OXFORD

INTERNATIONAL AQA EXAMINATIONS

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

# INTERNATIONAL AS

# Geography

## UNIT 1B PHYSICAL GEOGRAPHY 1, COASTAL SYSTEMS AND LANDSCAPES

Date of Exam Session Time allowed: 1 hour 30 minutes

**Materials**

For this paper you must have:

- a ruler with millimetre measurements
- a calculator, which you are expected to use where appropriate.

**Instructions**

- Use black ink or black ball-point pen.
- Fill in the boxes at the top of the page.
- Answer **all** questions
- You must answer the questions in the spaces provided.
  Do not write outside the box around each page or on blank pages.
- All working must be shown.
- Do all rough work in this book. Cross through any work you do not want to be marked.

**Information**

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may use a bilingual dictionary for this exam.
- You may **not** use an English dictionary.

| For Examiner's Use | |
|---|---|
| Question | Mark |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| **TOTAL** | |

## Section A – Living with Hazards

Answer **all** questions in the spaces provided

Only **one** answer per question is allowed.

For each answer completely fill in the circle alongside the appropriate answer.

CORRECT METHOD  WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

**0 1 · 1** Which of the following accurately describes the term 'hazard perception'?

**[1 mark]**

**A** A geographer's view of how dangerous a hazard was and whether it caused a disaster ⬭

**B** A theoretical concept about how people view and understand the danger of a hazard ⬭

**C** How a government spends money in preparing for a hazard event ⬭

**D** How a hazard develops and changes over time ⬭

**0 1 · 2** What impact do high air temperatures have on forest fires?

**[1 mark]**

**A** They cause droughts, which ensures that ground fuels such as twigs burn easily ⬭

**B** They cause forest materials such as the roots of trees to dehydrate and burn underground ⬭

**C** They increase the amount of aerial fuels which increases the speed of the burning ⬭

**D** They preheat the fuels in the fire's path so it burns more readily ⬭

**0 1 · 3** Which of these statements can be applied to all tropical storms?

**[1 mark]**

**A** They are given a name when they have the potential to cause disasters ⬭

**B** They begin in a warm and deep ocean and move westwards ⬭

**C** They cause coastal and river flooding ⬭

**D** They rotate in a clockwise direction ⬭

**0 1 · 4** What is a pyroclastic flow?

**[1 mark]**

**A** A high speed flow of basaltic lava ⬭

**B** A high speed, high density mix of volcanic ash, gas and lava blocks ⬭

**C** A low density mix of ash, pumice and other volcanic materials that travel at a slow speed ⬭

**D** A turbulent cloud of ash that rises out of the main vent and parasitic cone of a volcano ⬭

**0 1 · 5** A government of a tectonically active country invests in country-wide earthquake drills and retro-fitting buildings to improve their stability. Which of the following describes their actions?

**[1 mark]**

**A** Adjustment and adaptation ⬭

**B** Earthquake prediction ⬭

**C** Hazard fatalism ⬭

**D** Tectonic mitigation ⬭

**Figure 1**

| Characteristic | High | | | | Low |
|---|---|---|---|---|---|
| Magnitude | | | | | |
| Duration | | | | | |
| Predictability | | | | | |
| Vulnerability of the population | | | | | |
| Frequency of hazard | | | | | |
| Preparation | | | | | |
| Speed of onset | | | | | |


Study **Figure 1**, a hazard profile grid showing students' summaries of Typhoon Haiyan which hit the Philippines in 2014 and Hurricane Sandy which affected the USA in 2012.

**0 2** Evaluate the usefulness of **Figure 1** in showing the characteristics and impacts of tropical storm hazards.

**[6 marks]**

**0 3** To what extent do you agree that the impacts of storm hazards are more widespread and significant than the impacts of wildfires?

**[9 marks]**

**0 4** ‘Although the causes of seismic and volcanic hazards are similar, their impacts differ greatly’;

Use the examples you have studied to evaluate this statement.

**[20 marks]**

**Turn over for the next section**

## Section B – Coastal Systems and Landscapes

Answer **all** questions in the spaces provided

Only **one** answer per question is allowed.

For each answer completely fill in the circle alongside the appropriate answer.

CORRECT METHOD  WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

**0 5 · 1** Which of the following are characteristics of destructive waves?

**[1 mark]**

**A** A large wave height and a short wave length ⬭

**B** A low wave height and a long wave length ⬭

**C** Strong swash and weak backwash ⬭

**D** Weak swash and between 4-9 waves per minute ⬭

**0 5 · 2** Which of the following groups of features are all caused mainly by deposition?

**[1 mark]**

**A** Bars; tombolos; sand dunes; barrier beaches ⬭

**B** Estuarine mud flats; offshore bars; spits; coves ⬭

**C** Fjords; offshore bars; stacks; saltmarshes ⬭

**D** Spits; marine platform; stumps; barrier beaches ⬭

**0 5 · 3** Isostatic change occurs:

**[1 mark]**

**A** as a result of the ocean basin shape changing ⬭

**B** locally when there is an alteration in the volume of water in the sea or ocean ⬭

**C** when tectonic plates make the ocean floor smaller or bigger ⬭

**D** when the height of the land is altered due to an increase or decrease of pressure on the land ⬭

**0 5 · 4** What is a sediment cell (also sometimes called a littoral cell)?

**[1 mark]**

**A** An area of coastline where sediment is sourced, transported and deposited ⬭

**B** An area of the coast where sand, clay and shingle are stored in a depositional feature ⬭

**C** An area where no transfers of sediment from other areas can occur ⬭

**D** A coastal area with a headland, a series of groynes and a spit that prevent movement of sediment ⬭

**0 5 · 5** Coastal systems have marine, geological, human and atmospheric inputs. Which of the following groups are all marine inputs of the coastal system?

**[1 mark]**

**A** Precipitation; estuary river flow; fetch ⬭

**B** Precipitation; wind; air pressure ⬭

**C** Pollution; defences; sea spray ⬭

**D** Paves; sea spray; tides ⬭

A group of AS level students visited a sand dune and undertook some fieldwork. They wanted to investigate the relationship between soil depth and plant height in 14 locations across the dune.

**Figure 2a** shows an extract of raw data for four of the sites.

**Figure 2b** shows a scatter graph to display their findings.

**Figure 2c** is the Spearman rank correlation coefficient calculation and critical values.

**Figure 2a**

| Site number | 4 | 7 | 11 | 14 |
|---|---|---|---|---|
| Soil depth (cm) | 2 | 20 | 38 | 40 |
| Plant height (cm) | 15 | 95 | 90 | 200 |

**Figure 2b**

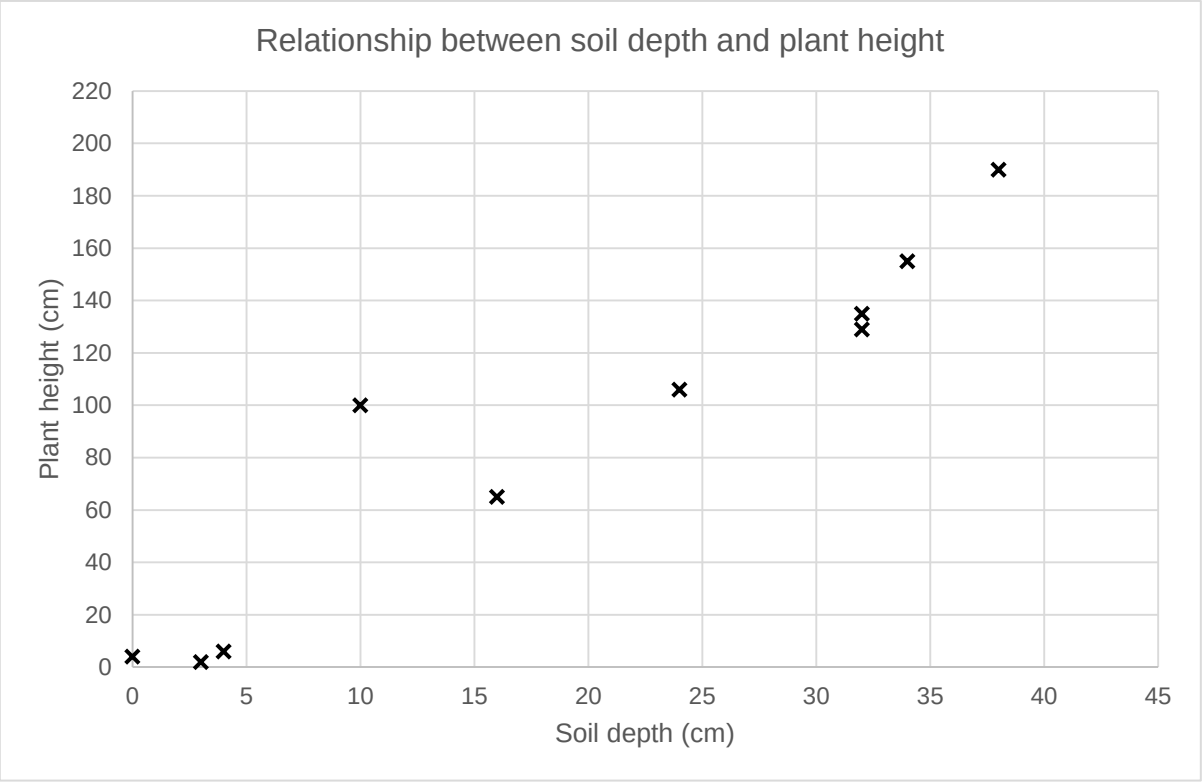

**Figure 2c**

| Calculated Spearman rank value ($r_s$) | 0.852 |
|---|---|

| Number of pairs of data in sample (n) | Critical value at 0.05 level of significance | Critical value at 0.01 level of significance |
|---|---|---|
| 14 | 0.544 | 0.715 |

**0 6** Complete **Figure 2b** using the data provided in **Figure 2a**.

Use **Figure 2b** and **Figure 2c** to analyse the relationship between soil depth and plant height.

**[6 marks]**

**0 7** ‘If man wants to live by the coast, he must allow natural processes to occur unchanged and unaltered’;

With reference to a coastal environment you have studied discuss to what extent you agree with this statement.

**[9 marks]**

**0 8** ‘Geology is the main determinant of coastal landscapes’;

To what extent do you agree with this view?

**[20 marks]**

**END OF QUESTIONS**

**DO NOT WRITE ON THIS PAGE**

**ANSWER IN THE SPACES PROVIDED**