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GCSE (9–1) Geography A (Geographical Themes) J383/03 Geographical Skills Sample Question Paper

Date – Morning/Afternoon

Time allowed: 1 hour 30 minutes

You must have:

- the Resource Booklet

You may use:

- a ruler (cm/mm)
- a piece of string
- a scientific or graphical calculator



First name

Last name

Centre
number

Candidate
number

INSTRUCTIONS

- Use black ink. You may use an HB pencil for graphs and diagrams.
- Complete the boxes above with your name, centre number and candidate number.
- Answer **all** the questions.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.
- The separate Resource Booklet will be found inside this document.

INFORMATION

- The total mark for this paper is **80**.
- The marks for each question are shown in brackets [].
- Quality of extended responses will be assessed in questions marked with an asterisk (*).
- Spelling, punctuation and grammar and the use of specialist terminology (SPaG) will be assessed in questions marked with a pencil (✎).
- This document consists of **20** pages.

Section A – Geographical Skills.

Answer **all** the questions.

1 Study **Fig. 1** in the separate Resource Booklet, an OS map extract of Bradford.

(a) (i) In which general direction would you be travelling if you were approaching Bradford from the junction of the M62/M606 motorways?

- A** East
- B** North West
- C** South
- D** South East

Write the correct letter in the box. ☐

[1]

(ii) What is the approximate length of the M606 motorway from its junction with the M62 (182 268), to its junction with the A6177 (166 303)?

- A** 4km
- B** 5km
- C** 8km
- D** 12km

Write the correct letter in the box. ☐

[1]

(b) Geographical Information Systems (GIS) can provide useful information about the geography of an area. Study **Fig. 2** in the separate Resource Booklet, GIS maps with information about Bradford.

(i) Using **Fig. 2** identify **one** piece of evidence that this area contains Bradford's city centre.

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[1]

(ii) Explain why a GIS map, such as the one in **Fig. 2**, might be more useful for a visitor to Bradford than the OS map extract, such as the one in **Fig. 1**.

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[2]

- (c) Study **Fig. 3** in the separate Resource Booklet, a choropleth map showing distribution of Pakistani ethnicity across UK regions.

Suggest **two** reasons why the information represented on this map might be misleading.

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[2]

- (d) Study the table below, which shows types of households in Bradford and the number of households in each category.

Types of Households	Number of Households
Owned	129 550
Social Rented	29 513
Private Rented	36 020
Living Rent Free	2 998
Total	198 081

Describe the pattern of the types of households in Bradford.
Use data from the table in your answer.

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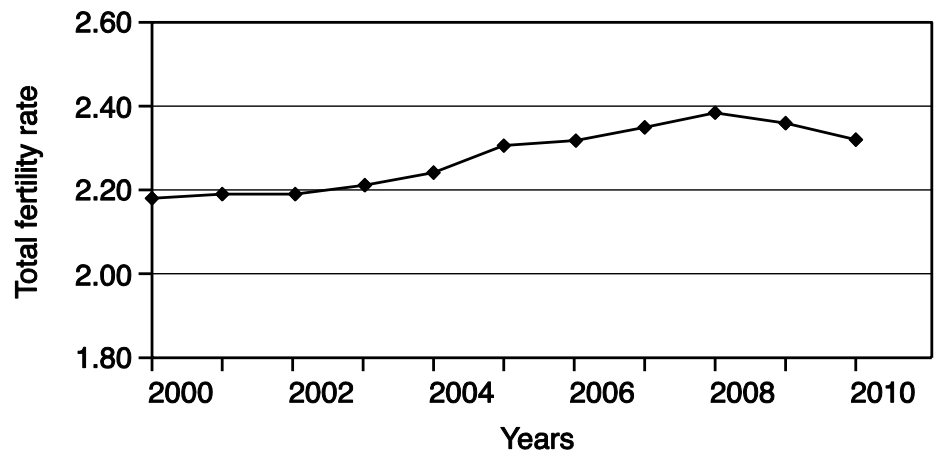
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[4]

- 2 Study the graph below, which shows how the total fertility rate in Bradford changed between 2000 and 2010.



- (a) Describe the trends in the total fertility rate over the period shown.

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[3]

- (b) Study **Fig. 4** in the separate Resource Booklet, a table showing components of population change in Bradford between 2009 and 2010.

Describe the contribution of migration to the total population change in Bradford between 2009 and 2010.

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[3]

- (c) Study **Fig. 5** in the separate Resource Booklet, a graph showing population projections for Bradford.

Explain the challenges that could be caused by the changing population in Bradford as shown in **Fig. 5**.

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[4]

- (d) Changing populations can affect levels of energy supply and demand.

Study **Fig. 6** in the separate Resource Booklet, a map showing the average household electricity consumption for selected UK cities.

- (i) Calculate the difference between the average household energy consumption for Bradford and Plymouth.

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[1]

- (ii) Calculate the range of average electricity consumption for the cities shown in **Fig. 6**.

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[1]

- (iii) Suggest **one** improvement that could be made to the data presentation technique shown in **Fig. 6**.

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[1]

(iv) Study the extract below.

Future renewable energy projects in Bradford’s District:

- **Wind turbines** could have a large role in the District’s energy supply. The Ovenden Moor ‘Repower’ scheme will probably generate 49,000MWh* yearly from nine new planned turbines.
- **Solar power** is already being used by the Council, with more solar projects planned. It is also a relatively simple technology to install across the Bradford council buildings, with a long lifetime and small costs to keep it working.
- **Biomass boilers** offer a more sustainable choice than gas for heating buildings. This is an option that the Council and the District’s 200 schools should like.
- **Hydro-electric power (HEP)** projects in Bradford’s District could create 14,000MWh of power every year.

Adapted Extract from ‘Bradford Power: 2020 and beyond’

*MWh = megawatts per hour

Assess how population increase in the city of Bradford could affect the demand for renewable energy projects, such as those outlined in the extract.

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[6]

3 (a) Study **Fig. 7** in the separate Resource Booklet, a physical map of Nigeria.

(i) Which region of Nigeria contains the most mountainous landscape?

- A North
- B North East
- C South West
- D West

Write the correct letter in the box. ☐

[1]

(ii) What style of graph would most clearly show how the relief changes from Abuja to Lake Chad?

- A Cross-section
- B Horizontal bar
- C Radial
- D Scatter

Write the correct letter in the box. ☐

[1]

(b) Lagos is the largest city in Africa, with an estimated 21 000 000 people living in the city, whilst the capital city of Nigeria, Abuja, has only 3 000 000 people living there.

What is the ratio 21 000 000:3 000 000 in its simplest form?

..... [1]

(c) Study **Fig. 8**, the photographs of Lagos in Nigeria.

Using **Fig. 8**, identify **one** characteristic from the photographs that shows Lagos is a city in an LIDC.
Give reasons for your answer.

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(d) Study the table below.

Scale of urban challenges in selected megacities

City Challenge	Hong Kong (China)	Tokyo (Japan)	Seoul (S.Korea)	Istanbul (Turkey)	London (UK)	New York (USA)	Lagos (Nigeria)
Informal Settlements	0	1	0	1	0	0	3
Traffic Management	2	1	1	1	1	0	3
Natural Hazards	0	1	1	3	1	1	1
Water Management	2	1	0	1	0	0	3
Electricity Supply	0	1	0	0	0	0	3
Waste Disposal	2	1	0	3	0	1	2
Air and Water pollution	2	1	0	1	2	1	3
Overall Score (magnitude of challenges)	8	7	2	10	4	3	18

0= few challenges
3= many challenges

Outline the evidence that suggests Lagos has the most severe urban challenges of the cities shown.

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[3]

(e)* ‘Cities in the UK face challenges which are less serious than cities in LIDCs or EDCs.’

To what extent do you agree with this statement?

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Section B – Geographical Fieldwork

Answer **all** the questions.

- 4 Some Geography students have been conducting **human geography** fieldwork in Bradford city centre. They intend to investigate urban traffic issues.

The first question of the students’ questionnaire is shown below.

How far have you travelled today?	1-2	2-4	4-6

- (a) (i) Suggest **two** problems with the students’ first question.

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- (ii) Identify **one** other question you might want to add to the students’ questionnaire investigating urban traffic issues.

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[1]

- (b) As part of the students' investigation into urban traffic issues they researched the number of car parking spaces in Bradford city centre. The data they collected is in the table below:

Name of Car Park	Number of parking spaces
Burnett Street	116
Crown Court	180
Pine Street	60
Radwell Drive	105
Rawson Road	33
Sharpe Street	98
Simes Street	77
St Thomas	132
Tyson Street	110
Westgate	404
Wigan Street	43

Calculate the upper quartile value of the dataset.
You must show your working out.

[3]

- (d)* Study the tables and graphs below which display the results of their questionnaire asked to local residents.

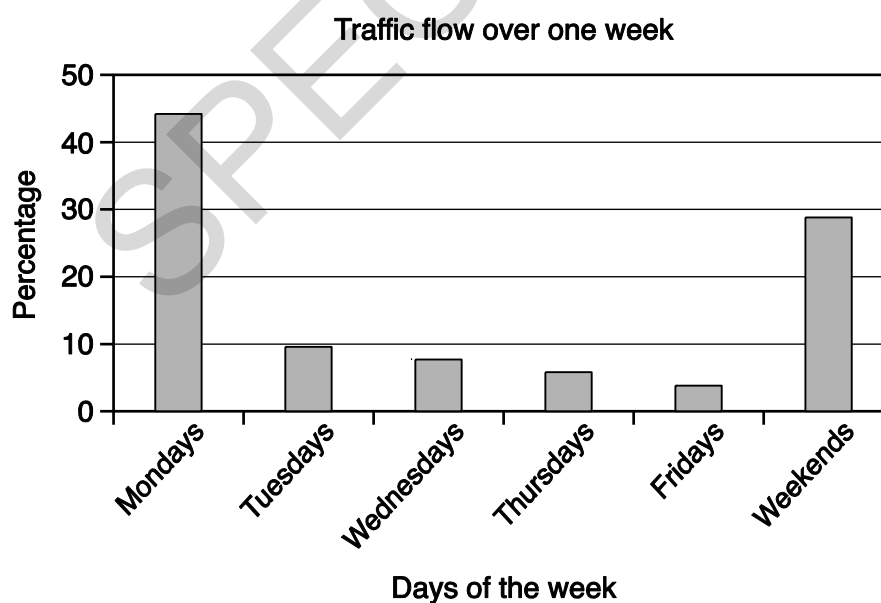
Table 1: Time of the day which congestion is more prominent

Time	Frequency	Percentage
6am – 8am	15	9.6
8am – 10am	72	46.2
10am – 12pm	3	1.9
12pm – 2pm	9	5.8
2pm – 4pm	3	1.9
4pm -6pm	54	34.6
Total	156	100

Table 2: Causes of traffic congestion in the study area

Causes of traffic congestion	Frequency	Percentage
Too narrow road	42	26.9
Vehicle breakdown	12	7.7
Loading and off-loading of goods and passengers on the road	54	34.6
Indiscriminate Parking	12	7.7
On-street trading	12	7.7
Lack of a bus terminal	20	12.8
Other	4	2.6
Total	156	100

Graph 1: Days of the week in which congestion is most prominent



Suggest a conclusion that the students' might reach for the enquiry question 'How do patterns of congestion vary in Bradford?'. Analyse the evidence from the information provided to explain how you have reached that conclusion.

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 Spelling, punctuation and grammar and the use of specialist terminology **[8]**
[3]

- 5 You will have taken part in fieldwork in a **physical geography** environment as part of your studies. Examples might include a river or a coastal area.

State your fieldwork question for investigation:

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Location of study area:

- (a) Explain the suitability of **one** key question or hypothesis that you chose to help answer your fieldwork question for investigation.

Key question/hypothesis:

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[4]

(b) Evaluate to what extent **one** method you used to collect your primary fieldwork data was a success.

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