OCR
Oxford Cambridge and RSA

Tuesday 21 May 2019 – Afternoon

GCSE (9–1) Geography B (Geography for Enquiring Minds)

J384/01 Our Natural World

Time allowed: 1 hour 15 minutes

You must have:
- the Resource Booklet (inserted)

You may use:
- a scientific or graphical calculator
- a ruler (cm/mm)

Please write clearly in black ink. **Do not write in the barcodes.**

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

First name(s) _____

Last name _____

INSTRUCTIONS
- The separate Resource Booklet will be found inside this document.
- Use black ink. You may use an HB pencil for graphs and diagrams.
- Answer **all** the questions.
- Write your answer to each question in the space provided. If additional space is required, use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.

INFORMATION
- The total mark for this paper is **70**.
- The marks for each question are shown in brackets **[ ]**.
- Quality of extended responses will be assessed in questions marked with an asterisk (*).
- Spelling, punctuation and grammar and the use of specialist terminology (SPaG) will be assessed in questions marked with a pencil (✎).
- This document consists of **12** pages.

SECTION A

Answer **all** the questions.

Global Hazards

1 (a) (i) Below are four statements about a constructive plate boundary. Select which statement is **false**.

A Basaltic lava that comes from the volcanoes has a low silica content and has a thin consistency.

B Plates are being pulled apart from each other by convection currents.

C Shield volcanoes are formed.

D The pressure created by the plate movements creates explosive volcanic eruptions.

Write the correct letter in the box. ☐ **[1]**

(ii) Explain how the movement of tectonic plates at a destructive plate boundary causes volcanoes to form.

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(b) Give **two** types of extreme weather associated with tropical storms.

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[2]

(c) Case study – UK based natural weather hazard event.

Name of chosen UK based natural weather hazard

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Evaluate the responses to your chosen UK based natural weather hazard.

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Changing Climate

2 **(a)** Study **Fig. 1** in the separate Resource Booklet, a graph showing atmospheric carbon dioxide from ice cores. Select the correct description of the trend shown by the graph in **Fig. 1**.

A fairly stable until 1800 then a sudden and very rapid rise

B only increases from 1000 to 2000

C small fluctuations all the way from 1000 to 2000

D stable at around 280 ppm, then a large decrease at the end

Write the correct letter in the box. ☐ **[1]**

(b) Discuss how reliable data on atmospheric carbon dioxide collected from ice cores is as evidence for climate change.

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(c)* 'The worldwide economic impacts of climate change are more concerning than the environmental impacts.'

To what extent do you agree with this statement?

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Distinctive Landscapes

3 **(a)** Name **one** geomorphic process that erodes coastal landforms.

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(b) **(i)** Study **Fig. 2** in the separate Resource Booklet, an OS map extract of Sea Palling in Norfolk.

Artificial reefs have been built along the stretch of coastline shown in **Fig. 2**. Calculate the length of the breakwater marked X.

A 100 m

B 120 m

C 250 m

D 360 m

Write the correct letter in the box. ☐ **[1]**

(ii) Give **one** piece of map evidence which shows that the coastal defences at Sea Palling are effective. Explain your answer.

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(iii) Geographical Information Systems (GIS) can show many different kinds of data on a map. Each kind of data forms a new 'layer' on the map.

Suggest an extra layer that could be added to **Fig. 2** to give further evidence for the effectiveness of these coastal defences.

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(c) The data in the table below shows the annual rates of slumping of a stretch of muddy coastline.

Year	2010	2011	2012	2013	2014	2015	2016	2017
Amount of slumping (metres)	4.2	3.0	1.5	1.0	0.6	2.7	3.1	0.8

(i) Calculate the mean amount of annual slumping.

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(ii) Identify the range in the annual rate of slumping between 2010 and 2017.

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(d) Case study – A coastal landscape in the UK.

Name of chosen coastal landscape in the UK

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Explain how management has impacted the coastal landscape.

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Sustaining Ecosystems

4 **(a)** Study **Fig. 3** in the separate Resource Booklet, a map showing the global distribution of coral reefs. Using **Fig. 3**, describe the global pattern of coral reefs.

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(b) Study **Fig. 4** in the separate Resource Booklet, pie charts showing the level of risk and the cause of damage to coral reef ecosystems.

(i) What percentage of the world's coral reefs are at high risk?

A 4%

B 12%

C 19%

D 27%

Write the correct letter in the box. ☐ **[1]**

(ii) What factor presents the greatest risk to the world's coral reefs?

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(iii) Suggest **one** alternative way to plot the data shown in **Fig. 4**.

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(c) Select the correct definition of the term 'sustainable management'.

A environments are exploited for the use of the current generation

B environments are managed at the expense of future generations

C managing an environment for the use of the current generation only

D managing an environment to ensure it will benefit both current and future generations

Write the correct letter in the box. ☐ **[1]**

(d) Case study – a global example of sustainable management in either the Arctic or Antarctic.

Name of chosen global example of sustainable management

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Assess the success of **one** global scale sustainable management solution in either the Arctic or the Antarctic.

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SECTION B – Physical Geography Fieldwork

Answer **all** the questions.

5 **(a)** For a **physical geography fieldwork investigation** which you have completed, explain why your key question for investigation was appropriate.

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(b) Study **Fig. 5** in the separate resource booklet, fieldwork notes for some river fieldwork.

In order to calculate the speed of the river, you need to use the formula:

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

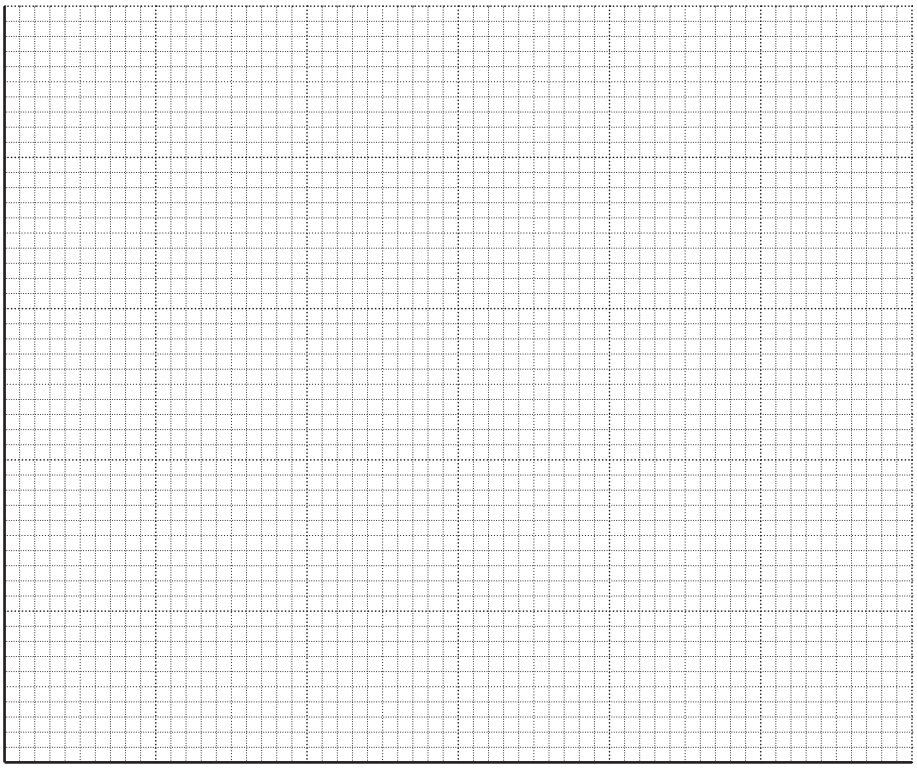
(i) Calculate the river speed for **measurement 1** at site 1 and site 2.

Show your working.

site 1 .....

site 2 ..... **[3]**

(ii) Draw a horizontal bar graph to show the width measurement results for the two sites.



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(iii)* Suggest how the students could improve the investigation in **Fig. 5** in order to improve the reliability of their results.

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Spelling, punctuation and grammar and the use of specialist terminology **[3]**

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).