BENENDEN

SIXTH FORM 2018

GEOGRAPHY

1 hour 30 minutes

Full Name: _____

Current School: _____

Date: _____

Instructions to Candidates:

- Answer all the questions
- Write your answers in the space provided in this booklet
- Total marks for this paper = 100

Section A: Rivers, Floods and Management 30 marks

1 (a)

Figure 1a is a map showing the characteristics of the drainage basins of Clapham Beck and Austwick Beck and **Figures 1b** and **1c** are storm hydrographs of Clapham Beck and Austwick Beck, following the same storm.

Figure 1a

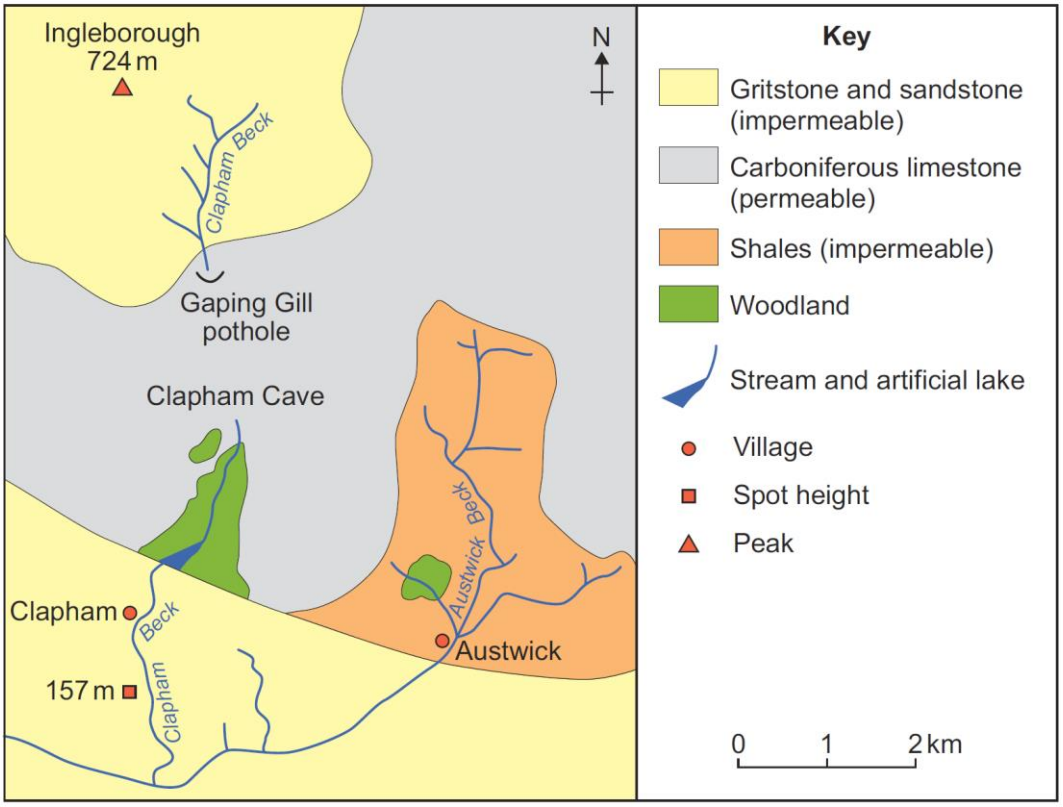


Figure 1b

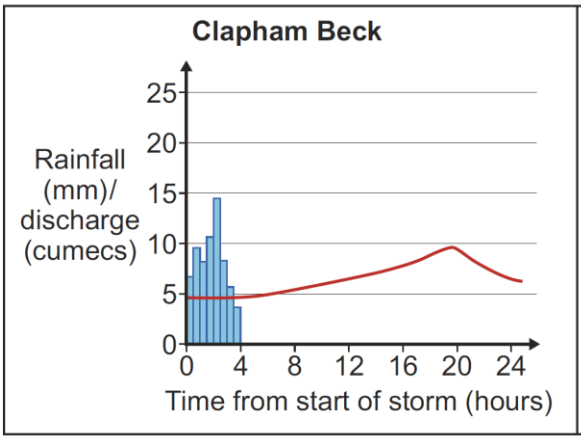
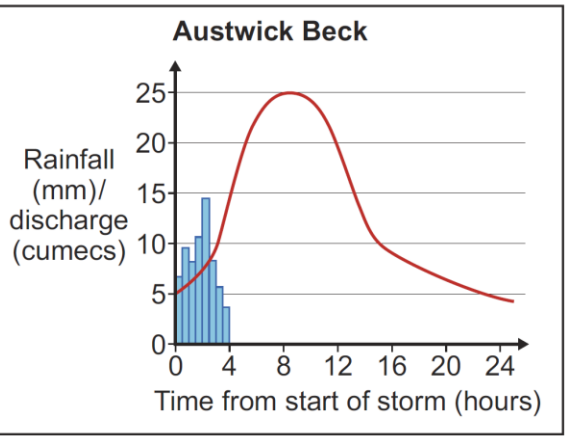


Figure 1c



1 (a) (i) Contrast the hydrographs shown in **Figures 1b** and **1c**. **[4 marks]**

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1 (a) (ii) Use **Figure 1a** to explain the contrasts between the hydrographs shown in **Figures 1b** and **1c**. **[5 marks]**

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2 **Figure 2** is an extract from a geographical magazine about flooding in Brisbane, Australia in January 2011.

Figure 2



Brisbane has a long history of flooding, dating back to the 1840s when records began. Until 2011, the most devastating flood had occurred in January 1974.

The Wivenhoe dam was built in the early 1980s in response to the devastation caused by the 1974 flood. In 2011, the rainfall was more prolonged and of greater intensity. It is estimated that in the 7 days leading up to the 2011 flood, the Brisbane catchment received 40% more rainfall than during the equivalent period in 1974.

All this rain meant that management of water releases from Wivenhoe dam became a critical issue. Some flood engineers believe that earlier water releases from the dam were too small, so later releases were much greater than should have been required. A massive release on 11 January was in large part responsible for flooding in Brisbane.

2. Using **Figure 2** only, comment on the relative importance of physical and human causes of flooding. **[6 marks]**

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3. Soft engineering is a better river flood management strategy than hard engineering.' Discuss this view. **[15 marks]**

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Section B: Population Change: 30 marks

4 (a) (i) Define the term 'infant mortality rate'. **[2 marks]**

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4 (a) (ii) Suggest why 'infant mortality rate' is a useful development indicator.

[3 marks]

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4 (b) Figure 3 shows changes in life expectancy of males and females in the UK between 1992 and 2006.

(b) (i) Summarise the main changes shown in **Figure 3**. **[4 marks]**

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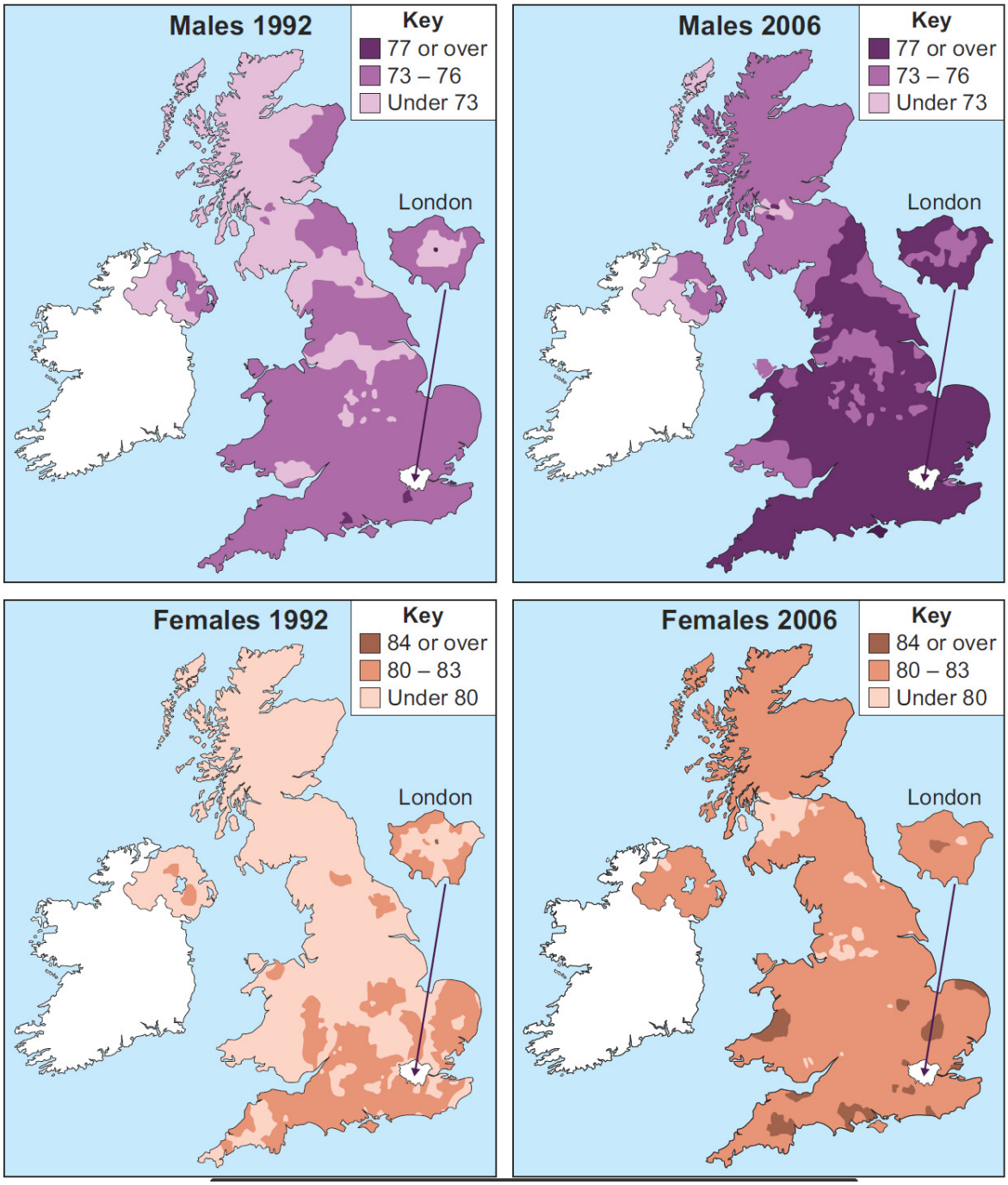
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Figure 3


Males 1992
Key
77 or over
73 – 76
Under 73
London
Males 2006
Key
77 or over
73 – 76
Under 73
London
Females 1992
Key
84 or over
80 – 83
Under 80
London
Females 2006
Key
84 or over
80 – 83
Under 80
London

4 (b) (ii) With reference to a case study, assess how successful **one** country has been in managing population change.

[6 marks]

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4 (c) "An ageing population can bring economic, political and social advantages as well as disadvantages." Discuss this view. **[15 marks]**

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End of section

Section C: Tectonic Activity 40 marks

Study **Figure 4** which shows the relationship between shaking intensity (measured by the Mercalli Scale) and different types of building structure.

Figure 4

	MERCALLI SCALE				
Type of building structure	**VI (Strong)**	**VII (Very Strong)**	**VIII (Destructive)**	**IX (Ruinous)**	**X (Disastrous)**
Adobe (baked mud and clay)	8	22	50	100	100
Unreinforced masonry	3.5	14	40	80	100
Reinforced masonry (non-seismic design)	1.5	5.5	16	38	66
Steel framed buildings	0.4	2	7	20	40
Reinforced masonry (seismic design)	0.3	1.5	5	13	25

Source: US Geological Survey

5 (a) Describe and comment on the information provided in the table (Figure 4) above.

[6 marks]

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5 (b) Outline the key characteristics of oceanic and tectonic plates. **[4 marks]**

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5 (c) With reference to examples, discuss the ways in which tectonic hazards can be managed. **[10 marks]**

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5 (d) Describe and explain the factors that affect the impact of tectonic hazards (earthquakes, volcanic eruptions and tsunamis) with reference to examples that you have studied. **[20 marks]**

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End of paper

Total marks /100