INSTRUCTIONS TO CANDIDATES

Section A: Answer two questions, one from each of the two optional units you have studied. You must use the Section A answer booklet (colour Blue).

Section B: Answer all this section. You must use the Section B answer booklet (colour Purple).

INFORMATION FOR CANDIDATES

The total mark for this paper is 110. Quality of written communication will be assessed in all questions. You are strongly recommended to spend one hour answering Section A of this assessment unit.

Section B is a decision making exercise. You should spend at least 30 minutes reading the questions and selecting appropriate information before attempting to write your answers.

You are provided with a Resource Booklet and an OS map for use with this paper.
Section A

Answer two questions, one from each of the two optional units you have studied. You must use the Section A answer booklet (colour Blue).

Option A: Fluvial and Coastal Environments

1 (a) With reference to places for illustration, discuss reasons why domestic/residential demands upon coastal areas are increasing. [5]

(b) Study Resource 1 (page 3 of the Resource Booklet) concerning changes to the beach at Dawlish Warren, South Devon.

(i) Identify and explain the coastal process responsible for the problems experienced at Dawlish Warren. [4]

(ii) In your opinion, should hard engineering coastal protection strategies be implemented at Dawlish Warren? Justify your answer with reference to the Resources. [6]

(c) With reference to a regional scale case study of a river basin:

• outline the aims of the management scheme; and
• describe and evaluate the strategies used to achieve these aims. [15]

2 (a) With reference to places for illustration, discuss why the demands of leisure activities upon rivers and their valley zones are increasing. [5]

(b) Study Resources 2A–2E (pages 4 and 5 of the Resource Booklet) concerning flooding along the Water of Leith, Edinburgh.

(i) With reference to the Resources, outline the reasons why flood prevention plans have been proposed. [4]

(ii) In your opinion, are the proposed strategies for the Water of Leith environmentally sensitive? Briefly justify your answer with reference to the Resources. [6]

(c) With reference to a regional case study of coastal protection:

• describe the hard and soft engineering strategies which have been implemented along the coastline; and
• evaluate their effectiveness. [15]
Option B: The Nature and Sustainability of Tropical Ecosystems

3 (a) Study Resource 3 (page 6 of the Resource Booklet) which shows a cross-section of low-latitude atmospheric circulation.

Identify any one of the three major tropical biomes, A, B or C and describe and explain the nature of its annual climate with reference to the Hadley Cell. [7]

(b) With the aid of a diagram, describe the nature of stores and flows in nutrient cycling in the tropical rain forest ecosystem. [8]

(c) With reference to a small scale case study, describe and evaluate the attempts to achieve sustainable development in the tropical forest ecosystem. [15]

4 (a) Study Resource 4A (page 7 of the Resource Booklet) which concerns the impact of palm oil production.

(i) Outline the environmental issues linked to the growth in demand for palm oil. [4]

(ii) To what extent do you think RSPO is effective at promoting sustainable management of palm oil production? [4]

(b) Study Resource 4B (page 8 of the Resource Booklet) which shows the profile of an oxisol, the zonal soil of the tropical rain forest.

Explain how the characteristics of an oxisol are linked to the nature of the climate in tropical rain forests. [7]

(c) With reference to a regional scale case study concerning the problem of salinisation:

- describe the causes of the problem in the region; and
- discuss the impact of salinisation on both the people and the environment. [15]
Option C: The Dynamic Earth

5 (a) Study Resource 5 (page 9 of the Resource Booklet) which shows the geology of the ocean floor of the South Atlantic.

(i) Describe and explain the pattern of the age of rocks in the area. [5]

(ii) Briefly discuss one other type of evidence that is used to support the theory of plate tectonics. [4]

(b) Explain the tectonic processes involved in the formation of any one of the following landforms:

- fold mountains
- deep sea trenches
- island arcs [6]

(c) With reference to one small scale case study of volcanic activity:

- describe the efforts made to predict the volcanic activity; and
- evaluate the success of prediction in this case. [15]

6 (a) Study Resource 6 (page 10 of the Resource Booklet) which concerns an earthquake in China in May 2008.

(i) How did poor management and bad practice contribute to the scale of this disaster? [6]

(ii) Using the Resource to help you, describe the limitations of earthquake predictions for the management of such events. [9]

(b) With reference to one small scale case study of earthquake activity in either a MEDC or LEDC, discuss how the management of its effects reflects the knowledge, perception and stage of development of the country. [15]
Section B

Answer all this section. You must use the Section B answer booklet (colour Purple).

You are recommended to spend 30 minutes reading the section and 60 minutes writing your answers.

Decision Making Paper

7 Background to the Report

Aberdeen, a city in North East Scotland, has several major roads converging on it, including the A90 and A96 Trunk Roads (see Resource 7B). As a result, much traffic travelling across Aberdeen has to go through the city centre, producing traffic congestion and disruption for local people. The traffic problems have an impact on public transport and even short journeys can be difficult and time-consuming. In addition, the increased traffic has a negative impact on the environment.

A road improvement scheme to address some of these issues has been proposed. It is called the Aberdeen Western Peripheral Route (AWPR).

Time line:
1990 Preliminary studies
2002–2003 “Modern Transport System” established
2004 Route options examined
2005 Provisional decision on route
2006 Environmental impact studies started
2008 Local enquiry established
2012 Proposed opening of road

You must adopt the role of the Chair of the local enquiry (termed a Reporter in Scotland) who is to consider the proposal and to decide whether or not to proceed with it.

Note that you do not have to decide on an alternative – only whether you approve or reject the project described here.

You should base your answer solely on information contained in this examination paper and Resource Booklet and not on any decision that may have been made in relation to this issue.
You must adopt the role of Reporter (Chair) of the local enquiry who is to consider the Aberdeen Western Peripheral Route and to decide whether or not to proceed with it.

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<th>THE REPORT MUST BE STRUCTURED AS BELOW</th>
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<td>B. The likely impact</td>
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MARKS

- **Format**: Each of the three sections must be clearly set out using the headings and sub-headings provided.
- **Role**: You must adopt and maintain the stated role.
- **Graph**: Draw a graph using data from Table 1 (found in Resource 7H) and incorporate it into the report at an appropriate place.
THIS IS THE END OF THE QUESTION PAPER