Sixth Form Entrance 2015

GEOGRAPHY

1 hour
(60 marks)

Instructions

In the PHYSICAL GEOGRAPHY section only answer ONE question from a choice of:

1. River Environments
2. Coastal Environments
3. Hazardous Environments.

In the HUMAN GEOGRAPHY section only answer ONE question from a choice of:

4. Economic activity and energy
5. Ecosystems and rural environments

Candidate Name:……………………………………………………………………

Present School:……………………………………………………………………
Answer ONLY ONE question from this Section:

Answer either:
1. River Environments OR
2. Coastal Environments OR
3. Hazardous Environments.

Question 1: River Environments

(a) Study Figure 1 which shows two storm hydrographs (A and B).

1. 
2. 
3. 

Figure 1
(i) On Figure 1, draw the precipitation bar for 1 to 2 hours from the start of the storm when 10 mm of rain fell.

(ii) On Figure 1, complete boxes 1, 2 and 3 by correctly using three of the following labels:

<table>
<thead>
<tr>
<th>peak discharge</th>
<th>lag-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>urban area hydrograph</td>
<td>wooded rural area hydrograph</td>
</tr>
</tbody>
</table>

(iii) State two ways in which hydrograph A differs from hydrograph B.

1. ..............................................................................
2. ..............................................................................

(iv) What is the discharge of a river?

(v) Describe the fieldwork techniques you would use to collect data about a river’s discharge.
(b) (i) Give one change that flooding brings to a river’s valley.

(ii) Suggest why flooding is more likely to occur in urban areas than wooded rural areas. Figure 1 may help your answer.
(c) With reference to a named river, explain how the threat of flooding has been reduced. (9)

Name of river: ____________________________

(Total for Question 1 = 30 marks)
Question 2: Coastal Environments

2 Coastal environments

(a) Study Figure 2a, a sketch map of part of the coastline shown in the photograph, (Figure 2b).

1. 

2. 

3. 

---

Figure 2a

---

Figure 2b
(i) On Figure 2a, complete boxes 1, 2 and 3 by correctly using \textbf{three} of the following labels:

<table>
<thead>
<tr>
<th>sheltered from prevailing sea winds</th>
<th>cliffs</th>
</tr>
</thead>
<tbody>
<tr>
<td>groynes</td>
<td>spit</td>
</tr>
</tbody>
</table>

(ii) Name a type of coastal landform shown on Figure 2b that was formed by:

1. erosion

2. deposition

(b) There is longshore drift along the coastline shown in Figure 2b.

(i) What is \textit{longshore drift}?

(ii) What is the direction of longshore drift along this coastline? \textit{Give one reason for your answer.}

Direction ............................................................

Reason ..............................................................
(c) (i) Name **two** methods of coastal protection being used along the coastline shown in Figure 2b. (2)

1. 

2. 

(ii) For **one** of these methods, explain how it reduces coastal erosion. (4)

(iii) Describe the fieldwork techniques you would use to investigate people's opinions on the coastal protection methods shown in Figures 2a and 2b. (6)
(d) Explain how headlands retreat to produce new coastal landforms. One or more diagrams may help your answer.

(Total for Question 2 = 30 marks)
3 Hazardous Environments

(a) Study Figure 3 which shows a weather system over the Caribbean Sea.

Figure 3

(i) What is the difference in pressure between the centre of the system (A) and at its edge (B)?

(ii) Which of the following best describes the pressure at the centre of the system? Put a cross in the correct box.

- High
- Medium
- Low
(iii) Complete the sentences by filling in the gaps using some of the words in the box.

<table>
<thead>
<tr>
<th>eye</th>
<th>typhoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>hurricane</td>
<td>wall</td>
</tr>
</tbody>
</table>

The weather system shown in Figure 3 is known in this part of the world as a __________________. Area A is known as the __________________.

(b) (i) Suggest how the weather in Haiti changed as this weather system passed over the island.

________________________________________________________________________________________________________________________________________________________

(ii) Describe how you would collect and record data about the weather in your local area.

________________________________________________________________________________________________________________________________________________________
(c) (i) What is meant by the term **natural disaster**?

(ii) Suggest how people in LICs might be affected by a weather system such as that shown in Figure 3.
Now move on to Section B
Section B: HUMAN GEOGRAPHY

Answer ONLY ONE question from this Section:

Answer either:
4. Economic activity and energy OR
5. Ecosystems and rural environments OR

4: Economic activity and energy

(a) Study Figure 4a which shows six factors (A to F) which attract high-tech manufacturing industries

- A: Research and development
  Near to, and links with, a top class university

- B: Environment
  Attractive location in which to live and work

- C: Access
  Availability of good transport networks, raw materials, services and markets

- D: Reputation
  Place of high-tech excellence

- E: Policy
  National and local governments encourage investment and enterprise

- F: Labour
  Supply of highly qualified and adaptable labour

Figure 4a
(i) Choose the factor (A to F) which each of the following is an example of:

1. motorway link to an international airport
2. government support for business

Write the appropriate letter, A to F, in each box.

(ii) What are raw materials?

(iii) Manufacturing is part of which of the following employment sectors? Put a cross in the correct box.

- [ ] primary
- [ ] secondary
- [ ] tertiary
- [ ] quaternary

(iv) Name a high-tech manufacturing industry.

(v) Suggest why universities help attract high-tech industry.
(b) Study Figure 4b which shows the results of a fieldwork investigation into how the managers of ten factories (A to J) ranked six factors when choosing their present location.

<table>
<thead>
<tr>
<th>Locational factors</th>
<th>Order of Importance (rank) to:</th>
<th>Factor score</th>
<th>Ranking of factor scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Food processing factories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electronics factories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Car component factories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Available road transport</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Closeness to markets</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Suitable labour at competitive wage rates</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Suitable buildings and site</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Nearness to raw materials</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Personal reasons</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

1 = most important factor  6 = least important factor

Figure 4b

(i) Complete Figure 4b.

(ii) What conclusions can be drawn about the importance of the various locational factors?
(c) Describe the factors encouraging the recent growth of tertiary and quaternary activities in HICs.
(d) Explain why energy efficiency is becoming so important for many countries. (9)

(Total for Question 4 = 30 marks)
5: Ecosystems and rural environments

(a) Study Figure 5a which represents a rice field (*padi*) as an ecosystem.

**Figure 5a**

(i) Which of the following best describes this ecosystem? Put a cross in the correct box.

- [ ] small-scale
- [ ] a biome
- [ ] natural

(ii) For this ecosystem, name:

1. one input

2. one output
(iii) What is **Irrigation**?

(iv) Identify **two** nutrient movements taking place within this ecosystem.

1. 

2. 

(b) (i) State **two** of the components of a biome or ecosystem.

1. 

2. 

(ii) Describe the link between any **two** components in a temperate grassland biome.

Components ________________________________
(c) Study Figure 5b which shows the results of a fieldwork survey of four neighbouring rice farms (A to D) in south-east Asia.

<table>
<thead>
<tr>
<th>Factors influencing yield</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of farm (hectares)</td>
<td>1.9</td>
<td>5.2</td>
<td>3.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Rice yields (tonnes per hectare)</td>
<td>1.0</td>
<td>3.9</td>
<td>3.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Use of irrigation</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Use of fertilisers / pesticides</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Use of machinery</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Use of HYV seeds</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Rice is dominant crop</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Total number of yield-influencing factors</td>
<td>0</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5b**

(i) Complete Figure 5b.

(ii) Plot the yield influencing factors for the four rice farms in Figure 5b on the graph, Figure 5c.

**Figure 5c**
(iii) Draw **two** conclusions from the evidence in Figures 5b and 5c. (4)

1. 

2. 

(d) For a named country, describe the ways in which agricultural production has been increased.

Named country: ________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

(Total for Question 5 = 30 marks)
6: Urban Environments

(a) Study Figure 6a which shows some developments taking place on the edge of the city of Oxford, UK.

Figure 6a

1. Port Meadow (housing development)
2. Blackbird Leys (housing development)
3. Oxford United's new football stadium and housing development
4. Hinksey Hill (golf course)
5. Cherwell Valley (expansion of College sports grounds)
6. Oxford science park (300 hectare site)
(i) Name one location on the edge of the city of Oxford.

(ii) Describe the changes in land use taking place on the edge of the city.

(iii) These changes have a number of effects. State:

1 one positive effect

2 one negative effect.

(iv) Give reasons for the changes taking place on the edge of many HIC cities such as Oxford.

(b) Suggest how the use of brownfield sites may help reduce development pressures on the edges of HIC cities.
(c) Study Figure 6b which shows the results of a land use and environmental quality survey along a transect running from the CBD to the outer suburbs of a city.

<table>
<thead>
<tr>
<th>Data collection site</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use</td>
<td>Retailing</td>
<td>Offices</td>
<td>Car parking / derelict land</td>
<td>Terrace housing and flats</td>
<td>Largely detached housing</td>
<td>New housing estate</td>
</tr>
<tr>
<td>Location</td>
<td>CBD</td>
<td>CBD</td>
<td>Inner city</td>
<td>Inner city</td>
<td>Suburban</td>
<td>Suburban</td>
</tr>
<tr>
<td>Environmental Quality scores</td>
<td>Street cleanliness</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Exterior appearance</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Empty buildings / vacant land</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total score for site</td>
<td>12</td>
<td>14</td>
<td>4</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scores run from 1 to 5 with
5 = clean streets, attractive buildings, all premises occupied.
1 = dirty streets; poorly maintained buildings; empty buildings and derelict land.

Figure 6b

(i) Complete Figure 6b.

(ii) Plot the Environmental Quality scores for the six sites in Figure 6b on the graph, Figure 6c.

Figure 6c
(iii) What conclusions can be drawn from the evidence in Figures 6b and 6c?

(4)
(d) For a named city in an LIC, explain the management strategies being used to minimise the problems of its shanty towns (squatter communities).

Name of city: 

(Number of lines as required)

(Total for Question 6 = 30 marks)
THE KING’S SCHOOL, CANTERBURY

SIXTH FORM ENTRANCE EXAMINATION

2014-2015

GEOGRAPHY

1 Hour

Answer ALL Questions

Name: .............................................................

School: ............................................................
Section A: Human Geography

1) Study Figure 1 that shows the changing employment structure for South Korea.

Figure 1

![Graph showing changing employment structure](source: Edexcel)

a) Complete the graph using the data in the table below. (1)

<table>
<thead>
<tr>
<th>Year</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>24%</td>
<td>68%</td>
</tr>
</tbody>
</table>

b) Describe how the employment structure has changed between 1982-2007. (3)

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

_____________________________________
_____________________________________
_____________________________________
_____________________________________
_____________________________________
(3)
c) Employment in the secondary (manufacturing) industry (e.g. the car industry) in the UK has declined over the last 50 years. Suggest reasons why.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

(4)

d) Is it a problem that not many people work in the primary (natural resource extraction) industry (e.g. farming, mining) in the UK any more?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

(4)

e) Outline two factors responsible for the growth in the tertiary (service) and quaternary (high technology) industries.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

(4)
2. Study Figure 2 which shows the population change for a year in several remote areas in Scotland.

**Figure 2**

<table>
<thead>
<tr>
<th>Area</th>
<th>Population Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Ayrshire</td>
<td>3%</td>
</tr>
<tr>
<td>Dumfries &amp; Galloway</td>
<td>-2%</td>
</tr>
<tr>
<td>Scottish Borders</td>
<td>0%</td>
</tr>
<tr>
<td>Orkney</td>
<td>1%</td>
</tr>
<tr>
<td>Shetland</td>
<td>-4%</td>
</tr>
<tr>
<td>Argyll &amp; Bute</td>
<td>2%</td>
</tr>
<tr>
<td>Western Isles</td>
<td>1%</td>
</tr>
<tr>
<td>Highland</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Edexcel

a) Which area increased by the greatest population size?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
(1)

b) Suggest reasons why some areas grew in population size whilst other declined.
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
(4)

c) Outline some of the social and economic impacts of the population change in Argyll & Bute.
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
3. Add annotations to the template below to help answer this question: Why do so many illegal migrants currently located in Calais want to cross the English Channel into the UK?
Section B: Physical Geography

1) Study Figure 3 which shows Household Water Use in the UK.

Figure 3

Source: Essential Mapwork Skills 2 by Simon Ross

a) Complete the chart for Toilet Flushing using the data below. (1)

<table>
<thead>
<tr>
<th>Household water use</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilet flushing</td>
<td>25</td>
</tr>
</tbody>
</table>

b) Name two other water uses not shown in figure 3. (2)
c) The data in figure 3 represents a High Income Country. Justify this statement.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
(3)

d) Why is it that some parts of the world do not use as much water per person as that used in the UK?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
(3)

2) Study figure 4 which shows the rainfall distribution in the UK for 2012.

Figure 4

a) Describe the amount of rainfall that northwest Scotland received in 2012 compared to the 1981-2010 average.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
(2)
b) The amount of rainfall varies from year to year. Offer an explanation as to why the UK’s rainfall was higher in 2012 for much of the UK.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
(3)

c) Rivers are very exciting during times of high rainfall. Describe two physical landform features that they may create due to such high rainfall conditions. A diagram for each may help you.

Landform 1: __________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Landform 2: __________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
(4)
d) Canterbury is located in the southeast of the map (figure 4). How much rainfall did we get in 2012 compared to the 1981-2010 average?

(4)

(1)

e) Canterbury only gets about 650 mm of rain per year, whilst Wales gets anything up to 2,500 mm per year. Why?
3) What natural hazard do you think the UK is most at risk from, and why?