



Mark Scheme (Results)

Summer 2025

Pearson Edexcel GCSE
In Geography A (1GA0) Paper 2

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- 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.

Question 1 – Changing Cities

Question number	Indicative Content Identify the correct definition for the term de-centralisation.	Mark
1(a)	B shift of economic activity away from the Central Business District <u>Incorrect responses:</u> Options A, C and D are not correct as these statements do not define 'decentralisation'.	(1)

Question number	Indicative Content Complete Figure 1a by plotting the data in the table below.	Mark																								
1(b) (i)	One mark for correctly plotting the data. Percentage (%) of the world's urban population <table><thead><tr><th>Region</th><th>Black Bar (%)</th><th>White Bar (%)</th><th>Grey Bar (%)</th></tr></thead><tbody><tr><td>Africa</td><td>6</td><td>12</td><td>20</td></tr><tr><td>Asia</td><td>31</td><td>53</td><td>54</td></tr><tr><td>Europe</td><td>38</td><td>14</td><td>9</td></tr><tr><td>America (North and South)</td><td>24</td><td>20</td><td>16</td></tr><tr><td>Oceania</td><td>1</td><td>1</td><td>1</td></tr></tbody></table>	Region	Black Bar (%)	White Bar (%)	Grey Bar (%)	Africa	6	12	20	Asia	31	53	54	Europe	38	14	9	America (North and South)	24	20	16	Oceania	1	1	1	(1)
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Oceania	1	1	1																							

Question number	Indicative Content Identify the area with the largest decrease in percentage between 1950 and 2015.	Mark
1(b) (ii)	C Europe <u>Incorrect responses:</u> Option A had an increase, option C had a smaller decrease and option D stayed the same.	(1)

Question number	Indicative Content Calculate the range of the 2050 (predicted) percentage distribution shown in Figure 1a.	Mark
1(b) (iii)	53 (Fifty-three)	(1)

Question number	Indicative Content Compare the trend for Asia with the trend for America (North and South). You must use data from Figure 1a in your answer.	Mark
1(b) (iv)	Award 1 mark for each comparative statement, reserving 1 mark for data from Asia <u>and</u> America, to support a comparative statement. NB: No credit for comparing a specific year, as this is not the 'trend'. Asia has always had a higher percentage compared with North and South America (1) Asia had an increase in percentage between 1950 and 2015, whereas North and South America had a decrease (1). Asia had a greater change in percentage between 1950 and 2015 compared with North and South America (1) with a 23% increase compared to an 8% decrease in N/S America (1). North and South America has a greater predicted change between 2015 and 2050 (1). Accept any other appropriate response	(3)

Question number	Indicative Content State two reasons for migration to cities in developing/emerging countries.	Mark
1(c)(i)	Award 1 mark for any of the following reasons (push or pull factors) for migration to cities in developing / emerging countries: <u>Pull factors include:</u> Better jobs (in cities) (1) Better healthcare (in cities) (1) Better education (in cities) (1) To join other family members (in the city) (1) <u>Push factors include:</u> Fleeing war/persecution in other countries (1) Drought / natural disasters in the countryside (1) Lack of proper housing in rural areas (1) Lack of clean water supplies in the countryside (1) Do not accept just 'jobs', 'education', 'war', 'better quality of life' or mirrored responses. Accept any other appropriate response	(2)

Question number	Indicative Content Explain two reasons why the rate of natural population increase is high in many cities in developing/emerging countries.	Mark
1(c)(ii)	Award 1 mark for identifying a reason for a high rate of natural increase (linked to a falling death rate/infant mortality) or (rising life expectancy/rising birth rate), and 1 mark for further explanation. Birth rates are high / increasing (1) due to an increasing large proportion of young adults / lack of contraception / ongoing lack of education around family planning / government policy to promote the birth rate (1). Better healthcare (1) due to more investment into hospitals by the government (1). People are living longer (1) due to better healthcare (1). Death/infant mortality rates are falling/low (1) due to better understanding about hygiene / sanitation / improved access to clean drinking water / better diets (1). Accept any other appropriate response	(4)

Question number	Indicative Content Study Figure 1b in the Resource Booklet. Suggest one way transport strategies can make urban living more sustainable. You must use evidence from Figure 1b in your answer.	Mark
1(d)	Award 1 mark for identifying a transport strategy shown on Figure 1b, and a further 1 mark for explanation about why this could make urban living more sustainable, up to a maximum of 3 marks. Car sharing schemes / 2+ lanes (1) will mean that residents will not be driving their own car as much (1) which means that they will save money on fuel (1). Development of ULEZs / (ultra) low emission zones (1) will reduce the number of vehicles on the road / reduce the (air) pollution (1) which will reduce the number of accidents / cases of respiratory illnesses (1). Congestion charges (1) which means motorists are going to be deterred from driving into the CBD (1) add additional funds are raised for further strategies to improve urban living (1). Max 2 marks if no evidence from Figure 1b. Accept any other appropriate response.	(3)

Question number	Indicative Content Identify the distance from the affordable housing development in 054811 to the school building in 066814.	Mark
1(e) (i)	B 1.2km <u>Incorrect responses:</u> Options A, C and D are incorrect as the distance on the map	(1)

Question number	Indicative Content Identify the number of railway stations in Figure 1c.	Mark
1(e) (ii)	3 (three)	(1)

Question number	Indicative Content The housing development will be close to schools and railway stations. Suggest one other reason why this is a good location for the development. You must use evidence from Figure 1c in your answer.	Mark
1(e) (iii)	Award 1 mark for a reason why 054811 is a good location for a new housing development (must be clear on the OS map extract), and a further 1 mark for explanation. The land appears to be quite flat (1) which means that it will be easy to build new houses on (1). The location is near to a (main) road (1) which will provide good access to central Birmingham/shops (1). There are green spaces / a Nature Centre nearby (1) which will attract residents to the area (1). There is a hospital nearby (1) which would be a short distance to travel to work for employees living in the new houses (1). Near to Cadbury World / university (1) which could be a major employer for many of the new residents (1). Do not credit 'near schools', 'near railway stations', 'motorway' or 'near CBD'. Do not credit 'good access' without identifying 'near to a main road'. Accept any other appropriate response.	(2)

Question number	Indicative Content State two facts about the location of this city.	Mark
1(f)(i)	Award 1 mark for each fact about the named city's location. Depends on named city; examples might include: Site facts, linked to a city's physical location e.g., Mexico City is located on an area of flat land / a plateau (1). Facts about the city's geographical situation (proximity to other human and physical features) e.g., Rio de Janeiro is in proximity to the Atlantic Ocean (1). Facts linked to the regional / national / global context e.g., Mumbai is located on the western coast of India (1). Do not credit information about a UK city or a named country. Accept any other appropriate response	(2)

Question number	Indicative Content Evaluate the view that the rapid growth of this city has created more problems than benefits.
1(f) (ii)	AO2 (4 marks)/AO3 (4 marks) AO2 The rapid growth (in terms of population and geographical size) of many cities in developing / emerging countries has led to problems such as: • Water shortages and increased instances of disease as a result from residents drinking dirty water; over-extraction of water supplies - and growing issues linked to the pollution / declining quality of existing supplies. • Housing shortages and the growth of squatter settlements (low-quality housing). It is often difficult for the government to provide sufficient housing, services, and healthcare for the growing population. • Shortage of basic infrastructure in many parts of the city, such as electricity, clean running water and sewage/rubbish disposal. • Increased division between 'rich' and 'poor', increasing social tension (and crime) within the city. • Growth in informal employment and unemployment due to job shortages. • Increased challenges linked to air pollution, waste pollution and disposal. The rapid growth can also lead to benefits such as: • The increase in population in urban areas creates a skilled workforce that attracts transnational corporations creating more jobs. • An increase in well-paid jobs / greater variety of jobs can increase the wealth of the city. • Initial economic growth due to greater (public and private) investment in the city can trigger the multiplier effect - and creates other jobs for less skilled people. • The increase in population creates an increased demand for consumer products which can lead to an increase in retailing revenue (profits) / additional opportunities for local employment. • The increase in wealth is used to develop both secondary and university education, further increasing the skills base of the urban area. • Improved provision of education can help develop new high-tech companies in the city/country. • The increase in wealth is used to develop sanitation within the city reducing water-borne diseases and so reducing infant mortality rates.

Question number	Indicative Content Evaluate the view that the rapid growth of this city has created more problems than benefits.
	AO3 Evaluation will depend on the specific case study, but may include: • Evaluative comments regarding the benefits and problems of rapid urban growth; for example, rapid urban growth might only bring marked increased in the wealth of a small proportion of the city's inhabitants, whilst a significant proportion still live in poverty. • Evaluative comments regarding the social, economic, and environmental impacts of rapid growth e.g., the pursuit of economic development at the expense of the environment. • Evaluation might suggest that the decision-makers (on a local, national, and international scale) are responsible to the extent to which the problems caused by rapid growth are successfully managed. • Judgement about which whether the benefits or rapid growth outweigh the problems - or vice versa. • Judgement about the extent to which rapid growth has increased or decreased inequality in the chosen city.

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–3	• Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3)
Level 2	4–6	• Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)
Level 3	7–8	• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3)

Question 2 – Global Development

Question number	Indicative Content Identify one economic activity in the quaternary sector.	Mark
2(a)	A developing new computer software <u>Incorrect responses:</u> Options B (secondary), C (primary) and D (tertiary) are incorrect as they are activities in a different sector.	(1)

Question number	Indicative Content Describe one index used to measure political corruption.	Mark
2(b)	Award 1 mark for naming an index of political corruption and a further 1 mark for further description of the named index. The Corruption Perceptions Index (CPI) (1) based upon surveys of the country's population / ranks countries in order of perceived corruption (1). Bribe Payers Index (BPI) (1) is a measure of how willing a nation's multi/trans-national corporations appear to engage in corrupt business practices (1). Accept any other appropriate response	(2)

Question number	Indicative Content Calculate the median value for GDP per capita shown in Figure 2a.	Mark
2(c)(i)	15,356	(1)

Question number	Indicative Content Suggest two ways that physical factors might have contributed towards Uganda's GDP per capita shown in Figure 2a.	Mark
2(c)(ii)	Award 1 mark for a physical factor, and a further 1 mark for explanation why this may have led to Uganda having a low GDP per capita. Shortages of flat land (1) restrict the development of industry (1). A lack of fertile soil/arid climate (1) reduces the amount of crops grown (1). Likelihood / vulnerability of natural hazards (1) means that more money is spent on re-building / hazard prevention programmes (1). Some countries are land-locked / limited water courses (1) which will make it harder to trade with other countries (1). Few raw materials underground (1) increasing the need to import them / meaning that less income can be made from exporting them (1). Geographically isolated (1) barrier to trade / discourages FDI (1). Suffer from drought (1) so farmers' income drops / country's food exports decline (1). Accept any other appropriate response	(4)

Question number	Indicative Content Identify one advantage of the project shown in Figure 2b.	Mark
2(d) (i)	D uses local materials (1) <u>Incorrect responses:</u> Options A, B and C are incorrect as they do not appear in Figure 2b.	(1)

Question number	Indicative Content Cambodia has a population of 17 million people. Calculate the percentage of Cambodia's population that have been provided with clean water by this project since 2006. Write your answer to two decimal places.	Mark
2(d) (ii)	Correct answer = 0.88 (2) 2 marks can be awarded for the correct answer, without any working out shown. Award 1 mark for correct working even if the incorrect answer is shown, e.g. $100 / 17,000,000 \times 150,000$ (1) OR $150,000 / 17,000,000 \times 100$ (1)	(2)

Question number	Indicative Content Suggest one way this project has improved quality of life.	Mark
2(d) (iii)	Award 1 mark for identifying one impact, and a further 1 mark for further explanation about why this can help the local community, up to 3 marks. There are more water filters available to the local community (1) which means that people are going to be able to drink clean drinking water (1) which will reduce the risk of illness (1). Local materials are used (1) which means that the cost of making / installing the filters will be less than importing materials (1) which means that more water filters can be made (1). Hygiene education is being delivered (1) which means that people are more aware of the risks associated with poor hygiene / drinking dirty water (1) which means that people have a greater chance of staying healthy (1). Greater supply of clean drinking water / latrines (toilets) (1) which means that children can attend school more regularly (1) which will improve their chances of getting qualifications / developing skills needed for employment (1). Accept any other appropriate response	(3)

Question number	Indicative Content State one possible limitation of the project shown in Figure 2b.	Mark
2(d) (iv)	Award 1 mark for any of the following: Only a small proportion of people in Cambodia are involved / smallscale (1). Local community might not have the funds to repair the water filters if the break (1). Provision of safer drinking water is concentrated to small areas (1). Local materials might run out / might be of poor quality (1). Accept any other appropriate response.	(1)

Question number	Indicative Content Explain two ways transnational corporations (TNCs) can raise the level of development in a country.	Mark
2(e)	Award 1 mark for identifying an advantage of private investment, and further 1 mark for explanation, up to a maximum of 2 marks each. Transnational corporations have invested in areas of the country (1) which has created job opportunities for local people / / local people receive a guaranteed / steady income (1). TNCs have invested in improving a country's internet connectivity (1) which in turn will attract more FDI / allows the local population to develop their own businesses (1). TNCs offered education and training to employees (1) which means that they can command higher-skilled / higher paying jobs in the future (1). New job opportunities for the local population (1) can lead to the multiplier effect (1). TNCs pay tax to the government (1) which can be spent on new development projects (1). TNC's provide modern technology (1) which can increase manufacturing productivity / output / revenue (1). TNC's provide trade links with other countries (1) which can increase a country's earnings / profits by way of exports (1). Accept any other appropriate response	(4)

Question number	Indicative Content Identify one country with a decrease in life expectancy.	Mark
2(f) (i)	C Namibia <u>Incorrect responses:</u> Options A, B and D are incorrect as these countries have had an increase in life expectancy.	(1)

Question number	Indicative Content Calculate the percentage increase in Egypt's life expectancy between 1990 and 2023. Write your answer to the nearest whole number. You must show your working in the space below.	Mark
2(f) (ii)	Correct answer = 10 (2) 2 marks can be awarded for the correct answer, without any working out shown. Award 1 mark for correct working even if the incorrect answer is shown, e.g. $70.8 \text{ (new value)} - 64.1 \text{ (initial value)} / 64.1 \text{ (initial value)} \times 100 \text{ (1)}$	(2)

Question number	Indicative Content You have studied the uneven development within a named developing/emerging country. Assess the importance of the different reasons that have led to the growth of a 'core' region and less developed regions on the 'periphery'.
2(g)	AO2 (4 marks)/AO3 (4 marks) AO2 The rapid growth of more developed 'core' areas, and less developed areas on the 'periphery' has taken place due to several reasons: • Range and type of employment opportunities: low paid jobs / few jobs available are often found in the periphery (often in the primary sector) due to a lack of investment by the government / TNCs. Core areas have seen the development of a growing proportion of employment opportunities in the tertiary/quaternary sectors. • Periphery regions may have poor soils and harsher climates which makes it difficult to grow cash crops. • Periphery regions may be a long way from core regions which will discourage investment as additional infrastructure (e.g., transport / communication networks need to be in place.

	• The infrastructure may be much more developed in core areas which will make trading easier – and the area more attractive to potential investors. • There might be a lower (working) population in peripheral areas due to poor healthcare / out-migration ('brain drain'). • Education systems might not be very well developed which means the work force might be lacking skills / qualifications. • Peripheral regions might be more prone to natural hazards which limit economic growth. AO3 Assessment of the different human vs physical factors that have • contributed toward an unevenness of development within the chosen country. • Assessment of how factors are linked and interdependent; for example, a lack of raw materials or energy resources (physical) may deter FDI / limit industrialisation (human). • Assessment of the influence of some factors on others; for example, a lack of job opportunities could lead to a section of the community moving away to other parts of the country - which could trigger a negative multiplier effect. • Judgement made about whether historical causes (e.g., those associated with wars or colonialism) are more significant than physical, social and/or economic causes of uneven development within the country. • Judgement about which factor(s) has been most important / significant with regards to the development of 'core' and 'peripheral' areas within the chosen country.
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Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–3	• Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements that are supported by limited evidence. (AO3)
Level 2	4–6	• Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding, but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)

Level 3	7–8	• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently leading to judgements that are supported by evidence throughout. (AO3)
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Marks for SPGST		
Performance	Marks	Descriptor
SPGST 0	0	<i>No marks awarded</i> • Learners write nothing. • Learners response does not relate to the question. • Learners achievement in SPaG does not reach the threshold performance level, for example errors in spelling, punctuation and grammar severely hinder meaning.
SPGST 1	1	<i>Threshold performance</i> • Learners spell and punctuate with reasonable accuracy. • 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.
SPGST 2	2–3	<i>Intermediate performance</i> • 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.
SPGST 3	4	<i>High performance</i> • 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.

Question 3 – Resource Management

Question number	Indicative Content Identify the country with the lowest annual meat consumption.	Mark
3(a) (i)	A Albania <u>Incorrect responses:</u> Options B, C and D are incorrect as all of these countries have a higher meat consumption category.	(1)

Question number	Indicative Content Identify the number of countries with an annual meat consumption of 86–100 kg per capita.	Mark
3(a) (ii)	4 (four)	(1)

Question number	Indicative Content Calculate the percentage of the 12 countries labelled on Figure 3 that have a meat consumption of 76–85 kg per capita. You must show your working in the space below.	Mark
3(a) (iii)	Correct answer = 25 (2) 2 marks can be awarded for the correct answer, without any working out shown. Award 1 mark for correct working even if the incorrect answer is shown, e.g. 3 / 12 x 100 (1) OR 100 / 12 x 3 (1)	(2)

Question number	Indicative Content Describe one limitation of just using Figure 3 to investigate European meat consumption.	Mark
3(a) (iv)	Award 1 mark for an initial limitation about just using Figure 3, and 1 mark for further description. Countries with a similar meat consumption are placed in the same category (1) which means that we do not have exact data for each country / (1). The entire country is placed in one category (1) which means that variations within a country are not clear / quite a narrow/over-simplified view is portrayed (1). Not all of the countries are labelled / are greyed out (1) which means that we cannot compare every country with each other (1). The data is from 2018 / several years old (1) which means that trends in meat consumption before or since 2018 are not shown (1). Accept any other appropriate response	(2)

Question number	Indicative Content Identify one fossil fuel.	Mark
3(b)	A coal <u>Incorrect responses:</u> Options B, C and D are incorrect as they are not fossil fuels.	(1)

Question number	Indicative Content Explain one cause of soil erosion.	Mark
3(c)	Award 1 mark for identifying a cause of soil erosion – either a physical or human action/process (1), and 1 mark for further explanation (1), up to a maximum of 3 marks. The removal of trees in the area / deforestation (1) will reduce interception (1) which means that the amount of surface run-off is going to be high (1). Overgrazing by the cattle (1) which then leaves the soil exposed (1) so it is more easily washed away when it rains (1). When trees / hedgerows are cut down (1) root systems that bind the soil together are also removed (1) which means that it is more easily blown / washed away (1). Increased deforestation (1) due to rising demand for meat (1) as populations grow / become more affluent (1). Heavy rainfall / period of sustained rainfall (1) washes soil down steep gradients (1) due to gravity (1). Acid rain (1) can weaken soil structure (1) which mean that is more easily washed/blown away (1). Do not accept '(over)farming' as a cause, unless further details of farming activity are provided. Accept any other appropriate response.	(3)

Question 4 – Energy Resource Management

Question number	Indicative Content Using Figure 4a, identify the mean percentage of electricity produced from renewables in Poland, 2005–2020.	Mark
4(a) (i)	C 10.3% <u>Incorrect responses:</u> Options A (2010), B (mean 1990-2022), and D (Bulgaria 2000-2015) are incorrect.	(1)

Question number	Indicative Content Suggest one reason for the trend, from 1990 to 2022, in Poland's production of electricity from renewables. You must use evidence from Figure 4a in your answer.	Mark
4(a) (ii)	Award 1 mark for a identifying the overall trend from 1990 to 2022, one further mark for a possible reason why more electricity has been produced from renewables, plus 1 mark for further explanation. There has been an increase (1) because there has been investment into renewable technology / energy resources / technology to use renewable energy has developed over time (1) which means that the country has greater capacity to develop wind/solar/HEP (1) It has been an upward trend (1) (1) possibly because Government policy has changed / become more supportive of developing renewable energy resources (1) which means that greater funds / incentives are attached to renewables (1). It has gone up (1) due to the public being more aware of the causes of climate change / disadvantages of non-renewables (1) which means that the demand for greater use of renewables has increased (1). The government has offered incentives/loans/grants to install/develop renewable energy sources (1) which means that carbon emissions will be reduced (1) which has caused the production from renewables to increase (1). Non-renewable energy resources are running out / becoming more expensive (1) so more electricity is being produced by renewable sources (1) as they are more sustainable / cheaper (1). Accept any other appropriate response	(3)

Question number	Indicative Content Identify the year with the largest difference in the percentage of electricity from renewables between Poland and Bulgaria.	Mark
4(a) (iii)	C 2005 <u>Incorrect responses:</u> Options A, B and D are incorrect as they have a smaller difference.	(1)

Question number	Indicative Content The percentage of electricity from renewables in Poland was predicted to change between 2022 and 2030. Four lines (A, B, C and D) have been drawn on Figure 4b to show possible future predictions. Which one of these lines is the best prediction, based upon the past trend?	Mark
4(a) (iv)	B	(1)

Question number	Indicative Content Describe the past trend in the percentage of electricity from renewables in Bulgaria shown in Figure 4b. You must use data to support your answer.	Mark
4(a) (v)	Award 1 mark for each descriptive point about Bulgaria's trend, up to a maximum of 3 marks. Max. 2 marks if no data used. Allow 1 mark for the use of data to support a descriptive point, either the overall change or data from both years. Overall, it has increased between 1990 and 2022 (1), by 14.8 % (1) / from 4.0% to 18.8% (1). The largest increase in a 5-year period was between 2010 and 2015 (1) by 5.6% (1). Between 2015 and 2020, the rate of increase slowed down (1) There was a no change / very little change / slight decrease between 2020 and 2022 (1) There was a slower rate of increase between 1990 and 2000 (1). Accept any other appropriate response	(3)

Question number	Indicative Content Explain one reason why some countries have a limited energy mix.	Mark
4(b)	Award 1 mark for a reason why some countries have a limited energy mix, plus 1 mark for further explanation. The country is developing / does not have the funds or resources to have a broad energy mix (1) which means that it only develops energy resources that they can afford (1). Some countries have a small population (1) which means that all the energy needs might be met with a small range of resources (1). The country may not be able to import energy resources (1) due to conflict with another country / which means that its energy mix is going to be limited if it lacks natural energy resources in the country (1). There might be an abundant supply of a certain type of energy resource (1) which means that the country will be provided with a reliable / easily exploited supply for their energy production (1). Only one or two types of an energy resource occur naturally in a country (1) and if they cannot afford to import / develop any others, the energy mix will be limited (1). Accept any other appropriate response.	(2)

Question number	Indicative Content Define the term fracking.	Mark
4(c)	Obtaining gas/oil from shale/rocks/the ground (1). Accept any other appropriate response.	(1)

Question number	Indicative content You have studied energy resource management in a named developed country. Evaluate how successful this country has been in managing its energy resources in a sustainable way.
4 (d)	AO2 (4 marks) / AO3 (4 marks) AO2 • Sustainable management is the ability to continue to use energy resources without causing damage to the environment and compromising the needs of future generations. • Due to pressures from population growth, rising affluence / economic development, fears about energy security and climate change, countries are increasingly trying to manage their energy resources in a sustainable way. • This increasing demand is putting a greater strain on existing energy resources, in particular non-renewable resources such as coal, oil and gas; these resources are eventually going to run out and are therefore not a longterm solution. • In many developed countries, government policies and concerns about the negative environmental impact of non-renewable energy resources has led to a movement towards the increasing use of renewable energy resources. More environmentally-friendly / sustainable options such as wind, solar and HEP are being developed; these renewables do not emit CO₂ as no fossil is burnt – therefore not adding to the greenhouse effect / global warming. • Developed countries are now developing renewable energy resources as part of their energy mix – and the type and extent of usage is influenced by wealth/funding, government policy, availability of resources, the population size of the country (and gap between supply and demand), technology/infrastructure limitations and the existing energy mix. • With regards to ways energy resources are being managed, it is important to be aware that whilst renewables have many advantages, they do have disadvantages, such as the expense of set-up costs and reliability of supply in areas with inconsistent sun/wind/water supply. • Different groups of people have different views on the management and sustainable use of energy resources; these views are often complex and contradictory. AO3 Evaluation will depend on the specific case study, but may include: • Evaluative comments regarding the advantages and disadvantages of the energy resources (renewable and/or non-renewable) that have been developed and are being developed in the chosen country. • Evaluative comments regarding the social, economic, and environmental impacts of different energy resources within the context of 'sustainability'. • Evaluation might consider the role of different stakeholders (on a local, national, and international scale) - and the influence and impact they have on the extent to which management is sustainable. • Judgement about the extent to which the chosen country has/is successfully managing its energy resources.

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–3	- Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) - Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)
Level 2	4–6	- Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) - Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)
Level 3	7–8	- Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) - Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)

Question 5 – Water Resource Management

Question number	Indicative Content Using Figure 5a, identify the mean amount of fresh water consumption in Mexico, 2000–2015.	Mark
5(a) (i)	C 77.5 billion m³/year <u>Incorrect responses:</u> Options A (2010), B (mean 1990-2019), and D (Japan 2000-2015) are incorrect.	(1)

Question number	Indicative Content Suggest one reason for the trend, from 1990 to 2019, in Mexico's total fresh water consumption. You must use evidence from Figure 5a in your answer.	Mark
5(a) (ii)	Award 1 mark for a identifying the trend from 1990 to 2019, one further mark for a possible reason why more freshwater has been consumed, plus 1 mark for further explanation. The amount has increased (1) because there has been investment into new technology (1) which means that the country has (greater) capacity to extract fresh water (1). It has gone up (1) as Government policy has changed / become more supportive of developing water resources (1) which means that greater funds / incentives are attached to new schemes (1). Total water consumption has shown an upward trend (1) as there has been industrial / agricultural development in Mexico (1) which means that the demand for water resources has increased (1). The population in Mexico has gone up (1) which means that demand for domestic water supply has also increased (1) which means that the country's overall total freshwater consumption has risen (1). The country has become more developed (1) so more freshwater is being used (1) because the government / TNCs can invest more into developing water resources (1). Accept any other appropriate response	(3)

Question number	Indicative Content Identify the year with the largest difference in the consumption of freshwater between Mexico and Japan.	Mark
5(a) (iii)	A 1990 <u>Incorrect responses:</u> Options B, C and D are incorrect as they have a smaller difference	(1)

Question number	Indicative Content The amount of fresh water consumption in Mexico was predicted to change between 2019 and 2030. Four lines (A, B, C and D) have been drawn on Figure 5b to show possible future predictions. Which one of these lines is the best prediction, based upon the past trend?	Mark
5(a) (iv)	B	(1)

Question number	Indicative Content Describe the past trend in the amount of fresh water consumption in Japan shown in Figure 5b. You must use data to support your answer.	Mark
5(a) (v)	Award 1 mark for each descriptive point about Japan's trend, up to a maximum of 3 marks. Max. 2 marks if no data used. Allow 1 mark for the use of data to support a descriptive point, either the overall change or data from both years. Overall, it has decreased between 1990 and 2019 (1), by 12 billion m³/year / from 91 billion m³/year to 79 billion m³/year (1). The largest decrease in a 5-year period was between 2000 and 2005 (1) by 7 billion m³/year (1). Between 1995 and 2000 (anomaly), consumption went up slightly (1). The decline has been constant between 2010 and 2019 (1). Accept any other appropriate response	(3)

Question number	Indicative Content Explain one reason why the UK has water supply problems.	Mark
5(b)	Award 1 mark for a reason why the UK has water supply problems, plus 1 mark for further explanation. Rainfall is imbalanced (spatially) across the UK (1) which means that water needs to be transferred from areas of high rainfall to areas of high population (1). The highest population density lives in South-east England (1) which is the driest part of the UK (1). Rainfall varies seasonally / longer and more frequent droughts in some areas in summer (1) which means that the total rainfall at some times of the year is not enough to meet demand (1). The UK receives most of its rainfall in the winter (1) but the highest demand for water is experienced in the summer (1). The UK has an ageing infrastructure (which is prone to leakages) (1) which means that a proportion of the fresh water supply is lost (1). The UK population is rising (1) causing demand for fresh water to also rise (1). Water supply can be negatively affected by pollution (1) when untreated sewage / fertilizer runs off into water courses (1). Accept any other appropriate response.	(2)

Question number	Indicative Content Define the term desalination.	Mark
5(c)	The process of removing salt from (sea) water (1). Accept any other appropriate response.	(1)

Question number	Indicative content You have studied water resource management in a named developing/emerging country. Evaluate how successful this country has been in managing its water resources in a sustainable way.
5 (d)	A02 (4 marks) / A03 (4 marks) A02 • Sustainable management is the ability to continue to use water resources without causing damage to the environment and compromising the needs of future generations. • Due to pressures from population growth, rising affluence / economic development in developing/emerging countries, growing urbanisation, fears about water security and climate change, countries are increasingly trying to manage their water resources in a sustainable way. • This increasing demand is putting a greater strain on existing water resources, in, which is further exacerbated through industrial and agricultural practices that can damage water quality and supplies through pollution, disposal of waste and over-abstraction. • In many developing / emerging countries, there are government policies linked to, and concerns about water security, and the growing importance of sustaining a reliable supply of fresh water to meet the need of different stakeholders; this has led to conflict between and within some countries; for example, the construction of dams can be an effective way of controlling water supplies - but it can also have negative impacts further downstream. • Developing / emerging countries are now developing and using improved technology to manage water resources to ensure water security: the construction of dams and reservoirs and large-scale water transfer schemes are increasingly being used to tackle water supply problems. • Water resource management is not just about supplying fresh water to homes, factories/industry, and farms; it is also about managing water courses so that habitats can thrive, and the population can enjoy them as part of their recreational activities. • Different groups of people have different views on the management and sustainable use of water resources; these views are often complex and contradictory. A03 Evaluation will depend on the specific case study, but may include: • Evaluative comments regarding the advantages and disadvantages of different approaches to water management that have been developed and are being developed in the chosen country. • Evaluative comments regarding the social, economic, and environmental impacts of different methods of managing water resources within the context of 'sustainability'. • Evaluation might consider the role of different stakeholders (on a local, national, and international scale) - and the influence and impact they have on the extent to which management is sustainable. • Judgement about the extent to which the chosen country has/is successfully managing its water resources.

Level	Mark	Descriptor
	0	No acceptable response.
Level 1	1–3	• Demonstrates isolated elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Attempts to apply understanding to deconstruct information but understanding and connections are flawed. An unbalanced or incomplete argument that provides limited synthesis of understanding. Judgements are supported by limited evidence. (AO3)
Level 2	4–6	• Demonstrates elements of understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide some logical connections between concepts. An imbalanced argument that synthesises mostly relevant understanding but not entirely coherently, leading to judgements that are supported by evidence occasionally. (AO3)
Level 3	7–8	• Demonstrates accurate understanding of concepts and the interrelationship of places, environments and processes. (AO2) • Applies understanding to deconstruct information and provide logical connections between concepts throughout. A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3)

