Surname	Centre Number	Candidate Number
First name(s)		0

GCSE

C112U20-1

S24-C112U20-1

WEDNESDAY, 5 JUNE 2024 – MORNING

GEOGRAPHY B – Component 2

Problem Solving Geography

1 hour 30 minutes

For Examiner's use only		
	Maximum Mark	Mark Awarded
Part A	36	
Part B	24	
Part C	12	
SPaG	4	
Total	76	

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01

ADDITIONAL MATERIALS

Resource Folder.

Calculator and a ruler if required.

INSTRUCTIONS TO CANDIDATES

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

You may use a pencil for graphs and diagrams only.

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

Answer **all** questions.

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 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 or part-question.

You are reminded that assessment will take into account your ability to spell, punctuate and use grammar and specialist terminology accurately in your answer to Part C.

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Answer **all** questions.

Desertification is an increasing problem across the world.
The country of Bahrain has experienced more desertification in recent years than ever before.

Part A:	asks you to consider the location and climate of countries affected by desertification and some issues related to it.	36 marks
Part B:	asks you to explore some solutions from around the world.	24 marks
Part C:	asks you to decide which of these solutions you think is right for Bahrain.	16 marks

Part A

You are advised to spend about **40 minutes** on this part.

(a) Study **Figure 1** on **page 2** of the **Resource Folder**.

Describe the global pattern of vulnerability to desertification. [3]

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(b) (i) Bahrain has a hot, semi-arid climate. Circle the **three** features of hot, semi-arid climates. [3]

a short wet season — a temperature range higher than 40°C

a maximum temperature around 20°C — hot summers

cold winters — low annual precipitation

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(ii) Study **Figure 1** on **page 2** of the **Resource Folder**.
It also shows the location of four countries vulnerable to desertification.

Bahrain is one of the four countries vulnerable to desertification named on the map.
Describe the location of Bahrain. [2]

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(iii) Bahrain is a newly industrialised country (NIC).

Give **two** characteristics of a NIC. [2]

Characteristic 1:

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Characteristic 2:

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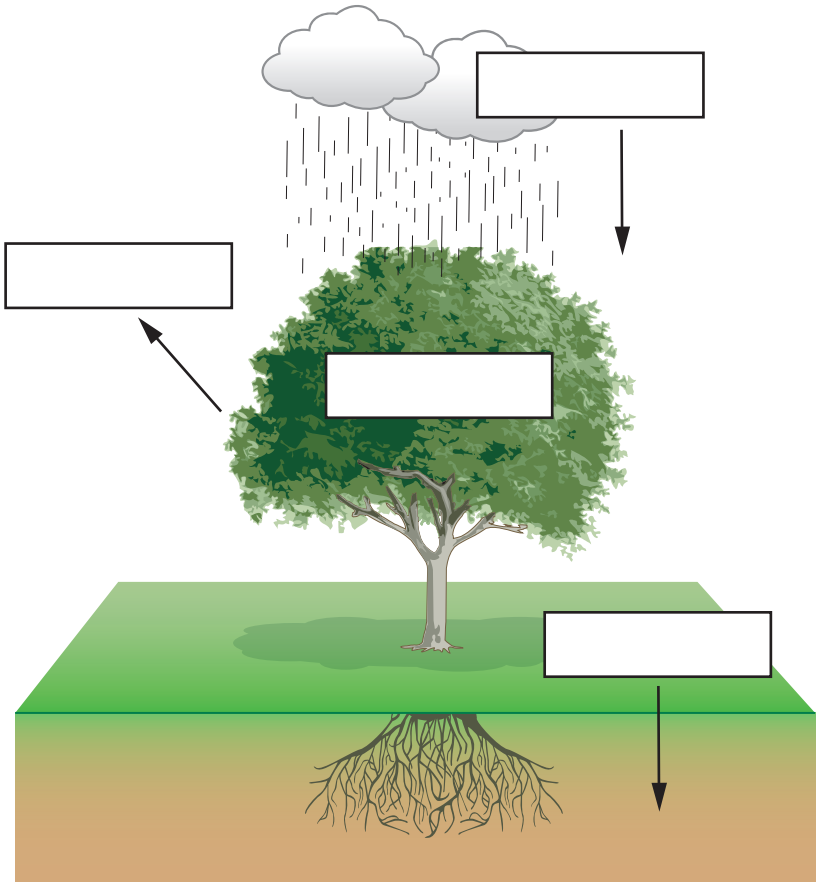
(c) (i) Complete the diagram below to show how trees affect the flow of water in the local environment. Use words from the text box below. [4]

interception	evapotranspiration
precipitation	infiltration



(ii) Deforestation is a human activity that can lead to desertification. Give **one** reason why people cut trees down. [2]

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(iii) Study **Figure 2** on **page 3** of the **Resource Folder**. It shows the rate of forest cover change.

Circle the correct word in each sentence below using **Figure 2**. [2]

Since 1990, Bahrain forest cover **(increased / decreased / stayed the same)**.

Most countries that lost forest are **(east / north / south)** of the Tropic of Cancer.

(iv) Study **Figure 3** on **page 3** in the **Resource Folder**.

Calculate the median for % change in forest cover (2001 to 2021) shown in **Figure 3**. [2]

Show your working.

Answer ..... %.

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(v) Suggest why the median is more appropriate than the mean for this data. [1]

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(vi) Explain why using data to measure development has limitations. [4]

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(d) (i) Over-abstraction of water is an issue in these four countries.
State what is meant by over-abstraction. [1]

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(ii) Explain why over-abstraction of water causes problems. [6]

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(iii) Explain **two** other ways poor land management can make desertification worse. [4]

Way 1: .....

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Way 2: .....

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End of Part A

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Part B

You are advised to spend about **25 minutes** on this part.

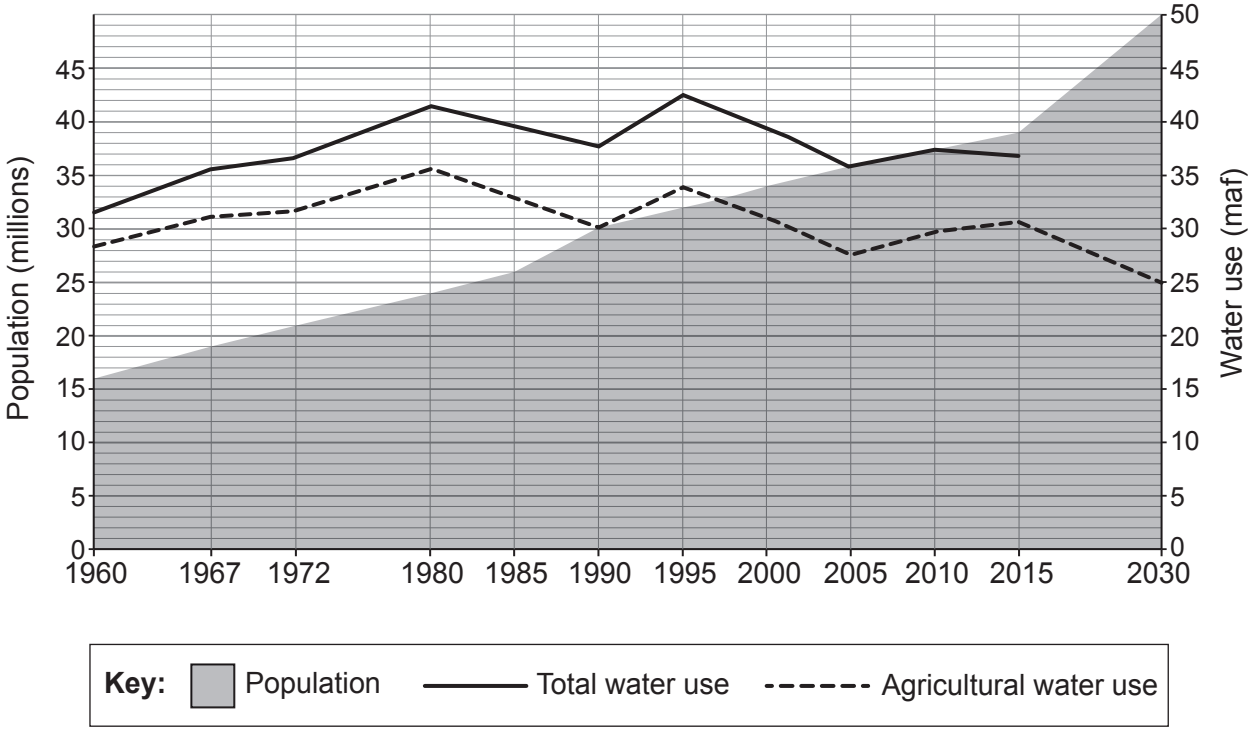
(a) (i) California, USA, is suffering from desertification. Study the graph below.

Complete the graph using the forecast data for total water use below. [1]

Forecast data

	2030
Total water use	29

Water use and population in the state of California, USA



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(ii) Study **Figure 4** on **page 4** of the **Resource Folder**.
California's farmers are using advanced technology to produce crops.

Suggest how advanced technology might help California to manage desertification. [2]

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(iii) Suggest why using advanced technology is not an option for some farmers. [4]

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(b) Study **Figure 5** on **page 5** of the **Resource Folder**.

Zimbabwe, a country in Southern Africa, is suffering from desertification and is asking its farmers to build more sand dams.

Evaluate how sand dams could be considered sustainable. [6]

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(c) (i) Study **Figure 6** on **page 6** of the **Resource Folder**. The country of Guatemala, in Central America, is also suffering from desertification. Farmers are using drought-tolerant crops.

Give **one** reason why drought-tolerant crops may help to reduce desertification. [2]

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(ii) Explain why local communities could benefit from the planting of drought-tolerant crops. [4]

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(d) (i) Study **Figure 7** on **page 7** of the **Resource Folder**. It shows the change in average temperature in Bahrain from 1901 to 2021.

Describe the trend shown on the graph. [1]

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(ii) Some people deny that Bahrain's change in temperature is the result of human activity.

Explain why attitudes to climate change vary. [4]

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End of Part B

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Part C

You are advised to spend about **25 minutes** on this part.

The country of Bahrain has experienced more desertification in recent years than ever before. Which one of the three options should Bahrain choose to reduce the effects of desertification?

- Use advanced technology.
- Install sand dams.
- Farm more drought-tolerant crops.

Justify your decision.

Your answer should consider the social, economic and environmental sustainability of your decision. You may use the resources from this paper as well as your own studies. [12]

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

I have chosen to .....

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End of Part C

END OF PAPER

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Question number	Additional page, if required. Write the question number(s) in the left-hand margin.	Examiner only

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