Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer TWO questions in Section A and ALL parts of Section B.
- Answer the questions in the spaces provided – there may be more space than you need.

Information

- The total mark for this paper is 90.
- The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.
- The quality of your written communication will be assessed in ALL your responses – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Spend approximately 80 minutes on Section A and 70 minutes on Section B.
- Check your answers if you have time at the end.
SECTION A

Answer TWO questions in this section.

You are reminded of the need to use examples to support your arguments.

You are advised to spend approximately 80 minutes on Section A.

Energy Security

1 Study Figure 1.
(a) Using Figure 1, explain the physical and economic factors that contribute to uncertainty over oil production in the future. (10)

(b) Using named examples, assess the extent to which fossil fuels could be replaced by renewable energy sources in the future. (15)

(Total for Question 1 = 25 marks)

Water Conflicts

2 Study Figure 2.
(a) Using Figure 2, explain how physical factors influence water availability in areas A and B. (10)

(b) Using named examples, discuss how both economic development and environmental concerns influence water demand. (15)

(Total for Question 2 = 25 marks)

Biodiversity Under Threat

3 Study Figure 3.
(a) Using Figure 3, explain the physical and human factors that could influence the number of endemic species found in particular locations. (10)

(b) Using named examples, evaluate the economic, cultural and environmental value of a named global ecosystem. (15)

(Total for Question 3 = 25 marks)
Superpower Geographies

4  Study Figure 4.

(a) Using Figure 4 and your own knowledge, suggest the impact on people and the environment of the growth in middle-class numbers and spending.

(b) Using named examples, discuss how the balance between direct versus indirect superpower influence has changed over time.

(Total for Question 4 = 25 marks)

The Technological Fix?

5  Study Figure 5.

(a) Using Figure 5, suggest reasons for the differences in the use of the technologies shown.

(b) Using named examples of developments in technology, such as its use in farming, assess the extent to which they have had a positive impact on people and the environment.

(Total for Question 5 = 25 marks)
Put a cross in the box indicating the first question you have chosen to answer ☒. If you change your mind, put a line through the box ☒ and then put a cross in another box ☒. You will be asked to indicate your second question choice on page 11.

Chosen Question Number:

- Question 1 ☐
- Question 2 ☐
- Question 3 ☐
- Question 4 ☐
- Question 5 ☐
Put a cross in the box indicating the second question you have chosen to answer ✗.
If you change your mind, put a line through the box ✖ and then put a cross in another box ✗.

Chosen Question Number:

Question 1 ✗  Question 2 ✗
Question 3 ✗  Question 4 ✗
Question 5 ✗
SECTION B

Answer ALL parts of this section, referring to the advance information you have been asked to study.

You are reminded of the need to use examples from any part of your GCE Geography course to support your answers.

You are advised to spend approximately 70 minutes on Section B.

Bridging the Development Gap

6 (a) Compare the development progress made by the three East African countries since 1990. 

(b) To what extent do economic and political issues affect the stability and development potential of the region?

(c) Evaluate the potential opportunities and risks of developing the LAPSSET project and creating the EAF from the EAC.
Do not return the Resource Booklet with the question paper.
SECTION A

The following resources relate to Questions 1–5

![World oil production 1965–2011 and three projections for future production](chart)

**Figure 1**

World oil production 1965–2011 and three projections for future production

Future production projections:

1. No peak oil (production rises)
2. Plateau oil (production is flat)
3. Peak oil (production falls)

(Source: BP Statistical Review, 2012)
**Area A:** 750 cubic metres of water available per person per year, but falling

- Thin soils and sparse vegetation cover
- Average annual rainfall 500 mm
- Average annual temperature 25°C

**Area B:** 3000 cubic metres of water available per person per year

- Forest on deep soils
- Average annual rainfall 1800 mm
- Average annual temperature 12°C

**Figure 2**

*Physical factors affecting water supply in two areas*
Number of endemic (unique) species:

- Low
- Moderate
- High

(Source: adapted from A global assessment of endemism and species richness across island and mainland regions, Kier G et al, PNAS June 9, 2009 vol. 106)

**Figure 3**

The number of endemic species worldwide
The middle class is defined as people with incomes between US $6,000 and $30,000 per year.

Figure 4

Middle class spending in Brazil, Russia, India, China (BRICs)

<table>
<thead>
<tr>
<th>Country</th>
<th>% of people owning a mobile phone</th>
<th>% of people with internet access</th>
<th>% of people in two age groups using internet social networking sites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aged 18–29</td>
</tr>
<tr>
<td>USA</td>
<td>85</td>
<td>83</td>
<td>80</td>
</tr>
<tr>
<td>Poland</td>
<td>78</td>
<td>58</td>
<td>75</td>
</tr>
<tr>
<td>China</td>
<td>93</td>
<td>56</td>
<td>55</td>
</tr>
<tr>
<td>Egypt</td>
<td>71</td>
<td>34</td>
<td>27</td>
</tr>
<tr>
<td>Pakistan</td>
<td>48</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

(Source: Pew Global Attitudes Project, 2011)

**Figure 5**

Use of communications technology in five countries
The following resources relate to Question 6
Bridging the Development Gap

East African Development

Introduction

Kenya, Tanzania and Uganda are located in East Africa (Figure 1). These developing countries were all UK colonies in the past. Independence for Kenya came in 1963, for Uganda in 1962, Tanganyika in 1961 and Zanzibar in 1963 (the latter two merging to form Tanzania in 1964).

The physical geography of the region is dominated by the East African Rift Valley. The western arm of the rift has the Ruwenzori Mountains (rising to over 5000m) at its edge and lakes Albert, Tanganyika and Nyasa trace the line of the rift south to Malawi. The eastern arm of the rift bisects the Kenyan Highlands. Between the two rift arms lies Lake Victoria where the national boundaries of Kenya, Tanzania and Uganda intersect. Kampala and Nairobi sit almost on the Equator both at a height of over 1000m.

Development progress

The region has made some progress in development terms as shown by levels of HDI since 1990 (Figure 2). Figure 3 shows data for selected development indicators for the three countries.

![Map of East Africa](image)

**Figure 1**
Map of East Africa

The physical geography of the region is dominated by the East African Rift Valley. The western arm of the rift has the Ruwenzori Mountains (rising to over 5000m) at its edge and lakes Albert, Tanganyika and Nyasa trace the line of the rift south to Malawi. The eastern arm of the rift bisects the Kenyan Highlands. Between the two rift arms lies Lake Victoria where the national boundaries of Kenya, Tanzania and Uganda intersect. Kampala and Nairobi sit almost on the Equator both at a height of over 1000m.

**Figure 2**
HDI trends 1990–2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Kenya</th>
<th>Tanzania</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>0.20</td>
<td>0.40</td>
<td>0.60</td>
</tr>
<tr>
<td>2000</td>
<td>0.30</td>
<td>0.45</td>
<td>0.50</td>
</tr>
<tr>
<td>2010</td>
<td>0.40</td>
<td>0.50</td>
<td>0.60</td>
</tr>
</tbody>
</table>

**Figure 3**
Selected development indicators

<table>
<thead>
<tr>
<th>Year</th>
<th>Kenya</th>
<th>Tanzania</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNI per capita in PPP terms ($)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>1,370</td>
<td>834</td>
<td>517</td>
</tr>
<tr>
<td>2011</td>
<td>1,492</td>
<td>1,328</td>
<td>1,124</td>
</tr>
</tbody>
</table>

| Life expectancy at birth (years) |
| 1990   | 59.3  | 50.6    | 47.4   |
| 2011   | 57.1  | 58.2    | 54.1   |

| Maternal mortality ratio (deaths of women per 100,000 live births) |
| 1990   | 380   | 880     | 670    |
| 2008   | 530   | 790     | 430    |

| Under-five mortality rate (per 1,000 live births) |
| 1990   | 99    | 162     | 184    |
| 2009   | 84    | 108     | 128    |

| HIV prevalence (% of population) |
| 1990   | 3.9   | 4.8     | 10.2   |
| 2009   | 6.3   | 5.6     | 6.5    |

| Urban population (% of population) |
| 1990   | 18.2  | 18.9    | 11.1   |
| 2011   | 22.5  | 26.9    | 13.5   |

| Annual population growth rate (%) |
| 1990   | 3.4   | 3.2     | 3.5    |
| 2011   | 2.7   | 3.0     | 3.2    |
Progress in relation to selected Millennium Development Goals (MDGs) is shown in Figure 4.

<table>
<thead>
<tr>
<th>Progress for 5 MDG targets up to 2011:</th>
<th>Kenya</th>
<th>Tanzania</th>
<th>Uganda</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MDG 1a:</strong> Halve the proportion of people living on under $1.25/day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MDG 1c:</strong> Halve the proportion of undernourished people</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MDG 3:</strong> Achieve gender parity in schooling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MDG 6:</strong> Halt and begin to reverse the spread of HIV/AIDS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MDG 7:</strong> Halve the proportion of people without access to safe drinking water</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Off target
- Some progress
- On target

**Figure 4**
MDG progress up to 2011

The structure of the economy in the countries has changed since 1990 as shown in Figure 5. Figure 6 shows the top three imports and exports for the three countries.

Tanzania and Uganda have participated in the Heavily Indebted Poor Countries (HIPC) initiative, which was started by the World Bank and IMF. Kenya has not yet qualified for HIPC relief as its external debt is considered sustainable (Figure 7).

**Figure 6**
Top three exports and imports

**Figure 5**
Economic structure 1990 and 2010

- Kenya
  - Tea 21%
  - Flowers 9%
  - Coffee 4%
- Tanzania
  - Gold 22%
  - Metal ore 9%
  - Tobacco 5%
- Uganda
  - Coffee 19%
  - Fish/Meat 7%
  - Tobacco 6%

**2010 data (% of all exports / imports)**

**Figure 7**
External debts and government spending
As with many African countries, national borders in this region often do not match up with ethnic and tribal geographical areas, a legacy of the colonial era (Figure 8). This factor has contributed to the long history of conflict, unrest and refugee crises in the region:

- In 2007–08 disputed presidential elections in Kenya led to widespread civil unrest, up to 800 deaths and the displacement of up to 600,000 people. Violent clashes had an ethnic dimension especially in the Kikuyu region.
- The ongoing conflict in Somalia combined with severe drought in 2011 to precipitate a refugee crisis when up to 400,000 Somalis moved across the border into northern Kenya.
- The Lord’s Resistance Army has been involved in a guerrilla conflict in northern Uganda since 1987, which has at times involved Sudan, the Democratic Republic of Congo (DRC) and the Central African Republic (CAR). The conflict has a significant ethnic dimension.
- Uganda and Tanzania fought a war in 1978–79, and following this the Ugandan Bush War (civil conflict) raged from 1981–1986.
- Within the wider region, Uganda was involved in the devastating Rwandan Civil war 1990–1993 and many countries have been drawn into conflicts in the DRC since 1996.

Kenya, Uganda and Tanzania score poorly on measures of governance. Figure 9 shows their rankings on the Ibrahim Index of African Governance, which was set up in 2006 to measure governance and promote better standards of leadership. Figure 10 shows the results of the Corruption Perception Index. The Democracy Index from the Economist Development Unit measures democratic governance on the basis of whether elections are free and fair, the security of voters, the influence of foreign powers on government and the capability of civil servants to implement policy (Figure 11).
This part of east Africa has not escaped **terror attacks**. In 1998 simultaneous bomb attacks destroyed the USA embassies in Nairobi and Dar-es-Salaam (blamed on al-Qaeda). In 2010 bomb attacks in Kampala killed over 70 people (blamed on Al-Shabaab). In addition, the ongoing threats of piracy and general lawlessness in Somalia are a major regional concern.

**The East African Community (EAC)**

The EAC *inter-governmental organization* was set up in 1967 to promote regional economic integration. The organization collapsed in 1977 due to political and ideological divisions between member states, especially following the military coup of Idi Amin in Uganda in 1971. In the late 1990s the idea of the EAC was revived and it was relaunched in 2000 (Figure 12). By 2010 the EAC had:

- common import tariffs for non-member countries
- free trade between member states
- shared customs procedures
- a legislative assembly based in Arusha, Tanzania.

Like the EU, member states contribute to a shared budget for the EAC. In September 2011 only 23% of member states’ payments for 2011–12 had been made.

<table>
<thead>
<tr>
<th>Member</th>
<th>Population 2012 (millions)</th>
<th>Total GDP (US$ billions) 2011</th>
<th>Average annual GDP growth 2000–2010 (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>8.7</td>
<td>2.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Kenya</td>
<td>43.0</td>
<td>34.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Rwanda</td>
<td>11.7</td>
<td>6.2</td>
<td>7.6</td>
</tr>
<tr>
<td>Tanzania</td>
<td>43.1</td>
<td>23.3</td>
<td>7.1</td>
</tr>
<tr>
<td>Uganda</td>
<td>35.8</td>
<td>16.8</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>142.3</strong></td>
<td><strong>83.4</strong></td>
<td><strong>(n/a)</strong></td>
</tr>
</tbody>
</table>

Like the EU, member states contribute to a shared budget for the EAC. In September 2011 only 23% of member states’ payments for 2011–12 had been made.

**Figure 12**

EAC member states, 2011

There are further proposals to create the **East African Federation** (EAF) in the future, which would deepen the community’s ties by putting in place:

- a shared currency, the East African shilling
- a federation of states, with Arusha in Tanzania as its capital

**The LAPSSSET project**

The idea of developing a port in Lamu, Kenya, dates back to the 1970s. Currently the port development forms part of the LAPSSSET project (Lamu Port and Lamu Southern Sudan-Ethiopia Transport Corridor), which is a major infrastructure project and forms part of the **Kenya Vision 2030** economic policy. LAPSSSET’s key proposals are:

- a 1730 km rail, road and oil pipeline corridor linking Lamu to Juba in Southern Sudan (Figure 13)
- a rail branch to Nairobi from Isiolo, and a further rail and oil pipeline branch to Addis Ababa in Ethiopia
- a 120,000 barrels per day oil refinery in Lamu
- up to 3 new international airports at Isiolo, Lamu and Lokichoggio
- up to 32 new port berths at Lamu to handle ships up to 100,000 tonnes
- the development of tourist resorts in Lamu, Isiolo and Lake Turkana.

![Figure 13](source: Kenya Ministry of Transport)

**Figure 13**

Map of the LAPSSSET project
Costs for the whole LAPSSET project are not clear, but have been estimated at between US$ 16 billion and US$ 25 billion. Parts of the project were scheduled to begin in 2012 and large parts could be completed by 2018 if funding can be found. South Sudan has expressed interest in helping fund the pipeline from Juba to Lamu and the Chinese government and Chinese companies have also expressed interest.

In Lamu, concerns have been expressed about development of the port and other infrastructure in terms of the environmental impact on coral reefs and mangroves. There might be further impacts during construction such as a very large increase in Lamu’s population. Local people are concerned that their land rights may be ignored especially as land tenure is often not documented.

View 1

“The problem is not that international trade is inherently opposed to the needs and interests of the poor, but that the rules that govern it are rigged in favour of the rich.”

Trevor Manuel, Finance Minister, South Africa

View 2

“On account of a host of factors including low productivity, lack of competitiveness, poor market access, falling terms of trade, and restrictive trade regimes, Africa’s relative market share in world exports has been declining for decades according to the World Bank.”

Milton A. Iyoha, African Development Bank

View 3

“The kidnapping of Briton Judith Tebbutt and the murder of her husband David in a luxury resort on Kenya’s Indian Ocean coast turned what should have been the holiday of a lifetime into a nightmare. It also dealt a severe blow to a tourism industry that just a year before was basking in renewed interest after the engagement of Prince William and Kate Middleton in a rustic lodge near Mount Kenya.”

Guardian, 2012

View 4

“Many reasons have been put forward for the region’s slow development – a lack of human and government capacity, poor infrastructure and trade access, the effects of too little (or too much) foreign aid, the legacy of arbitrary colonial boundaries, low productivity, the Cold War, climate, and geography.”

Greg Mills, CATO Institute, 2010

View 5:

“Africa is not poor. Africa is just poorly managed.”

Kenyan architect Mumo Museva, 2009

View 6:

“In the case of Kenya’s coastal area, even comparatively modest set-piece projects – like the Ngomeni fish farming project … and a World Bank funded cold storage facility in Lamu – all flopped. The legacy of mismanagement, corruption, land grabbing and disillusionment is now driving local communities to reassess. LAPSETT may look like a gift horse but viewed against this background it is really a Pandora’s box.”

The EastAfrican newspaper, Sept 2011

Websites:

Website of the EAC: http://www.eac.int/

Kenyan government Vision 2030 website: http://www.vision2030.go.ke/

Website of the Save Lamu coalition: http://www.savelamu.org/issues/lamu-port/