



GCE A LEVEL – NEW



A110U10-1

GEOGRAPHY – A level component 1

Changing Landscapes and Changing Places

MONDAY, 4 JUNE 2018 – MORNING

1 hour 45 minutes plus your additional time allowance

ADDITIONAL MATERIALS

In addition to this examination paper, you will need **ONE** WJEC pink 16-page answer booklet and a calculator.

INSTRUCTIONS TO CANDIDATES

Answer in Section A, **EITHER** questions 1, 2 and, **EITHER** 3 **OR** 4 (Coastal Landscapes) **OR** questions 5, 6 and **EITHER** 7 **OR** 8 (Glaciated Landscapes).

Answer questions 9, 10 and, **EITHER** 11 **OR** 12 in Section B (Changing Places).

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

Write your answers in the separate answer booklet provided.

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

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part-question; you are advised to divide your time accordingly.

THIS PAPER REQUIRES THAT YOU MAKE AS FULL USE AS POSSIBLE OF APPROPRIATE EXAMPLES AND REFERENCE TO DATA TO SUPPORT YOUR ANSWERS. SKETCH MAPS AND DIAGRAMS SHOULD BE INCLUDED WHERE RELEVANT.

SECTION A: CHANGING LANDSCAPES

Answer EITHER questions 1, 2 and, EITHER 3 OR 4 or questions 5, 6 and, EITHER 7 OR 8 from your chosen landscape.

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

COASTAL LANDSCAPES

Answer questions 1, 2 and, EITHER 3 OR 4 if this is your chosen landscape.

FIGURE 1: THE IMPACTS OF HIGH ENERGY STORM EVENTS ON THE COAST OF DEVON AND CORNWALL DURING WINTER 2013-2014



Source: bbc.co.uk

Dawlish – 46 metres of railway track destroyed cutting off South West England from the rest of the country

Perranporth – 1 million tonnes of beach washed out to sea

Looe – commercial properties on harbour frontage flooded

- 1(a) (i) Use FIGURE 1 to analyse the economic impacts of high energy storm events. [5]**
- (ii) Suggest ONE social impact that could have resulted from the high energy storm events shown in FIGURE 1. [2]**
- (b) Outline ONE positive impact of coastal processes on human activity. [6]**

FIGURE 2: COASTAL DEPOSITION IN SOUTH-WEST TAMIL NADU, INDIA (on opposite page)

Data were collected from 5 zones along the coast of Tamil Nadu to investigate if the rate of coastal deposition differs significantly. The data were used to complete a Chi-square test shown in the partially completed table opposite.

FIGURE 3: CRITICAL VALUES OF CHI-SQUARE TEST

Degrees of freedom	Significance (confidence level)	
	95% (0.05)	99% (0.01)
4	9.49	13.28

Coastal zone	Observed deposition rate (thousand m ² / year)	Expected deposition rate (thousand m ² /year)	O-E	(O-E) ²	
	O	E	O-E	(O-E) ²	(O-E) ² /E
Pallamdurai	1	4.8	-3.8	14.44	3.01
Kesavanputhurai	7	4.8	2.2	A	1.01
Rajakkamangalam	3	4.8	-1.8	3.24	0.68
Enayamputhenthurai	10	4.8	5.2	27.04	B
Muttam	3	4.8	-1.8	3.24	0.68
					$\chi^2 = C$

$$\chi^2 = \sum (O - E)^2 / E$$

Source: researchgate.net

- 2(a) (i) Calculate the values of the highlighted cells, A, B and C in FIGURE 2. Write the values for A, B and C in your answer booklet. Give your answer to 2 decimal places. [3]**
- (ii) Use FIGURE 3 to interpret the result of the Chi-square test. [2]**
- (b) Suggest TWO reasons why the rate of deposition varies along a coastline. [6]**
- (c) Outline how coastal sediment is transported by traction. [2]**

EITHER

- 3. Examine the relative importance of geology in the development of ONE OR MORE landforms of coastal erosion. [15]**

OR

- 4. Examine the strengths and weaknesses of ONE strategy used to manage the impacts of human activity on coastal landscape systems. [15]**

GLACIATED LANDSCAPES

Answer questions 5, 6 and, EITHER 7 OR 8 if this is your chosen landscape.

FIGURE 4: THE IMPACTS OF THE GLACIAL LAKE OUTBURST FLOOD (GLOF) OF 31ST JULY 2013 ON THE RESHUN VALLEY, PAKISTAN



Source: chitraltoday.net

40 houses and 20 shops wiped away in the blink of an eye by glacial lake outburst flood that originated from one of the Reshun glaciers

Transmission lines and channel of the hydroelectric power station badly damaged

One road bridge and two pedestrian bridges destroyed and two people killed

- 5(a) (i) Use FIGURE 4 to analyse the social impacts of glacial lake outburst floods (GLOF). [5]**
- (ii) Suggest ONE economic impact that could have resulted from the glacial lake outburst flood shown in FIGURE 4. [2]**
- (b) Outline how ONE human activity can impact on glacial landscapes. [6]**

FIGURE 5: GLACIAL EROSION IN CHILEAN PATAGONIA
(on opposite page)

Data were collected from 5 glaciers in Chilean Patagonia to investigate if the rate of glacial erosion differs significantly. The data were used to complete a Chi-square test shown in the partially completed table opposite.

FIGURE 6: CRITICAL VALUES OF CHI-SQUARE TEST

Degrees of freedom	Significance (confidence level)	
	95% (0.05)	99% (0.01)
4	9.49	13.28

Glacier	observed erosion rate [mm/yr]	expected erosion rate [mm/yr]	O-E	(O-E) ²	(O-E) ² /E
Marinelli	8	6.6	1.4	1.96	0.30
San Rafael	12	6.6	5.4	A	4.42
Europa	1	6.6	-5.6	31.36	4.75
Tyndall	8	6.6	1.4	1.96	0.30
Jorge Montt	4	6.6	-2.6	6.76	B
					x ² = C

$$\chi^2 = \sum (O - E)^2 / E$$

Source: nature.com

- 6(a) (i) Calculate the values of the highlighted cells A, B and C in FIGURE 5. Write the values for A, B and C in your answer booklet. Give your answer to 2 decimal places. [3]
- (ii) Use FIGURE 6 to interpret the result of the Chi-square test. [2]
- (b) Suggest TWO factors that influence the rate of glacial erosion. [6]
- (c) Outline how glaciers erode by plucking. [2]

EITHER

7. Examine the relative importance of glacial transport in the development of ONE OR MORE landforms of glacial deposition. [15]

OR

8. Examine the strengths and weaknesses of ONE strategy used to manage glacial environments.

[15]

SECTION B: CHANGING PLACES

Answer questions 9, 10 and EITHER 11 OR 12.

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

FIGURE 7: ST. GEORGE'S CULTURAL QUARTER, LEICESTER

Figure 7a: 2003/4

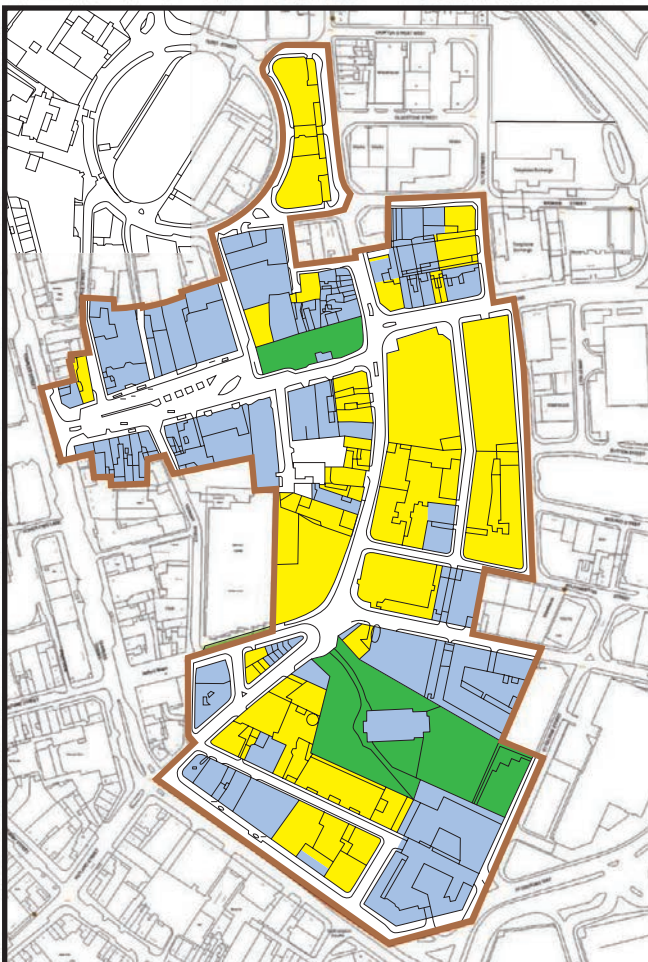
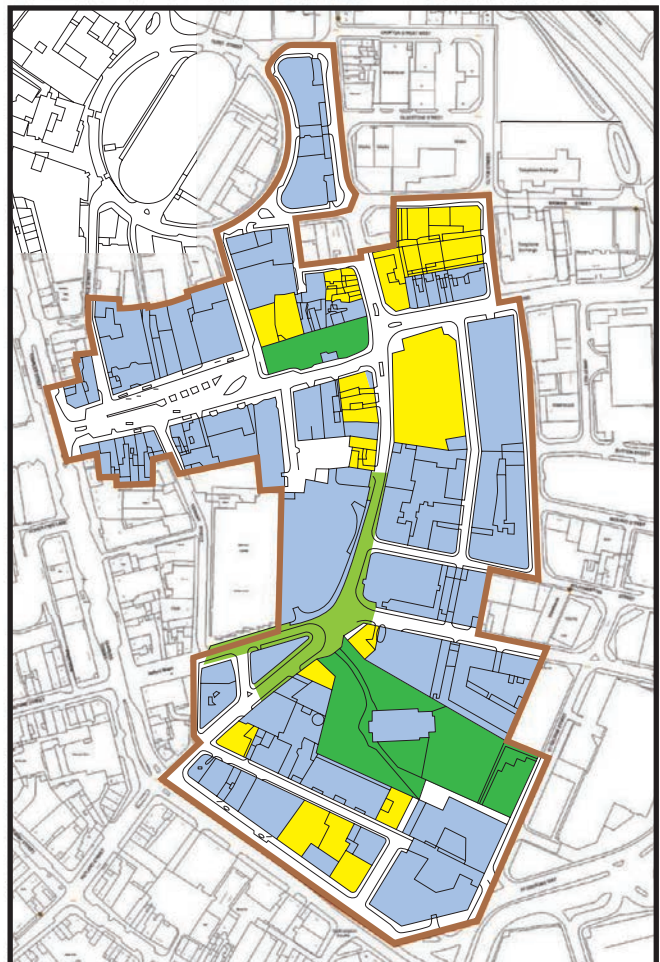


Figure 7b: 2008



Key:

 Vacant

 Occupied

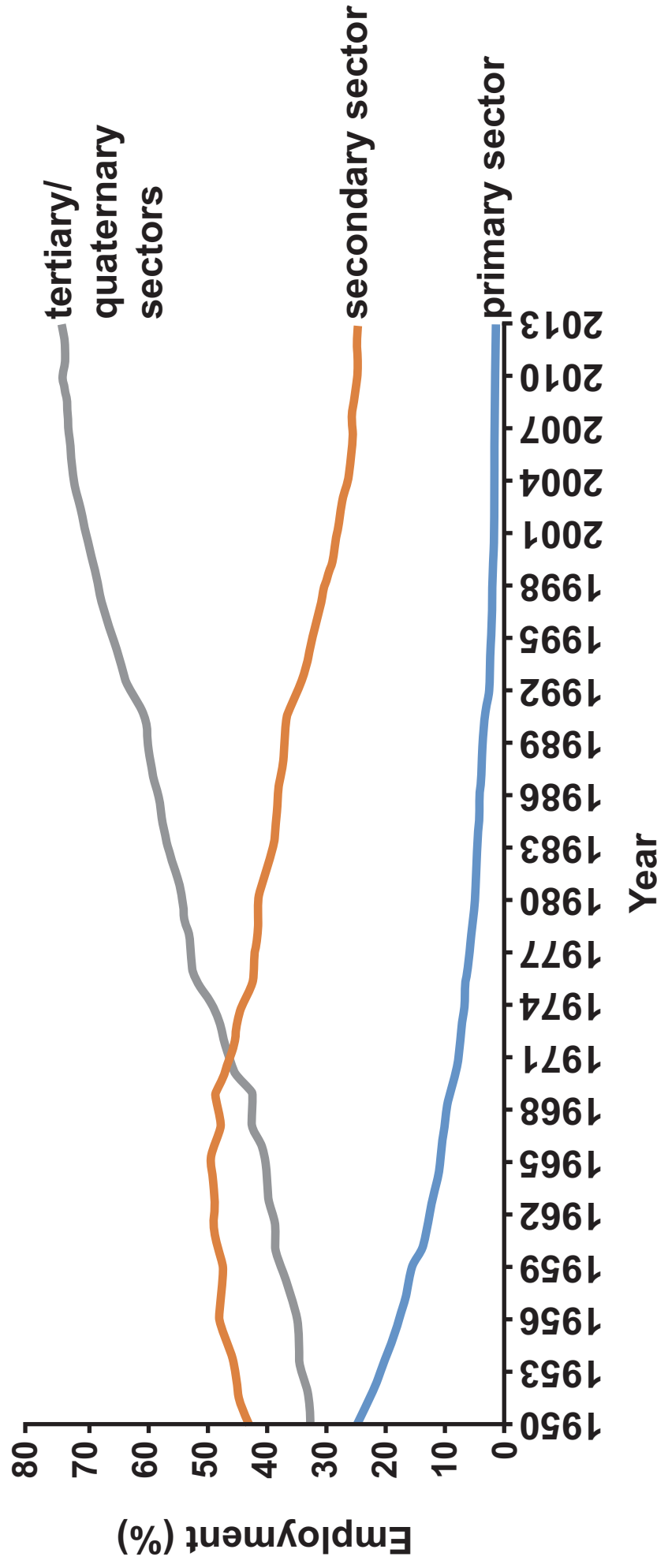
 Public spaces

 New public or green spaces

 Boundary

- 9(a) Use FIGURES 7a and 7b to describe changes in the distribution of vacant buildings. [5]**
- (b) Explain how the re-imaging of urban places may impact upon individuals and businesses. [8]**

FIGURE 8: EMPLOYMENT STRUCTURE IN A SELECTED EUROPEAN COUNTRY, 1950-2013



Source: researchgate.net

10(a) Describe changes in the employment structure of the country shown in FIGURE 8. [5]

(b) Suggest how the changing employment structure shown in FIGURE 8 is influenced by changing technology and globalisation. [8]

EITHER

11. Assess the severity of the challenges faced by some rural places. [15]

OR

12. Assess the relative importance of proximity to universities in the location of ONE OR MORE quaternary industry clusters. [15]

END OF PAPER