



GCSE

C112U20-1

FRIDAY, 9 JUNE 2023 - MORNING

GEOGRAPHY B – Component 2

Problem Solving Geography

1 hour 30 minutes plus your additional time allowance

Surname

First name(s)

Centre Number

Candidate Number

0

ADDITIONAL MATERIALS

Resource Folder.

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

INSTRUCTIONS TO CANDIDATES

Use black ink, black ball-point pen or your usual method.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces on the previous 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.

(Turn over)

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.

Answer ALL questions.

Jakarta is the capital city of Indonesia, a Newly Industrialised Country (NIC). Jakarta has experienced rapid growth in recent years and faces several problems.

PART A: explores the problems of coastal management and living in Jakarta.

46 marks

PART B: offers some solutions to these issues.

14 marks

PART C: asks you to justify your choice of solution.

16 marks

PART A

You are advised to spend about 45 MINUTES on this part.

(a) (i) Study FIGURE 1 ON PAGE 2 of the RESOURCE FOLDER.

Describe the location of Jakarta. [2 marks]

(Turn over)

Study FIGURE 2 on PAGE 3 of the RESOURCE FOLDER. It shows Jakarta's population growth.

(a) (ii) Describe the changes in Jakarta's population between 1870 and 2020. [2 marks]

(Turn over)

- (a) (iii) Population growth like this can cause problems for urban areas. Give FOUR potential problems. [4 marks]**

1. _____

2. _____

3. _____

4. _____

(Turn over)

(a) (iv) Explain why cities benefit from population growth. [4 marks]

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(Turn over)

(b) (i) Jakarta's coast currently receives some protection from sea walls.

Name TWO benefits of a sea wall. [2 marks]

Benefit 1: _____

Benefit 2: _____

(Turn over)

(b) (ii) Give TWO reasons why sea walls might not be a long-term solution. [4 marks]

Reason 1: _____

Reason 2: _____

(Turn over)

- (c) Parts of Jakarta are subsiding (sinking into the ground).
 Study **FIGURE 3** on **PAGE 4** of the **RESOURCE FOLDER**. It shows the location of various sites across Jakarta.
TABLE 1 shows how far on average each site has sunk.

TABLE 1

	LOCATION	AMOUNT OF SINKING (cm/year)
1	Tanjung Priok	10.1
2	Penjaringan	10.7
3	Pademangan	10.8
4	Koja	11.6
5	Kelapa Gading	12.6
6	Cilincing	12.5
7	Pulo Gadung	8.3
8	Matraman	5.4
9	Duren Sawit	0.7
10	Cakung	7.4
11	Pancoran	5.6
12	Tambora	15.9
13	Taman Sari	15

(Turn over)

- (c) (i) Calculate the median value of these measurements.

Show your working in the box. [2 marks]

Answer: _____ %

- (ii) Explain why the median value may not be regarded as the most appropriate measure of central tendency. [2 marks]

(Turn over)

- (c) (iii) Join the terms 'over-abstraction' and 'water footprint' with a straight line to the correct definition. [2 marks]

Over-abstraction

Water footprint

Taking too much water from an aquifer

The water used by a household

Water lost by evaporation from a forest

Having enough water all the year

How much water flows through a river

(Turn over)

(c) (iv) Study FIGURE 4 on PAGE 5 of the RESOURCE FOLDER.

Suggest why Jakarta is sinking. [4 marks]

(Turn over)

- (c) (v) Jakarta has large areas of poor quality densely populated housing. Many of these are located on low-lying coastal land at the edge of the city.**

Explain why the poorest housing is often located on the edge of cities in LICs/NICs. [4 marks]

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(d) (i) Study the table below.

**MANGROVE FOREST ALONG THE COASTLINE
IN JAKARTA, INDONESIA OVER TIME**

YEAR	MANGROVE (km²) ALONG COASTLINE IN JAKARTA
1980	116.5
2000	16.8
2010	17.1
2016	16.5

(Turn over)

There have been 100 km² of mangrove lost from 1980 to 2016.

What percentage of Jakarta's mangrove forest has been lost from 1980 to 2016?

Show your working in the box. [2 marks]

Answer: _____ %

- (d) (ii) Study the diagram opposite. It shows part of a food web in mangrove forests.

Identify TWO primary consumers that will decline if the number of plankton were to be significantly reduced. [2 marks]

1. _____

2. _____

- (d) (iii) Much of the mangrove forest along Jakarta's coastline has been destroyed.**

Explain why some ecosystems are being modified/changed by people. [4 marks]

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(Turn over)

- (e) Climate change is affecting Jakarta by making the problems of coastal flooding, sinking ground, and mangrove forest loss, worse.**

Suggest how climate change could make Jakarta's problems worse. [6 marks]

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(Turn over)

(Turn over)

PART B

You are advised to spend about 20 MINUTES on this part.

Jakarta's government is considering three options to reduce the threats facing its people.

OPTION 1 : BUILD THE GIANT SEA WALL. THIS IS ANOTHER, BIGGER, SEA WALL FURTHER OUT TO SEA TO 'HOLD THE LINE'.

Study FACT FILE 1 on PAGE 7 of the RESOURCE FOLDER.

The Great Sea Wall will be built with aid from The Netherlands (a HIC).

(Turn over)

- (a) (i) Give TWO reasons why there are advantages to High Income Countries (HICs) that donate aid. [4 marks]

Reason 1: _____

Reason 2: _____

(Turn over)

- (a) (ii) The government of Jakarta is working with The Netherlands to build the Great Sea Wall.

Give TWO advantages that working with a HIC may bring for the government of a NIC.

[2 marks]

Advantage 1: _____

Advantage 2: _____

(Turn over)

**OPTION 2: REPLANT THE MANGROVE FORESTS.
THE GOVERNMENT IS CONSIDERING
REPLANTING THE MANGROVE FORESTS THAT
HAVE BEEN LOST.**

- (b) Study FACT FILE 2 on PAGE 8 of the RESOURCE FOLDER.**

Why might fishermen in Jakarta be in favour of replanting the mangrove forests? [2 marks]

(Turn over)

OPTION 3: RETREAT THE LINE AND BUILD A NEW CAPITAL CITY. THE GOVERNMENT IS CONSIDERING WHETHER TO DEFEND JAKARTA'S COASTLINE AT ALL.

IF THE COASTLINE IS NOT DEFENDED IT IS CALLED "RETREAT THE LINE".

TO RELIEVE SOME OF THE PRESSURES ON JAKARTA, THE GOVERNMENT IS PLANNING ON MOVING TO A BRAND-NEW CITY IN ANOTHER PART OF INDONESIA WITH NO RISK OF FLOODING.

- (c) (i) Study FIGURE 6 on PAGE 9 of the RESOURCE FOLDER. Describe the location of the proposed new capital city IN RELATION to Jakarta.**

[2 marks]

(Turn over)

Moving the capital city could allow areas of poor quality housing in Jakarta to be cleared.

- (c) (ii) Explain ONE advantage of removing poor quality housing for governments. [2 marks]**

- (c) (iii) Explain ONE problem removing poor quality housing will have for the people that live there. [2 marks]

END OF PART B

(Turn over)

PART C

You are advised to spend about 25 MINUTES on this part.

The government is considering three options to reduce the threats facing its people.

Which ONE option should the government choose for Jakarta?

Option 1: Build the Giant Sea Wall

Option 2: Replant the mangrove forests

Option 3: Retreat the line and build a new capital city.

Write a report that considers which option the government should choose.

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

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

I have chosen Option _____

(Turn over)

(Turn over)

Additional space for Part C only:

END OF PART C

END OF PAPER

(Turn over)

Question number	ADDITIONAL PAGE, IF REQUIRED. WRITE THE QUESTION NUMBER(S) IN THE LEFT-HAND MARGIN.

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For Examiner's use only		
	Maximum Mark	Mark Awarded
PART A	46	
PART B	14	
PART C	12	
SPaG	4	
Total	76	

