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GEOGRAPHY **0460/13**

Paper 1 Geographical Themes **October/November 2022**

1 hour 45 minutes

You must answer on the question paper.

You will need: Insert (enclosed)
Calculator
Ruler

INSTRUCTIONS

- Answer **three** questions in total, **one** from each section.
- 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 or correction fluid.
- Do **not** write on any bar codes.
- If additional space is needed, you should use the lined pages at the end of this booklet; the question number or numbers must be clearly shown.

INFORMATION

- The total mark for this paper is 75.
- The number of marks for each question or part question is shown in brackets [ ].
- The insert contains additional resources referred to in the questions.

Definitions
MEDCs – More Economically Developed Countries
LEDCs – Less Economically Developed Countries

This document has **32** pages. Any blank pages are indicated.

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Section A

Answer **one** question from this section.

1 **(a)** Study Fig. 1.1, which shows information about population change in Estonia (an MEDC in Europe) in 2018.

births	14 270
deaths	15 670
immigration	13 030
emigration	6940

Fig. 1.1

(i) How is natural population change calculated?

.....

..... [1]

(ii) The total population of Estonia on 1 January 2018 was 1 319 130.
Calculate the total population of Estonia by the end of 2018 using the statistics in Fig. 1.1.
You should show your calculations in the box below.

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[2]

(iii) Suggest **three** benefits to Estonia of large numbers of immigrants.

1 .....

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2 .....

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3 .....

..... [3]

(iv) Many of the immigrants to Estonia in 2018 were from Russia and Ukraine.
Suggest difficulties which these immigrants faced when they moved to Estonia.

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..... [4]

(b) Study Fig. 1.2, which shows information about population change in Estonia between 2014 and 2018.

Content removed due to copyright restrictions.

Fig. 1.2

(i) Compare the natural population increase of Estonia between 2014 and 2018 with its net international migration. Use statistics in your answer.

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..... [3]

(ii) Estonia is an under-populated country.
Describe the problems faced by countries which are under-populated.

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(c) For a named country you have studied, explain why birth rates are high.

Name of country .....

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TURN PAGE FOR QUESTION 2

2 **(a)** Study Fig. 2.1, which is a map showing the largest urban areas in the USA.

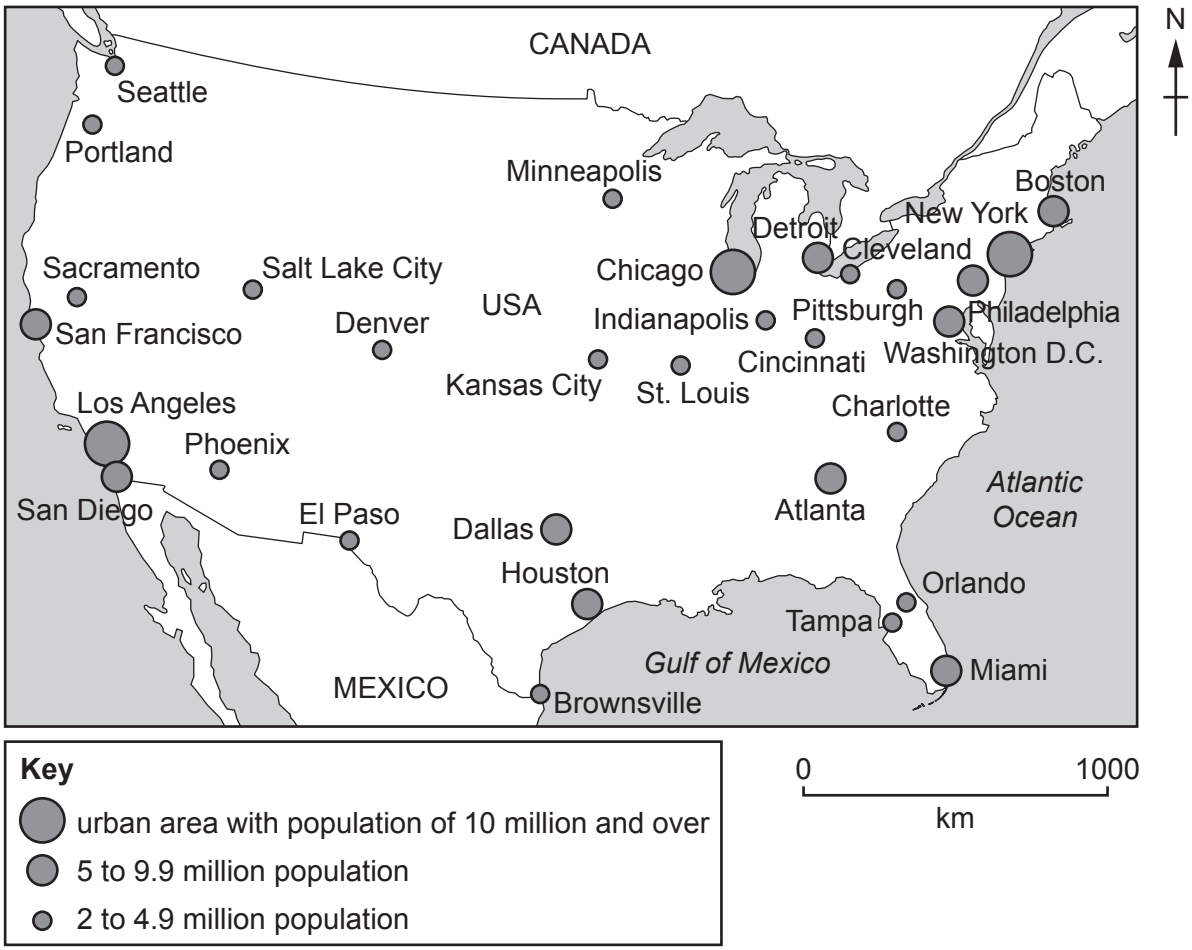


Fig. 2.1

(i) What is meant by *urban area*?

.....

..... [1]

(ii) Identify an urban area with a population of:

– between 5 and 9.9 million on the west coast .....

– between 2 and 4.9 million in the centre of the USA ..... [2]

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(iii) Use arrows to match the settlement function with the correct example of land use in the table below. One has been completed for you.

function	land use
administrative centre	hotels and restaurants
industrial town	livestock salesrooms and seed merchants
market town	council offices and law courts
port	factories and mines
resort	docks and warehouses

[3]

(iv) Explain what is meant by a *hierarchy of settlement* within a country. Use evidence from Fig. 2.1 to illustrate your answer.

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..... [4]

(b) Study Fig. 2.2 (Insert), which is a photograph showing Hammerfest in Norway (an MEDC in Europe).

(i) Using evidence from Fig. 2.2 **only**, suggest why a port has developed at Hammerfest.

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..... [3]

(ii) Suggest reasons why Hammerfest also has an important retail function.

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(c) A major problem faced by people living in urban areas is traffic congestion.
For a named urban area you have studied, describe the strategies which have been used to reduce the problems caused by traffic.

Name of urban area .....

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Section B

Answer **one** question from this section.

3 **(a)** Study Fig. 3.1, which is a map showing the location of tropical rainforests and hot deserts in Africa.

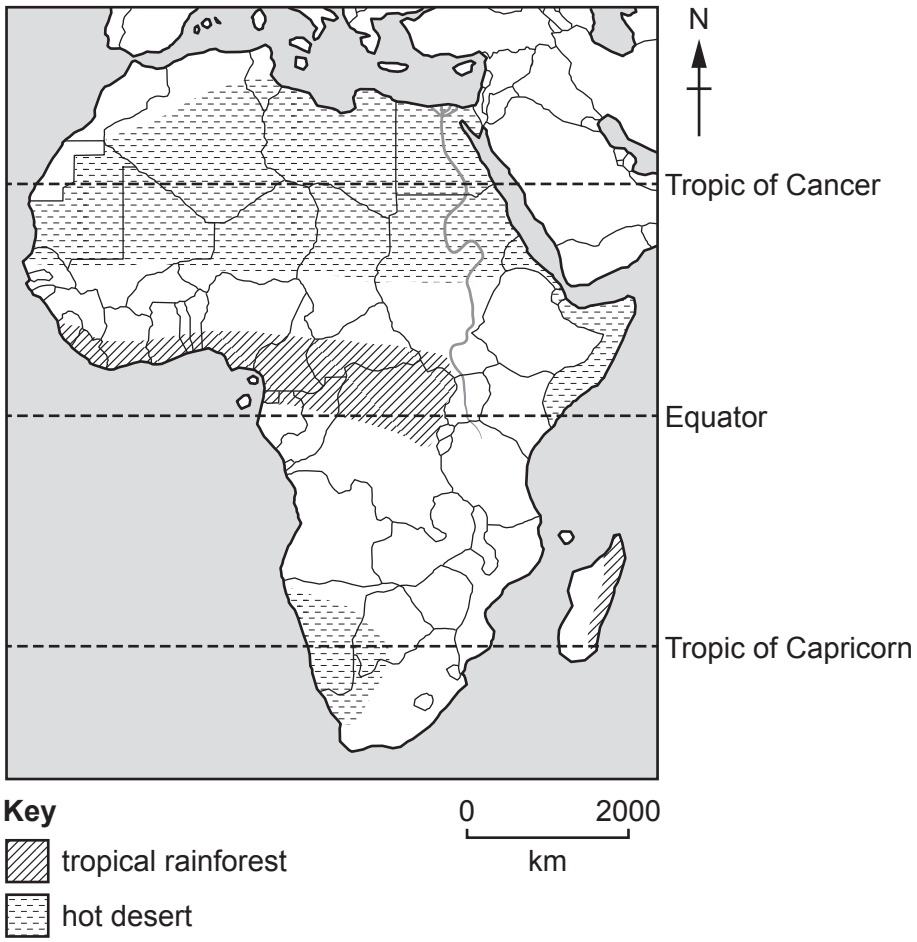


Fig. 3.1

(i) Tick (✓) the **one** statement which is true about the climate of a tropical rainforest.

	tick (✓)
annual range of temperature is low	
humidity is low	
monthly precipitation is less than 50 mm	
temperatures are always above 40 °C	

[1]

(ii) Describe the distribution of areas of tropical rainforest in Africa.

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..... [2]

(iii) Explain why **hot deserts** have a high diurnal (daily) range of temperature.

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..... [3]

(iv) Explain why hot deserts receive less rainfall than tropical rainforests.

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..... [4]

(b) Study Fig. 3.2 and Fig. 3.3 (Insert), which are photographs showing two different plants in the Mojave Desert, USA.

(i) Identify **three** differences between the plants shown in Figs. 3.2 and 3.3.

1 .....

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2 .....

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3 .....

..... [3]

(ii) Explain how plants, such as those shown in Figs. 3.2 and 3.3, are able to survive in the Mojave Desert.

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(c) For a named area of **tropical rainforest** you have studied, describe and explain the characteristics of its vegetation.

Name of area of tropical rainforest ....

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4 **(a)** Study Fig. 4.1, which is a hydrograph showing the effects of a rain storm on the discharge of a river.

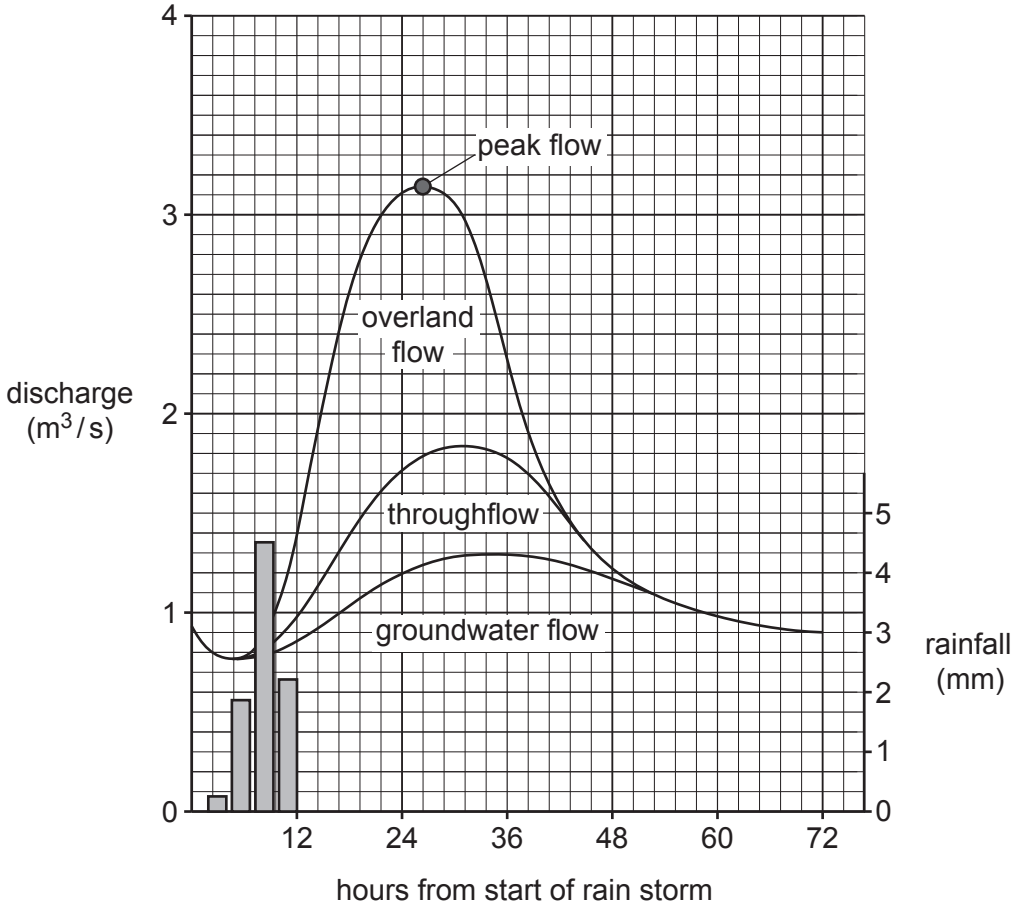


Fig. 4.1

(i) What was the peak flow of the river after the rain storm?

..... m^3/s [1]

(ii) Define the following processes.

groundwater flow .....

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throughflow .....

..... [2]

(iii) Explain why the river's peak flow does not occur until approximately 26 hours after the start of the rain storm.

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..... [3]

(iv) Explain how the following will influence river discharge.

building large areas of housing in the valleys

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afforestation on the slopes of the valleys

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..... [4]

(b) Study Fig. 4.2 (Insert), which is a photograph of part of a meander.

(i) Describe the differences between the two banks of the river, which are labelled **A** and **B** in Fig. 4.2.

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..... [3]

(ii) Explain why the two banks of the river shown in Fig. 4.2 are different from each other. You should refer to river processes.

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..... [5]

(c) Describe the opportunities provided by a named river you have studied for people who live close to it.

Name of river ....

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Section C

Answer **one** question from this section.

5 **(a)** Study Fig. 5.1, which shows an irrigation system used by subsistence farmers in an LEDC.

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Fig. 5.1

(i) What is meant by a *subsistence* farmer?

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..... [1]

(ii) Explain why irrigation enables subsistence farmers to grow more food.

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..... [2]

(iii) Explain why the method of irrigation shown in Fig. 5.1 is suitable for farmers in an LEDC.

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..... [3]

(iv) Give **two** other methods which farmers can use to increase food production.
For each method explain why it increases output. Do **not** write about irrigation.

1 .....

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2 .....

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..... [4]

(b) Study Fig. 5.2 (Insert), which is a photograph taken on a commercial, arable farm.

(i) State **three** processes which will take place on the farm shown in Fig. 5.2.

1 .....

2 .....

3 ..... [3]

(ii) Suggest why the area shown in Fig. 5.2 is suitable for arable farming.

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(c) For a named country or region you have studied, explain why many people have suffered malnutrition and starvation.

Name of country or region ....

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6 **(a)** Study Fig. 6.1, which is taken from a speech by the climate change campaigner, Greta Thunberg, at the World Summit in Vienna (May 2019).

> 'One second politicians say climate change is very important; it is the most important topic and we are going to do everything we can to stop it. The next second, they want to expand airports, build new coal-fired power stations and motorways. Then they fly off in a private jet to attend a meeting on the other side of the world.'

Fig. 6.1

(i) Name **one** greenhouse gas which is responsible for climate change (global warming).

..... [1]

(ii) Explain how the build-up of a layer of greenhouse gases in the atmosphere is increasing global warming.

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..... [2]

(iii) Explain why there are increasing amounts of greenhouse gases in the atmosphere.

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(iv) Describe the global problems which campaigners claim may result from the increase in the amounts of greenhouse gases in the atmosphere.

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(b) Study Fig. 6.2, which is a graph showing information about plastic waste in the world's oceans.

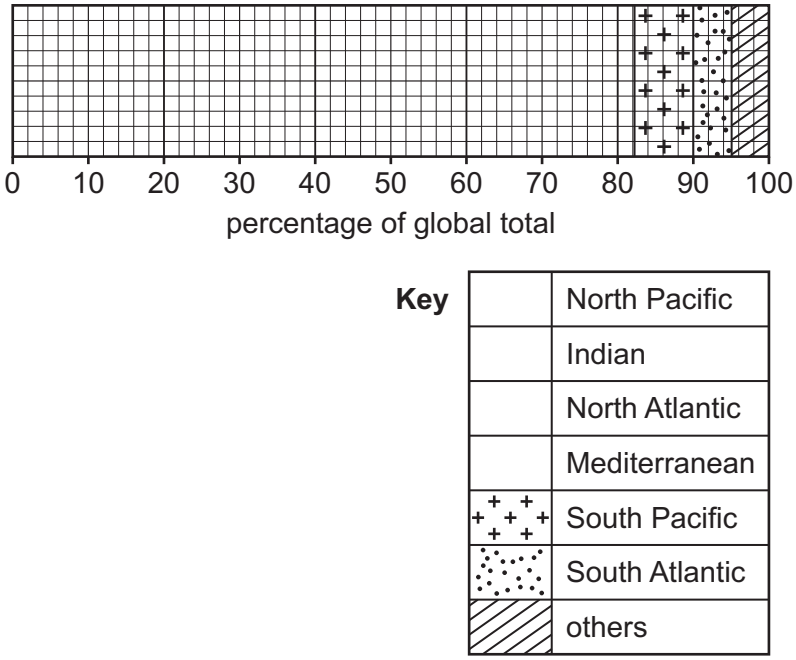


Fig. 6.2

(i) **Complete the graph and the key in Fig. 6.2** using the following information.

sea or ocean	**percentage of global total of plastic waste in oceans**
North Pacific	36
Indian	20
North Atlantic	18
Mediterranean	8

[3]

(ii) Explain why pollution of the seas and oceans causes problems for the natural environment and people.

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(c) For a named area you have studied, name **one** economic activity which is a threat to the **local** natural environment and explain how these environmental risks are being managed.

Name of area ....

Economic activity ....

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Additional pages

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