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 all questions.
• Answer the questions in the spaces provided
  – there may be more space than you need.

Information

• The total mark for this paper is 53.
• The marks for each question are shown in brackets
  – use this as a guide as to how much time to spend on each question.
• Questions labelled with an asterisk (*) are ones where the quality of your written communication will be assessed
  – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.
• The marks available for spelling, punctuation and grammar are clearly indicated.

Advice

• Read each question carefully before you start to answer it.
• Try to answer every question.
• Check your answers if you have time at the end.
Answer ALL questions.

1. Study Section 1 in the Resource Booklet (pages 2 to 5) and answer the following questions.

   (a) Define the term **natural increase** of population.

   (1)

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   (b) Study Figure 1a.

       Describe one difference between the UK population structure in 2012 and the forecast for 2037.

   (2)

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   (c) Study Figure 1b.

       Describe the distribution of urban land use in the UK.

   (4)

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(d) Study Figures 1b and 1c.

Suggest reasons for the uneven distribution of the UK’s large towns and cities with the fastest growing populations.

(4)

(e) Study Figure 1d.

Explain how population growth might affect the land use of Greater London.

(4)

(Total for Question 1 = 15 marks)
2 Study Section 2 of the Resource Booklet (pages 6 to 7) and answer the following questions.

(a) Study Figures 1c (page 4) and 2a (page 6) in the Resource Booklet.
   Compare the locations of the ‘top five’ and ‘bottom five’ large towns and cities.

(b) Study Figures 2a and 2b.
   Explain why regional differences might change in the future.
(c) Examine the relationship between economic changes and the population growth of the UK’s large towns and cities (Figures 1c, 2a and 2b).

(Total for Question 2 = 13 marks)
3 Study Sections 2 and 3 in the Resource Booklet (pages 6 to 11) and answer the following questions.

(a) Explain why the house price affordability ratio varies in the UK.
(b) Examine the impact of a shortage of affordable housing on the economy of the UK.

(Total for Question 3 = 10 marks)
**Spelling, punctuation and grammar will be assessed in your answer to this question.**

4 Study the three options for the government of the UK.

**Option 1:** The government should tackle the housing crisis by trying to slow down population growth in the UK.

**Option 2:** The government should allow more housing to be built where it is most needed, including green belts.

**Option 3:** The government should fund housing only in regions, large towns and cities where economic growth needs to be encouraged.

Select one option that you believe to be best for both the people and the environment of the UK.

Justify your choice.

Use information from the Resource Booklet **and your knowledge from Units 1 and 2** to support your answer.
Instructions

- Read the information on the problem on page 2 first.
- You are advised not to write for the first 30 minutes, read and make pencil notes only during this time.
- When reading, make links with other topics you have studied in Unit 1 (e.g. Water World and Changing Climate) and Unit 2 (e.g. Population Dynamics and Development Dilemmas).
INTRODUCTION TO THE PROBLEM

The problem

The UK has a major housing crisis.
How can we deal with this?

• Some people believe that we should solve the housing shortage by reducing population growth.
• Others think we should build more houses close to the cities where they are needed, especially London.
• Another view is that we should encourage economic growth outside London and the South East.

Section 1 – This crowded island?

• Over 65 million people currently live in the UK.
• The population is growing by about 500,000 each year, half from natural increase and half through migration.
• The impact of migration is controversial but most studies suggest that migrants add more to the economy than they take from it.
• The population is predicted to get older, although migrants tend to be young.
• The average population density of the UK is 255 people per km².
• There are very large variations in population density with over 14,500 people per km² in Islington (London) but only 9 people per km² in the Highlands of Scotland.

Figure 1a
Forecast of changes in the UK’s population size and structure from 2012–2037
Figure 1b

The land use of the United Kingdom in 2015

(Source: http://uknea.unep-wcmc.org)
Figure 1c

The changing population of UK's large towns and cities

- About 85% of the UK population live in urban areas but not all of these are growing.

(Source: www.centreforcities.org)
Land cover classification
Mostly vegetation | Mostly buildings

Figure 1d
Land use in Greater London in 2015

- 47% of Greater London is woodland or other vegetation.
- If you include gardens, then over 60% of Greater London's urban area is open space.
- Only 1% of the land area of the UK is made up of houses.
## Section 2 – The changing economy

<table>
<thead>
<tr>
<th>Top five large towns and cities</th>
<th>% change in jobs 2004–2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Milton Keynes</td>
<td>+18.2</td>
</tr>
<tr>
<td>2 London</td>
<td>+17.1</td>
</tr>
<tr>
<td>3 Cambridge</td>
<td>+15.7</td>
</tr>
<tr>
<td>4 Brighton</td>
<td>+11.1</td>
</tr>
<tr>
<td>5 Bournemouth</td>
<td>+10.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bottom five large towns and cities</th>
<th>% change in jobs 2004–2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 Newport</td>
<td>−8.6</td>
</tr>
<tr>
<td>61 Blackpool</td>
<td>−10.9</td>
</tr>
<tr>
<td>62 Rochdale</td>
<td>−12.2</td>
</tr>
<tr>
<td>63 Belfast</td>
<td>−13.3</td>
</tr>
<tr>
<td>64 Gloucester</td>
<td>−13.6</td>
</tr>
</tbody>
</table>

**Figure 2a**

Top and bottom five UK large towns and cities ranked by growth in jobs 2004–2015
The UK economy is increasingly dominated by finance and business services with London as their centre. The capital city generates 22% of UK Gross Domestic Product (GDP) despite having only 12.5% of the UK’s population. The growth of businesses and jobs will lead to more jobs and so further migration. The growing population will lead to higher demand for goods and services therefore the growth of more businesses. Unfortunately if the number of jobs is in decline, population may also decline leading to further job losses.

### Figure 2b
Change in GDP for UK regions, 2011–15

(Source: Adapted from data from the Office for National Statistics licensed under the Open Government Licence v.3.0)
Section 3 – The housing crisis

- The growth of the UK population requires an extra 350,000 houses to be built each year – more than 4.5 million by 2030.

![Figure 3a](source: © Crown copyright)

**Average house prices and the number of homes built 1955–2015**

- In the 1940s and ‘50s local councils built many houses to rent; most of these were sold to their tenants in the 1970s and ‘80s.
- There are just over 27 million homes in the UK, 65% are owned or being bought with a mortgage (loan).
- UK households spend on average more than 20% of their budget paying back mortgages in order to buy their houses, more than any other country.
The relationship between house prices and incomes is the key to whether people can afford to buy their own house.

Although average income in the UK has risen at 1% per year over the past 20 years, house prices have risen by more than 5% per year so houses have become less affordable.

In 1995 an average property cost four times the average income (a 4:1 ratio) but by 2015 this had risen to a 12:1 ratio.

In some parts of London this ratio is over 26:1 where wealthy foreign buyers have contributed to rapid price rises.

Rented property in the UK is the most expensive in Europe.
The density of housing in the UK (42 houses per hectare) is amongst the highest in Europe and houses are amongst the smallest.

Land for housing development often costs over 200 times more than agricultural land.

Planning permission is needed for building houses and over half of applications for changing land from agricultural use (greenfield) to housing are refused.

Green belts are areas of countryside around cities where development is restricted by planning laws.

Building new houses around growing cities is resisted by many people who currently live in these areas (see Figure 3d).

Building new houses on sites that have been built on previously (brownfield sites) can be expensive and may not be in ideal locations (see Figure 3e).
Cities with high affordability ratios
- Green belt within 2 km of main transport routes
- Green belt

(Source: Brownfield Land Solution, Nathaniel Lichfield & Partners)

**Figure 3d**
Green belt areas around large towns and cities in the south of England

(Source: © Centre for Cities 2016)

**Figure 3e**
A forecast of housing needs compared to the number of houses that could be built on brownfield sites in English regions, 2015–2030

(Source: © Centre for Cities 2016)