GCE A LEVEL

A110U10-1

O20-A110U10-1

Part of WJEC

TUESDAY, 6 OCTOBER 2020 – MORNING

GEOGRAPHY – A level component 1

Changing Landscapes and Changing Places

1 hour 45 minutes

ADDITIONAL MATERIALS

In addition to this examination paper, you will need **one** WJEC pink 16-page answer booklet and a calculator.

INSTRUCTIONS TO CANDIDATES

Answer in Section A, **either** questions 1, 2 and **either** 3 **or** 4 (Coastal Landscapes) **or** questions 5, 6 and **either** 7 **or** 8 (Glaciated Landscapes).

Answer questions 9, 10 and, **either** 11 **or** 12 in Section B (Changing Places).

Use black ink or black ball-point pen.

Write your answers in the separate answer booklet provided.

Write your name, centre number and candidate number in the spaces at the top of the answer booklet.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [ ] at the end of each question or part-question; you are advised to divide your time accordingly.

This paper requires that you make as full use as possible of appropriate examples and reference to data to support your answers. Sketch maps and diagrams should be included where relevant.

Section A: Changing Landscapes

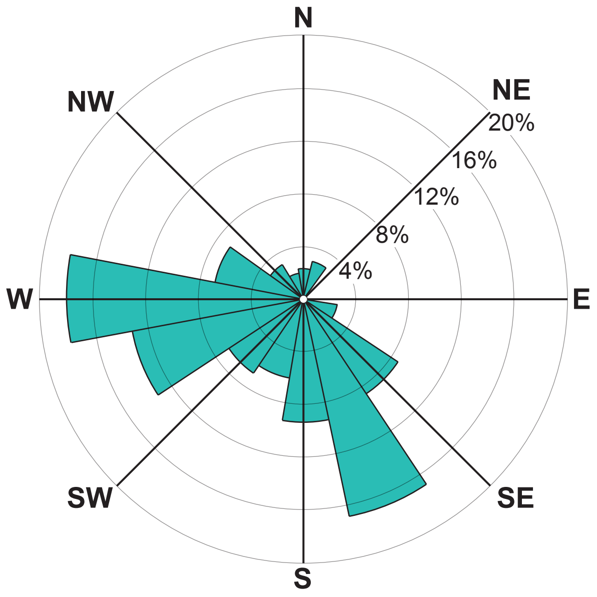
Answer **either** *questions 1* **and** *2 and* **either** *3* **or** *4* **or** *questions 5* **and** *6 and* **either** *7* **or** *8 from your chosen landscape.*

Make the fullest possible use of examples in support of your answers.

Coastal Landscapes

Answer questions 1 **and** *2 and* **either** *3* **or** *4 if this is your chosen landscape.*

Figure 1: Wave orientation at Goosgar, Gulf of Oman



Key:

% = proportion of waves received from each compass direction per year.

Source: www.sciencedirect.com

1. *(a)* (i) Use **Figure 1** to analyse the pattern of wave orientation. [5]

(ii) Suggest how the pattern of wave orientation may influence sediment transport at Goosgar. [2]

(b) Explain how reduced energy levels can result in sediment sorting. [6]

Figure 2: Average annual rates of coastal change at Orford Ness and Covehithe, Suffolk, 1997 – 2011

Covehithe	metres / year
site 1	**–3.5**
site 2	**–2.7**
site 3	**–5.7**
site 4	**–3.1**
site 5	**–3.8**
site 6	**–3.4**
site 7	**–1.8**
site 8	**–2.1**
site 9	**–2.1**
site 10	**–2.2**
site 11	**–0.1**

Orford Ness	metres / year
site 1	**1**
site 2	**1.1**
site 3	**2.9**
site 4	**1.3**
site 5	**–1.6**
site 6	**–3.3**
site 7	**–3.6**
site 8	**–1.2**
site 9	**–0.3**
site 10	**0.6**
site 11	**0.3**

Key:

🟧 – retreat of coastline

🟨 – seaward build up of land

Source: https://cprints-bbk-ac-uk

2. *(a)* (i) Calculate the median value of shoreline retreat for Covehithe. Show your working. [2]

(ii) Identify the modal value for shoreline retreat for Covehithe. [1]

(iii) Describe how the rates of coastal change differ between Orford Ness and Covehithe. [2]

(b) Suggest how sub-aerial processes could account for the differences in shoreline retreat shown in **Figure 2**. [6]

(c) Outline the seasonal variation in destructive waves. [2]

Either,

3. Examine the role played by biotic processes in the formation of coastal landforms. [15]

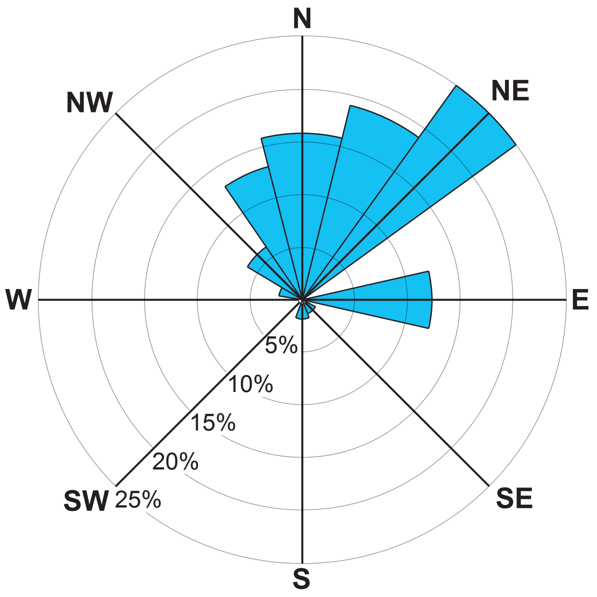
Or,

4. Examine the view that impacts of human activity on coastal landscape systems are always negative. [15]

Glaciated Landscapes

Answer questions 5 **and** *6 and* **either** *7* **or** *8 if this is your chosen landscape.*

Figure 3: Rose diagram showing the orientation of cirques, Sterea Hellas, Greece



Key:

% = proportion of cirques facing each compass direction

Source: https://pure-qub.ac.uk

5. *(a)* (i) Use **Figure 3** to analyse the pattern of cirque orientation. [5]

(ii) Suggest how orientation may influence the size of a cirque. [2]

(b) Outline **two** differences between a cirque glacier and a valley glacier. [6]

Figure 4: Annual changes in the depth of the active layer for selected sites in East Siberia and Alaska, 1998 – 2018

Alaska	cm / year
site 1	**1.6**
site 2	**0.1**
site 3	**0.2**
site 4	**0.5**
site 5	**0.1**
site 6	**0.1**
site 7	**0.6**
site 8	**0.3**
site 9	**0.2**
site 10	**5.6**
site 11	**0.4**

East Siberia	cm / year
site 1	**1.9**
site 2	**1.0**
site 3	**0.9**
site 4	**0.8**
site 5	**0.8**
site 6	**–0.1**
site 7	**1.7**
site 8	**–0.2**
site 9	**0.5**
site 10	**–0.4**
site 11	**0.1**

active layer – the seasonally thawed surface layer above permafrost.

Key:

- 🟧 – active layer depth increasing
- 🟨 – active layer depth decreasing

Source: https://iopscience.iop.org

6. *(a)* (i) Calculate the median value of active layer change for Alaska. Show your workings. [2]

(ii) Identify the modal value of active layer change for Alaska. [1]

(iii) Describe how changes in the depth of the active layer differ between East Siberia and Alaska. [2]

(b) Suggest how changes to the depth of the active layer in Alaska may influence the development of periglacial features. [6]

(c) Describe **two** characteristics of loess. [2]

Either,

7. Examine the role of different time scales in the formation of **one or more** glacial landforms. [15]

Or,

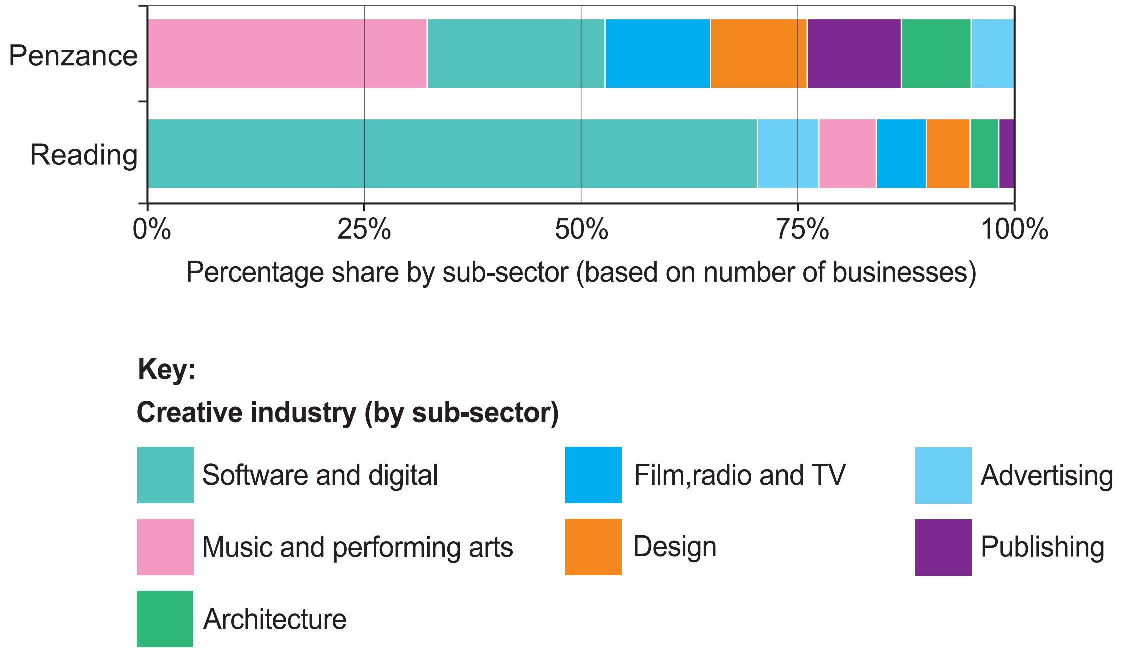
8. Examine the view that the interaction between glacial processes and human activity is always negative. [15]

Section B: Changing Places

Answer questions 9 **and** *10 and* **either** *11* **or** *12.*

Make the fullest possible use of examples in support of your answers.

Figure 5: Structure of the creative industry in selected urban places

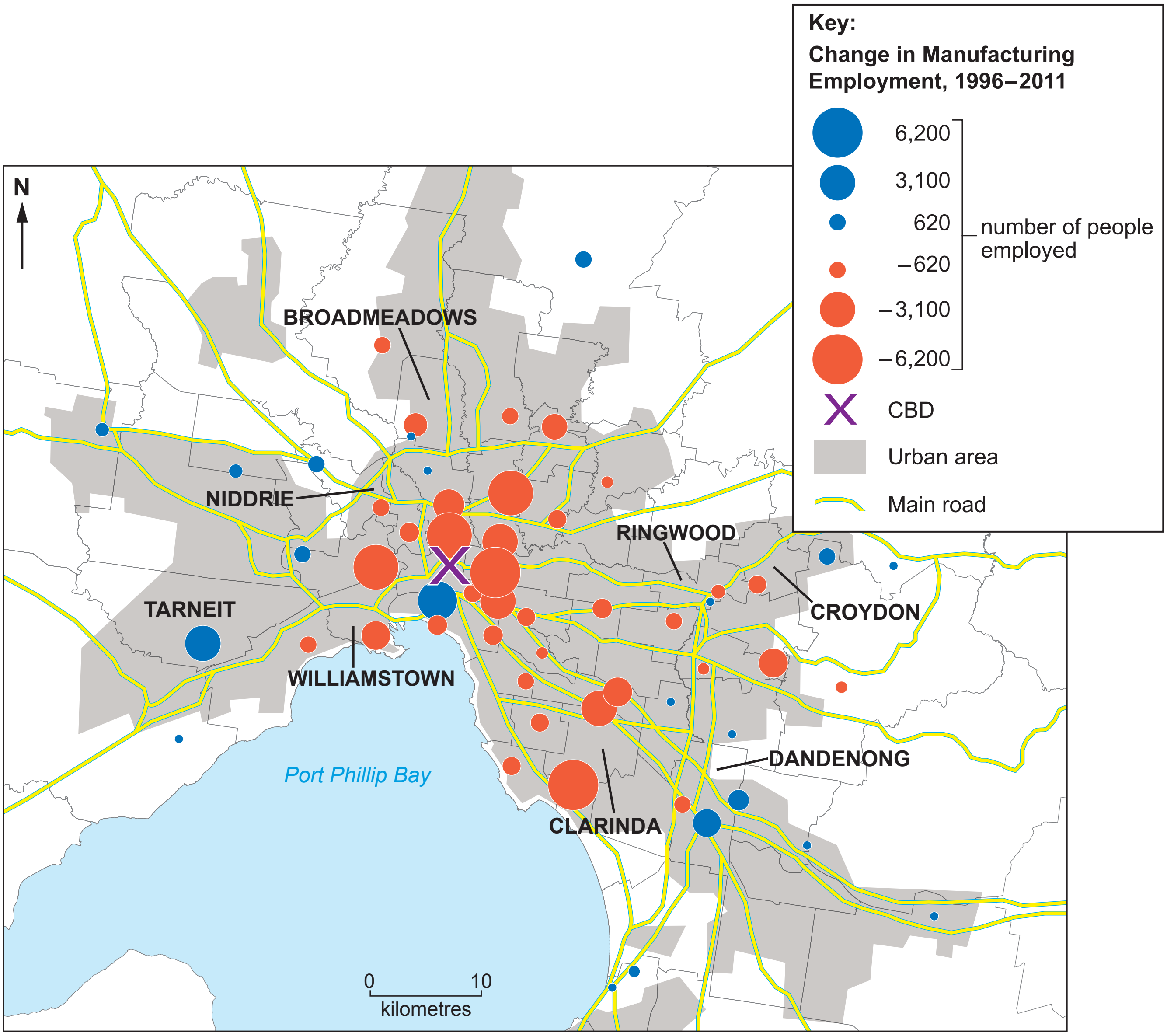


Source: ONS, Business Structure Database, Nesta analysis

9. *(a)* Use **Figure 5** to compare the structure of the creative industry in Penzance and Reading. [5]

(b) Describe **two** locational factors that may encourage the growth of quaternary industry clusters. [8]

Figure 6: Changes in the location of manufacturing employment in Melbourne, Australia, 1996 – 2011



Source: https://sgscp.com.au

10. *(a)* Use **Figure 6** to describe the changing pattern of manufacturing employment. [5]

(b) Suggest **two** consequences of the decline in manufacturing employment for people living in Melbourne. [8]

Either,

11. Examine the view that gentrification benefits both rich and poor residents. [15]

Or,

12. Examine the roles played by local groups and external agencies in the rebranding of **one or more** rural places. [15]

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