Oxford Cambridge and RSA

Tuesday 13 May 2025 – Morning

A Level Geography

H481/01 Physical systems

Time allowed: 1 hour 30 minutes

You must have:
- the OCR 12-page Answer Booklet
- the Resource Booklet (inside this document)

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

INSTRUCTIONS
- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the Answer Booklet. The question numbers must be clearly shown.
- Fill in the boxes on the front of the Answer Booklet.
- Choose **one** option in Section A and answer **all** the questions for that option. Answer **all** the questions in Section B.

INFORMATION
- The total mark for this paper is **66**.
- The marks for each question are shown in brackets **[ ]**.
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document has **8** pages.

ADVICE
- Try to answer every part of each question you choose.
- Read each question carefully before you start your answer.

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Section A

Landscape Systems

Choose **one** option and answer **all** the parts of the question in your chosen option.

Option A – Coastal Landscapes

1

(a) Explain the influence of flows of energy in the formation of a salt marsh. **[8]**

(b) Study **Table 1**, which shows cliff erosion rates on the East Yorkshire coast, UK.

Table 1 Cliff erosion rates on East Yorkshire coast, UK

Location	Rate of erosion (m / year)
Bridlington	1.00
Barmston	2.00
Hornsea	0.25
Mappleton	1.50
Aldbrough	0.80
Grimston	1.10
Tunstall	0.75
Withernsea	2.20
Out Newton	1.90
Spurn neck	3.10

(i) Using **Table 1**, calculate the mean rate of erosion.
Show your workings. **[2]**

(ii) The standard deviation for the rate of erosion in **Table 1** is 0.8.
State what this indicates about the dispersion (spread) of the data set. **[2]**

(iii) Explain why standard deviation is a more accurate measure of dispersion (spread) than range **and** interquartile range. **[2]**

(c) Study **Fig. 1**, a coastal landscape in Norway.
With reference to **Fig. 1**, explain the influence of **one** geomorphic process in shaping landform **A** (fjord). **[3]**

(d)* 'Coastal landscape systems are influenced more by management strategies than by the unintentional impacts of economic development.'

To what extent do you agree with this statement? **[16]**

Option B – Glaciated Landscapes

2

(a) Explain the influence of flows of energy in the formation of a drumlin. **[8]**

(b) Study **Table 2**, which shows valley erosion rates along a glacier in India.

Table 2 Valley erosion rates along a glacier in India

Location	Rate of erosion (m / year)
Zanskar 1	80
Jobri	30
Bilare Bhang	30
Drang Drung	90
Bhurpu	50
Hamtah	80
Nikarchu	90
Shankalpa	50
Pindari	64
Poting	50

(i) Using **Table 2**, calculate the mean rate of erosion.
Show your workings. **[2]**

(ii) The standard deviation for the rate of erosion in **Table 2** is 21.7.
State what this indicates about the dispersion (spread) of the data set. **[2]**

(iii) Explain why standard deviation is a more accurate measure of dispersion (spread) than range **and** interquartile range. **[2]**

(c) Study **Fig. 2**, a periglacial landscape in Iceland.
With reference to **Fig. 2**, explain the influence of **one** geomorphic process in forming landform **B** (patterned ground). **[3]**

(d)* 'Periglacial landscape systems are influenced more by human activity than glacial landscape systems.'

To what extent do you agree with this statement? **[16]**

Option C – Dryland Landscapes

3

(a) Explain the influence of flows of energy in the formation of a linear dune. **[8]**

(b) Study **Table 3**, which shows canyon erosion rates in a dryland landscape in China.

Table 3 Canyon erosion rates in a dryland landscape in China

Location	Rate of erosion (m / year)
Xi'an	3.5
Yinchan	3.5
Milan	1.0
Hami	0.5
Turpan	2.0
Korla	3.0
Yinang	1.0
Kashi	0.7
Shache	2.8
Lhasa	1.6

(i) Using **Table 3**, calculate the mean rate of erosion.
Show your workings. **[2]**

(ii) The standard deviation for the rate of erosion in **Table 3** is 1.11.
State what this indicates about the dispersion (spread) of the data set. **[2]**

(iii) Explain why standard deviation is a more accurate measure of dispersion (spread) than range **and** interquartile range. **[2]**

(c) Study **Fig. 3**, a dryland landscape in Chad.
With reference to **Fig. 3**, explain the influence of **one** geomorphic process in shaping landform **C** (nivation hollow). **[3]**

(d)* 'Dryland landscape systems are influenced more by human activity, due to water supply issues, than by economic activity.'

To what extent do you agree with this statement? **[16]**

Section B

Earth's Life Support Systems

4

(a) Study **Fig. 4**, which shows atmospheric carbon dioxide, 1960–2021.

(i) Identify **three** limitations of this graph. **[3]**

(ii) Suggest why it is important to identify and record changes to the global carbon cycle. **[4]**

(b) Examine the significance of the role of the cryosphere (ice) in linking the water and carbon cycles. **[10]**

(c)* 'Improving forestry techniques protects the global water cycle more effectively than drainage basin planning.'

How far do you agree with this statement? **[16]**

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