

Surname	Centre Number	Candidate Number
Other Names		2



GCE AS

B110U20-1



TUESDAY, 21 MAY 2019 – MORNING

**GEOGRAPHY – AS component 2
CHANGING PLACES**

1 hour 15 minutes

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	20	
2.	20	
3.	20	
4.	10	
5.	10	
Total	80	

ADDITIONAL MATERIALS

- a Resource Folder for use with question 3
- a calculator.

INSTRUCTIONS TO CANDIDATES

Answer **all** questions.

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Write your answers in the spaces provided in this booklet.

If further space is required you should use the continuation pages at the end of this booklet. The question number(s) should be clearly shown.

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.

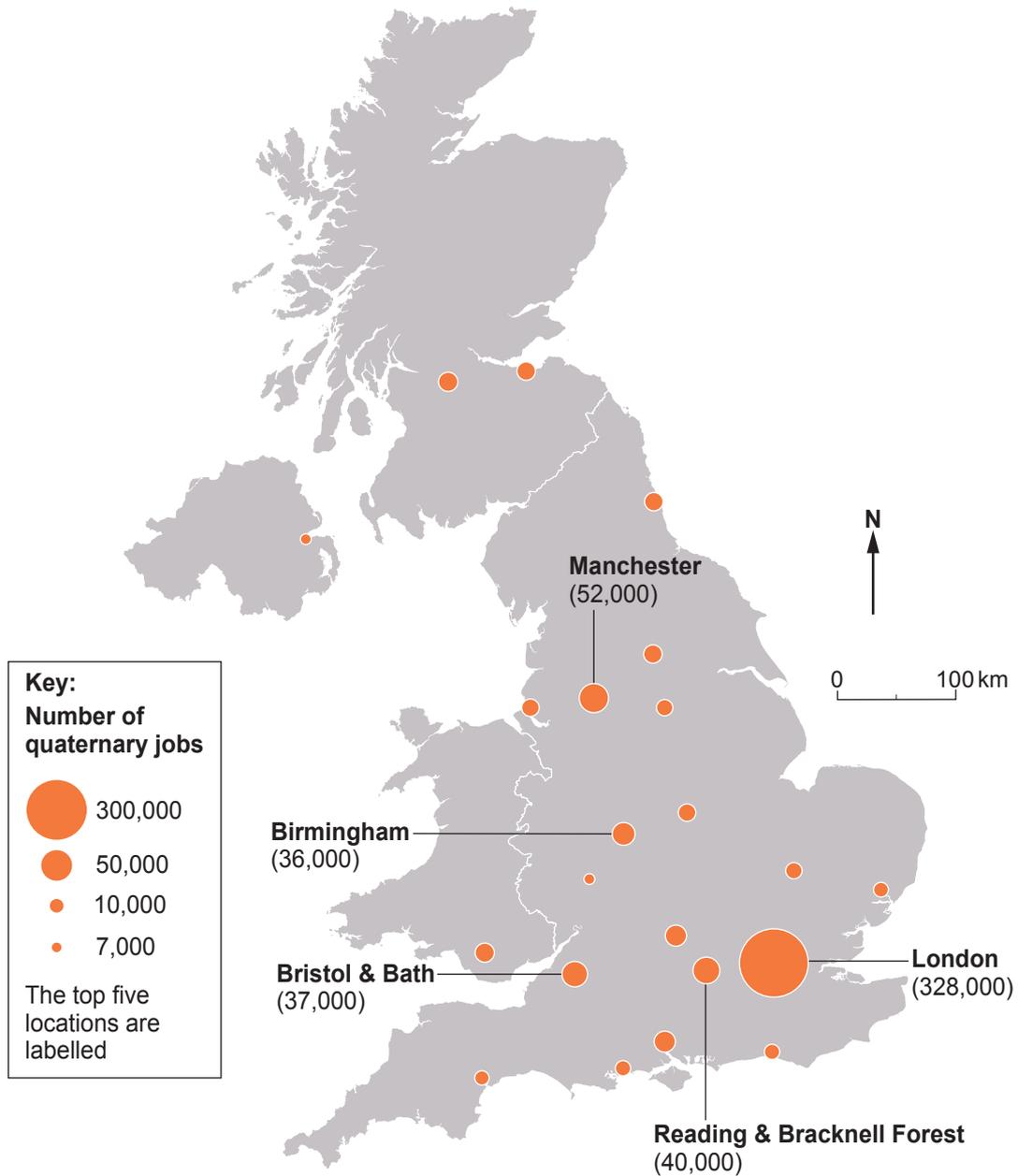
A plain page is available at the end of each section for you to add any relevant sketch maps and diagrams you may wish to include. The question number(s) should be clearly shown.

Section A – Changing Places

Answer all questions.

Make the fullest possible use of examples and data to support your answers.

Figure 1: Locations in the UK with at least 7,000 quaternary jobs, 2016



Source: <http://www.bbc.co.uk>

1. (a) (i) Justify the choice of the cartographic technique shown in **Figure 1** for displaying these data. [3]

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(ii) Explain why government support is an important influence on the distribution of quaternary jobs shown in **Figure 1**. [4]

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(b) Outline **one** social change experienced in central urban places undergoing re-urbanisation. [3]

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Figure 2: Average journey to work travel times in selected rural districts in the UK, 2016

Rural district	Average journey to work travel time (minutes)
Copeland	22
Cotswold	27
Denbighshire	22
Forest Heath	15
High Peak	28
Monmouthshire	19
Moray	17
North Norfolk	26
Orkney Islands	10
Oswestry	22
South Oxfordshire	32
Suffolk Coast	24
Wear Valley	31
West Dorset	21
West Somerset	25

Source: <https://www.ons.gov.uk>

2. (a) (i) Using the data in **Figure 2**, calculate the range of journey to work travel times in rural districts. Show your working. [2]

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- (ii) Suggest **one** reason why the range is a useful measure to analyse the data shown in **Figure 2**. [1]

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Additional space for question **2(b)**:

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Section B – Fieldwork Investigation in Physical and Human Geography

Answer all questions.

*In your answers to Section B you should include evidence from **your** fieldwork investigations in **physical** geography and **human** geography.*

3. A group of A level Geography students visited Cambridge to investigate the impacts of quaternary industry clusters on people and places.

- (a) (i) Using **Figure 3** in the **Resource Folder**, state the distance from the centre of Cambridge Science Park (marked by centre of **X** at 464617) to Cambridge North Station (475606) giving your answer in km to 1 decimal place. [1]

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- (ii) Calculate the area occupied by Cambridge Science Park giving your answer in km² to 2 decimal places. Show your workings. [3]

During the visit, the students investigated the geographical question:

What is the impact of Cambridge Science Park on local people in Milton (4762)?

- (b) Outline the sources of secondary data and information that could be used to support the investigation of this hypothesis. [5]

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The students carried out a bipolar survey asking 20 Milton residents to rate their opinions of factors affecting their daily lives. The results are recorded below:

Figure 4: Results from bipolar survey

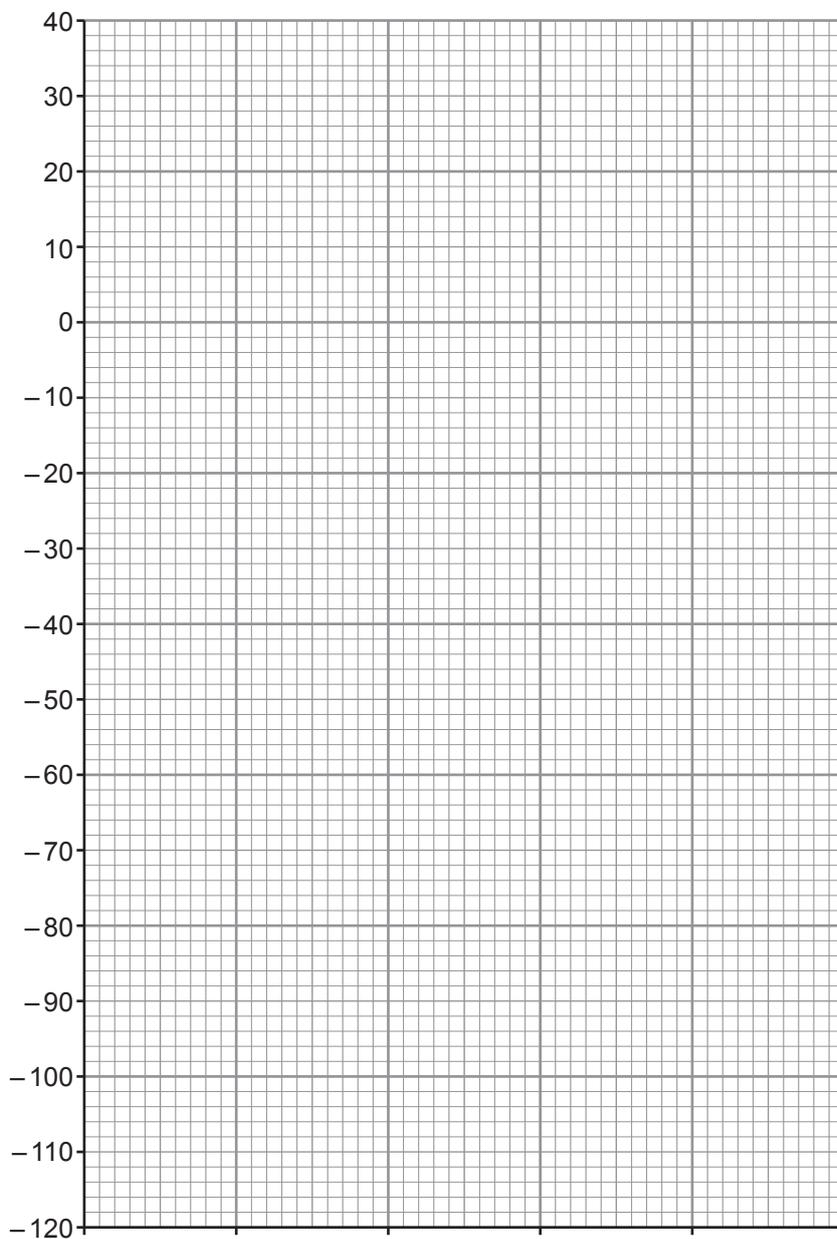
	-2	-1	0	+1	+2	
Heavy traffic	✓✓✓✓✓ ✓✓✓✓✓	✓✓✓✓✓ ✓✓		✓✓	✓	No awareness of passing traffic
High level of pollution from vehicles	✓✓✓✓✓ ✓✓✓✓✓ ✓✓✓	✓✓✓✓	✓	✓✓		Low level of pollution from vehicles
Journey to work travel times over 30 minutes	✓✓✓✓✓ ✓✓✓✓✓ ✓✓		✓✓	✓✓✓✓	✓✓	Journey to work travel times less than 10 minutes
House prices rising beyond incomes	✓✓✓✓✓ ✓✓✓✓✓ ✓✓✓✓✓ ✓	✓✓✓✓				House prices stable
Long wait for GP appointment	✓✓✓✓✓	✓✓	✓✓✓✓✓		✓✓✓✓✓ ✓✓✓	Short wait for GP appointment
Totals	-112	-17	0	8		

(c) (i) Calculate the total score for column '+2'. Insert the total in **Figure 4**.

[1]

- (ii) Using an appropriate graphical technique, draw a graph in the box below to present the data in **Figure 4**. [3]

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(iii) Outline **one** strength and **one** weakness of the graphical technique you chose in (c)(ii). [4]

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The same 20 residents were also asked 'how many of your neighbours do you know?' The results are shown in **Figure 5**.

Figure 5: Answers to the question 'how many of your neighbours do you know?'

Respondent	Number of neighbours known
1	3
2	15
3	4
4	4
5	2
6	1
7	6
8	0
9	0
10	0
11	8
12	4
13	2
14	11
15	0
16	2
17	3
18	7
19	5
20	0

(d) The students were told to use **one** measure of central tendency (mean, median, mode) in analysing the data in **Figure 5**. Justify which of these measures would be most appropriate. [3]

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TUESDAY, 21 MAY 2019 – MORNING

**GEOGRAPHY – AS component 2
CHANGING PLACES**

For use with question 3

RESOURCE FOLDER

Figure 3: Location of Cambridge Science Park



Landranger series (1:50 000 scale)

LANDRANGER MAP SYMBOLS



ROADS AND PATHS Not necessarily rights of way

	Motorway (dual carriageway)
	Primary Route
	Main road
	Road under construction
	Secondary road
	Narrow road with passing places
	Road generally more than 4m wide
	Road generally less than 4m wide
	Other road, drive or track
	Path
	Gradient: steeper than 20% (1 in 5)/ 14% to 20% (1 in 7 to 1 in 5)
	Gates / Road tunnel
	Ferry (passenger) / Ferry (vehicle)

LAND FEATURES

	Cutting, embankment		Graticule intersection at 5' intervals
	Electricity transmission line (pylons shown at standard spacing)		Landfill site or slag/spoil heap
	Pipe line (arrow indicates direction of flow)		Coniferous wood
	Buildings		Non-coniferous wood
	Important building (selected)		Mixed wood
	Bus or coach station		Orchard
	Glass structure		Park or ornamental ground
	Helipoint		Access land (symbols indicate owner or agency - see below)
	Current or former place of worship; with tower with spire, minaret or dome		Forestry Commission
	Place of worship		Natural Resources Wales
	Triangulation pillar		National Trust; always open, limited access - observe local signs
	Mast		National Trust for Scotland; always open, limited access - observe local signs
	Wind pump		
	Wind turbine		
	Windmill with or without sails		

RAILWAYS

	Track multiple or single		Station, (a) principal
	Track under construction		Siding
	Light rail system, narrow gauge or tramway		Light rail system station
	Bridges, footbridge		Level crossing
	Tunnel, cutting		Viaduct, embankment

ABBREVIATIONS See website for full list

Br	Bridge	MS	Milestone
Cemy	Cemetery	Mus	Museum
CG	Cattle grid	P	Post office
CH	Clubhouse	PC	Public convenience (in rural areas)
Coll	College	PH	Public house
Fm	Farm	Sta	Station
Ho	House	Sch	School
Hospl	Hospital	TH	Town Hall, Guildhall or equivalent
MP	Milepost	Univ	University

PUBLIC RIGHTS OF WAY Not shown on maps of Scotland

	Footpath	Public rights of way shown on this map have been taken from local authority definitive maps and later amendments. The symbols show the defined route so far as the scale of the mapping will allow. Rights of way are liable to change and may not be clearly defined on the ground. Please check with the relevant local authority for the latest information. Rights of way are not shown on maps in Scotland.
	Bridleway	
	Restricted byway (not for use by mechanically propelled vehicles)	
	Byway open to all traffic	

ARCHAEOLOGICAL AND HISTORICAL INFORMATION

	Site of antiquity	VILLA	Roman		Site of battle (with date)
	Visible earthwork	Castle	Non-Roman		

OTHER PUBLIC ACCESS

	National Trail, Scotland's Great Trails, European Long Distance Path and selected Recreational Routes		Other route with public access (not normally shown in urban areas)
	On-road cycle route		
	Traffic-free cycle route		
	Cycle Network number; National / Regional		

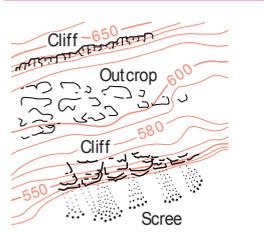
Danger Area Firing and Test Ranges in the area. Danger! Observe warning notices.

HEIGHTS

Contours are at 10 metres vertical interval

Heights are to the nearest metre above mean sea level

HEIGHTS

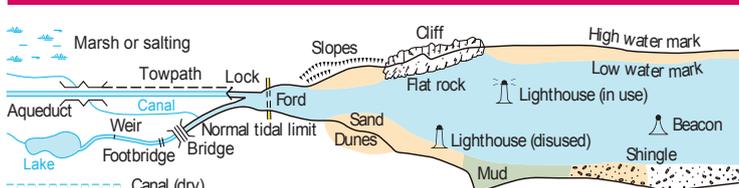


Where two heights are shown, the first is the height of the natural ground in the location of the triangulation pillar, and the second (in brackets) to a separate point which is the natural summit.

BOUNDARIES

	National		County, Unitary Authority, Metropolitan District or London Borough
	District		National Park

WATER FEATURES



TOURIST INFORMATION

	Viewpoint 180°		Camp site / Caravan site
	Viewpoint 360°		Camping and caravan site
	Visitor centre		Selected places of tourist interest
	Walks / trails		Information centre, all year / seasonal
	Nature reserve		Parking
	Picnic site		Park & Ride, all year / seasonal
	Youth hostel		Phone, public / emergency / roadside assistance
	Golf course or links		Recreation / leisure / sports centre
	Garden / arboretum		World Heritage site or area