



GCE AS/A level

1201/01

GEOGRAPHY G1

CHANGING PHYSICAL ENVIRONMENTS

A.M. FRIDAY, 21 May 2010

1½ hours

ADDITIONAL MATERIALS

In addition to this examination paper, you will need one 12 page answer book.

INSTRUCTIONS TO CANDIDATES

Answer **all** questions.

Write your answers in the separate answer book provided.

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

INFORMATION FOR CANDIDATES

Each question carries **25** marks.

The number of marks is given in brackets at the end of each question or part-question.

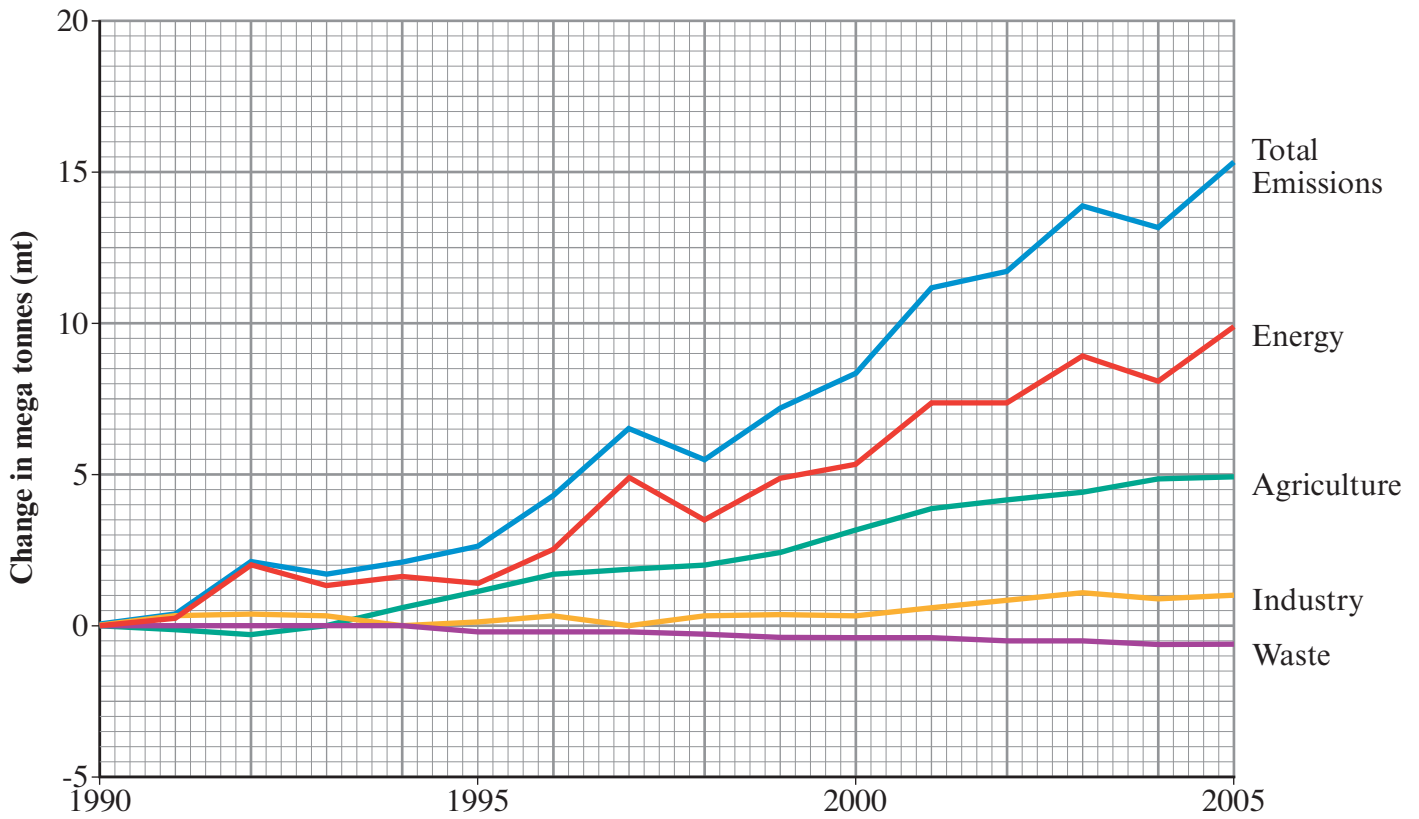
You are reminded that assessment will take into account the quality of written communication used in your answers.

THIS PAPER REQUIRES THAT YOU MAKE THE FULLEST POSSIBLE USE OF APPROPRIATE EXAMPLES IN SUPPORT OF YOUR ANSWERS. SKETCH-MAPS AND DIAGRAMS SHOULD BE INCLUDED WHERE RELEVANT.

Answer **all** questions.

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

Figure 1: Changes in greenhouse gas emissions (mega tonnes) in New Zealand, by sector, 1990–2005



Source: newzealand.govt.nz

1. (a) Describe the changes in greenhouse gas emissions shown in **Figure 1**. [5]
- (b) Outline **two** changes to the physical environment that provide evidence for climate change. [10]
- (c) Examine **how** the impacts of climate change differ between regions. [10]

Figure 2: Impacts of the earthquake in central Italy, April 6th, 2009

The Cathedral in the centre of the town of L'Aquila



Source: <http://www.timesonline.co.uk>

The village of Onna



Source: <http://www.chron.com>

2. (a) Describe the local impacts of earthquake activity shown in **Figure 2**. [5]
- (b) Discuss some of the social impacts that result from tectonic activity. [10]
- (c) Outline **two** different strategies used to manage tectonic hazards. [10]

Figure 3: Extract from a report on flood prevention for the Afon (River) Adda, Bangor, North Wales

£8.3 million anti-flood scheme completed

The Afon Adda is a culverted river which flows through Bangor. It flooded in 2004 causing damage to homes and businesses. This was because the pipes and culverts carrying the water did not have the capacity to cope with heavy rainfall. Parts of the culvert were up to 250 years old and in a poor condition.

The new scheme took around 18 months to complete and should provide a 1 in 100 year standard of protection. The scheme should reduce the risk of flooding to over 1,000 homes and businesses. It consists of:

- a flood storage area upstream to hold water during heavy rain — this doubles as a new wetland area for wildlife
- larger pipes which can carry more water from two streams into the main culvert
- debris screens and silt traps to reduce the risk of blockages
- repairs to, and enlargement of, sections of the main culvert



A culvert is a totally enclosed drain or channel under a road, railway or built up area.

Source: <http://www.grdp.org> and <http://news.bbc.co.uk/1/hi/wales/7529803.stm>

3. (a) Use information from **Figure 3** to suggest how effective the flood prevention scheme may be. [7]
- (b) Outline how you could collect information on people's views about the Afon Adda flood prevention scheme. [8]
- (c) Describe and assess **one or more** ways used to represent data for an investigation into a changing physical environment that you have completed. [10]

You should state clearly the question that you have investigated.