Surname	Centre Number	Candidate Number
First name(s)		0

GCSE

3110U10-1

S24-3110U10-1

FRIDAY, 17 MAY 2024 – AFTERNOON

GEOGRAPHY

Unit 1: Changing Physical and Human Landscapes

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.
A Resource Folder.

INSTRUCTIONS TO CANDIDATES

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

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.

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**(b)(vi).

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SECTION A – CORE THEMES

Answer **all** questions in this section.

THEME 1: Landscapes and Physical Processes

1. (a) Study the OS map and key in the Resource Folder.

(i) Give the grid reference for the bus station in Pontypridd.
Tick (✓) the correct answer from the box below. [1]

Grid reference	Tick (✓)
0789	
0790	
9007	
9107	

(ii) Estimate the size of Area A (woodland to the west of Pontypridd). Tick (✓) the correct answer from the box below. [1]

Size of Area A	Tick (✓)
5 km^2	
1 km^2	
2 km^2	

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(b) Floods often happen when there is excess overland flow (surface runoff) in a drainage basin.

(i) Circle **two** factors from the box below that are most likely to lead to increased overland flow. [2]

Permeable rocks	Dense woodland
Steep slopes	Urban (built-up) area

(ii) Describe **one** impact on people of a river flood that you have studied. [2]

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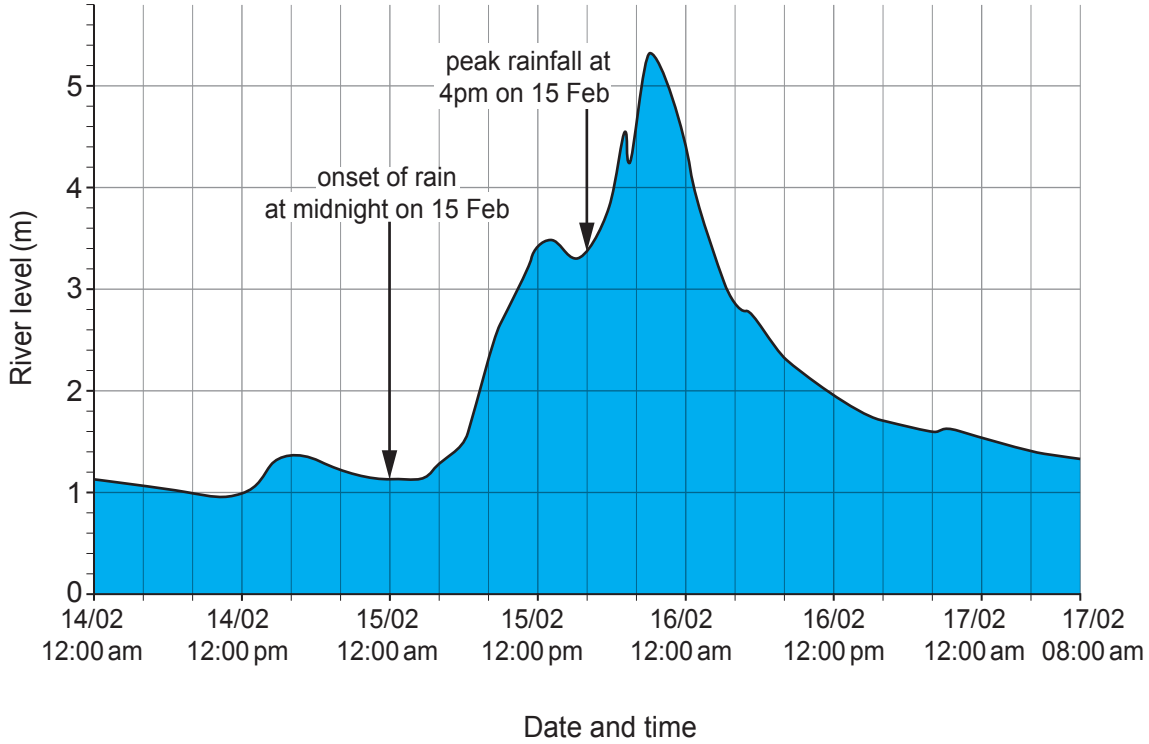
Study the hydrograph below.

Hydrograph for the River Taff at Pontypridd during Storm Dennis, 2020



(iii) Use the hydrograph to describe how the river responded to Storm Dennis between 14th and 17th February. [4]

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Flooding in Pontypridd town centre following Storm Dennis, 2020

In February 2020, three severe storms affected Wales. Storm Dennis was the second storm.

(iv) Analyse the factors that may have contributed to the flooding in Pontypridd during Storm Dennis. [6]

Use evidence from the resources on pages 4 and 5, and the OS map in the Resource Folder.

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(c) Study the information in the table below.

Number of visitors to Bannau Brycheiniog National Park

Year	Number of visitors (millions)
2013	4.88
2015	4.81
2017	5.05
2019	5.67

(i) Suggest **one** type of graph that would be most appropriate to represent this data and explain why you think it would be suitable. [2]

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(ii) What is meant by the term 'honeypot site'? [1]

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Study the photograph below.

Visitor pressure in Bannau Brycheiniog National Park

(iii) Suggest how visitors are causing problems in this photograph. [3]

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(d) Explain why strategies used to manage landscapes can cause disagreement between different users. [6]

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THEME 2: Rural-Urban Links

2. (a) Study the table below.

UK internet shopping sales 2012–2021 (billion £)

Year	Sales (billion £)
2012	32
2014	45
2016	60
2018	70
2020	107
2021	120

(i) Calculate the percentage increase in UK internet shopping sales from 2012 to 2021. [2]
Show your working.

Answer ..... %

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(ii) Give **two** reasons for the growth in internet shopping. [4]

Reason 1 .....

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Reason 2 .....

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(iii) Describe **two** impacts of increased internet shopping on UK high streets. [4]

Impact 1 .....

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Impact 2 .....

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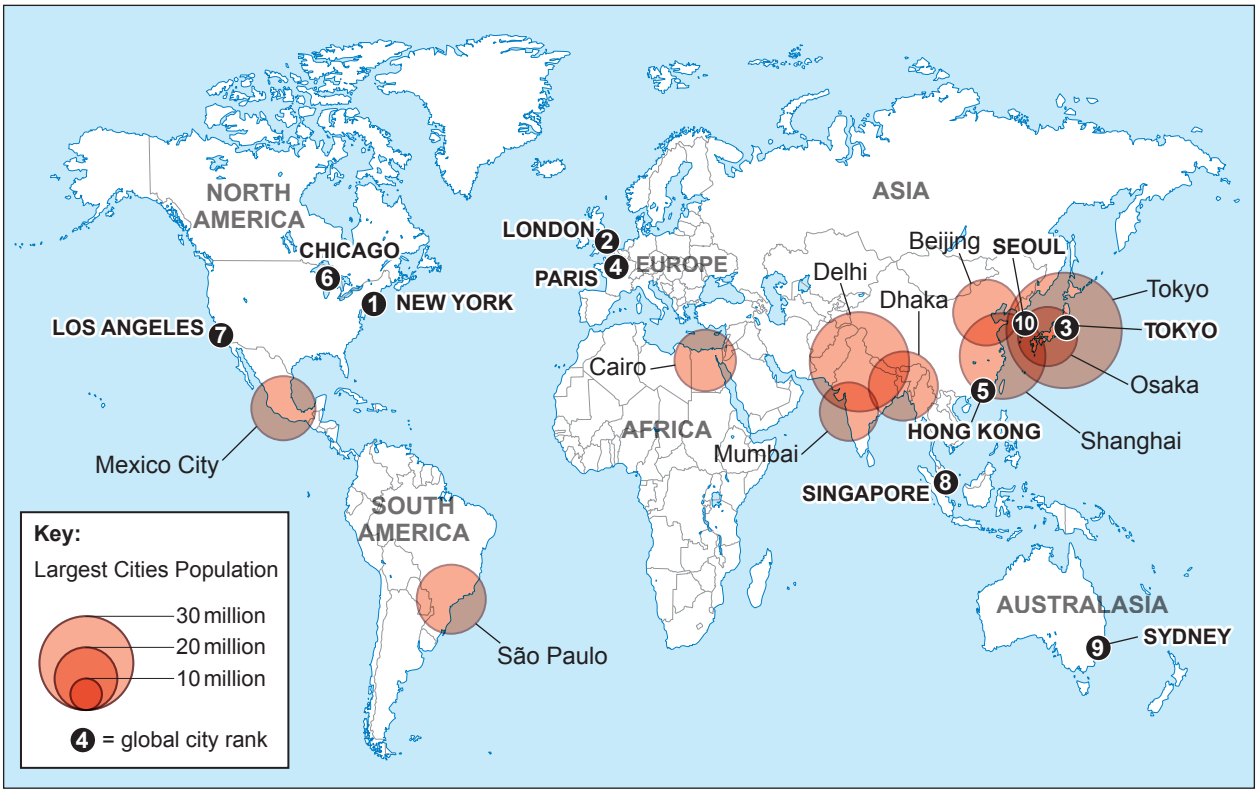
(b) Study the map below.

The world's 10 largest cities and top 10 global cities



(i) Give the population of Tokyo. Tick (✓) the correct answer in the box below. [1]

Population of Tokyo	Tick (✓)
Less than 10 million	
10 to 20 million	
20 to 30 million	
Greater than 30 million	

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(ii) Compare the location of the top ten global cities with the top ten largest cities. [3]

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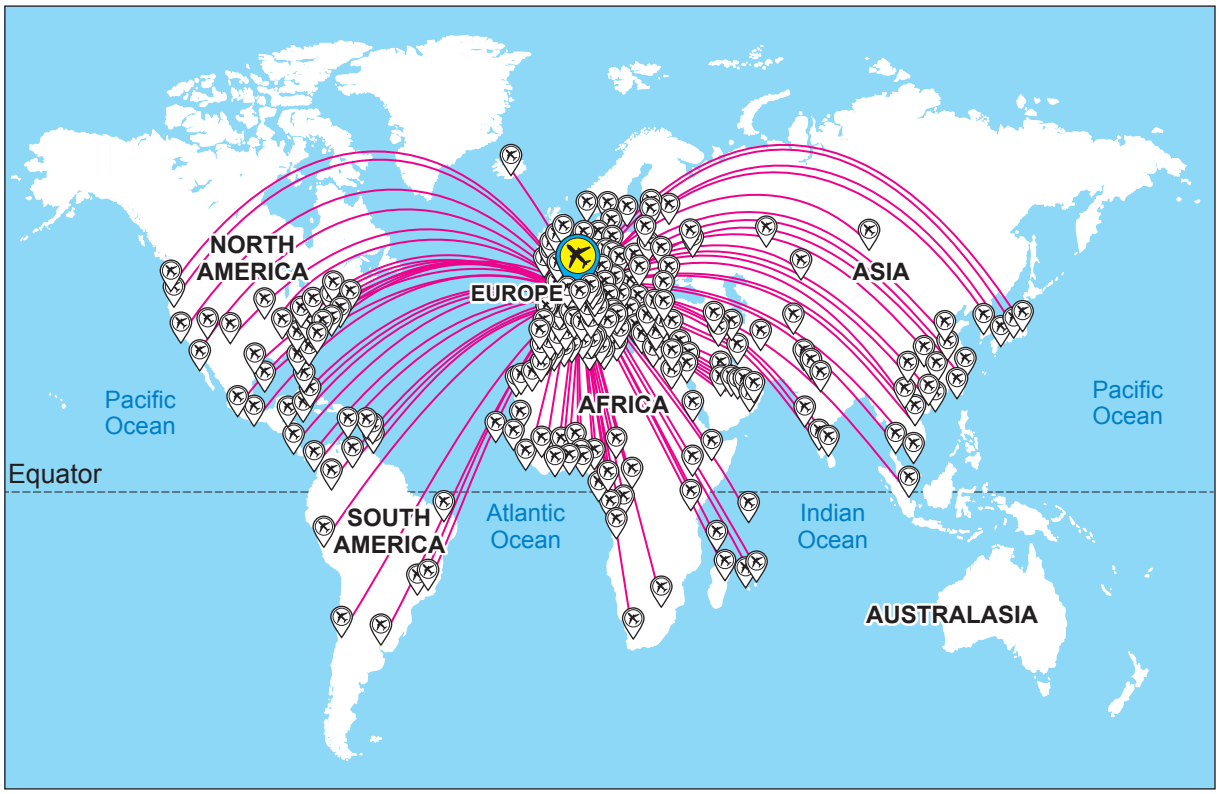
Study the map below.

Flight paths to and from Paris CDG International Airport



(iii) Suggest how the map shows that Paris is a global city. [2]

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(iv) Give **two** other features common to global cities. [2]

Feature 1 .....

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Feature 2 .....

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(v) Explain why the informal economy plays an important role in some cities in low income or newly industrialised countries (LICs or NICs). [4]

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(vi) Study the images below.

Challenges facing global cities

Tokyo, Japan

Delhi, India

Rio de Janeiro, Brazil

Evaluate the challenges facing global cities. [6]

You may use the photos or other examples you have studied to support your answer.

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 3: Tectonic Landscapes and Hazards

3. (a) Study the information below.

The power of exploding volcanoes is measured using a scale from 0 to 8. The scale is called the Volcanic Explosivity Index (VEI).

Volcanic Explosivity Index

VEI	Height of smoke plume (km)	Frequency of eruption
0	< 0.1	Persistent
1	0.1–1	Daily
2	1–5	Weekly
3	3–15	Few months
4	10–25	1 yr
5	20–35	10 yrs
6	> 30	100 yrs
7	> 40	1000 yrs
8	> 50	10 000 yrs

(i) Describe the relationship between the height of the smoke plume and the frequency of eruption. Use data from the table to support your answer. [2]

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(ii) Explain why pyroclastic flows are a major hazard in highly explosive eruptions. [4]

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(b) (i) Describe **two** strategies used to reduce the risks associated with volcanic eruptions. [4]

Strategy 1 .....

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Strategy 2 .....

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(ii) Give **one** reason why it is often more difficult to protect people from earthquakes than from volcanic eruptions. [2]

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(c) Study the map below.

Location of the Philippines

(i) Use the map to circle the correct answer in the sentences below. [4]

The Philippines is located off the **east** / **south** / **west** coast of Vietnam.

The Philippines covers a distance of **1800** / **2000** / **2200** kilometres from north to south, between point X and point Y.

Manila is located at a latitude of **15° East** / **15° North** / **121° North**.

Manila is located at a longitude of **15° East** / **15° North** / **121° East**.

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Study the information in the Fact Box below.

Volcanic eruptions in the Philippines

Physical factors

- The Philippines consists of over 7500 islands, formed along a destructive plate margin.
- There are 23 active volcanoes. The eruption of Mount Pinatubo in 1991 killed 847 people and made approximately 10 000 homeless.
- 100 000 people live in areas at risk from lahars, where heavy rain washes volcanic ash down from the mountains.
- The country experiences frequent earthquakes.

Economic factors

- GDP per capita is $3905 compared to $35 385 in Japan, which also has tectonic hazards.
- More than 20% of the population lives in poverty.
- Road networks and links between the many islands are poor.
- Farming and fishing are main sources of income in rural areas.

Social factors

- In some areas, only about 30% of children complete their education.
- Many people in the Philippines have no access to electricity, water, sanitation facilities and health care.
- Many of the poorest people live in poorly constructed homes. Around 4% of the population is homeless.
- Population density is very high around the capital city, Manila.

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(ii) Social and economic factors are more important than physical factors in making the population of the Philippines vulnerable to tectonic hazards. To what extent do you agree with this statement? [8]

Use the Fact Box to support your answer. You may refer to other examples you have studied.

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Additional space for Question **3**(c)(ii) only:

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End of Question 3

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

THEME 4: Coastal Hazards and their Management

4. (a) Study the data below.

Return periods for extreme sea levels (ESL) at Lowestoft, UK

ESL (metres)	2.02	2.38	2.55	2.77	2.93	3.10	3.50	3.69
Return period (years)	1	5	10	25	50	100	500	1000

(i) Describe the relationship between the extreme sea levels (ESL) and the return periods. Use data from the table to support your answer. [2]

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(ii) Explain why climate change may result in more extreme sea levels in the future. [4]

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(b) (i) Describe **one** hard and **one** soft engineering strategy that can be used to reduce the risk of coastal flooding. [4]

Hard engineering

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Soft engineering

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(ii) Give **one** reason why some UK coastlines are protected from coastal flooding whilst others are not. [2]

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(c) Study the map below.

The location of the Philippines, a group of islands in the Pacific Ocean, means that it is in the path of frequent violent typhoons (hurricanes). These storms cause severe flooding, particularly in coastal areas.

Location of the Philippines

(i) Use the map to circle the correct answer in the sentences below. [4]

The Philippines is located off the **east** / **south** / **west** coast of Vietnam.

The Philippines covers a distance of **1800** / **2000** / **2200** kilometres from north to south, between point X and point Y.

Manila is located at a latitude of **15° East** / **15° North** / **121° North**.

Manila is located at a longitude of **15° East** / **15° North** / **121° East**.

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Study the information in the Fact Box below.

Flood and storm damage from typhoons in the Philippines

Physical factors

- The Philippines consists of over 7500 islands. The country experiences at least 20 typhoons each year.
- Typhoons create storm surges raising sea levels. Strong winds drive massive waves onto the coastline. Typhoon Haiyan in 2013 caused 6352 deaths with a further 1771 missing.
- Climate change is increasing the strength and frequency of storms and severe flooding.

Economic factors

- GDP per capita is $3905 compared to $35 385 in Japan, which also has coastal flooding hazards.
- More than 20% of the population lives in poverty.
- Road networks and links between the many islands are poor.
- Farming and fishing are main sources of income in rural areas.

Social factors

- In some areas, only about 30% of children complete their education.
- Many people in the Philippines have no access to electricity, water, sanitation facilities and health care.
- Many of the poorest people live in poorly constructed homes. Around 4% of the population is homeless.
- Population density is very high around the capital city, Manila.

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(ii) Social and economic factors are more important than physical factors in making the population of the Philippines vulnerable to coastal flooding. To what extent do you agree with this statement?

Use the Fact Box to support your answer. You may refer to other examples you have studied. [8]

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