# Mark Scheme (Results)

## November 2021

### Pearson Edexcel GCSE B in Geography (1GB0)

### Paper 01 - Global Geographical Issues

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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 number | Answer | Marks |
|---|---|---|
| 1a (i) | A 2015.<br><br>All other answers are incorrect.<br><br>B Is incorrect. In 2000 the ppm concentration is at 370ppm<br><br>C is incorrect. In 1995 the ppm concentration is at 360 ppm.<br><br>D is incorrect. In 1990 the ppm concentration is at 355ppm. | 1 |
| 1a (ii) | Allow 1 mark for an answer in the range of 93-97 ppm.<br><br>In 1960 the ppm concentration is 316 ppm. In 2020 the ppm concentration is 411 pm. The increase is 95 ppm. | 1 |
| 1a (iii) | Allow 1 mark for identifying a human activity which causes the enhanced greenhouse effect up to a maximum of 2 marks.<br><br>● Burning fossil fuels (1).<br><br>● Industrial processes (1).<br><br>● Deforestation (1).<br><br>● Emissions from motor vehicles (1).<br><br>● Rice farming (1).<br><br>● Driving cars (1)<br><br>● Using CFC's (1).<br><br>● Breeding cattle (1).<br><br>● Changing land use from forests to agriculture (1).<br><br>**Accept any other appropriate response.** | 2 |

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| 1b | Award one mark for identifying a piece of evidence which suggests human activity is causing climate change and a further mark for explanation of that point up to a maximum of two marks.<br><br>● Sea levels are rising (1) as a result of melting ice caps (1).<br><br>● Sea levels are rising (1) as a result of warming oceans (1).<br><br>● Arctic ice sheets are decreasing in area (1) as a result of rising temperatures (1).<br><br>● Glaciers are decreasing in size (1) as a result of increased summer melt (1)<br><br>● Extreme weather events are becoming more frequent (1) as a result of rising temperatures (1).<br><br>● Global temperatures are rising (1) with the warmest years recorded being in recent years (1).<br><br>● Droughts are becoming increasingly common (1) as a result of changing weather patterns (1).<br><br>● Plants are flowering earlier than previously recorded (1) due to rising temperatures (1).<br><br>● Concentrations of carbon dioxide are increasing (1) leading to the enhanced greenhouse effect (1).<br><br>**Accept any other appropriate response.** | 2 |
| 1c(i) | B. All other answers are incorrect.<br><br>A June – Oct is when tropical cyclones are common in the Eastern Pacific off the coast of Central America.<br><br>C Jan – Mar is when tropical cyclones are common in the Indian Ocean.<br><br>D June – Dec is when tropical cyclones are common in the Western Pacific off the coast of Japan and the Philippines. | 1 |
| 1c(ii) | Award 1 mark for each stage of the calculation. Award 1 mark for showing working of percentage (98 tropical cyclones / 140 x 100) (1).<br><br>Award 1 mark for the correct answer = 70% | 2 |

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| 1c (iii) | Allow 1 mark for identifying a feature of the distribution of tropical cyclone source areas and further marks for explanation up to a maximum of 3 marks.<br><br>● Tropical cyclones source areas occur in a band between the tropics of Cancer and Capricorn (1) where seas are warm (above 27 degrees) (1) causing warm air to rapidly rise (1).<br><br>● Tropical cyclones are found over oceans (1), where seas are warm (1). Here's warm air rises rapidly (1).<br><br>● Tropical cyclones source areas are found away from the equator (1) where the Coriolis force is minimal (1) but instead where the rotation effect is stronger at around 5-30 degrees N/S of the equator (1).<br><br>● Some tropical cyclones have the source area outside of the tropics (1) where seas are quite warm (1). Here the rotation of the earth causes the storm to spin (1).<br><br>**Accept any other appropriate response.** | 3 |
| 1c(iv) | Award 1 mark for identifying a use of satellite imagery and a further mark for description up to a maximum of two marks.<br><br>● Before and after satellite images could be compared (1) and used to assess damage to natural and man-made features (1).<br><br>● Following a cyclone, satellite imagery could be used to map the extent of the damage (1) focussing on human or natural features (1)<br><br>● After the storm, satellite imagery could show damage to housing (1) and be compared to imagery before the storm (1).<br><br>● Damage to transport infrastructure could be mapped (1) to gain an understanding how relief efforts may be made more difficult (1).<br><br>● Satellite imagery could reveal the size of the storm (1). This could be compared to previous storms and subsequent impacts (1).<br><br>**Accept any other appropriate response.** | 2 |

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| 1d (i) | Award one mark for the idea of earthquakes resulting from plate motion and a further mark for the idea of water displacement.<br><br>● The movement of tectonic plates (1) causes water to be displaced (1).<br><br>● As a denser oceanic crust sinks beneath continental crust (1), the oceanic crust may 'flip' causing water above it to move (1).<br><br>● At a subduction zone (1) there can be a displacement of water (1).<br><br>**Accept any other appropriate response.** | 2 |
| 1d (ii) | Award 1 mark for identifying a reason why Palu was particularly vulnerable and a further mark for an extension of that reason up to a max of 2 marks for each explanation.<br><br>● Palu is 90km from the epicentre of the earthquake (1), residents would not have had time to leave coastal areas before the tsunami arrived (1)<br><br>● Tsunami waves were 6.5m high (1), hitting an area with a high population density (1).<br><br>● Palu has a high population density/large population (1), locals would not have been able to evacuate in time (1).<br><br>● Palu is an urban area (1) making it residents very vulnerable to buildings collapsing (1).<br><br>● The population density of parts of Palu is between 600-750 people per sq km. (1). Such large concentrations near the coastline may not have evacuated in time (1).<br><br>● The tsunami wave height was 5.5m higher than Dongala (1). This would cause considerable damage to infrastructure / housing (1).<br><br>● The earthquake had a very powerful (7.5 magnitude) / shallow focus (10km) (1). This would have caused significant damage to Palu's buildings (1).<br><br>● Palu is at the southern end of a funnel shaped bay/ on the coast (1). This may have led to large waves as the bay became shallower/narrower (1).<br><br>**Accept any other appropriate response.**<br><br>**NB Answers relating to Palu's vulnerability must make reference to Figure 3.** | 4 |

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| 1e | Award one mark for the correct identification of a difference between shield and composite volcanoes and a further mark for explanation of that difference.<br><br>● Shield volcanoes are more gently sloping than composite volcanoes (1) this is because their magma is less viscous (1).<br><br>● Composite volcanoes are more explosive than shield volcanoes (1) this is because their lava has a higher gas content (1).<br><br>● Shield volcanoes tend to cover a greater area (1) this is because their lava travels long distances before cooling (1).<br><br>● Shield volcanoes erupt more frequently (1) this is because they have less viscous lava requiring less pressure to erupt (1).<br><br>**Give credit to diagrams taking care not to double credit.**<br><br>**NB Simplistic reference to plate boundary type, for example – shield divergent, composite convergent insufficient.**<br><br>**Accept any other appropriate response.** | 2 |
| 1f | **AO2 (4 marks) / AO3 (4 marks)**<br><br>**AO2 (4 marks)**<br><br>**Candidates may reference any aspect of volcano or earthquake management such as methods of prediction, preparation or response.**<br><br>**Earthquake**<br><br>● Ensure that newer buildings are built to 'earthquake resistant' building codes.<br><br>● Educate the population about what to do in the lead up to an earthquake such as stock pile water and dried food.<br><br>● Drills take place in public buildings such as schools and hospitals so that people know what to do in the event of an earthquake. This helps to reduce the impact and increases their chance of survival.<br><br>● Retro-fit existing buildings with counter-weights and use fire proof materials.<br><br>● Ensure that emergency services are fully trained to cope with the earthquake.<br><br>● Strengthen important transport infrastructure such as overhead roads and bridges. | 8 |

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| | ● In Haiti, emergency response teams were mobilised.<br><br>● In the aftermath of the Haiti earthquake, there was a shortage of temporary housing.<br><br>Expect students to include specific case study detail to access 4 marks in AO2.<br><br>**Volcano**<br><br>● Create an exclusion zone around the volcano as was the case in Montserrat.<br><br>● Ensure that an evacuation plan is in place for residents in the immediate vicinity of the volcano.<br><br>● Ensure that diversion channels have been dug to divert lava away from settlements at the base of the volcano.<br><br>● Educate the population regarding the need to have supplies of bottled water and fresh food.<br><br>● Ensure the means are in place to inform the population about an imminent volcanic eruption.<br><br>● Build volcanic bomb shelters in close vicinity to the volcano.<br><br>Expect students to include specific case study detail to access 4 marks in AO2.<br><br>**AO3 (4 marks)**<br><br>● Judgement regarding the overall effectiveness of the preparation strategies. For example, many people died in the Sinabung volcano as many locals did not know as what to do when the volcano erupted, mainly because it had been dormant for hundreds of years.<br><br>● Judgement regarding the difficulties developing and emerging governments face when attempting to prepare their populations for such events including poverty and corruption.<br><br>● Judgement regarding the effectiveness of educating the population as to what to do in a seismic or volcanic event.<br><br>● Judgement regarding the effectiveness of technology to predict and subsequently prepare for volcanic events. | |

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| | ● Judgement about the effectiveness of subsequent preparation measures put in place following an earthquake or volcano e.g. diversion channels have been dug on the slopes of Mt. Sinabung to protect villages from a future volcanic event.<br><br>● Judgement about the effectiveness of the response measures put in place following an earthquake or volcano. For example, in Haiti, despite a massive effort, aid was distributed unequally between the capital, Port-au-Prince and surrounding rural areas.<br><br>Expect students to include specific case study detail to access 4 marks in AO3. | |

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | ● No acceptable response |
| Level 1 | 1-3 | ● Demonstrates isolated elements of understanding of concepts and the interrelationships of places, environments and processes. (AO2)<br><br>● Attempts to apply understanding to deconstruct information but understanding and connections are flawed.<br><br>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)<br><br>● Applies understanding to deconstruct information and provide some logical connections between concepts.<br><br>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)<br><br>● Applies understanding to deconstruct information and provides logical connections between concepts throughout.<br><br>A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout (AO3) |

| Question number | Answer | Marks |
|---|---|---|
| 2a (i) | B – Corruption index is a political measure of development.<br><br>All other answers are incorrect.<br><br>A – Gross domestic product (GDP) is an economic indicator of development.<br><br>C –Life expectancy is a social measure of development.<br><br>D – Fertility rate is a social measure of development. | 1 |
| 2a (ii) | D - The number of deaths under one year of age per 1000 live births in a year.<br><br>All other answers are incorrect.<br><br>A - The number of deaths per 1000 women while pregnant per year. This is the maternal mortality rate.<br><br>B - The number of deaths per 1000 school children in a year. An incorrect answer with no terminology.<br><br>C - The number of deaths per 1000 of the population in a year. This is the death rate. | 1 |

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| 2b (i) | Award 1 mark for accurately plotting the data for Brazil on the scattergraph. If the plot is in the square shown then award the mark. | 1 |

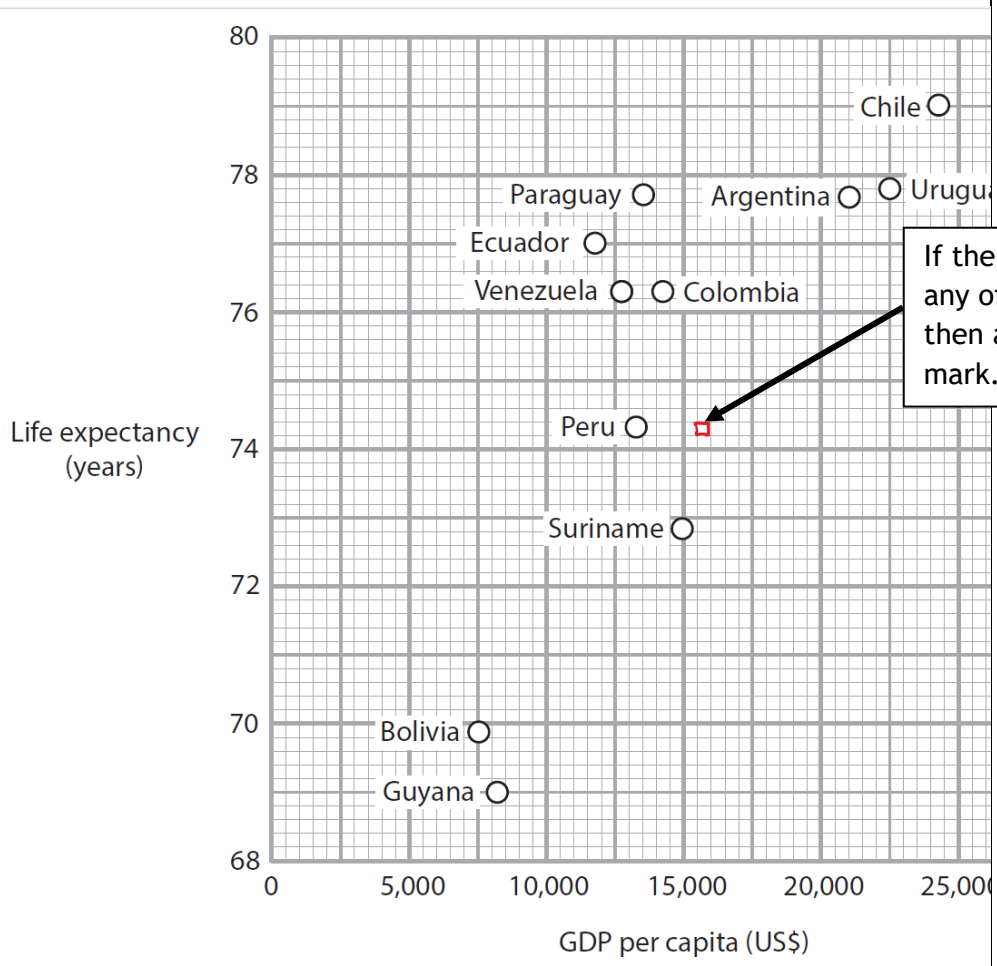


**Figure 4**

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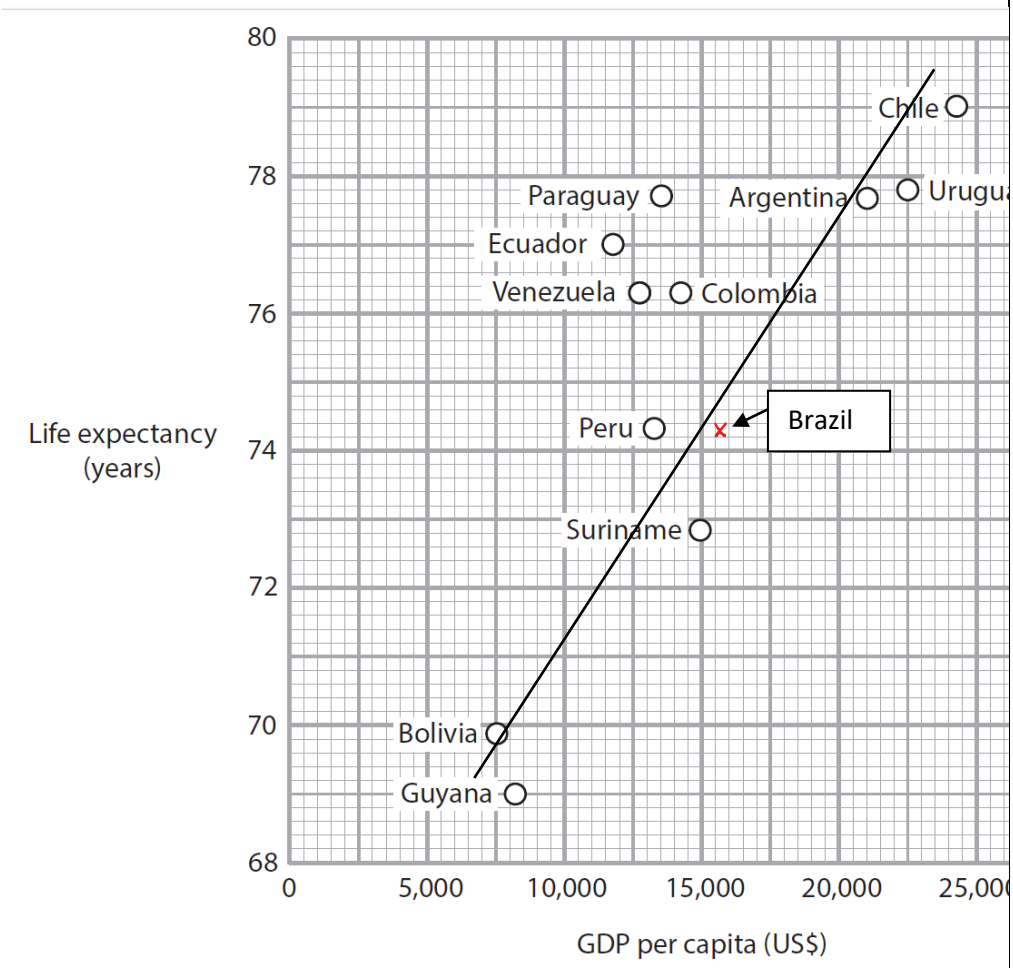
| 2b (ii) | Award 1 mark for each stage of the calculation. Award 1 mark for identifying the correct figures for the calculation (69-79) and award a further mark for the correct difference of 10 years.<br><br>79-69 = 10 | 2 |
| 2b (iii) | Award one mark for an accurately drawn line of best fit with between 5-7 plots either side of the line. For example:<br><br>  <br><br><br>**Figure 4**<br><br>**Please note that the plotted line does not have to begin at the junction of the two axes.** | 1 |

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| 2b (iv) | Award 1 mark for identifying a reason why life expectancy rises and a further mark for explanation of that point.<br>● An increased number of hospitals / doctors (1) improves the quality of medical care. (1).<br>● Improving access to clean water (1) means diseases are less common (1).<br>● Improving diets/nutrition (1) means less death due to famine (1).<br>● Improving levels of education (1) mean the population is more mindful of the need to be healthy (1).<br>● A rising GDP means often means rising incomes (1), meaning more money can be spent on healthcare (1).<br>**No mark for simply stating that the country gets wealthier.**<br>**Accept any other appropriate response.** | 2 |
| 2c (i) | Award 1 mark for stating a piece of evidence which suggests that The Gambia is a developing country.<br>● It has a human development index score of 0.46 (1).<br>● It's HDI score is the 16th lowest in the world (1).<br>● The Gambia's main exports are peanuts and fish (primary products) (1). | 1 |
| 2c (ii) | Award one mark for identifying a way The Gambia's climate may affect The Gambia's development and a further mark for explanation of that point.<br>● The dry season can lead to the death of crops (1), making it difficult for farmers to earn money (1).<br>The Gambia's tropical climate makes farming difficult (1). The dry season restricts the growth of quantity of crops meaning farmers often do not earn a decent income (1).<br>● The wet season may lead to flooding (1). This can damage farmland and crops (1).<br>● The hot, dry conditions can lead to soil erosion (1), making it difficult to farm (1).<br>● The tropical climate attracts tourists (1), bringing in money to The Gambian economy (1)<br>● The tropical climate enables The Gambia to grow tropical fruits (1) enabling the country to earn money from selling these products (1).<br>**Accept any other appropriate response.**<br>**No mark for simply stating an aspect of The Gambia's climate, for example it is very hot.** | 2 |

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| 2c (iii) | Award one mark for identifying an element of Frank's dependency theory and further marks for explanation of why dependency restricts the development of poorer countries up to a maximum of three marks.<br><br>● Frank believed the development was about two types of nations – core and periphery (1). The developed core exports high value manufactured goods (1) whereas the poorer periphery exports primary products which are low in value (1).<br><br>● The economic core is developed whereas the periphery is developing (1). During the colonial period exploitation occurred (1) with the core exporting low-value primary products (1).<br><br>● Developing nations depend on the developed nations for manufactured goods (1), these are expensive (1). They export low value primary products (1).<br><br>● The Gambia exports peanuts and fish which are low value (1), whereas it imports manufactured products and fuel which are high value (1). This results in the country earning insufficient amounts of money (1).<br><br>● Trade rules are decided by wealthier nations (1), developing nations rely on the export of low-value primary products (1) whereas they import high-value manufactured goods (1).<br><br>**Accept any other appropriate response.** | 3 |
| 2d (i) | Award 1 mark for the calculation working out 139.9/757.8 x 100 and a further mark for the correct answer of 18.5%<br><br>139.9 (billion) / 757.8 (billion) x 100 (1) = 18.5%. (1) | 2 |
| 2d (ii) | Award 1 mark for the identification of a suitable data presentation technique and another mark for description of the technique.<br><br>● A proportional flow map could be used (1) with arrows of different thicknesses representing the amount of export trade (1).<br><br>● A pie chart could be used (1) with the segments representing a percentage of US export trade (1).<br><br>● A stacked divided bar chart (1) with segments for each export destination (1).<br><br>● A choropleth map (1) colour coded to represent the amount of export trade for each country (1).<br><br>**Note: Divided proportional bar graphs are not acceptable as they are used in the figure.**<br><br>**Note: Answer needs to be more specific than simply, 'a bar chart', a form of which is used in the figure.**<br><br>**Accept any other appropriate response.** | 2 |

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| 2d (iii) | Award one mark for identifying a change to foreign direct investment (FDI) since 1990 in terms of the amount, origin or type and an explanation of that change up to a maximum of 2 marks for each explanation.<br><br>● In India, the amount of FDI has increased considerably since 1990 (1), this is due to the government's programme of economic liberalisation in the early 1990s (1).<br><br>● By reducing import tariffs (1), companies mainly from Europe and the Americas were encouraged to invest in the country. (1)<br><br>● In China, special economic zones were established (1) which led to a growth in foreign direct investment (1).<br><br>● FDI has increased since 1990 (1) as TNCs look to take advantage of cheaper labour (1).<br><br>● There has been a rapid growth in manufacturing industries (1) with companies attracted by cheap labour (1).<br><br>● Companies are able to export goods with reduced or no tariffs (1) which led to a huge growth in investment mainly from the USA (1).<br><br>● In India there has been a huge growth in FDI (1) particularly in ICT related industries attracted by India's skilled workforce (1).<br><br>● Companies take advantage of tax breaks (1) and well-developed infrastructure (1).<br><br>● In China, there has been significant growth in FDI (1) with companies attracted by China's reduced export taxes (1).<br><br>● FDI has increased (1) with China's coastal ports making it easy to export goods (1).<br><br>● FDI has increasingly originated from emerging countries (1) as a result of an increased number of TNCs based in such countries (1).<br><br>**Accept any other appropriate response.** | 4 |

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| 2e | **AO2 content will vary depending on the chosen case emerging country and the examples used.**<br><br>**AO2 4 marks / AO3 4 marks**<br><br>**A02 4 marks**<br><br>● Emissions from traffic in heavily congested urban areas has led to Delhi have amongst the highest levels of air pollution in the world.<br><br>● In rural areas of countries such as Nigeria, relatively untouched by economic development, burning fuelwood and biomass leads to high levels of air pollution.<br><br>● Dumping of industrial chemicals and agricultural waste has polluted China's rivers to the extent that over half of all rivers in the country are unsafe for human contact.<br><br>● Lack of environmental law enforcement often results in the illegal dumping of waste products.<br><br>● TNCs help to develop the infrastructure of the area in which they are based by constructing roads, improving power provision and telecommunications.<br><br>● In countries such as China, an environmental protection law came into effect in January 2015. This will hopefully lead to steady improvements in environmental quality in the country.<br><br>● Several emerging nations are world leader in the adoption of green technology with the government increasingly realising that economic growth and environmental damage are not compatible.<br><br>● Environmentalism is on the rise in emerging countries. Many pressure groups have emerged and governments are increasingly adopting environmental policies.<br><br>**AO3 4 marks**<br><br>● Judgement regarding the most significant environmental impacts of economic growth in emerging countries, assessing positive and negative arguments.<br><br>● Judgement regarding the significance of the wider environmental impact of economic growth in emerging countries such as the greenhouse gas contribution of countries such as China and India.<br><br>● Judgement regarding the overall environmental impact of economic growth in emerging countries, assessing positive and negative arguments.<br><br>● Judgement regarding the significance of the changing perception of the population and government towards protecting the environment and the adoption of environmental policies. | 8 |

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | ● No acceptable response |
| Level 1 | 1-3 | ● Demonstrates isolated elements of understanding of concepts and the interrelationships of places, environments and processes. (AO2)<br><br>● Attempts to apply understanding to deconstruct information but understanding and connections are flawed.<br><br>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)<br><br>● Applies understanding to deconstruct information and provide some logical connections between concepts.<br><br>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)<br><br>● Applies understanding to deconstruct information and provides logical connections between concepts throughout.<br><br>A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout (AO3) |

| Performance | Marks | Descriptor |
|---|---|---|
| SPaG 0 | 0 | *No marks awarded*<br>● Learners write nothing.<br>● Learner's response does not relate to the question.<br>● Learner's achievement in SPaG does not reach the threshold performance level, for example severe errors in spelling, punctuation and grammar severely hinder meaning. |
| SPaG 1 | 1 | *Threshold performance*<br>● Learners spell and punctuate with reasonable accuracy.<br>● Learners use rules of grammar with general control of meaning overall.<br>● Learners use a limited range of specialist terms as appropriate. |
| SpaG 2 | 2-3 | *Intermediate performance*<br>● Learners spell and punctuate with considerable accuracy.<br>● Learners use rules of grammar with general control of meaning overall.<br>● Learners use a good range of specialist terms as appropriate. |
| SpaG 3 | 4 | *High performance*<br>● Learners spell and punctuate with considerable accuracy.<br>● Learners use rules of grammar with effective control of meaning overall.<br>● Learners use a wide range of specialist terms as appropriate. |

| Question number | Answer | Marks |
|---|---|---|
| 3a (i) | C is the correct answer. The movement of people from urban to rural areas. All other answers are incorrect.<br><br>A The movement of people from rural to urban areas. This is rural to urban migration.<br><br>B The movement of people from one part of the city to another. This answer is incorrect.<br><br>D The movement of people from suburban areas to the city centre. This is re-urbanisation. | 1 |
| 3a (ii) | Award 1 mark for the identification of a reason for counter-urbanisation and a further mark for explanation. Typically answers may follow the format of an urban push and rural pull factor.<br><br>● High land values in city centre locations (1) resulted in people moving to rural areas where land was cheaper (1).<br><br>● Congestion (1) encouraged people to move to rural areas where air quality was much improved (1).<br><br>● The improvement in road networks / expansion of subway/underground (1) enabled people to live much further from their place of work (1).<br><br>● High crime rates (1) led to the movement of people to rural areas where neighbourhoods were deemed safer (1).<br><br>**No mark for simply stating people move to rural areas.**<br><br>**Accept any other appropriate response.** | 2 |

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| 3b | Award 1 mark for identifying a characteristic of urban land use and a further mark for explanation of the characteristic identified.<br><br>● Commercial land uses are found in city centre locations (1) because they can afford the high rental costs (1).<br><br>● Residential land use dominates in the suburbs (1) where land is cheaper (1).<br><br>● Terraced houses are common in former industrial areas (1) due to the fact that workers lived close to their place of employment (1).<br><br>● Retail estates may be found on the edge of cities (1) as land is cheaper (1).<br><br>● Shopping centres are often found on the outskirts of urban areas (1). Here, accessibility is good from nearby roads/motorways (1).<br><br>● New housing estates are often found on the edge of cities (1) as there is available land (1).<br><br>● New housing / retail developments can be found close to city centres (1) as a consequence of regeneration programmes (1).<br><br>**Take care not to double credit the same explanatory point, for example, accessibility is good.**<br><br>**Accept any other appropriate response.** | 4 |
| 3c (i) | B – 40-50% All other responses are incorrect. | 1 |
| 3c (ii) | Award one mark for each comparative statement identifying changes in the urban populations of African countries between 1990 to 2050 up to a maximum of 3 marks.<br><br>● In Egypt, the urban population in 1990 was 40-50%. By 2050, this figure is forecast to rise to 50-60% (1).<br><br>● The urban population growth rate differs between African countries (1).<br><br>● Some countries are forecast to see a growth rate of 30-40% whereas for others it is 50% (1).<br><br>● The urban population percentage for all countries in Africa is forecast to rise between 1990 to 2050 (1).<br><br>**Accept any other appropriate response.**<br><br>**Max 2 if no use of data. Only award 1 data mark.**<br><br>**Must use data from either figure 7a or 7b to score max marks.** | 3 |

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| 3c (iii) | Award one mark for identifying a valid reason why forecasted rates of urban populations vary from country to country and further marks for explanation of the reasons given up to a maximum of three marks.<br><br>● Rural to urban migration in poorer countries will lead to a growing urban population (1) in countries like Egypt where it is set to rise in the region of 40-50% (1). Urban areas offer more opportunities combined with rural push factors (1).<br><br>● Forecasted growth rates in urban populations are lower in developed nations which already have a mainly urban population (1). In countries such as the UK where the urban population is forecast to be 90-100% (1) urbanisation happened most rapidly in the industrial revolution (1).<br><br>**Accept any other appropriate response.**<br><br>**Max 2 if no use of data.**<br><br>**Must use data from Figure 7a or 7b to score max marks.** | 3 |
| 3d (i) | Award 1 mark for each stage of the calculation. Award one mark for the calculating the number of people per toilet in 2019 and a further mark for the difference in the number of people per toilet between 2009 to 2019.<br><br>2019 650000/1250 = 520 (1).<br><br>Change from 2009 to 2019 = (680-520) 160 (1). | 2 |
| 3d (ii) | Award one mark for a reason why slum housing is constructed and a further mark for extension up to a maximum of two marks.<br><br>● There are insufficient amounts of housing for new migrants in urban areas (1). People must therefore construct their own accommodation using basic materials (1).<br><br>● New migrants cannot afford housing in urban areas (1). Therefore they construct temporary housing using low cost building materials (1).<br><br>● There is inadequate sewerage to cope with large numbers of people (1). This means that open sewers / polluted streams develop (1).<br><br>● Migrants cannot afford to live in desirable areas (1) therefore they build slums on low-lying / marginal land. (1).<br><br>● The population of a megacity rises too quickly (1) therefore the authorities cannot provide enough adequate housing (1).<br><br>**Accept any other appropriate response.** | 2 |

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| 3e | Award 1 mark for correctly identifying an advantage of a named top down development projects and a further mark for explanation of that advantage up to a maximum of two marks each.<br><br>● Vision Mumbai provided piped water and sewerage to newly constructed flats (1). This improved the health of the local residents (1).<br><br>● The New Cairo Capital project in Egypt will provide housing for up to 5 million people (1). This is forecast to reduce the number of people living in overcrowded slum conditions (1).<br><br>● The Sao Paulo Masterplan will include many bus lanes encouraging the use of public transport (1). This reduces the traffic congestion in the city (1).<br><br>● The Chengdu Great City project has devoted half of its road space to pedestrian traffic (1) reducing traffic use and improving air quality (1).<br><br>**Accept any other appropriate response.** | 4 |
| 3 (f) | **AO2 content will vary depending on the chosen case emerging country and the examples used.**<br><br>**AO2 (4 marks) / AO3 (4 marks)**<br><br>**AO2 (4 marks)**<br><br>● Mumbai faces the challenges of its transport infrastructure being hugely overcrowded. Every year, over 3000 people die on its train network and traffic congestion helps to contribute to Mumbai being in the top 30 cities in the world for poor air quality.<br><br>● A lack of affordable housing leads to many migrants to Lagos ending up in squatter settlements such as Makoko in Lagos. In such settlements, mainly as a consequence of lack of access to safe drinking water disease is common,<br><br>● Megacities find many job opportunities mainly in the informal economy. In New Delhi, former shanty town migrant entrepreneurs have established a company specialising in the recycling of e-waste products.<br><br>● Infrastructure provision can vary enormously across a city with authorities lacking the resources to provide city-wide coverage. For example, some areas may be connected to a water supply or electricity network whereas some more informal settlements may not have such facilities. | 8 |

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| | **AO3 (4 marks)**<br><br>● Judgement about which of the challenges has the greatest impact on life in a megacity.<br><br>● Judgement regarding the nature of the opportunities available in megacities and which are the most significant.<br><br>● Evaluative comments comparing the significance of challenges against the opportunities.<br><br>● Overall judgement as to whether megacities provide more significant opportunities or challenges for their population. | |

| Level | Mark | Descriptor |
|---|---|---|
| | 0 | ● No acceptable response |
| Level 1 | 1-3 | ● Demonstrates isolated elements of understanding of concepts and the interrelationships of places, environments and processes. (AO2)<br><br>● Attempts to apply understanding to deconstruct information but understanding and connections are flawed.<br><br>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)<br><br>● Applies understanding to deconstruct information and provide some logical connections between concepts.<br><br>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)<br><br>● Applies understanding to deconstruct information and provides logical connections between concepts throughout.<br><br>A balanced, well-developed argument that synthesises relevant understanding coherently, leading to judgements that are supported by evidence throughout. (AO3) |

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