Written Response Test

Question and Answer Booklet

Do NOT open the Booklet before instructed to do so by a supervisor.

Name: .....

Instructions for Students

1. Fill in your name, on the front page of this Question and Answer Booklet.

2. Fill in your name in the boxes on top of the pages in this Booklet.

2. This test consists of 6 Sections.

3. The maximum total mark is 90.
   The mark for each question is given in the margin at the beginning of the question.
   There is a maximum of 15 marks for each Section.

4. Answer all questions in the spaces provided in this Booklet in English.
   Keep the left margin free for markers.
   Please write clearly.

Please use blue (or black) pen, not pencil.

5. Check the backs of pages as questions are printed on both sides of a page.

6. There are blank pages which you can use as additional space for your notes.
   Please cross through any notes so that we know they are not part of your answers. If you use these pages for answers, please label them clearly with the Section and question number (e.g. A1).

7. Where appropriate, please write sentences or phrases not single words.

8. Give only the required number of answers (reasons, examples, etc.).
   For instance, if the question asks for 2 reasons and you give more than 2, only the first 2 reasons will be marked.

9. The Resource Booklet contains Figures referred to in this Booklet.

10. You may use a calculator during the test.

11. Time: 180 minutes for students not educated in English (+10 minutes reading time),
    150 minutes for students educated in English (+10 minutes reading time).

12. Students not educated in English are allowed to use bilingual dictionaries during the test.

Good luck!

Navn:

Section A: Landslides

1m 1. Study Resource Booklet Figure A1: A photograph taken on the island of Viti Levu, Fiji. Which of the locations A–F was **most recently** affected by a landslide?

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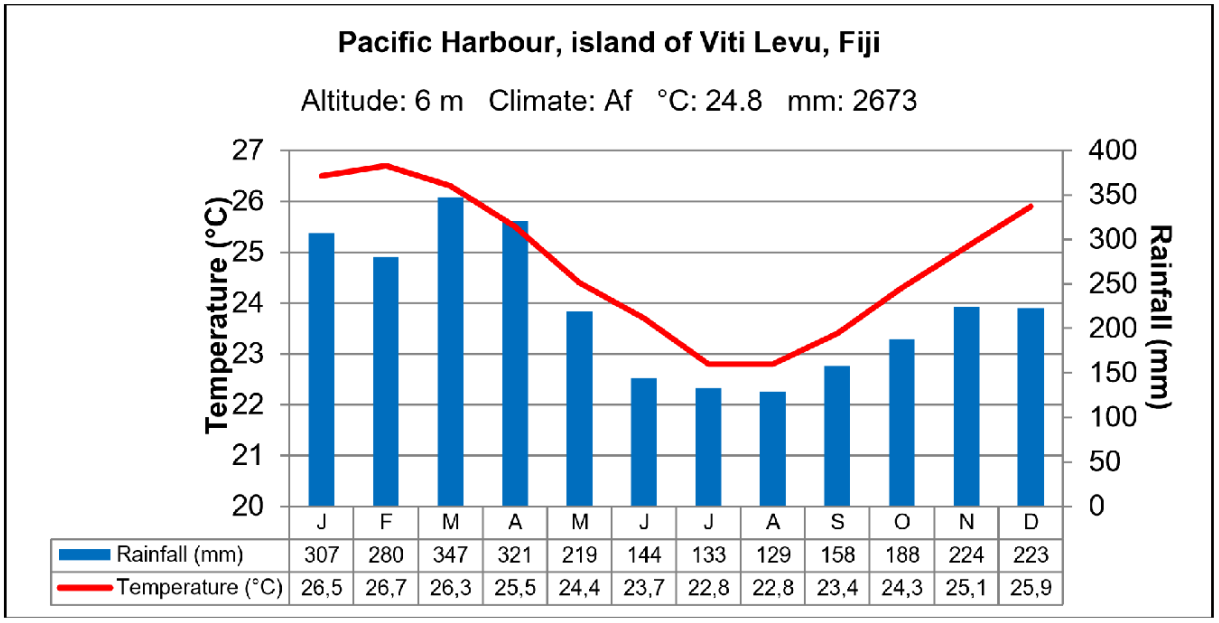
1m 2. Study the figure below: The climatic data of Pacific Harbour, a city on the island of Viti Levu, Fiji.
Which 4 months have the highest risk of landslides?



The climatic data of Pacific Harbour, a city on the island of Viti Levu, Fiji (http://en.climate-data.org/location/775064).

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3m 3. Identify 6 **natural** triggers that can cause landslides.

1: .....

2: .....

3: .....

4: .....

5: .....

6: .....

3m 4. Identify 6 **human** activities that can cause landslides.

Navn:

1: .....

2: .....

3: .....

4: .....

5: .....

6: .....

3m 5. Give 3 ways in which a landslide can cause damage to the environment and to people.

Damage 1: .....

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Damage 2: .....

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Damage 3: .....

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4m 6. Outline 2 measures that can **reduce** the possibility of landslides occurring.

Measure 1: .....

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Measure 2: .....

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Section B: Tsunamis

4m 1. Draw an **annotated** diagram(s) to show how a **tsunami** can be caused by an **earthquake**.

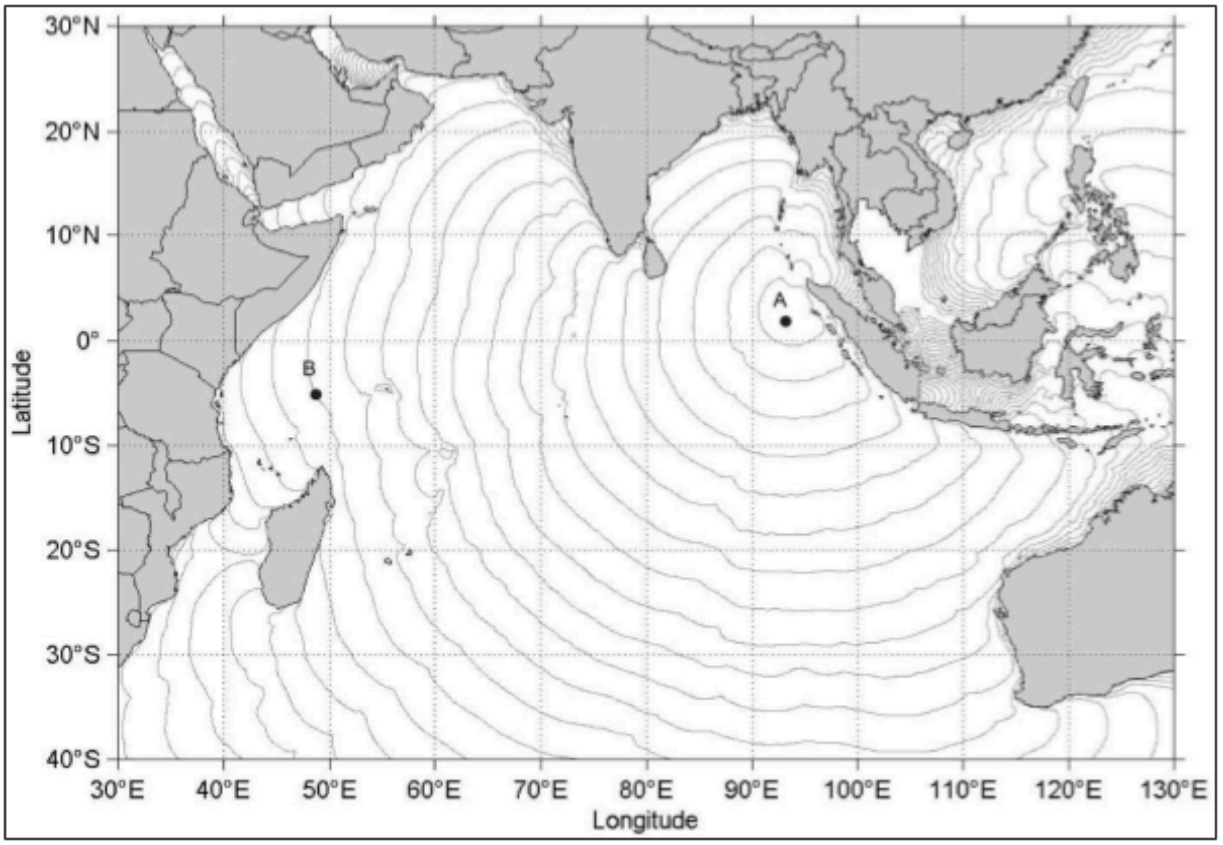
This Section continues on the next page.

Navn:

2m2. Study the figure below: Tsunami travel time contours with 30 minutes interval.

a) Provide the coordinates of the point A.

b) If the tsunami occurred at 06:57 GMT at the location marked by the point A, what time would it reach point B on the map?



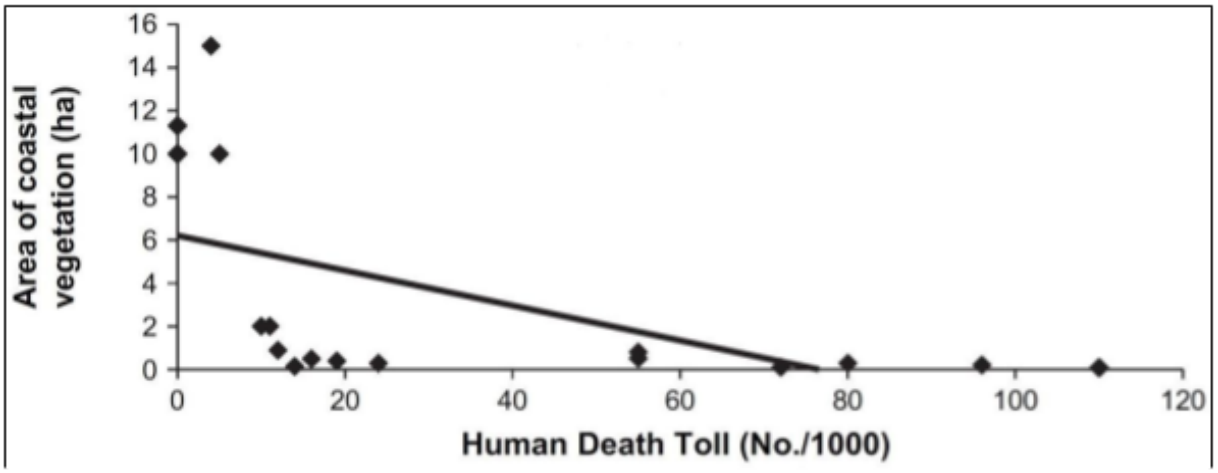
Tsunami travel time contours with 30 minutes interval
(http://www.incois.gov.in/DSSProducts/Product_RTWP/Web/images/02_dss120110183700_travel_time_A.jpg).

a) .....

b) .....

This Section continues on the next page.

2m 3. Study the figure below: The relationship between the area of coastal vegetation and human death toll in various districts in Tamil Nadu, India in the wake of the Boxing Day Tsunami of 2004.



Describe the **relationship** between the area of coastal vegetation and human death toll.

Navn:

The relationship between the area of coastal vegetation and human death toll in various districts in Tamil Nadu, India in the wake of the Boxing Day Tsunami of 2004

(Kathiresan, K. and N. Rajendran 2005: Coastal mangrove forests mitigated tsunami. *Estuarine, Coastal and Shelf Science* 65 (3): 601–606, figure 2, p. 604, doi: 10.1016/j.ecss.2005.06.022).

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4m 4. Explain 2 ways in which the establishment or maintenance of **coastal vegetation** can aid in tsunami hazard management.

Way 1: .....

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Way 2: .....

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..... 3m5. In 2004 the Boxing Day Tsunami waves brought illegally dumped **radioactive nuclear waste** onto Somalia's coast.

Explain its effect for Somalia's **economy**.

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Section C: Wind Speed

1.5m

1. Study the figure below: The sailing ships route.
   Describe where and explain why sailing ships experienced the highest (wind) speeds?



The sailing ships route
(original: https://upload.wikimedia.org/wikipedia/commons/f/f7/ClipperRoute.png,
cartographic base: http://www.vectorworldmap.com/vectormaps/vector -world-map-v2.2-blank.jpg).

Area: ....

Reason: ....

....

3m

2. From the figure: The sailing ships route (map above),
   describe where and explain why they experienced decreased (wind) speeds?

Area 1: ....

Reason: ....

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Area 2: ....

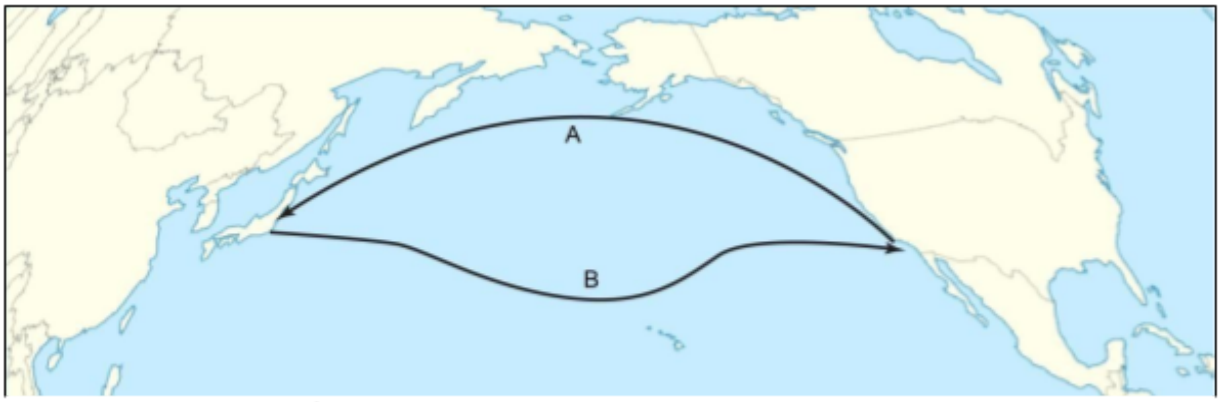
Reason: ....

....

Navn:

2m3. Study the figure below: The approximate plane flight routes.

a) Explain why route A is usually used when flying from America to Asia.



The approximate plane flight routes

(original: https://en.wikipedia.org/wiki/…#/media/File:…_…_routes.svg,

b) Explain why route B is usually used when flying from Asia to America.

cartographic base:
https://en.wikipedia.org/wiki/Template:Location_map_Pacific_Ocean#/media/File:Pacific_Ocean_laea_location_map.svg).

a) .....

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b) .....

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2.5m 4. Study Resource Booklet Figure C1: Wind speed and wind turbine power output.

a) What is the minimum wind speed necessary for a wind turbine to produce electricity?

b) Specify in which wind conditions a wind turbine can produce the greatest power output.

c) Why is no electricity produced at very high wind speeds?

a) .....

b) .....

.....

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c) .....

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..... 1m 5. Study Resource Booklet Figure C2: Distribution of annual mean wind speed at 80 m above ground level.

Explain why the mean wind speed in the area indicated on the map by arrow A is significantly higher than in the surrounding regions.

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3m 6. Study Resource Booklet Figures C2: Distribution of annual mean wind speed at 80 m above ground level and

C3: A photo of a wind farm.

The area indicated on the map by arrow B has one of the highest mean wind speed in Africa. Give 3 reasons why the area is **not** used for the location of **wind farms**.

Reason 1: .....

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Reason 2: .....

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Reason 3: .....

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2m 7. Study Resource Booklet Figure C2: Distribution of annual mean wind speed at 80 m above ground level.

Navn:

Explain why Greenland, which is not known for hurricanes, hosts some of the strongest winds on the planet, called **tip jets**.

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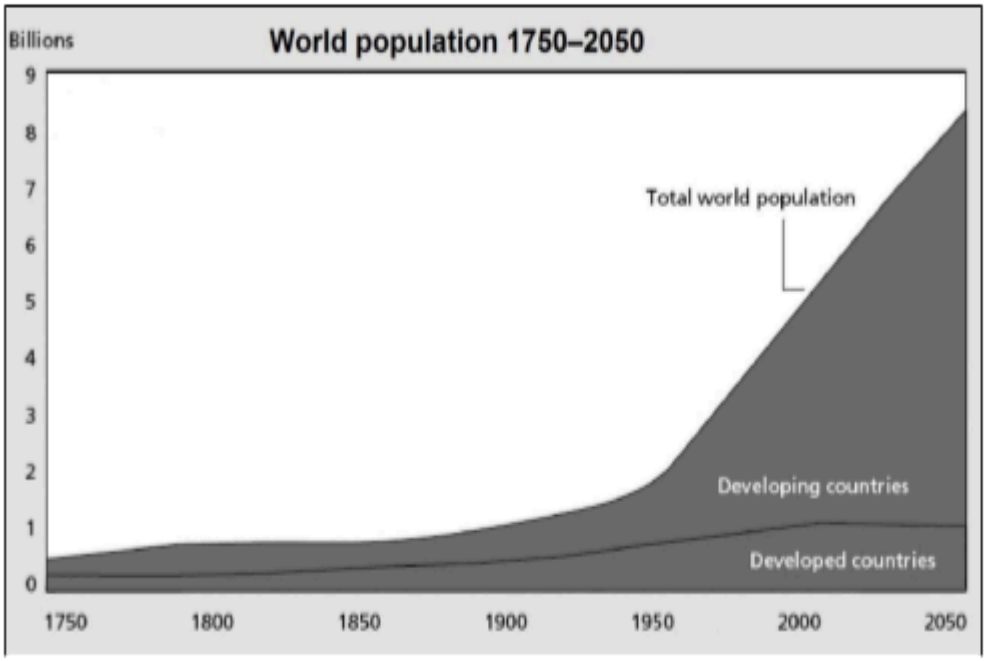
Section D: Population Trends and Challenges

2m 1. Study the figure below: World population 1750–2050.
Give 2 reasons why total world population growth accelerated significantly after 1950.



World population 1750–2050
(Population Reference Bureau, 2011).

Reason 1: .....

.....

Reason 2: .....

.....

4m 2. Suggest 4 measures which a fast growing population / country should include in its *Family Planning Policy* in order to **control its population growth** in the future.

Measure 1: .....

.....

Measure 2: .....

.....

Measure 3: .....

.....

Measure 4: .....

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Navn:

2m

3. One of the most dominant contemporary demographic processes in developed countries is that of an **ageing population**.

Outline 2 **positive** implications of this process.

Implication 1: .....

.....

.....

Implication 2: .....

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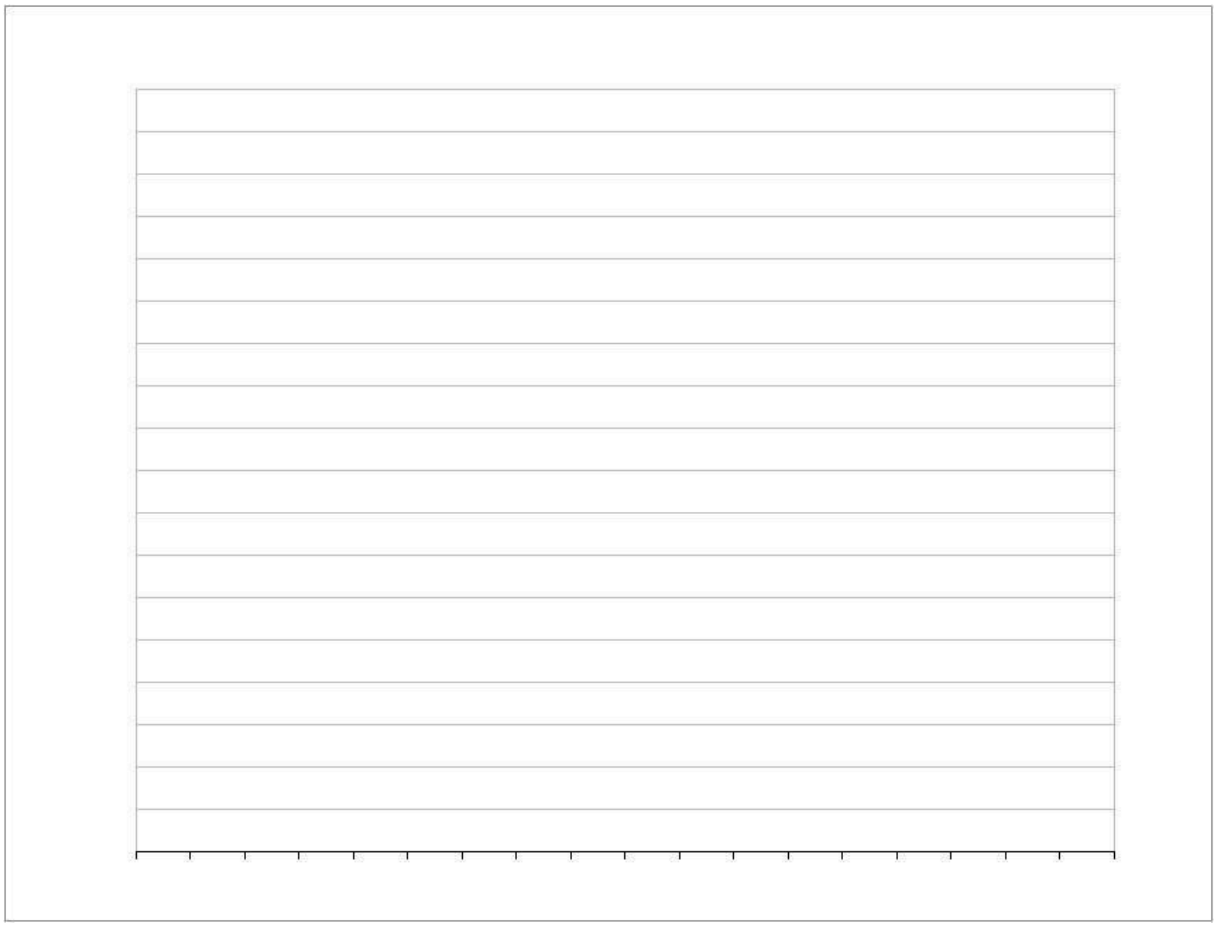
This Section continues on the next page.

5m 4. Study Resource Booklet Table D1: Age and sex structure in United Arab Emirates (UAE) (2014).

Draw United Arab Emirates' (UAE) **population pyramid** showing the **share (%)** of the population.



2m 5. Study Resource Booklet Tables D1: Age and sex structure in United Arab Emirates (UAE) (2014),

D2: United Arab Emirates (UAE) selected demographic data (2000–2014) and your **population pyramid**.

Suggest a reason for the unbalanced age and sex structure of the United Arab Emirates (UAE) population, and **explain** the underlying cause(s) behind that.

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Navn:

E Landforms

In Source I there is a set of photos with different types of landforms and landscapes, created on different rocks and in different climatic conditions .

1m 1 Identify two photos which represent a landscape developed in arid climates?

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1m 2 Identify two landscapes (in photos A – F) where volcanic activity has partly contributed to their formation.

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1m 3 Circle the name of the feature that photo D represents.

a dyke
b sill
c laccolith
d batholith

1m 4 Circle the name of the feature that photo E represents.

a hamada
b wadi
c dry canyon
d playa

1m 5a What is the specific name of the features represented in photo F?

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2m 5b How are these landforms created?

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.....

.....

2m 6 Name two regions of the world where a landscape like that in photo A can develop.

Region 1:.....

Region 2:.....

2m 7. The rock on which the landscape in photo C was created is (please circle your answers) …

a granite
b basalt
c andesite
d rhyolite

… and it belongs to the …

a sedimentary group
b metamorphic group
c igneous group

3m 8 What is the specific name of the feature represented in photo B?

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Briefly explain why this feature occurs.

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Navn:

Section F: Urbanisation and Megacities

marks

2m **1** What is the difference between 'urbanisation' and 'urban growth'?

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1m **2** Give 2 reasons why the number of inhabitants for the same city at the same time can vary in different sources.

1: .....

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2: .....

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4m **3** Factors causing migration **from rural to urban** areas are classified into 2 main types. **Identify** these 2 types, and give 2 **different** examples for each type. Use the table below to record your answers.

Type	Examples
1:	1: .... 2: ....
2:	1: .... 2: ....

marks

1m **4** **Study Source A1 in the Source Booklet.**

What **percentage** of the world's population lived in urban areas in 2009, to the nearest whole number/percent?

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1m **5** **Study Source F2 in the Source Booklet.**

Calculate the **percentage** increase of Lagos's population between 2009 and 2025.

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2m **6** Analyse the data in **Source F2** and identify 4 trends in the growth of megacities.

1: .....
.....
2: .....
.....
3: .....
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4: .....
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4m **7** In your opinion, what is the most important challenge faced by governments in managing the growth of megacities? **Explain** why this challenge is so significant.

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Navn:

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(you can use it for your notes (please cross them through afterwards) or for answers, which are clearly labelled with the Section and question number).

end ■