



**GCE AS/A level**

**1201/01**

**GEOGRAPHY – G1**

**CHANGING PHYSICAL ENVIRONMENTS**

**P.M. TUESDAY, 14 May 2013**

**1½ hours plus your additional time allowance**

**ADDITIONAL MATERIALS**

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

**INSTRUCTIONS TO CANDIDATES**

**Use black ink, black ball-point pen or your usual method.**

**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.**

## **G1 – CHANGING PHYSICAL ENVIRONMENTS**

**Answer ALL questions.**

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

- 1(a) Use FIGURE 1 to describe global variations in Green Energy investments. [5]**
  
- (b) Explain TWO environmental causes of climate change. [10]**
  
- (c) Outline the possible effects of rising sea levels on people. [10]**

- 2(a) Use FIGURE 2 to describe the effects of flooding in Thailand on Japanese companies. [5]**
- (b) Outline how the drainage basin operates as a system. [10]**
- (c) Suggest why perceptions of EITHER flood hazards OR tectonic hazards may vary between different groups of people. [10]**

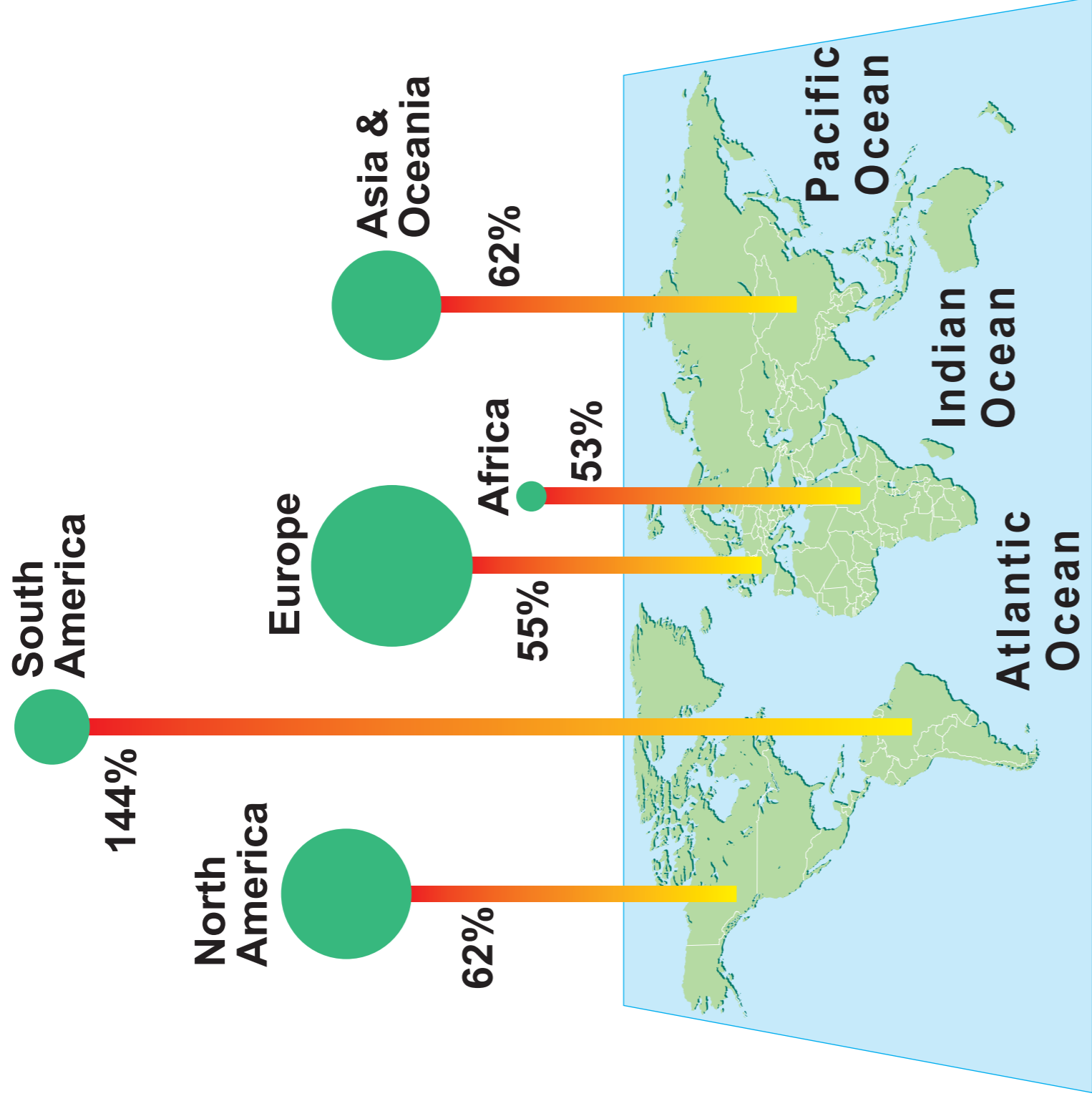
**3(a) Use FIGURE 3 to describe how volcanic activity varies. [7]**

**(b) Outline TWO ways of presenting information from FIGURE 3. [8]**

**(c) Discuss the methods used to collect data in an investigation into a changing physical environment that you have completed. [10]**

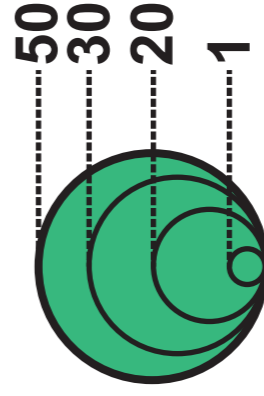
**You should state clearly the question that you have investigated.**

**FIGURE 1: VARIATIONS IN GREEN ENERGY INVESTMENTS, 2008**



Source: UNEP-SEFI, Global trends in sustainable energy investment, 2009.

Key:



Green Energy investments, billion US dollars in 2008

The figures (e.g. 62%) show annual growth rate of Green Energy investments 2004 – 2008

Source: adapted from Riccardo Pravettoni, UNEP/GRID-Arendal

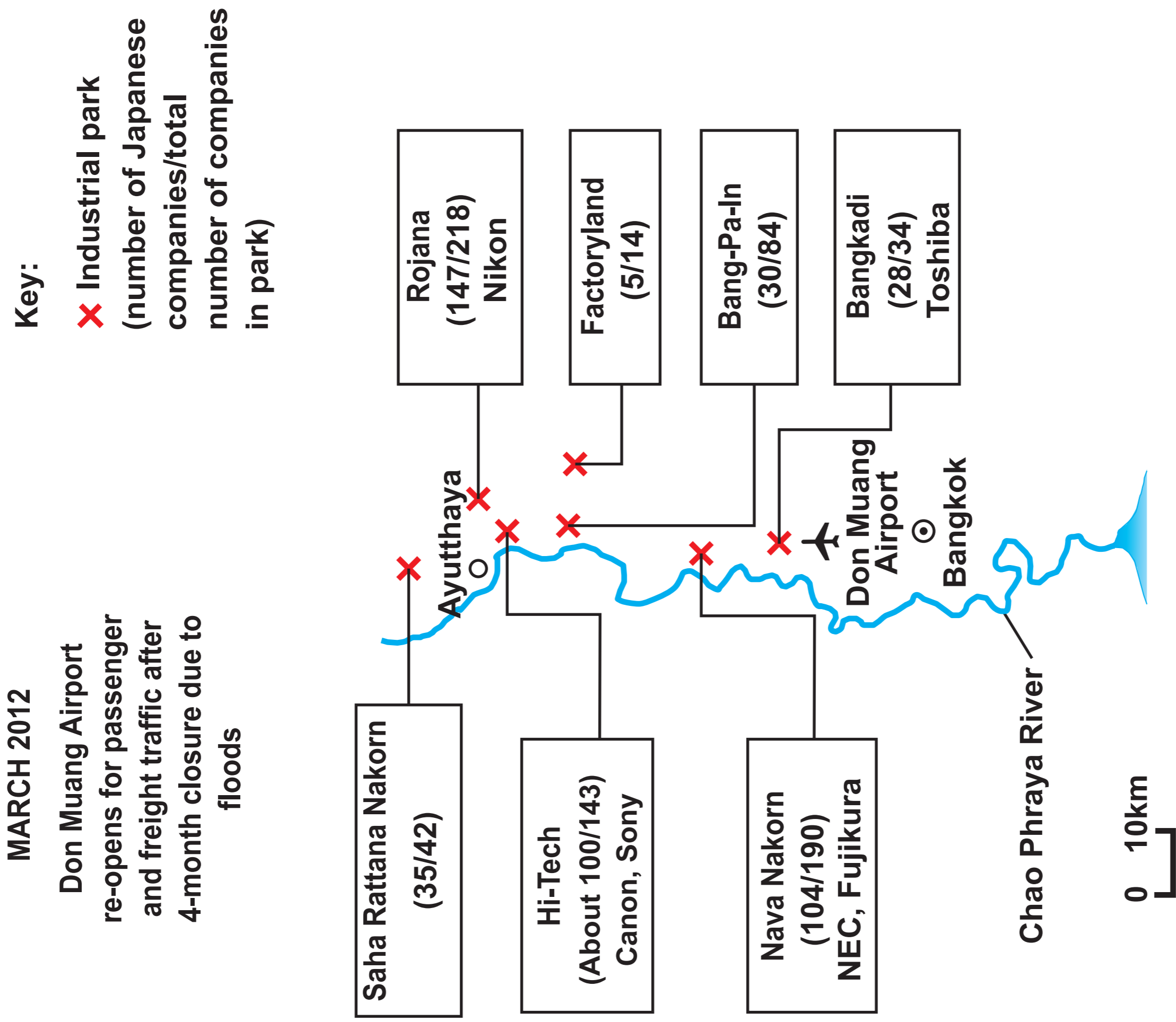
**FIGURE 2A: THE EFFECTS OF FLOODING ON JAPANESE COMPANIES LOCATED IN THAILAND, OCTOBER 2011**

<b>Type of industry</b>	<b>Company</b>	<b>Impact</b>	<b>Outcome</b>
<b>Vehicles</b>	<b>Toyota</b>	<b>Parts not supplied due to flood damage</b>	<b>Production suspended in Japan and USA</b>
	<b>Nikon</b>	<b>Digital camera factory submerged</b>	<b>Production suspended</b>
<b>Electronics</b>	<b>Sony</b>		
	<b>Canon</b>	<b>Printer factory submerged</b>	<b>Considering moving production to other parts of Thailand</b>
	<b>Nidec</b>	<b>Electronic parts factory submerged</b>	<b>Considering moving production to China</b>

**Source: adapted from <http://www.nationmultimedia.com>**



**FIGURE 2B: FLOODED INDUSTRIAL PARKS IN THAILAND**



Source: adapted from <http://www.yomiuri.co.jp>

**FIGURE 3: VOLCANIC EXPLOSIVITY INDEX (VEI)**

<b>VEI</b>	<b>Volume of material ejected</b>	<b>Height of ash cloud</b>	<b>Approximate frequency</b>	<b>Eruptions in last 10,000 years</b>	<b>Examples</b>
<b>0</b>	<b>&lt; 10,000 m<sup>3</sup></b>	<b>&lt; 100 m</b>	<b>constant</b>	<b>many</b>	<b>Kilauea, Piton de la Fournaise</b>
<b>1</b>	<b>&gt; 10,000 m<sup>3</sup></b>	<b>100 - 1000 m</b>	<b>daily</b>	<b>many</b>	<b>Stromboli, Nyiragongo</b>
<b>2</b>	<b>&gt; 1,000,000 m<sup>3</sup></b>	<b>1 - 5 km</b>	<b>weekly</b>	<b>3477</b>	<b>Galeras, Mount Sinabung</b>
<b>3</b>	<b>&gt; 10,000,000 m<sup>3</sup></b>	<b>3 - 15 km</b>	<b>few months</b>	<b>868</b>	<b>Nevado del Ruiz, Soufrière Hills</b>
<b>4</b>	<b>&gt; 0.1 km<sup>3</sup></b>	<b>10 - 25 km</b>	<b>≥ 1 year</b>	<b>421</b>	<b>Mount Pelée, Eyjafjallajökull</b>
<b>5</b>	<b>&gt; 1 km<sup>3</sup></b>	<b>20 - 35 km</b>	<b>≥ 10 years</b>	<b>166</b>	<b>Mount Vesuvius, Mount St. Helens</b>
<b>6</b>	<b>&gt; 10 km<sup>3</sup></b>	<b>&gt; 30 km</b>	<b>≥ 100 years</b>	<b>51</b>	<b>Krakatoa, Mount Pinatubo</b>
<b>7</b>	<b>&gt; 100 km<sup>3</sup></b>	<b>&gt; 40 km</b>	<b>≥ 1,000 years</b>	<b>5</b>	<b>Thera (Minoan Eruption), Tambora</b>
<b>8</b>	<b>&gt; 1,000 km<sup>3</sup></b>	<b>&gt; 50 km</b>	<b>≥ 10,000 years</b>	<b>0</b>	<b>Yellowstone, Toba</b>

Source: adapted from <http://blog.fitb.itb.ac.id>