GCSE
GEOGRAPHY
8035/2

Paper 2 Challenges in the human environment

Mark scheme

June 2024

Version: 1.0 Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

No student should be disadvantaged on the basis of their gender identity and/or how they refer to the gender identity of others in their exam responses.

A consistent use of 'they/them' as a singular and pronouns beyond 'she/her' or 'he/him' will be credited in exam responses in line with existing mark scheme criteria.

Further copies of this mark scheme are available from aqa.org.uk

Point marked questions marking instructions

The mark scheme will state the correct answer or a range of possible answers, although these may not be exhaustive. It may indicate how a second mark is awarded for a second point or developed idea. It may give an indication of unacceptable answers. Each mark should be shown by placing a tick where credit is given. The number of ticks must equal the mark awarded. Do not use crosses to indicate answers that are incorrect.

Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor is linked to the assessment objective(s) being addressed. The descriptor for the level shows the average performance for the level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme. You should read the whole answer before awarding marks on levels response questions.

Step 1 Determine a level

Descriptors for the level indicate the different qualities that might be seen in the student's answer for that level. When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly Level 2 with a small amount of Level 3 material it would be placed in Level 2 but be awarded a mark near the top of the level because of the Level 3 content. For instance, in a 9 mark question with three levels of response, an answer may demonstrate thorough knowledge and understanding (AO1 and AO2) but fail to respond to command words such as assess or evaluate (AO3). The script could still access Level 2 marks. Note that the mark scheme is not progressive in the sense that students don't have to fulfil all the requirements of Level 1 in order to access Level 2.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will also help. There will generally be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Assessment of spelling, punctuation, grammar and use of specialist terminology (SPaG)

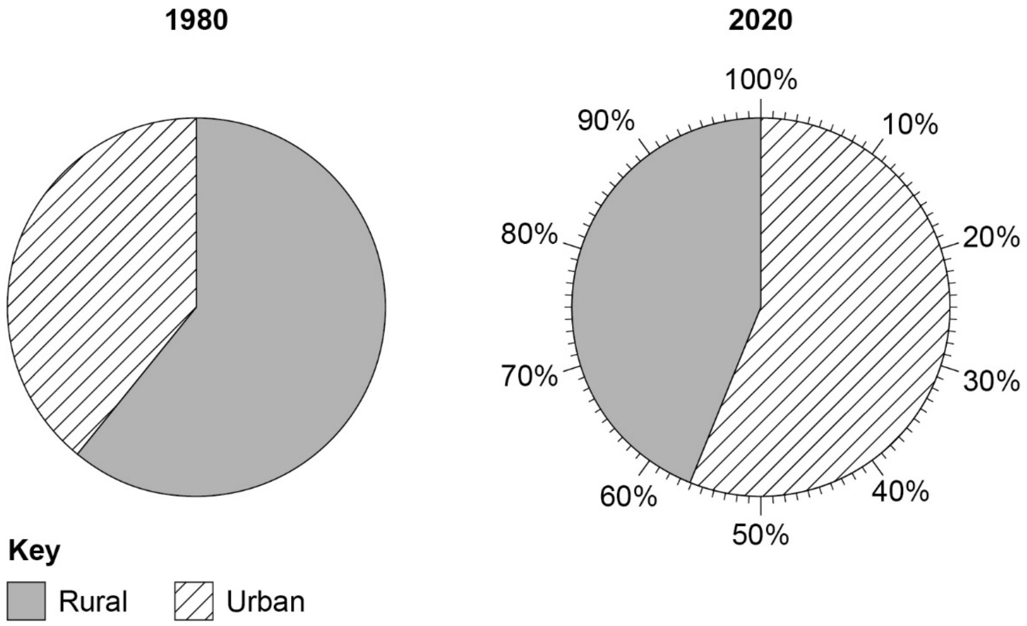
Accuracy of spelling, punctuation, grammar and the use of specialist terminology will be assessed via the indicated 9 mark questions. In each of these questions, three marks are allocated for SPaG as follows:

- **High performance** – 3 marks
- **Intermediate performance** – 2 marks
- **Threshold performance** – 1 mark

General guidance

- Mark schemes should be applied positively. Examiners should look for qualities to reward rather than faults to penalise. They are looking to find credit in each response they mark. Unless the mark scheme specifically states, candidates must never lose marks for incorrect answers.
- The full range of marks should be used. Examiners should always award full marks if deserved, ie if the answer matches the mark scheme.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked unless the candidate has replaced it with an alternative response.
- Do NOT add ticks to level-marked questions – use the highlight tool/brackets to signify what is relevant.
- Sometimes there are specific "triggers" in the mark scheme that enable higher level marks to be awarded. For instance, an example or case study may be required for Level 3 if it is stated within the question.
- Where a source, such as a photograph or map, is provided as a stimulus it should be used if requested in the question, but credit can often be given for inferred as well as direct use of the source.
- Always be consistent – accept the guidelines given in the mark scheme and apply them to every script.
- If necessary make comments to support the level awarded and to help clarify a decision you have made.
- Examiners should revisit standardised script answers as they apply the mark scheme in order to confirm that the level and the mark allocated is appropriate to the response provided.
- Mark all answers written on the examination paper.

Section A

Qu	Pt	Marking Guidance	Total marks
01	1	**Complete Figure 1 below using the following data.** One mark for correctly drawing the sectors. Second mark for correct shading, to match key, or clear labelling of sectors. Segments can be drawn in any order.  AO4 – 2 marks	2
01	2	**Using Figure 1, which of the following statements is true?** One mark for the correct answer. **B** - decreased by 17% No credit if two or more statements are shaded. AO4 – 1 mark	1

01	3	**Give two push factors that encourage people to leave rural areas in LICs/NEEs.** One mark for each correct answer. Credit any reasonable factor which states or implies a negative aspect of the rural area eg food shortages, poor access to education/health care, limited job opportunities, low wages, conflict, natural disasters. Credit comparative statements eg ‘poorer access to healthcare than in urban area’. No credit for pull factors. AO1 – 2 marks	2

01	4	**Give one way a major city in a LIC/NEE is nationally important.** Credit any reasonable statement in relation to the named city. eg Mumbai – the main financial centre for India/has HQ of important banks/stock exchange. Rio de Janeiro – home to universities/research centres. Lagos – home to 80% of Nigeria’s industry/responsible for 30% of Nigeria’s GDP. Capital city - if relevant to named city. No credit for naming country. No credit for HIC city. AO1 – 1 mark	1

01	5	**To what extent is managing environmental issues, such as waste disposal, a challenge in cities in LICs/NEEs?** **Use Figure 2 and your own understanding.**	6

Level	Marks	Description
3 (Detailed)	5–6	AO2 – Shows detailed understanding of the environmental issues in cities in LICs/NEEs. AO3 – Demonstrates thorough application of knowledge and understanding in evaluating the extent to which environmental issues can be managed.
2 (Clear)	3–4	AO2 – Shows clear understanding of the environmental issues in cities in LICs/NEEs. AO3 – Demonstrates reasonable application of knowledge and understanding in evaluating the extent to which environmental issues can be managed.
1 (Basic)	1–2	AO2 – Shows basic understanding of the environmental issues in cities in LICs/NEEs. AO3 – Demonstrates limited application of knowledge and understanding in evaluating the extent to which environmental issues can be managed.
	0	No relevant content.

		• **Level 3** responses will cover the figure and well-developed geographical understanding and provide a thorough evaluation. • **Level 2** responses will show reasonable evaluative understanding using the figure and clear geographical understanding or more considered evaluation for just the figure or own understanding used. • **Level 1** responses will show simple evaluative understanding using the figure and/or simple geographical understanding. • Max Level 2 if figure or own understanding only. • Max Level 2 for HIC if comments could still apply. Indicative content • Allow full marks for a one-sided argument, i.e. solely focused on waste that makes good use of figure 2. • Candidates may demonstrate their geographical understanding through use of a named example, although this is not explicitly asked for in the question. • **Figure 2** provides information on a waste disposal scheme in Cameroon where roads were widened and a charity trained staff and provided equipment. Previously there had been no waste collection and rubbish was dumped in ditches and blocked drains. • Reference to **Figure 2** may be inferred even if not explicitly stated through comment on the above aspects in relation to the challenges of urban growth, such as squatter settlements. • Candidates may show understanding of the environmental challenges where urban areas are experiencing growth and where there may not be sufficient money and resources to manage the growth. • The command ‘to what extent’ requires a view to be taken on the challenge of managing aspects, such as waste disposal, in cities which are experiencing growth. • Candidates may include the difficulty of managing other environmental issues such as traffic congestion, air and water pollution, dereliction and urban sprawl leading to the destruction of green space. AO2 – 3 marks AO3 – 3 marks	

01	6	**What is found at 298333?** One mark for the correct answer. **C** – Leeds Station No credit if two or more statements are shaded. AO4 – 1 mark	1

01	7	**Using Figure 3 and Figure 4, what direction was the photographer facing when the photograph was taken?** One mark for the correct answer. **A** – North No credit if two or more statements are shaded. AO4 – 1 mark	1

01	8	**Using Figure 3, what is the straight line distance from point X to point Y (along the Holbeck Viaduct, a dismantled railway) to the nearest 500 m?** One mark for the correct answer. **C** – 1.5 km No credit if two or more statements are shaded. AO4 – 1 mark	1

01	9	**Outline one problem caused by dereliction in cities.** One mark for an initial overall comment or single relevant statement eg • Derelict buildings may attract pests/vermin. (1) • Empty buildings may be used for crime. (1) • Wasteland and old factories look unattractive. (1) Second mark for developing the comment eg • Derelict buildings may attract pests/vermin (1) which can spread disease. (d)(1) • Empty buildings may be used for crime (1) which can make people frightened so they move away. (d)(1) • Wasteland and old factories look unattractive (1) which can discourage businesses locating there. (d)(1) Credit any reasonable statement. AO1 – 2 marks	2

01	10	**Suggest how urban greening can create opportunities in UK cities.** **Use Figure 5 and your own understanding.**	4

Level	Marks	Description
2 (Clear)	3–4	AO2 – Shows clear understanding of the opportunities brought by urban greening. AO3 – Uses **Figure 5** effectively and own understanding to offer clear interpretation of how urban greening offers opportunities.
1 (Basic)	1–2	AO2 – Shows limited understanding of the opportunities brought by urban greening. AO3 – Uses **Figure 5** OR own understanding to offer basic interpretation of how urban greening offers opportunities.
	0	No relevant content.

- **Level 2** responses will show clear understanding and interpretation of the opportunities of urban greening by using geographical understanding in combination with the figure.

- **Level 1** responses will show basic understanding and interpretation of the opportunities of urban greening by using geographical understanding and/or the figure.

- Max Level 1 for non UK city but comment still relevant.

- Max Level 1 for figure 5 or own understanding only.

Indicative content

- Answers should make use of **Figure 5** which may be clear through reference to specific points shown in the figure or more implicit through reference to safe routes through cities and making derelict areas more attractive.
- Development need not be through use of a named place but use of an example may add clarity and should be credited.
- From **Figure 5**: links made to the Viaduct Project bringing more opportunities for walkers/pedestrians, additional park land for recreation, planting increasing biodiversity.
- Candidates may develop points to show their understanding of the benefits urban greening can bring to city residents and wildlife or apply this to their own examples.
- Credit anything positive as opportunities.

AO2 – 2 marks

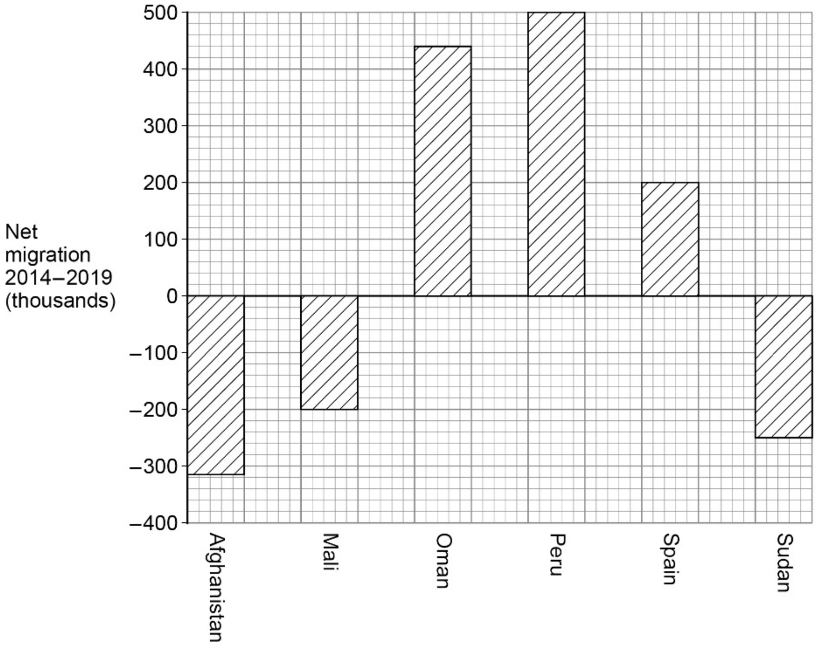
AO3 – 2 marks

<table>
<tr>
<td>01</td>
<td>11</td>
<td>
<b>To what extent can water and energy conservation make cities more sustainable?</b>
<table>
<tr><th>Level</th><th>Marks</th><th>Description</th></tr>
<tr><td>3 (Detailed)</td><td>7–9</td><td>AO1 – Demonstrates detailed knowledge of places and processes in urban environments.
AO2 – Shows a thorough understanding of how water and energy conservation aid urban sustainability.
AO3 – Demonstrates thorough application of knowledge and understanding to make a thorough judgement of the relative importance of water and energy conservation in urban sustainability.</td></tr>
<tr><td>2 (Clear)</td><td>4–6</td><td>AO1 – Demonstrates reasonable knowledge of places and processes in urban environments.
AO2 – Shows clear understanding of how water and energy conservation aid urban sustainability.
AO3 – Demonstrates reasonable application of knowledge and understanding to make a partial judgement of the relative importance of water and energy conservation in urban sustainability.</td></tr>
<tr><td>1 (Basic)</td><td>1–3</td><td>AO1 – Demonstrates limited knowledge of places and processes in urban environments.
AO2 – Shows limited understanding of how water and energy conservation aid urban sustainability.
AO3 – Demonstrates limited application of knowledge and understanding to make a limited judgement of the relative importance of water and energy conservation in urban sustainability.</td></tr>
<tr><td></td><td>0</td><td>No relevant content.</td></tr>
</table>
<ul>
<li><b>Level 3</b> responses will provide a considered judgement of the relative merits of the importance, supported with precise knowledge.</li>
<li><b>Level 2</b> responses will give a reasoned judgement of the importance. supported with either precise or generically accurate knowledge.</li>
<li><b>Level 1</b> responses will show simple understanding of the importance of water and energy conservation and may state relative merits without support.</li>
<li>Max Level 2 if no comment on the relative importance.</li>
</ul>
<u>Indicative content</u>
<ul>
<li>This can be fully answered without reference to an example, in which case AO1 can be demonstrated through geographical knowledge and processes.</li>
<li>One or more examples might be used and may add clarity if so. Likely examples are: Freiburg, East Village or BedZED in London, Greenhouse in Leeds, Curitiba.</li>
<li>HIC or LIC/NEE based answers or a combination are equally valid.</li>
<li>The command ‘to what extent’ requires some judgement of the relative contribution that these two aspects might make to sustainable city futures. Balance is not required. Equally they may be judged in isolation and without reference to other elements of sustainability.</li>
</ul>
</td>
<td>9</td>
</tr>
</table>

		• Credit discussion of differing aspects of sustainability e.g. economic, social, environmental. • **Water conservation**: collecting rainwater on roofs, permeable paving, use of greywater systems for tasks such as toilet flushing and gardens, low water demand appliances. • These aid sustainability by reducing reliance on groundwater or energy demanding pumping systems and also helping to store and re-direct water to reduce flooding; which would compromise **economic and social sustainability.** • **Energy Conservation**: increased use of renewable energy sources such as solar panels, passive solar heating, better building design to reduce the need for air-con in summer or heating in winter, encouraging reduced consumption of electricity. • These aid **environmental** sustainability by reducing need for fossil fuels and thus impact on climate change. • Whilst not essential (see above) other aspects of urban sustainability that may be mentioned are: o **Waste recycling**: achieved through recycling schemes eg coloured bins and household sorting and which aid sustainability through reducing landfill and demand for new resources and associated energy consumption. o **Creating green spaces**: parks and green walls and roofs; which have a cooling and flood management effect but are also crucial to make cities more pleasant and socially sustainable. o **Traffic management**: eg promoting public transport or penalising private transport and creating clean air zones; which reduce demand for fossil fuels and cut emissions with associated mitigation of climate change and health and wellbeing benefits. Credit any opinion in arriving at a judgement, it is perfectly possible to argue a wide range of scale of contribution, provided there has been an attempt to weigh up. . AO1 – 3 marks AO2 – 3 marks AO3 – 3 marks	
		Spelling, punctuation and grammar (SPaG) **Responses with SPaG marks that gain a mark of 0 for the content/skills of the question can still be awarded SPaG marks if the response is judged to be a genuine attempt to answer the question.** **High performance** • Learners spell and punctuate with consistent accuracy. • Learners use rules of grammar with effective control of meaning overall. • Learners use a wide range of specialist terms as appropriate. **Intermediate performance** • Learners spell and punctuate with considerable accuracy. • Learners use rules of grammar with general control of meaning overall. • Learners use a good range of specialist terms as appropriate. **Threshold performance** • Learners spell and punctuate with reasonable accuracy.	3 2 1

		• Learners use rules of grammar with some control of meaning and any errors do not significantly hinder meaning overall. • Learners use a limited range of specialist terms as appropriate. **No marks awarded** • The learner writes nothing. • The learner’s response does not relate to the question. • The learner’s achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning.	0

Section B

Qu	Pt	Marking Guidance	Total marks
02	1	**Calculate the median value for the GNI data in Figure 6.** 6030 Units not required. Award 2 marks if answer correct even if no visible working. 1 mark for working if correct but answer not. Credit notation on the table as evidence of working, eg rank ordering and identifying the middle value, if appropriate. AO4 – 2 marks	2
02	2	**Using Figure 7, which of the following statements is correct?** One mark for the correct answer. **D** – South America has no low income countries No credit if two or more statements are shaded. AO4 – 1 mark	1
02	3	**Complete Figure 8 below using the following data.** One mark for each correctly completed bar, width can be ignored. Shading not required.  Net migration = immigrants minus emigrants	2

AO4 – 2 marks

02 4 **Suggest how international migration can be a consequence of uneven development.**
Use Figure 7 and Figure 8, and your own understanding. 6

Level	**Marks**	**Description**
3 (Detailed)	5–6	AO2 – Shows detailed understanding of the contributing factors behind and processes of international migration. AO3 – Demonstrates thorough application of knowledge and understanding to offer detailed analysis of the information provided and the link between development and migration.
2 (Clear)	3–4	AO2 – Shows clear understanding of the contributing factors behind and processes of international migration. AO3 – Demonstrates clear application of knowledge and understanding to offer reasonable analysis of the information provided and the link between development and migration.
1 (Basic)	1–2	AO2 – Shows limited understanding of the contributing factors behind and processes of international migration. AO3 – Demonstrates limited application of knowledge and understanding to offer basic analysis of the information provided or simply assert the link between development and migration.
	0	No relevant content.

- **Level 3** responses will cover the figure and well-developed geographical understanding and provide a considered analysis of the link.

- **Level 2** responses will show reasonable understanding of the link using the figure or more considered analysis of the link using just their own understanding.

- **Level 1** responses will show simple understanding of the link to using the figure and/or simple assertion of a connection.

- Max Level 2 for explaining the wrong way round i.e. uneven development is a consequence of migration.

- Max Level 2 if answer uses **Figure 7** and/or **8** or own understanding only.

<u>Indicative content</u>

- **Figure 8** shows countries with both a positive and negative migration balance. Reference to the figure may come either from data or using those named countries in the answer
- People often move from lower to higher income countries.

		• This leads to net emigration in lower income countries eg Mali and net immigration in higher income eg Spain. • Candidates should expand on this idea with an elaboration of the process and rationale such as they move in search of better rates of pay and the higher quality of life that is generally found in higher income countries. • Higher quality of life may be expressed more specifically through aspects such as medical care or education. • They may specifically mention ideas such as migrant workers in Gulf States as Oman is shown, or food production as Spain is shown. • They may also note that lower income countries such as all three shown in **Figure 8** are in conflict zones so there will be population loss as people flee in search of safety. • Comment on other factors such as climate change refugees or land degradation in sub-Saharan Africa making farming unsustainable and thus leading to migration as a response to food insecurity would also be relevant. • Other examples of migration as a result of differing levels of development may also be used as part of answer. AO2 – 3 marks AO3 – 3 marks	

02	5	**Shade your chosen country on Figure 9 below.** One mark for correct location identified. Credit if indicated with a label/arrow but not shaded. Examiners should refer to an Atlas if at all unsure. AO4 – 1 mark	1

02	6	**Outline one way in which your chosen country is regionally important.** One mark for an initial overall comment or single relevant statement e.g. • Nigeria has a large economy (1) • India is a democracy and has stable government (1) • Brazil hosted the Olympics (1) Second mark for developing the comment, which must be **regional** e.g. • Nigeria has a large economy (1) which is good for its neighbours / attracts migrants from nearby countries (d)(1) • India is a democracy and has a stable government (1) which gives it a major diplomatic role in south Asia/with other neighbours eg Pakistan. (d)(1) • Brazil hosted the Olympics (1) which brought tourists to South America. (d)(1) Credit any reasonable statement and then subsequent development. Does not need to be the same country as Q 2.5. AO1 – 2 marks	2

02	7	**Explain how manufacturing industry can stimulate economic development in your chosen country.**	4

Level	Marks	Description
2 (Clear)	3–4	AO1 – shows clear knowledge of chosen country and economic development process. AO2 – Shows clear understanding of the process of development through manufacturing/industry.
1 (Basic)	1–2	AO1 – shows basic knowledge of chosen country and/or economic development process. AO2 – Shows limited understanding of the process of development through manufacturing/industry.
	0	No relevant content.

- **Level 2** responses will use geographical knowledge and understanding to connect manufacturing industry and economic development.

- **Level 1** responses will show simplistic knowledge and understanding or simply assert the link between manufacturing industry and economic development.

    - Does not need to be the same country as Q 2.5/2.6.

<u>Indicative content</u>

- Credit any relevant exemplification and illustration that is correct for the chosen country e.g. figures, places or relevant industries.
- Credit oil industry e.g. in Nigeria, as manufacturing, as refining does take place.
- The fundamental benefit of manufacturing/industry is that it allows value to be added to products, leading to greater gains.
- Manufacturing/industry creates jobs so that the employees pay taxes which the government can then invest in other services such as education which will promote economic development as more educated people are more qualified for better paid work.
- Paid employment also means a greater number of people with secure incomes and money to spend and therefore the domestic market grows, creating a consumer society which supports demand for other goods and services.
- There is also a multiplier effect as industries stimulate growth in a supply chain of connected industries such as parts for electronic goods or cars.
- As industries grow they will attract foreign companies, often TNCs, who will build further industries and infrastructure through Foreign Direct Investment (FDI), thus stimulating further growth.

		• Manufacturing/industry will add value to products which are often paid for in foreign currency which will have a higher spending power and investment value for further growth. AO1 – 2 marks AO2 – 2 marks	

02	8	**Outline how globalisation has caused economic change in the UK. Use Figure 10 and your own understanding.** Credit description of the changes. Credit any reasonable explanation or development of point eg • Globalisation has allowed easier/cheaper communication around the world (1) which makes it possible to have HQs in the UK and manufacture abroad (1) so there is less manufacturing in the UK (1)/so the UK will concentrate on the more lucrative quaternary sector which has expanded. (1) • Easier/cheaper global communication (1) makes it possible to use cheap labour abroad (1) and still reduce costs because shipping is also cheaper with containers (1) contributing to the UK manufacturing decline. (1) • A global reputation for education in top universities (1) means the UK has expanded R&D (1) and increased the size of the quaternary sector. (1) • Credit other forms of globalisation e.g. cultural. 1 × 3, 3 × 1, or (1 + 1) + 1 Figure 10 needed for 3 marks – reference can be inferred if not explicitly stated. AO3 – 3 marks	3

02	9	**‘The economic future of different parts of the UK will be affected by improvements and developments in transport and infrastructure.’** **Explain this statement.** **Use Figure 11 and your own knowledge.**	9

Level	Marks	Description
3 (Detailed)	7–9	AO1 – Demonstrates detailed knowledge of transport and infrastructural improvements. AO2 – Shows a thorough understanding of how such improvements operate to bring about change. AO3 – Demonstrates thorough application of knowledge and understanding in interpreting the likely impact of transport/infrastructure developments with considered use of the figure.
2 (Clear)	4–6	AO1 – Demonstrates reasonable knowledge of transport and infrastructural improvements. AO2 – Shows clear understanding of how such improvements operate to bring about change. AO3 – Demonstrates reasonable application of knowledge and understanding in judging the likely impact of transport/infrastructure developments with some reference to the figure.
1 (Basic)	1–3	AO1 – Demonstrates limited knowledge of transport and infrastructural improvements. AO2 – Shows limited understanding of how such improvements operate to bring about change. AO3 – Demonstrates limited application of knowledge and understanding in judging the likely impact of transport/infrastructure developments with minimal reference to the figure.
	0	No relevant content

- **Level 3** responses will provide specific detail of one or more named developments with well-reasoned connections between (a) development(s) and economic futures in the UK.

- **Level 2** responses will either provide specific detail of one or more named developments with implicit links to economic futures in the UK or well-reasoned projections for (a) generic development(s).

- **Level 1** responses will give basic link(s) between (a) development(s) and economic change in the UK or merely assert a connection between the two.

- Max top Level 2 for either **Figure 11** or own knowledge only.

No credit for mere description of the improvements in **Figure 11**.

Indicative content

- Candidates are required to have studied road and rail improvements and also port and airport capacity. Examiners should credit any answer weighted towards the latter provided road and rail are discussed.

		• **Figure 11** use should be evidenced by reference to high speed trains/upgrading of rail (the photo is HS2 but they need not know this) and/or new bypasses and road link schemes. • **NB** at the time of writing smart motorways have been suspended but examiners should still credit reference to this as a current strategy. • Possible examples may be HS2; Heathrow/Gatwick expansion; Crossrail; 'Smart' motorways/toll roads/new road links or bypasses; increasing port capacity such as the Thames Gateway/Liverpool 2. • Developments might be actual as above or planned/proposed such as Trans-Pennine Express upgrading. • Candidates are likely to have studied a range of developments either in isolation or in the context of redressing regional differences. Whichever is the case they are required to make some connection between their studies and the process of growth (or lack of it) and changes in future economic prospects. • Credit should be given for any reasonable argument from the very positive such as HS2 fostering growth in the Midlands effects to those that suggest that whilst the focus of HS2 remains on connecting with London, growth will continue to be focussed on the South East whilst 'The North' is neglected. • Answers might suggest the likely impact of one or more schemes to redress imbalances in the UK economy, particularly between regions. • They may equally draw a distinction between the large national scale projects and more locally focussed such as Crossrail. The former may re-distribute growth and employment whilst the latter may entrench existing patterns. • Candidates may refer to the development of 'growth hubs or corridors' such as London – Birmingham, the M4 or even the much vaunted Liverpool – Manchester – Leeds corridor which are intended to have a trickle-down effect regionally. • Likewise increased airport capacity will allow expansion of, in Heathrow's case, one of the world's busiest airports to allow London to maintain its position as one of the world's leading financial centres. Candidates may also argue this will have little effect on the UK as a whole and will exacerbate the regional differences the policy is supposed to reduce. • HS2 is intended to foster growth in the Midlands by reducing journey times between London and Birmingham. • Credit broadband/5G/energy/water as relevant infrastructure. • Credit debate over extent of effects or relative importance. • Credit any answer weighted to other infrastructure, provided road/rail discussed. AO1 – 3 marks AO2 – 3 marks AO3 – 3 marks	

Section C

Qu	Pt	Marking Guidance	Total marks
03	1	**Calculate the percentage change in gas prices shown in Figure 12. Answer to the nearest whole number.** 135% Award 2 marks if answer correct even if no visible working. 1 mark for working if correct but answer not. 1 mark for correct answer not rounded 134.69,134.7 AO4 – 2 marks	2
03	2	**Give one reason for reduced domestic supplies of gas in the UK.** Credit any reasonable suggestion such as: the gas is running out; gas is a fossil fuel; the supplies have mostly been used. No credit for comments re. consumption/demand changing eg alternatives being preferred instead/increased cost. AO1 – 1 mark	1
03	3	**Why might increasing gas prices mean that renewables become increasingly important?** One mark for a basic statement, eg • People want to find a cheaper alternative. (1) • 'Homegrown' energy is more reliable. (1) • High prices make people more aware of their carbon footprint. (1) Two marks for a development, or an additional point, or expansion perhaps through an example, eg • People want to find a cheaper alternative (1) and as more renewables are built they become cheaper all the time. (d)(1) • 'Homegrown' energy is more reliable (1) and the UK has large renewable potential as the gas runs out. (d)(1) • High prices make people more aware of their carbon footprint (1) and renewables will reduce both emissions and the carbon footprint. (d)(1) No credit for description of the changing energy balance. AO3 – 2 marks	2

03 4

Discuss how changing demand for food in the UK creates opportunities and challenges.
Use Figure 13 and your own understanding.

6

Level	Marks	Description
3 (Detailed)	5–6	AO2 – Shows detailed understanding of the opportunities and challenges arising from changing demand for food in the UK. AO3 – Demonstrates thorough level of application through considered interpretation of the resources provided.
2 (Clear)	3–4	AO2 – Shows clear understanding of the opportunities and/or challenges arising from changing demand for food in the UK. AO3 – Demonstrates reasonable level of application through clear interpretation of the resources provided.
1 (Basic)	1–2	AO2 – Shows limited understanding of the opportunities and/or challenges arising from changing demand for food in the UK. AO3 – Demonstrates limited level of application through basic interpretation of the resources provided.
	0	No relevant content.

- **Level 3** responses will provide a considered understanding of both opportunities and challenges, supported with thorough use of the information showing changing demand for globally and/or locally sourced food in the UK.

- **Level 2** responses will give a clear understanding of opportunities and/or challenges, supported with either thorough or generically clear use of the information showing changing demand for globally and/or locally sourced food in the UK.

- **Level 1** responses will show basic understanding of the issues and basic use of the information showing changing demand for globally and/or locally sourced food in the UK.

No credit for straight lifts from **Figure 13**.

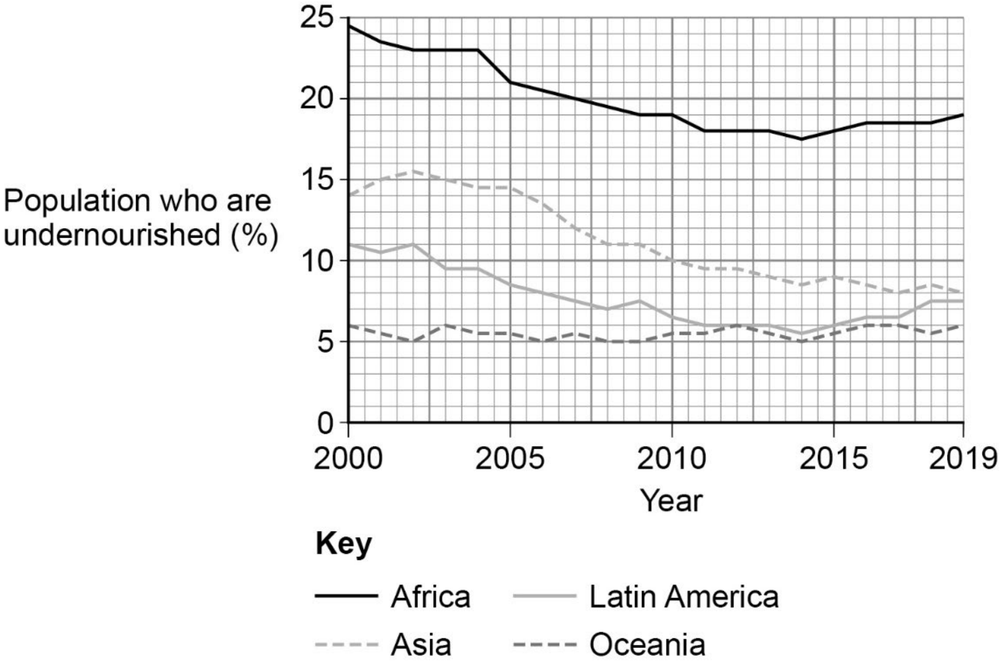
<u>Indicative content</u>

- **Figure 13** shows a range of opinions, and these should be referred to in the answer. Reference need only be made to one of them and can be inferred.
- Balance is not required for full marks provided both are addressed.
- Opportunities and challenges may be within or without the UK as the question does not specify.
- Credit any reasonable **opportunities**, which may include:
  - The opportunity for UK suppliers to meet demand for year-round produce.
  - The opportunity for foreign producers to meet demand for produce when not in season in the UK.

  - A change to sourcing our food in the UK means we can reduce our carbon footprint.
  - Dietary health may improve as local food will have higher nutrient levels as it has not been picked/harvested early.
  - By importing food we can have a more varied diet, which people will prefer and which may well be healthier.

- Credit any reasonable **challenges**, which may include:
  - Adjustment in expectations as the UK has become used to some foods all year round which would be lost if we just ate what was in season, eg the traditional 'hungry gap' in late spring and early summer.
  - A decline in knowledge for many people of what is in season in the UK and how to cook some foods.
  - The large distances travelled by imported food will increase the amount of carbon emissions and therefore have an effect on climate change. Candidates may note that the percentage of carbon that comes from transport in food production is actually quite small which may qualify this concern.
  - Emissions created by methane from animals or the destruction of forests to produce food for export.
  - The challenge for UK producers to meet demand at low economic cost and low 'carbon cost'. This may also cover seasonality of supply as out of season production may require high energy inputs which may be higher overall than imported food.
  - They may recognise the challenge for foreign food suppliers if their UK market is lost.
  - Increasing supplies needed with increasing population.

AO2 – 3 marks
AO3 – 3 marks

Qu	Pt	Marking Guidance	Total marks
04	1	**Complete Figure 14 below using the following data for Africa.** One mark for each correctly completed point then joined with a line. One mark if both points correctly plotted but no lines added.  AO4 – 2 marks	2
04	2	**Using Figure 14, what is the difference in undernourishment between Oceania and Latin America in 2000?** One mark for the correct answer. 5% AO4 – 1 mark	1

04	3	**Using Figure 14, describe the trend for Asia 2000–2019.** Answers should make use of **Figure 14** through quoting dates and data in order to describe the trend. One mark for a basic statement, eg • Undernourishment declines/reduces/gets lower. (1) • It goes from 14 % to 8%. (1) • It was flat and then goes down. (1) Second mark may be a second separate point or developed point for further clarity eg • Undernourishment declines/reduces/gets lower (1) reducing from 14 % to 8% over the period. (d)(1) • It goes from 14 % to 8 % (1) with the fastest decline between 2005 and 2010. (d)(1) • It was flat and then goes down (1) with hardly any change until 2005, then declining rapidly, then slowing after 2010. (d)(1) No credit for explanation. AO4 – 2 marks	2

04	4	**Outline the link between increasing economic development and rising food consumption.** Credit any reasonable explanation or development of point eg Countries become wealthier due to economic development (1) so will buy more food. (1) People in these countries will have a higher disposable income which might be spent on food (1) in particular they may change to more meat in the diet (1) which means increased production of this and other foods. (1) Wealthier countries will also be able to import more food (1) which may also allow more food being consumed that is needed. (1) As agriculture develops food can be produced at lower cost (1) which means people can afford to buy and eat more. (1) Allow one mark for stating the link e.g. increased economic development leads to increased food consumption. 1 × 3, 3 × 1, or (1 + 1) + 1 AO2 – 3 marks	3

04	5	**Explain how a large-scale agricultural scheme has both advantages and disadvantages.** **Use an example you have studied.**	6

Level	Marks	Description
3 (Detailed)	5–6	AO1 – Demonstrates detailed knowledge of the advantages and disadvantages of a large-scale agricultural development. AO2 – Shows thorough geographical understanding of the advantages and disadvantages of a large-scale agricultural development.
2 (Clear)	3–4	AO1 – Demonstrates clear knowledge of the advantages and disadvantages of a large-scale agricultural development. AO2 – Shows reasonable geographical understanding of the advantages and disadvantages of a large-scale agricultural development.
1 (Basic)	1–2	AO1 – Demonstrates limited knowledge of the advantages and disadvantages of a large-scale agricultural development. AO2 – Shows limited geographical understanding of the advantages and disadvantages of a large-scale agricultural development.
	0	No relevant content.

- **Level 3** responses will cover both advantages and disadvantages with at least one in detail and link these to the nature of the development named.

- **Level 2** responses will cover both advantages and disadvantages with at least one clearly with at least an implicit link to the nature of the development named.

- **Level 1** responses will cover advantages and/or disadvantages in a basic manner and merely assert the connection to the large-scale nature of the development.

- Max top Level 2 if development not named or cannot be inferred.

- Max top level 2 if small-scale agricultural scheme used.

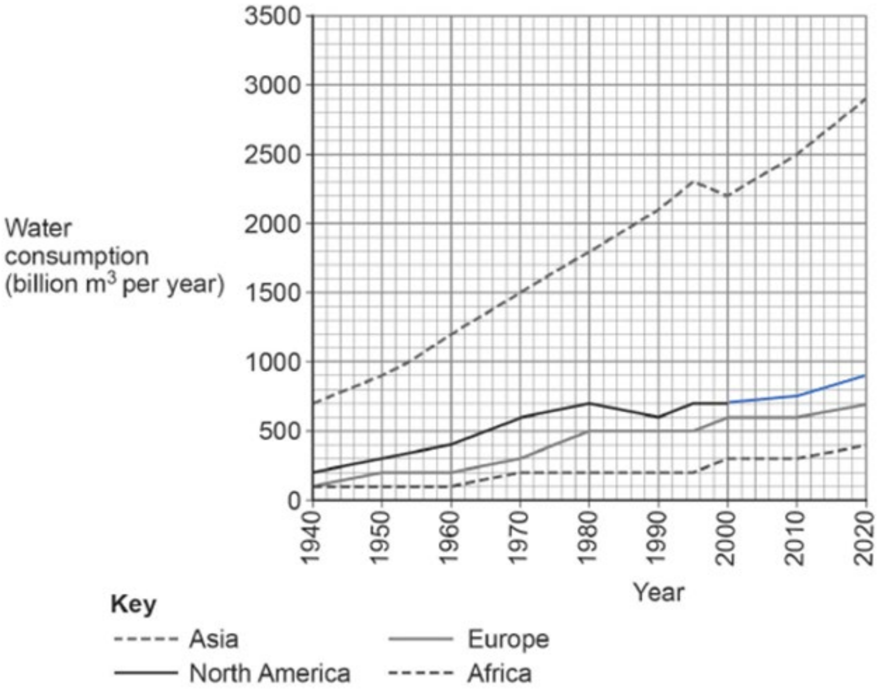
<u>Indicative content</u>

Clearly the exact content will vary according to the development chosen, but is likely to include:

Advantages
- Increased food production
- Increase in cash crops/export earnings
- Cheaper food
- Improved food security
- Job creation

Disadvantages

		• Fewer rural jobs • Profits made by large companies • Small scale farmers lose land/priced out • Increased water/pesticide/energy use • Plastic pollution • Visual pollution. AO1 – 3 marks AO2 – 3 marks	

Qu	Pt	Marking Guidance	Total marks
05	1	**Complete Figure 15 below using the following data for North America.** One mark for each correctly completed point then joined with a line. One mark if both points correctly plotted but no lines added.  AO4 – 2 marks	2
05	2	**Using Figure 15, what is the difference in water consumption between Europe and Africa in 2020?** One mark for the correct answer. 300 billion m^3 per year AO4 – 1 mark	1

05	3	**Using Figure 15, describe the trend for Asia 1940–2020.** Answers should make use of **Figure 15** through quoting dates and data in order to describe the trend. One mark for a basic statement, eg • Water consumption goes up / is greater. (1) • It increases from 700 (bn m^3 pa) to 2900 (bn m^3 pa). (1) • It went up, then slowed, then went up again. (1) Second mark may be a second separate point or developed point for further clarity eg • Water consumption goes up / is greater (1) rising from 700 (bn m^3 pa) to 2900 (bn m^3 pa) over the period. (d)(1) • It increases from 700 (bn m^3 pa) to 2900 (bn m^3 pa) (1) with slower growth 1990–2010. (d)(1) • It went up, then slowed, then went up again (1) with very slow increase 1990–2000 and rapid growth since then. (d)(1) No credit for explanation. AO4 – 2 marks	2

05	4	**Outline the link between increasing economic development and rising water consumption.** Credit any reasonable explanation or development of point eg Countries become wealthier due to economic development (1) so will consume more water. (1) This may be for water use in the home eg sanitation and washing as well as drinking water (1) water may also be used for leisure eg swimming pools. (1) Industrialisation is likely to be part of economic development and manufacturing industry uses a lot of water (1) increased agricultural production will also create more water use. (1) Wealthier countries will also increase energy production so water use will increase as it is needed for power generation. (1) Allow one mark for stating the link e.g. increased economic development leads to increased water consumption. 1 × 3, 3 × 1, or (1 + 1) + 1 AO2 – 3 marks	3

05	5	**Explain how a large-scale water transfer scheme has both advantages and disadvantages.** **Use an example you have studied.**	6

Level	Marks	Description
3 (Detailed)	5–6	AO1 – Demonstrates detailed knowledge of the advantages and disadvantages of a large-scale water transfer scheme. AO2 – Shows thorough geographical understanding of the advantages and disadvantages of a large scale water transfer scheme.
2 (Clear)	3–4	AO1 – Demonstrates clear knowledge of the advantages and disadvantages of a large-scale water transfer scheme. AO2 – Shows reasonable geographical understanding of the advantages and disadvantages of a large-scale water transfer scheme
1 (Basic)	1–2	AO1 – Demonstrates limited knowledge of the advantages and disadvantages of a large-scale water transfer scheme. AO2 – Shows limited geographical understanding of the advantages and disadvantages of a large-scale water transfer scheme.
	0	No relevant content.

- **Level 3** responses will cover both advantages and disadvantages with at least one in detail and link these to the nature of the development named.

- **Level 2** responses will cover both advantages and disadvantages with at least one clearly with at least an implicit link to the nature of the development named.

- **Level 1** responses will cover advantages and/or disadvantages in a basic manner and merely assert the connection to the large-scale nature of the development.

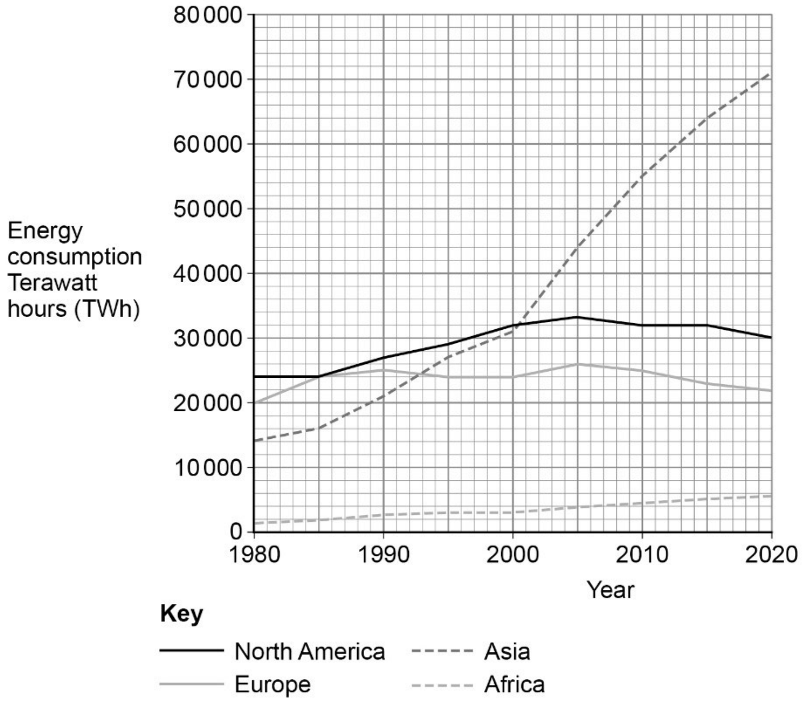
- Max top Level 2 if scheme not named or cannot be inferred.

- Max top level 2 if small-scale water scheme used.

<u>Indicative content</u>
Clearly the exact content will vary according to the development chosen, but is likely to include:

Advantages
- Increased access to water for agriculture and industry
- Increased domestic water availability
- Cheaper water
- Cleaner water – and consequent health implications
- Employment opportunities.

		Disadvantages • Economic costs of construction • Environmental consequences eg disturbance of habitats • May create conflict eg over water rights downstream • Disruption of communities. AO1 – 3 marks AO2 – 3 marks	

Qu	Pt	Marking Guidance	Total marks
06	1	**Complete Figure 16 below using the following data for North America.** One mark for each correctly completed point then joined with a line. One mark if both points correctly plotted but no lines added.  AO4 – 2 marks	2
06	2	**Using Figure 16, what is the difference in energy consumption between Europe and Africa in 2020?** One mark for the correct answer. 16 000 terawatt hours (TWh) Allow up to 16200 due to the way the graph has printed AO4 – 1 mark	1

06	3	**Using Figure 16, describe the trend for Asia 1980–2020.** Answers should make use of **Figure 16** through quoting dates and data in order to describe the trend. One mark for a basic statement, eg • Energy consumption goes up/is greater. (1) • It increases from 14 000 (TWh) to 71 000 (TWh). (1) • It went up steadily, then much quicker. (1) Second mark may be a second separate point or developed point for further clarity eg • Energy consumption goes up/is greater (1) rising from 14 000 (TWh) to 71 000 (TWh) over the period. (d)(1) • It increases from 14 000 (TWh) to 71 000 (TWh) (1) with a much faster rise from 2000. (d)(1) • It went up steadily, then much quicker (1) more than doubling in the last 20 years/since 2000. (d)(1) No credit for explanation. AO4 – 2 marks	2

06	4	**Outline the link between increasing economic development and rising energy consumption.** Credit any reasonable explanation or development of point e.g. Countries become wealthier due to economic development (1) so will consume more energy. (1) This may be for energy use in the home eg fridges and televisions (1) energy may also be used for leisure eg theme parks. (1) Industrialisation is likely to be part of economic development and manufacturing industry uses a lot of energy. (1) Increased manufacturing production will also create more products which will themselves use energy. (1) With wealth comes technological advances which will increase energy consuming infrastructure (1) and also more widespread use of computers and mobile phones which will need more energy to power them. (1) Allow one mark for stating the link e.g. increased economic development leads to increased energy consumption. 1 × 3, 3 × 1, or (1 + 1) + 1 AO2 – 3 marks	3

<table>
<tr>
<td>06</td>
<td>5</td>
<td>
<b>Explain how the extraction of a fossil fuel has both advantages and disadvantages.
Use an example you have studied.</b>
<table>
<tr><th>Level</th><th>Marks</th><th>Description</th></tr>
<tr><td>3 (Detailed)</td><td>5–6</td><td>AO1 – Demonstrates detailed knowledge of the advantages and disadvantages of fossil fuel extraction.
AO2 – Shows thorough geographical understanding of the advantages and disadvantages of fossil fuel extraction.</td></tr>
<tr><td>2 (Clear)</td><td>3–4</td><td>AO1 – Demonstrates clear knowledge of the advantages and disadvantages of fossil fuel extraction.
AO2 – Shows reasonable geographical understanding of the advantages and disadvantages of fossil fuel extraction.</td></tr>
<tr><td>1 (Basic)</td><td>1–2</td><td>AO1 – Demonstrates limited knowledge of the advantages and disadvantages of fossil fuel extraction.
AO2 – Shows limited geographical understanding of the advantages and disadvantages of fossil fuel extraction.</td></tr>
<tr><td></td><td>0</td><td>No relevant content.</td></tr>
</table>
<ul>
<li><b>Level 3</b> responses will cover both advantages and disadvantages of a named fossil fuel with at least one in detail.</li>
<li><b>Level 2</b> responses will cover both advantages and disadvantages with at least one clear, this may be for generic fossil fuels.</li>
<li><b>Level 1</b> responses will cover advantages and/or disadvantages in a basic manner without stating the fossil fuel concerned.</li>
<li>Max top Level 2 if fossil fuel not named or cannot be inferred.</li>
<li>Max top level 2 if local renewable used.</li>
</ul>
<u>Indicative content</u>
Clearly the exact content will vary according to the fossil fuel chosen, but is likely to include:

<b>Advantages</b>
<ul>
<li>Employment opportunities</li>
<li>Increased energy security (at least in the short term)</li>
<li>Development of local infrastructure</li>
<li>Provide energy for new industries</li>
<li>Export opportunities</li>
</ul>
<b>Disadvantages</b>
<ul>
<li>Disruption of local communities</li>
<li>May affect other industries eg tourism, agriculture</li>
<li>Water contamination</li>
<li>Habitat destruction</li>
<li>Land contamination</li>
<li>Increased traffic.</li>
</ul>
AO1 – 3 marks
AO2 – 3 marks
</td>
<td>6</td>
</tr>
</table>