Cambridge Assessment International Education

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GEOGRAPHY **0460/41**

Paper 4 Alternative to Coursework **May/June 2023**

INSERT **1 hour 30 minutes**

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INFORMATION

- This insert contains additional resources referred to in the questions.
- You may annotate this insert and use the blank spaces for planning. **Do not write your answers** on the insert.

This document has **12** pages. Any blank pages are indicated.

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Fig. 1.1 for Question 1

The cement industry

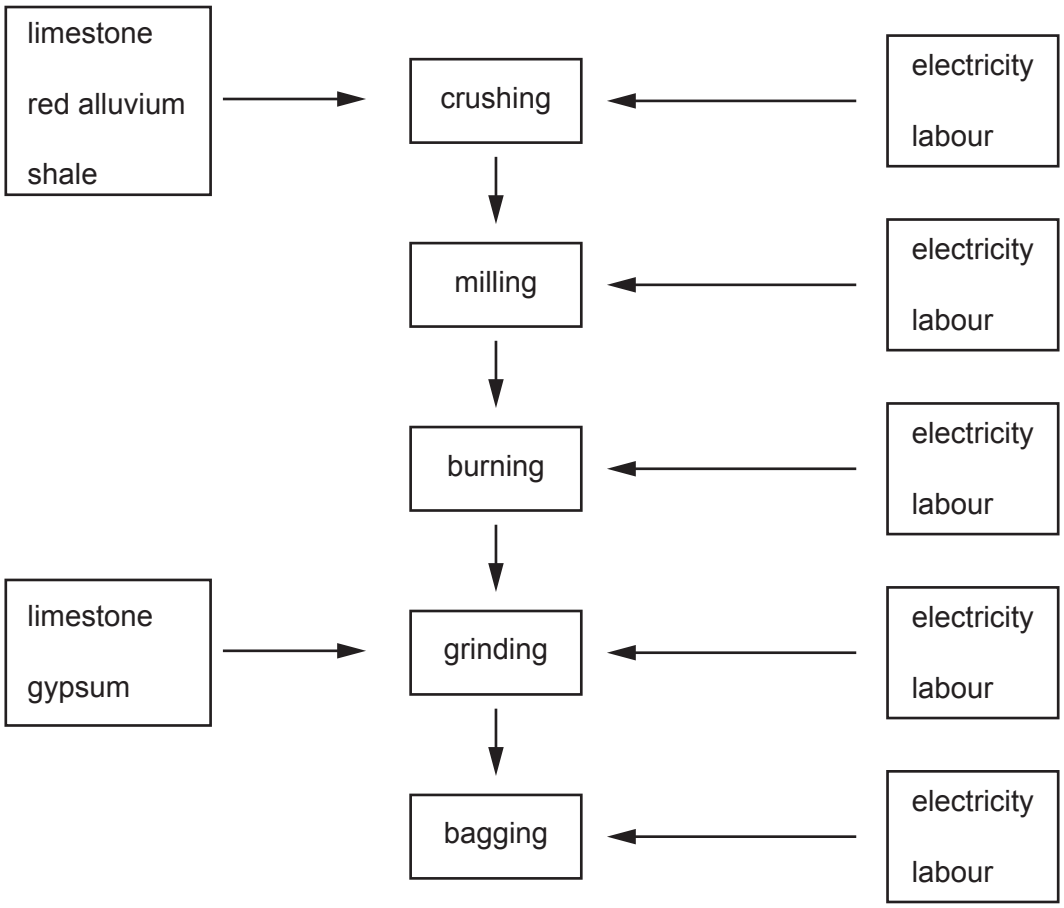


Fig. 1.2 for Question 1

Newspaper report

Residents of Kamalpur protest against a local cement factory

Villagers have accused the factory owners of polluting the environment and causing health problems for children at a nearby school. The villagers have protested in front of the factory gates blocking traffic for two hours.

A representative of the villagers accused the factory owners of using old machines. These released dust and cement particles into the air, which has caused breathing difficulties and eye diseases.

He added that the dust has reduced the fertility of their land.

The protesters said that the Kamalpur Primary School has been affected by the factory because the children have been unable to concentrate due to the noise.

They also said that large trucks carrying stones and other materials have damaged the roads and held up traffic.

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Fig. 1.3 for Question 1

Resident questionnaire

We are doing a survey about the cement factory as part of our Geography fieldwork. Please will you answer the following questions?

Which age group are you in? Tick (✓) the answer.

under 21	
21–40	
41–60	
over 60	

Section A

The cement factory causes problems in Kamalpur. For each problem give a score between 1 and 5 (1 = little concern and 5 = high level of concern).

problem	**level of concern (1 to 5)**
air pollution	.....
dangerous traffic	.....
looks ugly	.....
noise	.....
trees are chopped down	.....

Section B

The following ways have been suggested to reduce the negative impacts of the factory. Which method do you think is best? Tick (✓) your chosen method.

make a law to reduce the amount of air pollution from the factory	
give grants and loans to the factory owner to buy new machinery	
close down the factory	
build a clinic in Kamalpur and employ doctors to treat breathing difficulties and eye diseases	

Thank you for your time.

Table 1.1 for Question 1

Results of Section A in the questionnaire

problem	level of concern total score
air pollution	428
noise	375
dangerous traffic	**294**
looks ugly	215
trees are chopped down	164

Table 1.2 for Question 1

Average score given by each age group (out of 5)

problem	age group			
	under 21	21–40	41–60	over 60
air pollution	4.4	4.0	4.4	3.9
noise	3.6	3.9	3.7	4.1
dangerous traffic	2.7	2.6	3.9	2.9
looks ugly	2.0	**2.8**	1.8	1.9
trees are chopped down	2.6	**1.7**	1.2	1.5

Table 1.3 for Question 1

Possible methods to reduce the negative impacts of the factory

method	percentage of people choosing
make a law to reduce the amount of air pollution from the factory	35
give grants and loans to the factory owner to buy new machinery	14
close down the factory	**22**
build a clinic in Kamalpur and employ doctors to treat breathing difficulties and eye diseases	**29**

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Fig. 1.7 for Question 1

Student's bi-polar survey sheet

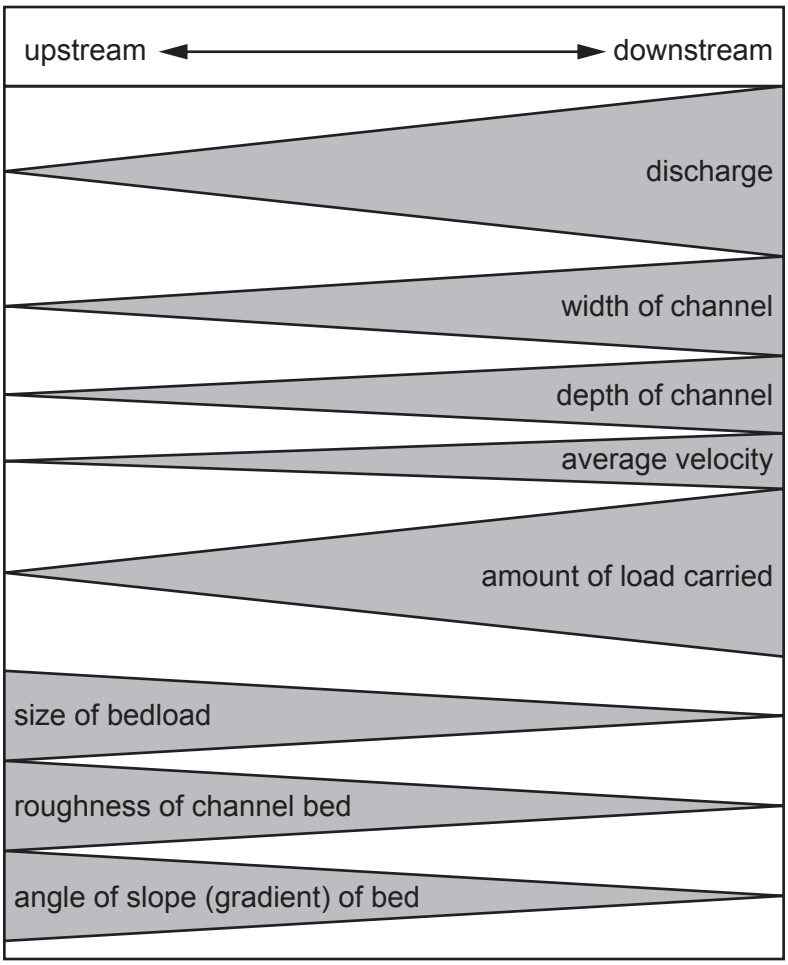
distance away from the cement factory ..... km							
problem caused by cement factory	**positive description**	**+2**	**+1**	**0**	**-1**	**-2**	**negative description**
air pollution	no air pollution						air is badly polluted
noise	no noise						continuous loud noise
traffic	no large vehicles						many large vehicles
visual impact	factory is not visible						factory spoils the view of the area

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Fig. 2.1 for Question 2

How the characteristics of a river change downstream



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Table 2.1 for Question 2

Length of pebbles selected at site 3

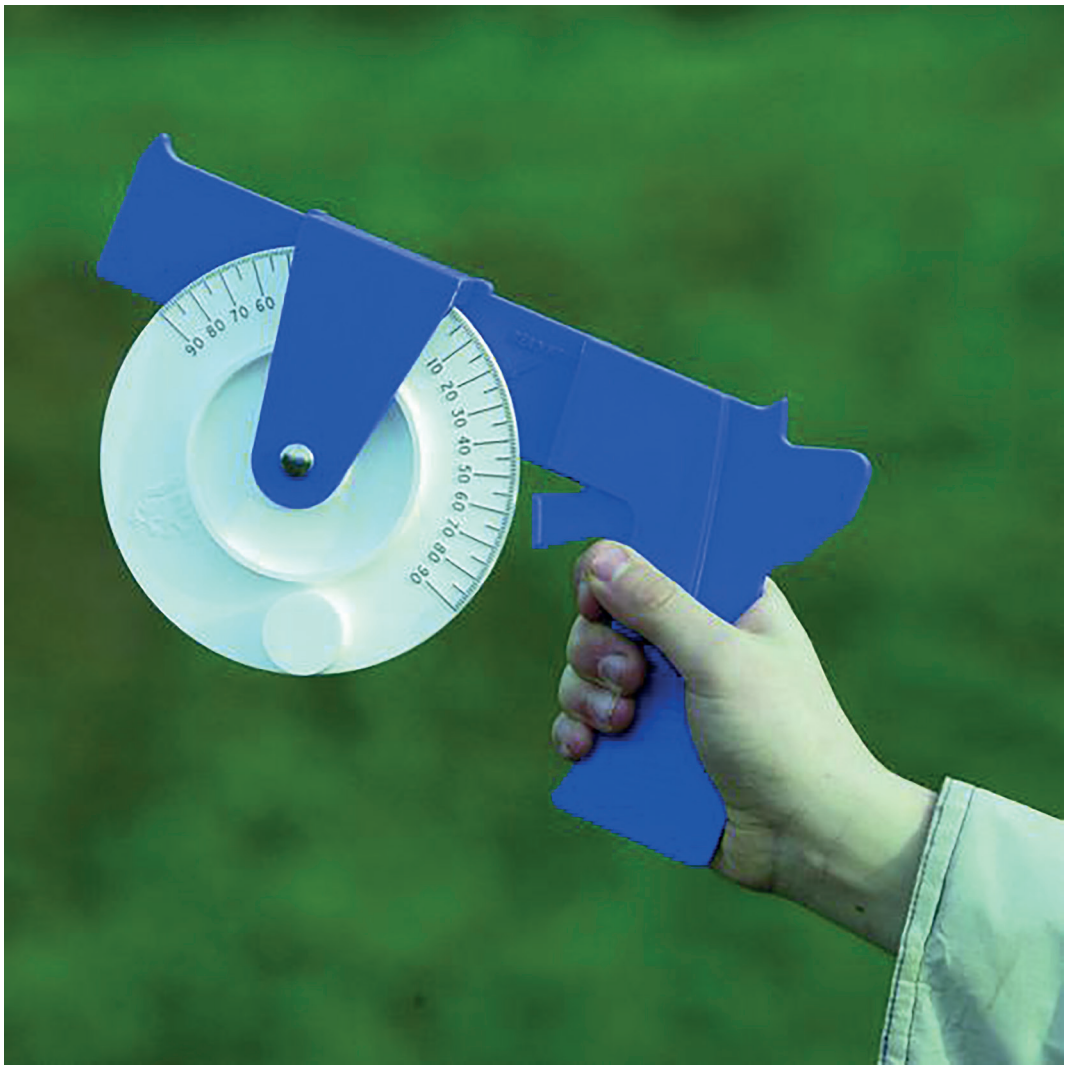
pebble number	length (mm)
1	380
2	500
3	530
4	580
5	710
6	880
7	930
8	950
9	970
10	980
11	1000
12	1020
13	1030
14	1050
15	1060
16	1080
17	1260
18	1270
19	1470
20	1480

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Fig. 2.3 for Question 2

Clinometer



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Fig. 2.4 for Question 2

Digital clinometer app on a mobile phone



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