Surname	Centre Number	Candidate Number
Other Names		0

GCSE

3110U20-1

S19-3110U20-1

WEDNESDAY, 5 JUNE 2019 – AFTERNOON

GEOGRAPHY

Unit 2: Environmental and Developmental Issues

1 hour 30 minutes

	For Examiner's use only		
		Maximum Mark	Mark Awarded
	Question 1	28	
	Question 2	28	
	Writing accurately	3	
either	Question 3	24	
or	Question 4	24	
	Total	83	

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ADDITIONAL MATERIALS

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

INSTRUCTIONS TO CANDIDATES

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

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

Answer **both** questions in Section A.

Answer **one** question from Section B.

Write your answers in the spaces provided in this booklet.

If additional space is required you should use the additional 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 communicate and organise your ideas will be assessed in questions that are worth 6 or 8 marks. The accuracy of your writing will be assessed in your answer to question 2*(c)*(ii).

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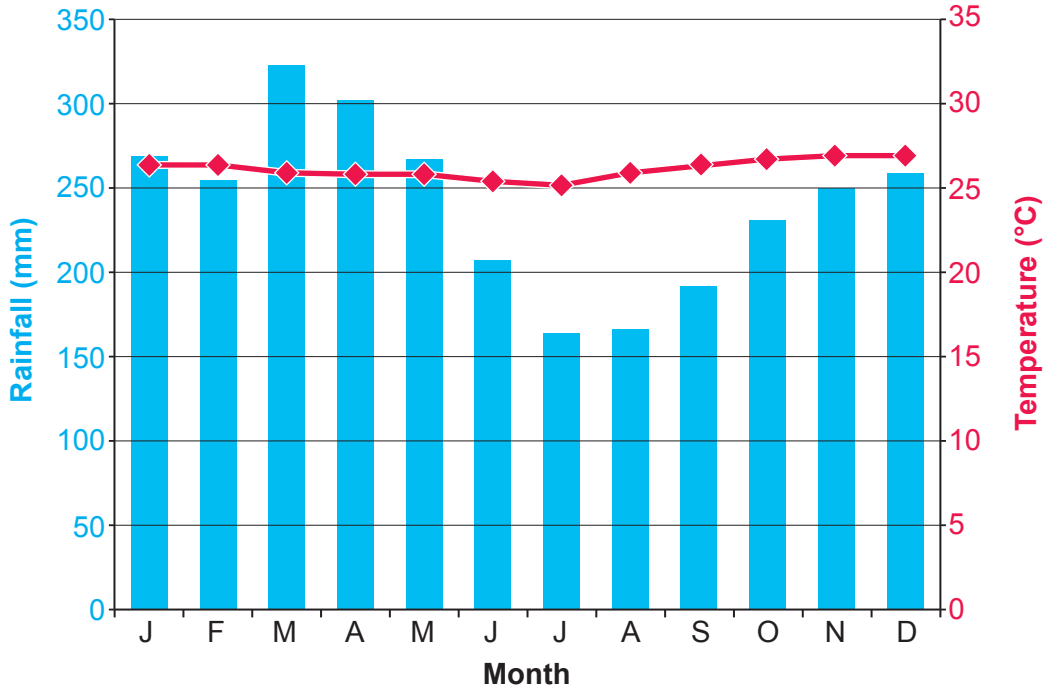
SECTION A – CORE THEMES

Answer **all** *of the questions in this section.*

THEME 5: Weather, Climate and Ecosystems

1. *(a)* Study the climate graph below.

Climate graph for Iquitos, Peru



(i) Give the maximum monthly temperature for Iquitos, Peru. [1]

..... °C

(ii) Calculate the annual range of rainfall for Iquitos, Peru.
Show your working. [2]

..... mm

(iii) Give **one** reason why the climate of Iquitos supports the growth of tropical rainforest. [2]

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(iv) Describe **two** distinctive features of vegetation in a tropical rainforest. [4]

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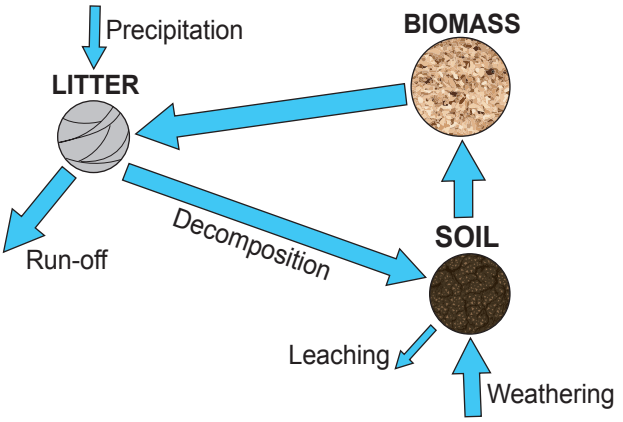
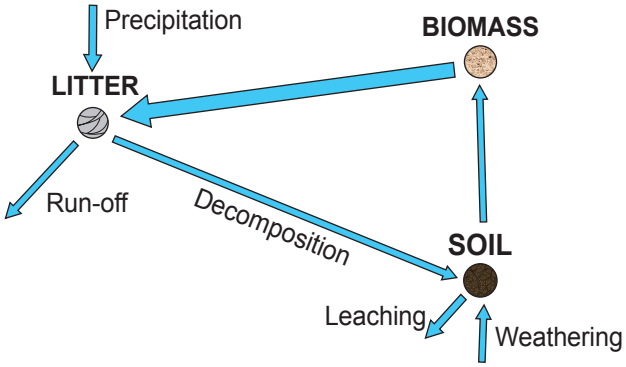
(b) Study the diagrams below.

Nutrient stores and flows in two ecosystems

Hot semi-arid grassland



Tundra



Circles – the larger the circle, the larger the nutrient store
Arrows – the wider the arrow, the greater the nutrient flow

(i) Give the largest flow shown on the Tundra nutrient cycle. Tick (✓) **one** box from the options below. [1]

Soil to biomass ☐

Precipitation ☐

Biomass to litter ☐

(ii) Explain why decomposition is an important part of the nutrient cycle. [4]

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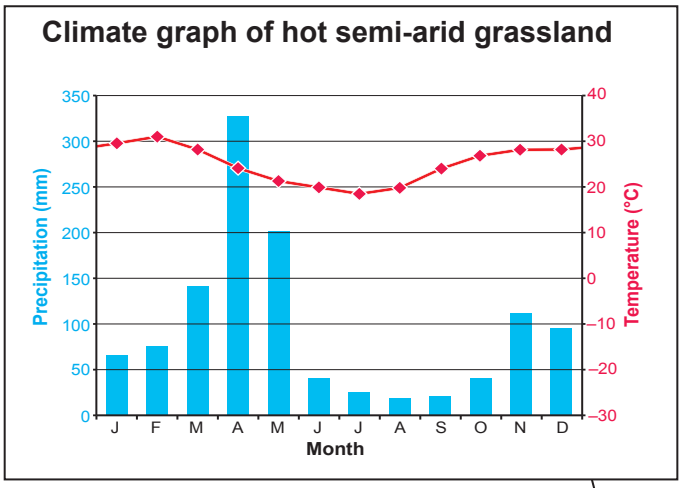
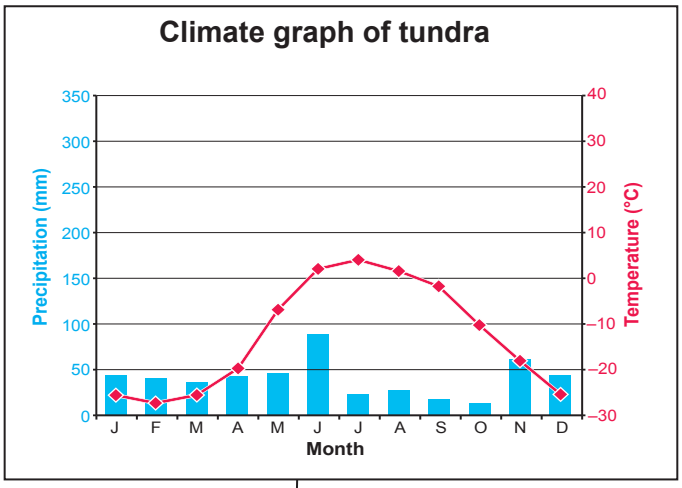
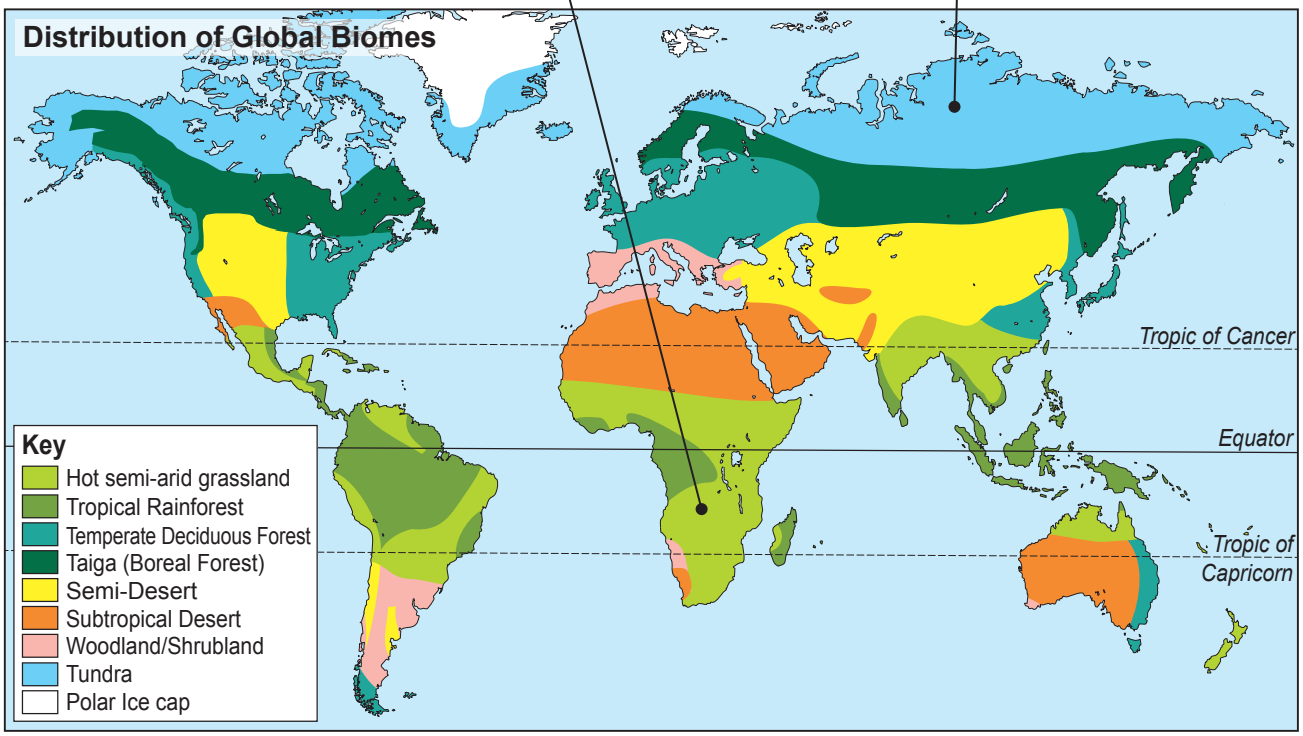
(iii) Study the climate graphs below.







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Suggest reasons for the differences between the two nutrient cycles on page 3. Use the resources on pages 3 and 4 to help your answer. [6]

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(c) (i) Define biodiversity. Tick (✓) **one** box from the options below. [1]

The environment in which plants and animals live ☐

A very large ecosystem ☐

The variety of living things ☐

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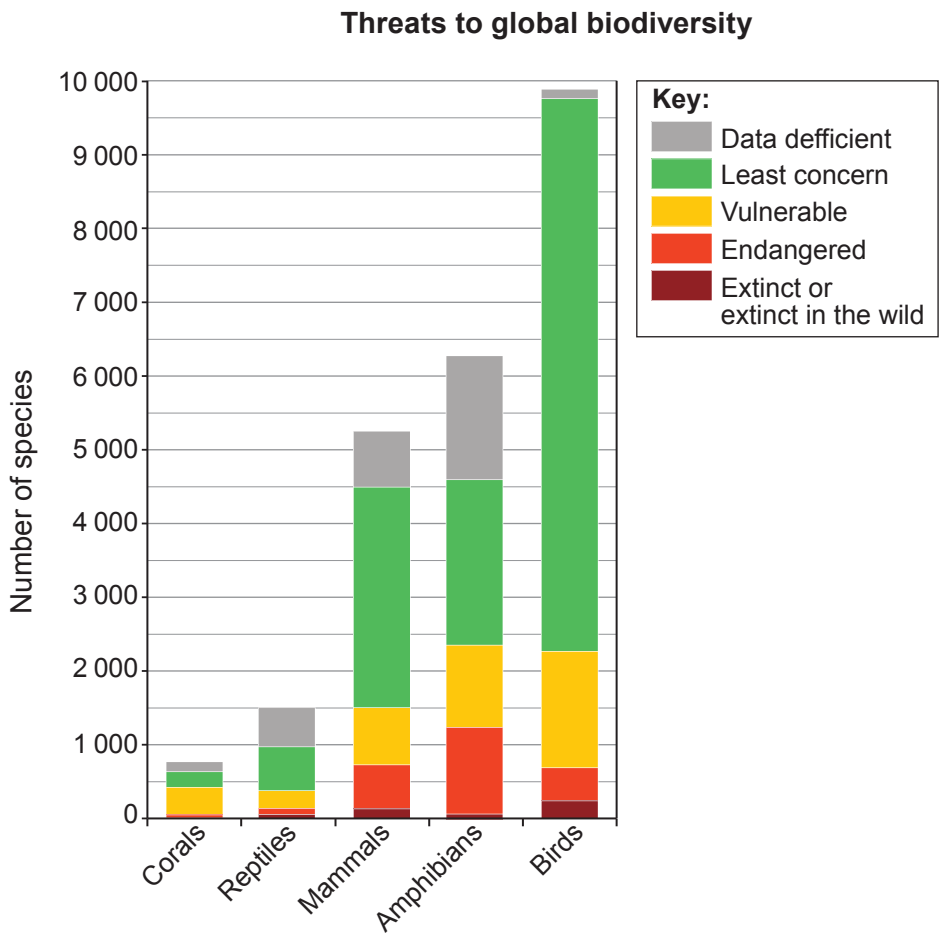
(ii) The table below shows the total number of species of mammals and corals in the world. It also shows the number of those species that are vulnerable in each group.

Calculate the percentage of coral species that are vulnerable.
Show your working. [2]

	Total Number of Species	Number of species that are vulnerable	Percentage (%)
Mammals	5250	750	14%
Corals	750	400	..... %

Study the graph below.



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(iii) Describe the differences shown between mammal and coral species in the graph opposite. [2]

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Study the photographs below.

Coral reef ecosystems

(iv) Suggest why biodiversity is suffering in ecosystems such as coral reefs. [3]

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End of Question 1

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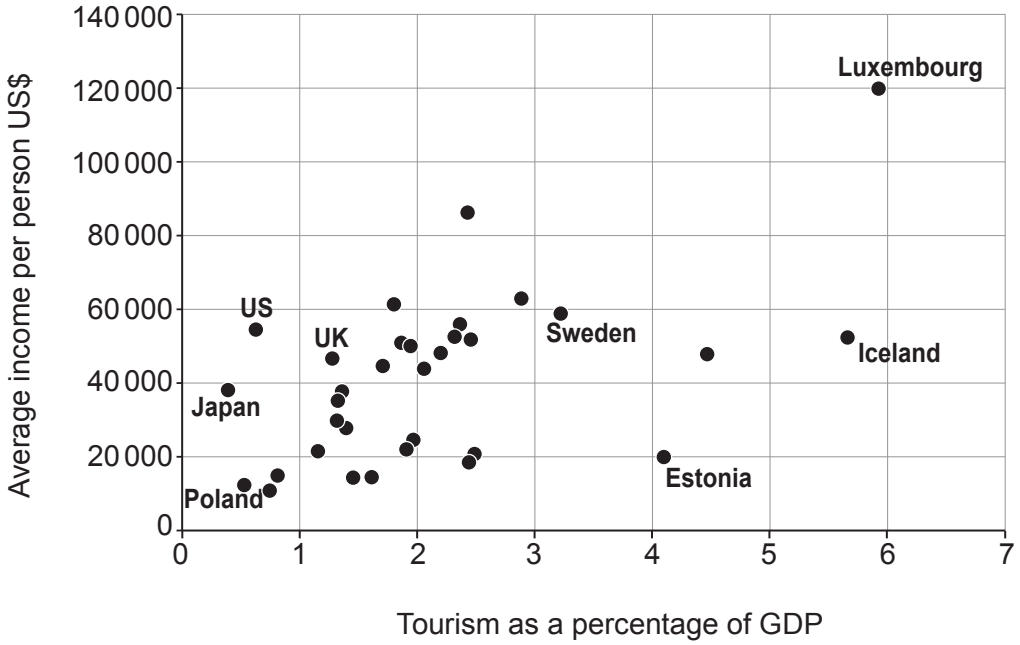
THEME 6: Development and Resource Issues

2. *(a)* Study the graph below.

The relationship between a country's average income per person and its percentage of GDP as income from tourists



(i) Plot and label the information for Norway onto the graph above using the following data: [2]

Average income per person for Norway	97 000
Tourism as a percentage of GDP for Norway	3.8

(ii) Add a line of best fit to the graph. [1]

(iii) Describe the relationship shown in the graph above. [2]

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(iv) Give **one** reason why tourism can be an important contribution to a country's average income. [2]

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(v) Describe **two** positive effects of tourism on the infrastructure of a LIC or NIC that you have studied. [4]

Name of country .....

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(b) (i) Identify the correct definitions for the following terms using the table below. Put the correct letter next to the term. [2]

Tourism ☐

Informal Economy ☐

Letter	Definition
A	Where a person voluntarily visits a place away from their home.
B	Income from work that is neither declared nor regulated by the authorities.
C	Where tourists visit another area within their country.
D	Income from money spent by tourists.
E	Where tourist activities are planned and concentrated in one resort.

(ii) Explain why enclave tourism has consequences for development in LICs and/or NICs. [6]

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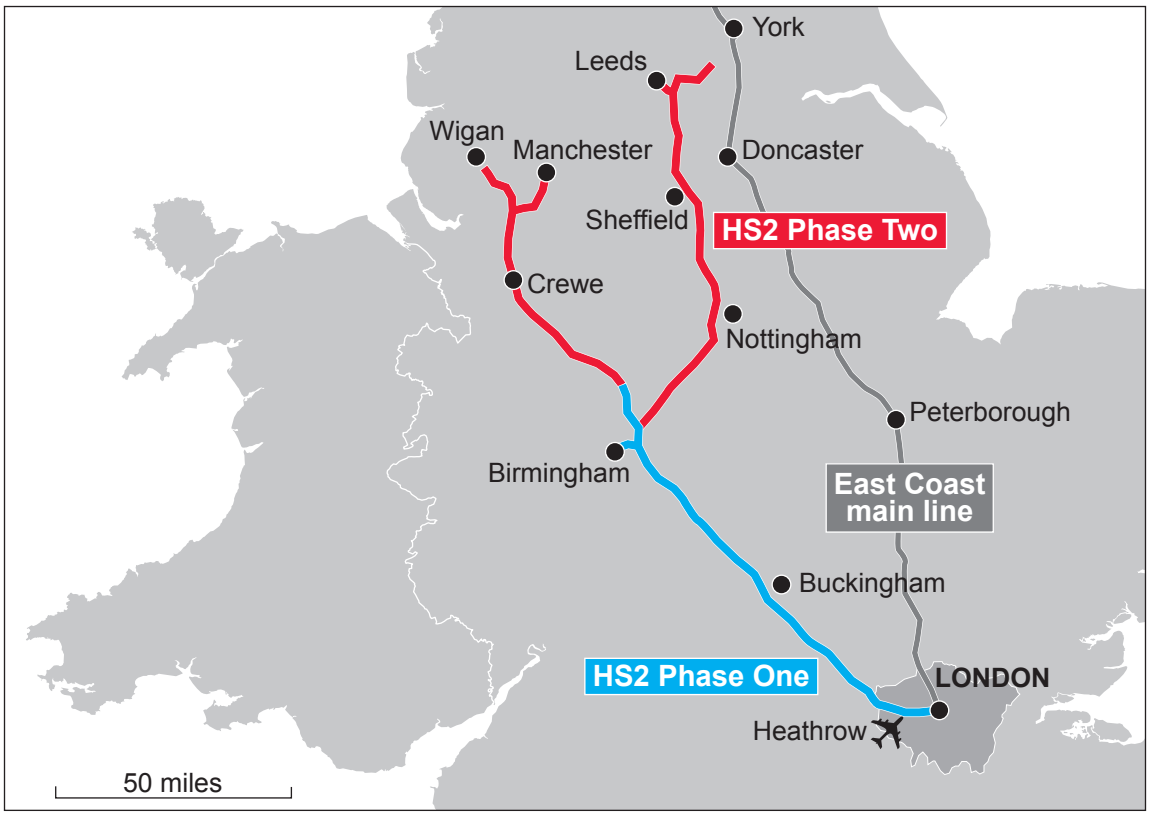
(c) Study the map below. It shows the proposed HS2 rail route that is a project to link high speed trains with London and the north of England.

Proposed HS2 rail link



(i) What is the difference in the length of the East Coast main line route between London and York, and the HS2 route between London and Leeds? [1]

East Coast mainline London to York	HS2 route London to Leeds
162 miles	200 miles

Difference in length of the two routes ..... miles

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Study the **Resource Box** below.

Resource Box

Regional Inequalities in the UK 2012

	London	Leeds
Population size	8.7 million	780 000
Percentage Employed	74%	73%
GDP per capita	£61 000	£24 000
Empty shops	12.8%	17%

High Speed 2 (HS2)

- Journey time from Leeds to London is 50 mins faster on HS2 than on the East Coast mainline.
- Since HS2 was planned, Leeds has received £500 million of investment from companies moving to the area.
- Channel 4 has announced it will create 200 new jobs in Leeds by setting up a new headquarters.

Camden shops, London

Closed retail unit, Leeds

(ii) To what extent might projects such as HS2 reduce UK regional inequalities in the future? Use the **Resource Box** to support your answer. You may also refer to other examples you have studied. [8]

The accuracy of your writing will be assessed in your answer to this question. [3]

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End of Question 2

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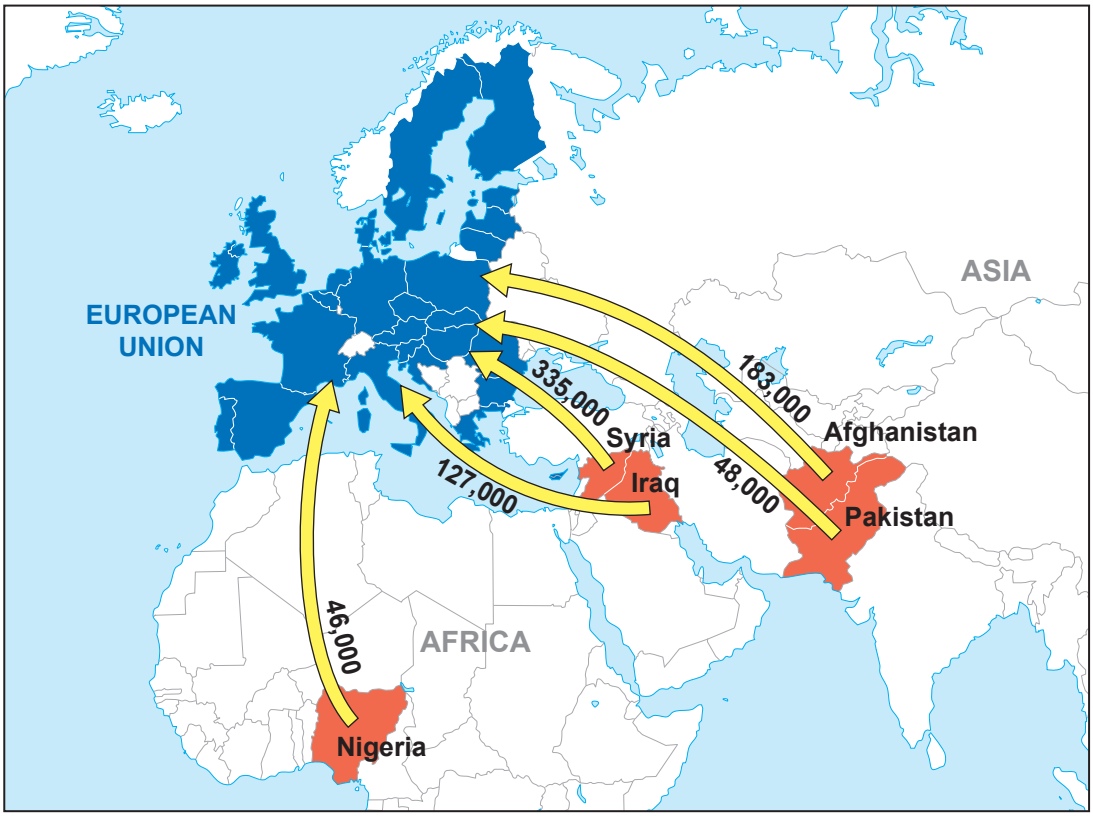
SECTION B – OPTIONS

Answer **one** *question in this section, either Question 3 or Question 4.*

THEME 7: Social Development Issues

3. *(a)* Study the map below.

Top 5 countries of origin for first time asylum applications to European Union countries in 2016



(i) Give the country with the highest number of asylum applications to the European Union from the five countries shown. [1]

Country .....

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(ii) Describe the pattern of the top five countries of origin of asylum seekers into the European Union. Use evidence from the map only. [3]

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(iii) Describe **one** way in which the map could be adapted to illustrate these movements more clearly. [2]

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(iv) Explain why there are large numbers of refugees and asylum seekers originating in sub-Saharan Africa/Asia. [6]

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(b) (i) Read the definitions below.

	Definition
A	A view of seeing social development as an ongoing process.
B	Measures of development that look at the difference between males and females in a country.
C	The difference in development between rich and poor countries.
D	Differences in the ways males and females are treated in different countries.
E	Differences in the people per doctor and life expectancy of different countries.

Add the letter of the correct definition to each of the terms below. One of the definitions will not be used. [4]

Term	Definition
Development Gap	
Continuum of Social Development	
Gender measures of Social Development	
Health measures of Social Development	

Study the **Resource Box** below.

Resource Box

Malaria Prevention Lesson (Bottom up)

World Health Organization Malaria Prevention Conference (Top down)

Malaria Fact Box

- In the year 2000, 839 000 people died from malaria. In 2015, 438 000 people died.
- Over ¾ of all deaths from malaria are children aged under 5.
- Malaria is spread by mosquitos. Controlling mosquitos is important in controlling malaria.
- Insecticide treated nets for people to sleep under prevent mosquito bites when people are sleeping. Local education programmes are important to encourage people to use these nets.
- The World Health Organization began a trial Malaria Vaccination Program in Africa in 2017. In the small group of people involved, the death rate in children reduced by half.

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(ii) 'Bottom up approaches to development are the better option to address health care issues in sub-Saharan Africa.' To what extent do you agree with this statement? [8]

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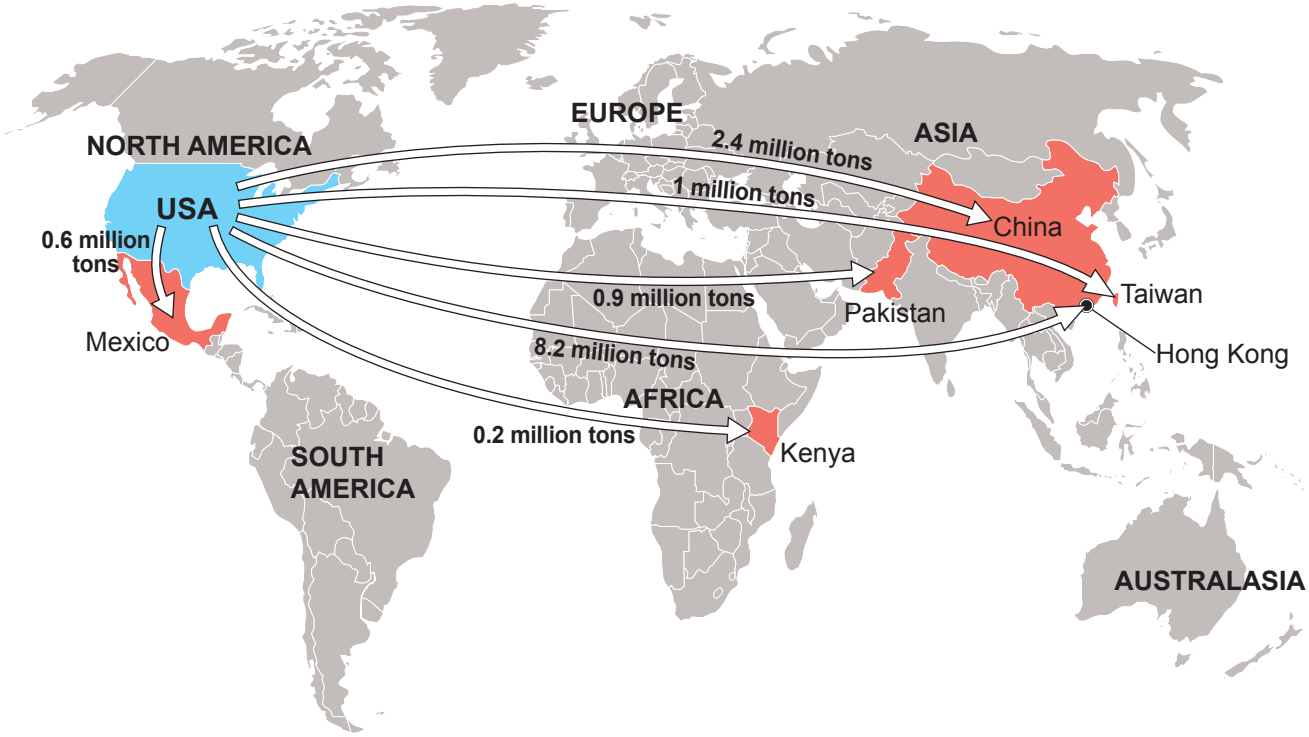
If you have answered Question 3 **do not** *answer Question 4.*

THEME 8: Environmental Challenges

4. *(a)* Study the map below.

Estimated Flow of E-Waste from the USA in 2016



(i) Give the country with the highest estimated flow of e-waste from the USA shown on the map. [1]

Country .....

(ii) Describe the pattern of e-waste destination sites shown on the map. Use evidence from the map only. [3]

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(iii) Describe **one** way in which the map could be adapted to illustrate the flow of e-waste more clearly. [2]

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(iv) Explain why e-waste has an impact on the environment. [6]

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(b) (i) Read the definitions below.

Letter	Definition
A	Programmes that protect biodiversity, wildlife, wild places or endangered species.
B	A positive impact on the well-being of a community.
C	A strip of habitat which allows wild animals to move from one ecosystem to another.
D	An area of countryside that is protected by the government for people to enjoy.
E	Tourism that takes into account the needs of local people.

Add the letter of the correct definition to each of the terms below. One of the definitions will not be used. [4]

Term	Definition
Conservation Project	
Ethical Tourism	
National Park	
Wildlife Corridors	

Study the **Resource Box** below.

Resource Box

Sustainable tourism, Kerala

Wildlife corridor, Netherlands

Managing Natural Habitats Fact Box

- The average tourist spends over $700 per person.
- Tourism creates 11% of the world's employment.
- Most methods of travel increase the amount of carbon dioxide in the atmosphere.
- A US-Costa Rica Debt-for-Nature Swap will provide $1M for Forest Conservation.
- The current rate of rainforest deforestation is 160 000 km^2 per year.

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(ii) 'Sustainable tourism is the best option for managing natural habitats.' To what extent do you agree? [8]

End of Question 4

END OF PAPER

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