DRAFT SPECIMEN MATERIAL

# A-level
# GEOGRAPHY

## Paper 1 Physical geography

Specimen Question Paper

Time allowed: 2 hours 30 minutes

**Materials**

For this paper you must have:

- a pencil
- a rubber
- a ruler.

You may use a calculator.

**Instructions**

- Answer **all** questions in Section A.
- Answer **either** Question 3 **or** Question 4 in Section B**.**
- Answer **either** Question 5 **or** Question 6 **or** Question 7 in Section C.

**Information**

- The total number of marks available for this paper is 96.

**Advice**

For the multiple-choice questions, 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. ⊗

Please write clearly, in block capitals, to allow character computer recognition.

Centre number ☐☐☐☐☐ Candidate number ☐☐☐☐

Surname ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

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## Section A

## Water and carbon cycles

Answer **all** questions.

**0 1 . 1** Which sentence describes **one** impact of climate change upon global precipitation rates?

**A** Increased cloud cover will mean lower temperatures and less evaporation leading to less rainfall but falling in shorter bursts. ⬭

**B** Temperatures will rise leading to increased evaporation and higher amounts of rainfall in many places with more intense bursts. ⬭

**C** Temperatures will rise leading to increased evaporation, lower rainfall and more intermittent rainfall. ⬭

**D** The higher temperatures will cause the ice caps to melt putting more water into the oceans. Sea levels will rise and hurricanes will be more likely as the sea level rises. ⬭

**[1 mark]**

**0 1 . 2** Which terms apply to land-based transfers of water?

**A** Condensation and groundwater flow. ⬭

**B** Evaporation and infiltration. ⬭

**C** Precipitation and evaporation. ⬭

**D** Overland flow and infiltration. ⬭

**[1 mark]**

**0 1 . 3** To what does the carbon budget refer?

**A** The amount of carbon in the atmosphere at any one time. ⬭

**B** The balance of exchanges between the four major stores of carbon. ⬭

**C** The measurement of the quantity of transferred carbon between land and ocean. ⬭

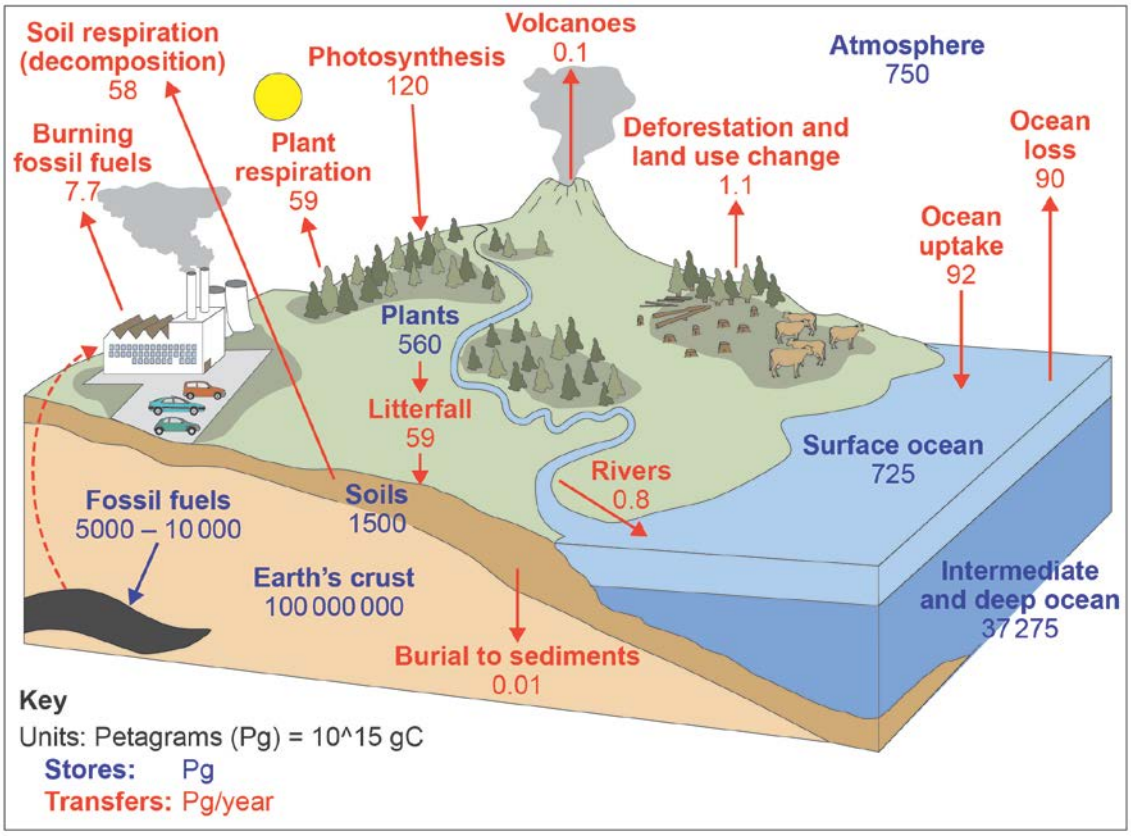
**D** The total quantity of the major stores of carbon. ⬭

**[1 mark]**

**Turn over for the next question**

**0 2** **Figure 1** is a sketch diagram showing the stores and transfers within the carbon cycle.

**Figure 1**




**0 2 . 1** Using **Figure 1**, describe and comment on the effect of human activities on the carbon cycle.

**[6 marks]**

**0 2 . 2** Explain how natural factors are responsible for changes in the magnitude of carbon stores.

**[9 marks]**

**Question 2 continues on the next page**

**0 2 . 3** Analyse the relationship between the water cycle and carbon cycle.

**[9 marks]**

**End of Section A**

## Section B

Answer **one** question.

Answer **either** Question 3 **or** Question 4**.**

Shade the circle below to indicate which optional question you have answered.

Question 0 3 ⬭ Question 0 4 ⬭

CORRECT METHOD ⬬ WRONG METHODS ⊗ ⦿ ≋ ⦰

### Question 3 Hot desert environments and their margins

**0 3 . 1** Why are some rivers in hot deserts ephemeral?

**A** Because rivers which flow from areas with higher rainfall through deserts have a constant supply of water and it never dries up. ⬭

**B** Because the heavy bursts of intermittent rainfall bring the river to life, but it quickly dries up once the water source has gone. ⬭

**C** Because the water supply comes from an underground spring and keeps flowing all year round despite the very low rainfall. ⬭

**D** Because the water supply comes from underground and the hot conditions during the day mean it quickly evaporates. ⬭

**[1 mark]**

**Question 3 continues on the next page**

**0 3 . 2** Wind has a direct impact on the development of which erosional landforms?

**A** Pediments, ventifacts and inselbergs. ⬭

**B** Yardangs, bahadas and inselbergs. ⬭

**C** Yardangs, ventifacts and zeugen. ⬭

**D** Zeugen, dunes and wadis. ⬭

**[1 mark]**

**0 3 . 3** Which of the following is a cause of desertification?

**A** Adding natural fertiliser to farmland in arid areas in order to allow intensive cultivation. ⬭

**B** Building settlements in desert areas which creates large areas of hard surfaces, increasing runoff and erosion of top soils. ⬭

**C** Climate change which is creating even drier desert areas with semi-arid areas becoming arid. ⬭

**D** The harvesting of wood in desert areas which interferes with convectional rainfall, reducing precipitation rates. ⬭

**[1 mark]**

**Figure 2** shows a typical desert landscape.

**Figure 2**

**0 3 . 4** Using **Figure 2**, describe and comment on the interaction between climate, soils and vegetation.

**[6 marks]**

**0 3 . 5** Account for the distribution of hot deserts.

**[9 marks]**

**0 3 . 6** Discuss the role of wind in the formation of hot desert landscapes.

**[9 marks]**

**Turn over for the next question**

**Question 4 Coastal systems and landscapes**

**0 4 . 1** Which of the following describes the sediment budget?

**A** The impact of wind on the build-up of sand dunes in places such as the Netherlands. ⬭

**B** The interaction between waves, currents and tides and how these factors determine whether a coastline is more or less likely to be eroded. ⬭

**C** The relationship between deposition and erosion, which can be used to predict the changing shape of a coastline over time. ⬭

**D** The relationship between erosion, weathering and mass movements and how these affect the land at the coast. ⬭

**[1 mark]**

**0 4 . 2** Where do erosional coastal landscapes tend to develop?

**A** Where there are easily eroded rocks in areas of shallow water. ⬭

**B** Where there are frequent areas of low pressure in areas of shallow water, especially around estuaries. ⬭

**C** Where there are frequently strong winds and deep water leading to the formation of destructive waves. ⬭

**D** Where there is a large fetch, a shallow bay and constructive waves. ⬭

**[1 mark]**

**0 4 . 3** Where do sand dunes tend to form?

**A** Where estuaries release large quantities of sediment and the dunes form in the area landward of a spit, colonised by vegetation, which further stabilises the dune. ⬭

**B** Where low energy environments and low tidal range creates large supplies of sand in bays. ⬭

**C** Where the destructive power of the waves pushes sand up a beach in storm conditions. ⬭

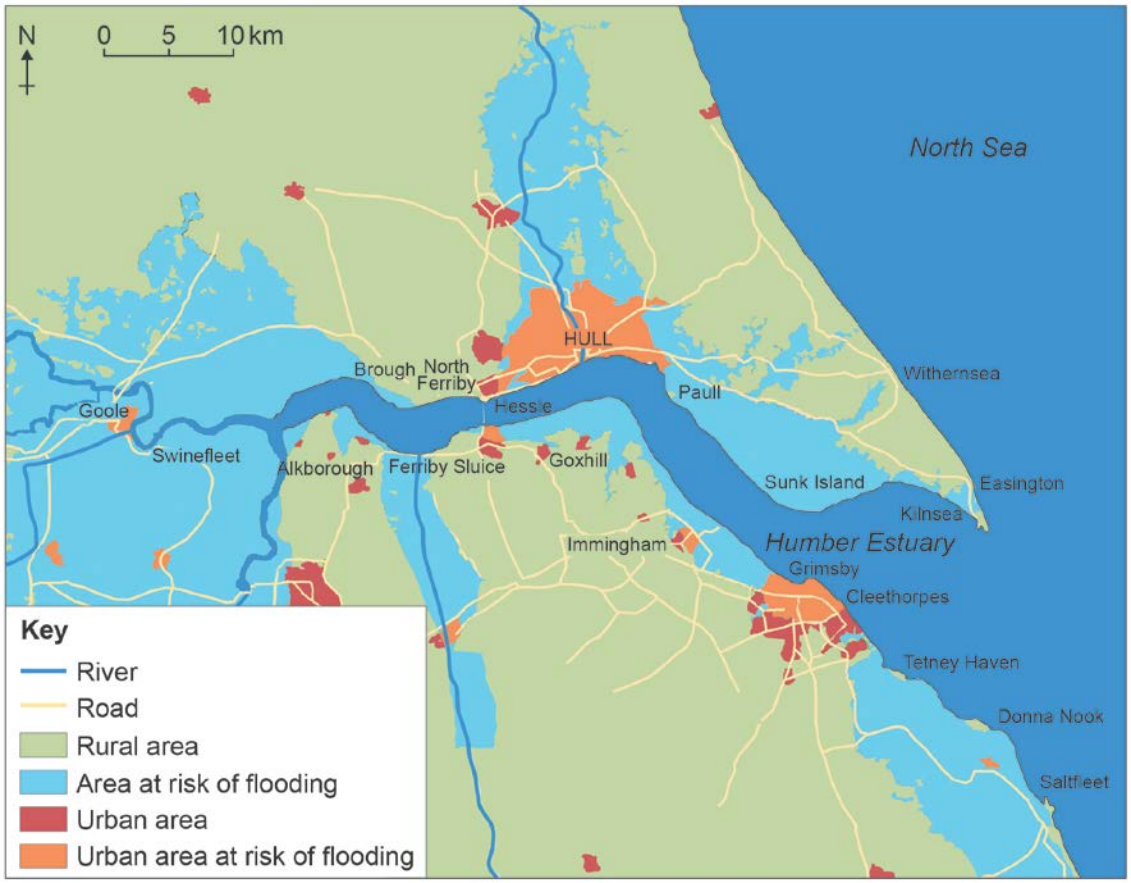
**D** Where there is a large supply of sand in low energy environments, with a large tidal range and a prevailing onshore wind. ⬭

**[1 mark]**

**Question 4 continues on the next page**

**Figure 3** shows areas at risk of flooding around the Humber Estuary.

**Figure 3**




**0 4 . 4** Using **Figure 3**, describe and comment on the likely issues associated with managing flood risk in the area shown.

**[6 marks]**

**0 4 . 5** Explain how variations in coastal energy lead to the creation of contrasting coastal landscapes.

**[9 marks]**

**Question 4 continues on the next page**

**0 4 . 6** Account for the landforms created as a result of eustatic sea level change.

**[9 marks]**

**End of Section B**

## Section C

Answer **one** question.

Answer **either** Question 5 **or** Question 6 **or** Question 7

Shade the circle below to indicate which optional question you have answered.

Question 0 5 ⬭ Question 0 6 ⬭ Question 0 7 ⬭

CORRECT METHOD ● WRONG METHODS ⊗ ⦿ ≋ ⦰

### Question 5 Hazards

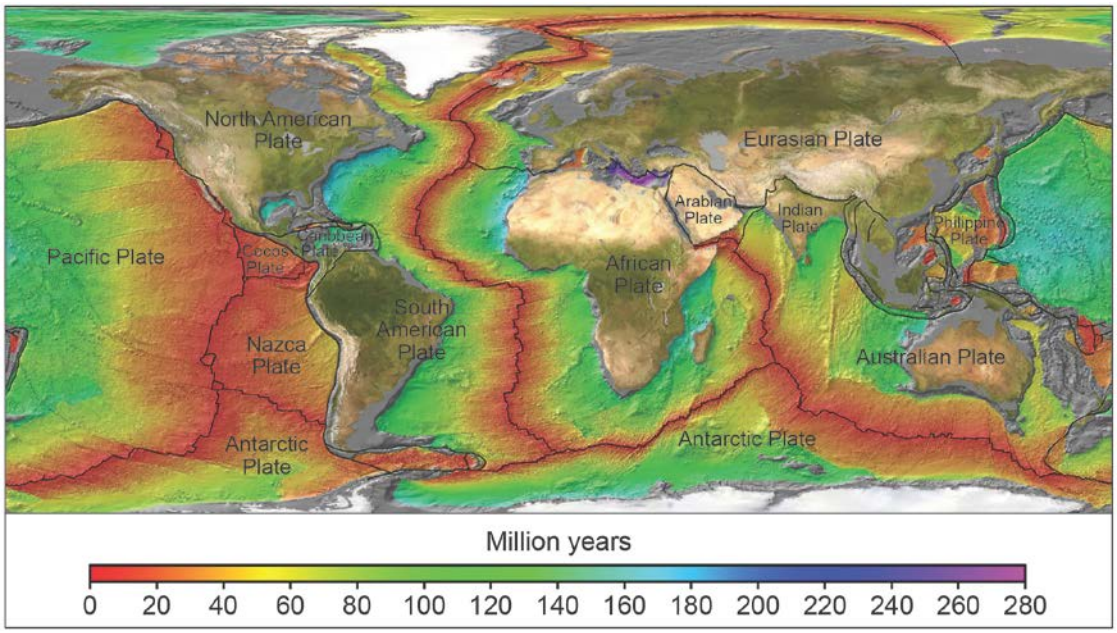
**0 5 . 1** In the context of natural hazards, what is meant by the term fatalism?

**[3 marks]**

**Question 5 continues on the next page**

**Figure 4** shows the age of areas of ocean floor.

**Figure 4**




**0 5 . 2** Comment on the extent to which **Figure 4** provides evidence of the cause of seismicity.

**[9 marks]**

**0 5 . 3** Discuss how well the hazards associated with tropical storms can be managed.

**[30 marks]**

Extra space:

**Question 6 Ecosystems under stress**

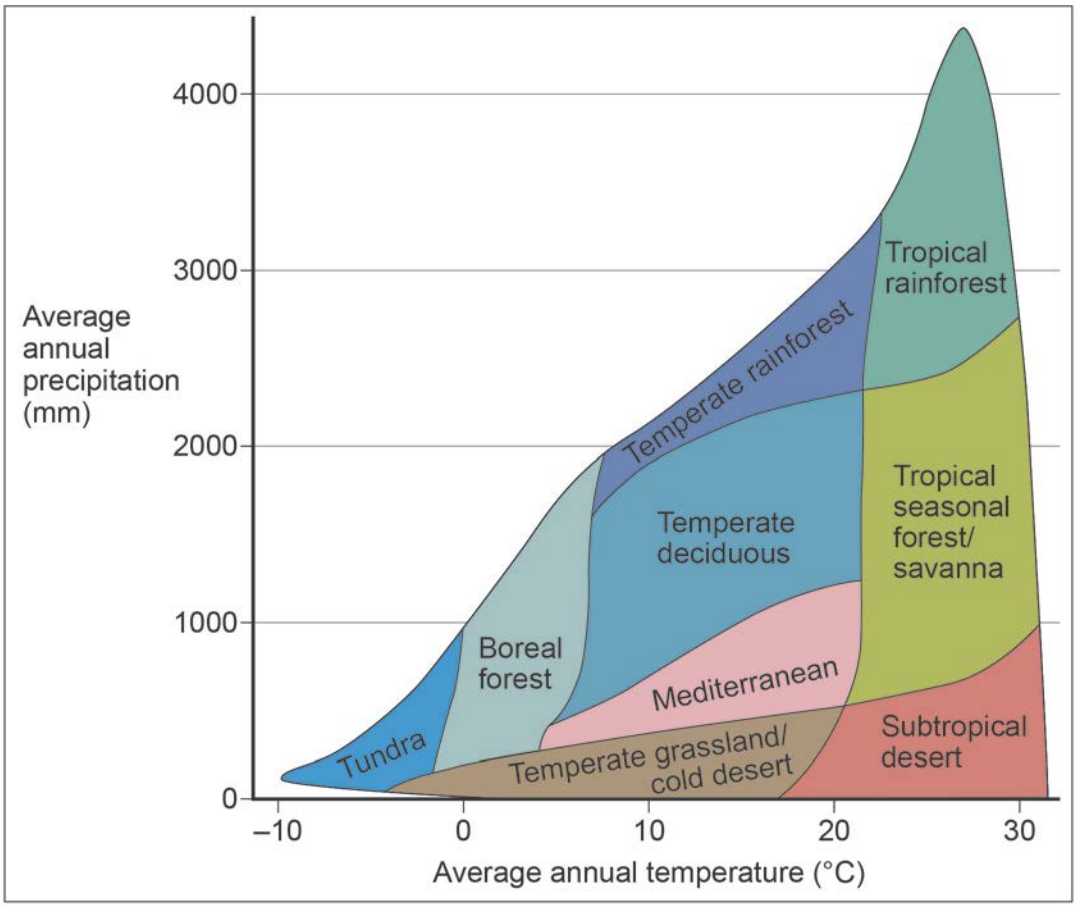
**0 6 . 1** Outline the meaning of the term plagioclimax.

**[3 marks]**

**Question 6 continues on the next page**

**Figure 5** shows the temperature and precipitation associated with different world biomes.

**Figure 5**




**0 6 . 2** With reference to any **two** biomes shown in **Figure 5** compare the climate characteristics and account for the differences in natural vegetation.

**[9 marks]**

**0 6 . 3** Evaluate the relationships between human activity, biodiversity and sustainability in ecosystems.

**[30 marks]**

Extra space:

**Question 7 Cold environments**

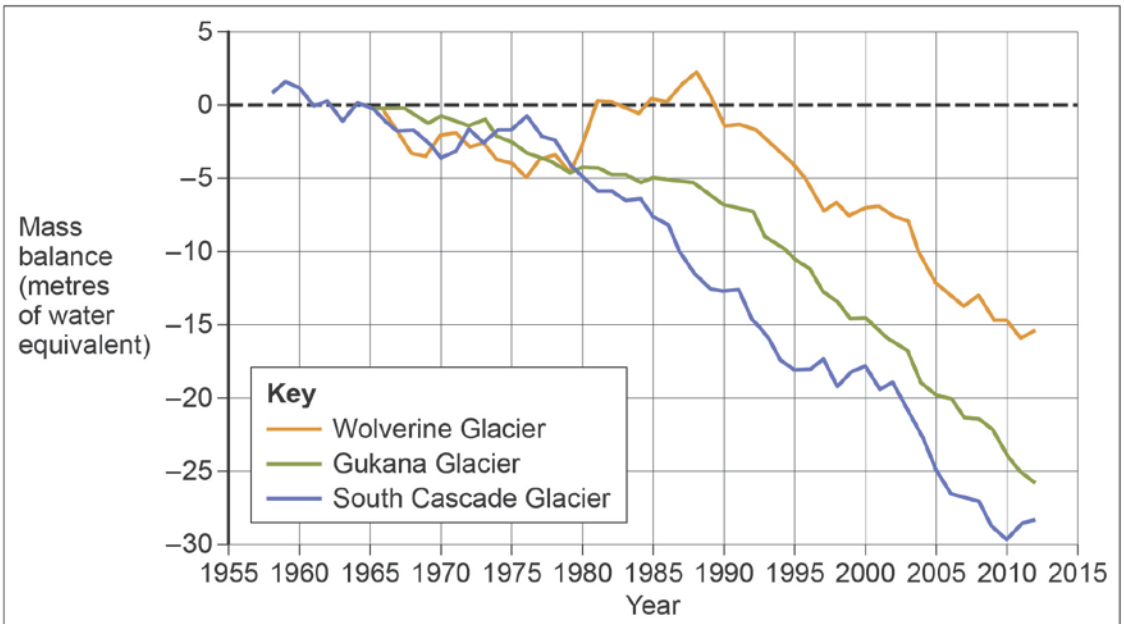
**0 7 . 1** Distinguish between ablation and accumulation.

**[3 marks]**

**Question 7 continues on the next page**

**Figure 6** shows the change in the size (mass balance) of three US glaciers between 1958 and 2012.

**Figure 6**




Note: the zero line uses 1965 as the reference date from which all data is measured.

**0 7 . 2** Using **Figure 6**, describe the trends and suggest reasons for the differences between the glaciers.

**[9 marks]**

**0 7 . 3** ‘The impact of human activity on cold environments is greater than that of natural processes.’

Discuss.

**[30 marks]**

Extra space:

**END OF QUESTIONS**

**There are no questions printed on this page**

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**ANSWER IN THE SPACES PROVIDED**

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Figure 3: John Shaw / SCIENCE PHOTO LIBRARY

Figure 4: Muller, R.D., M. Sdrolias, C. Gaina, and W.R. Roest 2008. Age, spreading rates and spreading symmetry of the world's ocean crust, Geochem. Geophys. Geosyst., 9, Q04006, doi: 10.1029/2007GC001743.

Figure 6: © U.S. EPA Climate Change Website

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