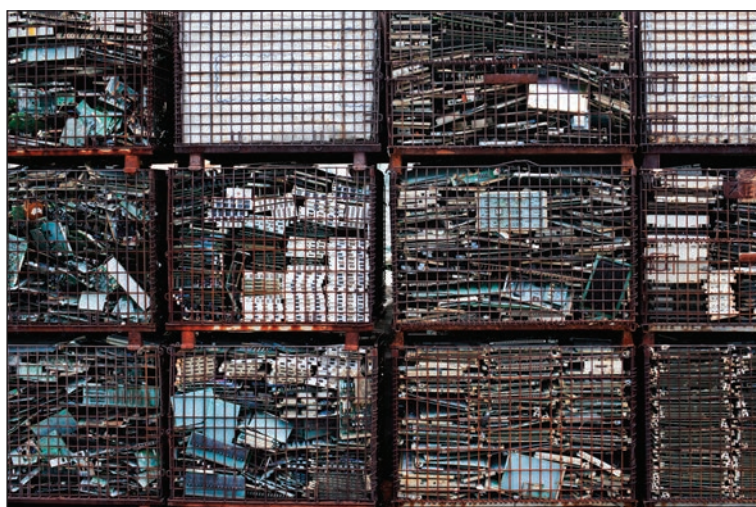
(b) Study the resource below about electronic waste.

Graph 4.2 – top 10 countries by the amount of e-waste generated in 2016



Fact box 4.3 – Information about electronic waste (e-waste)

- Each year about 1 billion mobile phones and 300 million computers are produced.
- 65% of e-waste is illegally exported to Africa.
- Recycling of copper and gold in e-waste has become a source of income in the informal sector in some low-income countries.
- This exposes adult and child workers to hazardous substances such as lead.
- Japan lacks its own mineral resources and considered using metals from e-waste to make the 2020 Olympic medals. This is in line with Olympic Committee criteria on sustainability.
- Strategies to reduce e-waste include trying to change consumer behaviour by encouraging people to buy less, recycle more, and donate or sell used electronic items.



Photograph 4.4
Computer parts
separated for recycling
in Japan



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End of Question 4

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