

Mark Scheme (Results)

Summer 2023

Pearson Edexcel International GCSE In Pakistan Studies (4PA1) Paper 02

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Summer 2023
Question Paper Log Number P72610RA
Publications Code 4PA1\_02\_2306\_MS
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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 | Answer                                                      | Mark |
|----------|-------------------------------------------------------------|------|
| number   |                                                             |      |
| 1(a)(i)  | AO3 (1 mark)                                                |      |
|          |                                                             |      |
|          | • D                                                         |      |
|          |                                                             |      |
|          | Not A as climatic processes do not form mountains. Not B as |      |
|          | marine processes do not form mountains. Not C as river      |      |
|          | processes do not form mountains.                            |      |
|          |                                                             | (1)  |

| Question | Answer Mark                                                                                                                                                                                    |     |  |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--|
| number   |                                                                                                                                                                                                |     |  |
| 1(a)(ii) | AO3 (1 mark)                                                                                                                                                                                   |     |  |
|          | <ul> <li>Award 1 mark for one correct resource, maximum 1 mark.</li> <li>Fuel wood/timber (1)</li> <li>Water (1)</li> <li>Gemstones (1)</li> <li>Gypsum (1)</li> <li>Rock salt (1).</li> </ul> |     |  |
|          | Accept any other appropriate resource                                                                                                                                                          | (1) |  |

| Question<br>number | Answer                                                                                                                                         | Mark |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1(b)               | AO1 (2 marks)                                                                                                                                  |      |
|                    | Award 1 mark for each correct climatic zone, up to a maximum of 2 marks.   • Desert/semi-arid • Humid subtropical • Mediterranean • Temperate. |      |
|                    | Accept any other appropriate response.                                                                                                         | (2)  |

| Question | Answer                                                                                                                      | Mark |
|----------|-----------------------------------------------------------------------------------------------------------------------------|------|
| number   |                                                                                                                             |      |
| 1(c)     | AO1 (1 mark)/AO2 (2 marks)                                                                                                  |      |
|          | Award 1 mark for initial point and 2 further marks for expansion, up to a maximum of 3 marks. Credit only <b>one</b> cause. | (3)  |

|  | <ul> <li>Western disturbances originate in the north western         Mediterranean (1). High-pressure, with relatively warm air,         causes cold air from polar regions to move southwards (1).         This results in the formation of an eastward-moving         depression which travels towards Pakistan (1).</li> <li>High pressure over the Ukraine region (1) means that cold air         is 'pulled in' from polar regions to an area with warmer moist         air (1). These conditions cause the formation of an eastward-         moving extra-tropical depression towards Pakistan (1).         Accept any other appropriate response</li> </ul> |  |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

| Question | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Mark |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| number   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |
| 1(d)     | AO2 (2 marks)/AO3 (2 marks)  Award 1 mark for an outlined reason and 1 mark for expansion of the reason, up to a maximum of 2 marks each. Only <b>two</b> reasons should be credited.  • Pakistan is in very active earthquake zone caused by the convergence of three tectonic plates (1) therefore there is a high risk of damage to buildings and the loss of homes (1).  • Highly populated urban settlements such as Quetta are located in the higher risk zones (1), these two factors combine to result an increased risk of the destruction of infrastructure and loss of people's homes (1)  • Traditional or poorly built housing cannot withstand earthquake tremors and collapse. (1) Many urban areas have large amounts of poorly built informal housing which collapses easily (1)  Accept any other appropriate response |      |
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (4)  |

| Question | Indicative content                                                                                                                                                                                                              |  |  |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| number   |                                                                                                                                                                                                                                 |  |  |
| 1(e)     | AO1 (3 marks)/AO2 (3 marks)                                                                                                                                                                                                     |  |  |
|          | The indicative content below is not prescriptive and candidates are not required to include all the material indicated as relevant. Other relevant material not suggested below must also be credited. Mark a fully labelled or |  |  |

annotated diagram/s as text but avoid crediting factors and explanations more than once.

- Tropical cyclones form over warm ocean waters near the equator. They form between latitudes 5 -20° north and south of the equator because sea surface temperatures of approximately 26° are required.
- Tropical cyclones require low pressure to form; therefore, they develop from localised thunderstorms which last for a long period of time and which develop in intensity
- This causes warm, moist air over the ocean surface rises upward and begin to spiral around the centre. As this air rises, it causes lower atmospheric pressure to form and this results in cooler air being drawn towards the centre of the spiralling air. This cool air becomes most and warm and rises, causing the further decrease in pressure.
- As the warmed, moist air rises and cools, the moisture in the air forms clouds.
- As the storm system rotates faster and faster due to the Coriolis effect. This causes an eye to form in the centre.

#### Note

Mark the diagram as text. To gain marks, the diagram will need to be annotated and markers must avoid double reward for the same points included in a written answer.

| Level   | Mark | Descriptor                                                    |
|---------|------|---------------------------------------------------------------|
|         | 0    | No rewardable material.                                       |
| Level 1 | 1–2  | Demonstrates limited understanding of concepts, some of       |
|         |      | which may be inaccurate or irrelevant. (AO1)                  |
|         |      | Demonstrates unsustained links to the conceptual focus of the |
|         |      | question, which are not developed. (AO2)                      |
| Level 2 | 3-4  | Demonstrates partial understanding of concepts, which are     |
|         |      | mostly accurate and relevant. (AO1)                           |
|         |      | Demonstrates some links to the conceptual focus of the        |
|         |      | question, which are partially developed. (AO2)                |
| Level 3 | 5-6  | Demonstrates thorough understanding of concepts, which are    |
|         |      | accurate and relevant. (AO1)                                  |
|         |      | Demonstrates sustained links to the conceptual focus of the   |
|         |      | question, which are developed. (AO2)                          |

| Indicative content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AO2 (4 marks)/AO2 (4 marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| AO2 (4 marks)/AO3 (4 marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| The indicative content below is not prescriptive and candidates are not required to include all the material indicated as relevant. Other relevant material not suggested below must also be credited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| The command word 'Evaluate' requires the candidate to come to a conclusion/judgement which needs to be supported with an evidence-balanced argument                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul> <li>An estimated 50% of agricultural land in Pakistan is affected by waterlogging or salinity. For example, waterlogging in the Punjab is caused by over-use of water for irrigation which causes the water table to rise, making the soil saturated and unsuitable for plant or crop growth. The rising water brings salts, in solution, to the surface which are left as a surface deposit which also prevents plant growth.</li> <li>Dams (such as the Tarbela dam) and barrages (such as Kalabagh barrage) for water extraction, hydropower, and other purposes along the river Indus cause reduced water flow in the lower sections of the river, this loss of water causes damage to the coastal mangrove forests and the associated ecosystems. However, as this is a renewable method of power production, there are considerable environmental benefits in using this method rather than relying on fossil fuels.</li> </ul>                                                              |
| Forest products                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ul> <li>The moist, temperate forest of the Himalayas supplies most of Pakistan's construction and furniture timber. As a result, many areas have been felled causing a loss of biodiversity and extensive soil erosion. However, manufacturing alternative construction materials such as bricks and concrete use large amounts of fossil fuel energy.</li> <li>The mangroves forests of the Indus delta are important breeding areas for fish, shrimp and crabs, and for over-wintering birds. However, as these forests are over-exploited to provide fuel wood and animal fodder, the areas of mangroves and their biodiversity are rapidly deteriorating.</li> <li>The mazri forests in Balochistan are exploited to provide palm leaves for local cottage industries. Dry trunks and foliage are used as fuel. Large areas of mazri forests have already been cleared or excessively degraded and the forests are in danger of being completely felled, causing loss of ecosystems and</li> </ul> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

biodiversity. However, there are few alternative sources of energy in these areas as they are not connected to Pakistan's electricity distribution system.

### Fish/shellfish

- Developing aquaculture of marine shrimp species along the Sindh and Balochistan coasts is beginning to result in water pollution, causing water degradation and loss of biodiversity. Developing shrimp farming in the mangrove forests of the Indus delta is also causing the loss of ecosystems and habitats. However, this aquaculture provides a source of protein for local people as well as providing incomes.
- Pakistan's limited regulation of fishing means that over-fishing continues and frequently uses illegal methods. Immature fish are caught resulting in reduction in fish numbers, affecting biodiversity and fish stock levels. Modern fishing nets rip-up and destroy corals resulting in the loss of coral reefs and associated ecosystems. However, improved legislation might provide very limited protection as it is sometimes difficult to enforce laws in Pakistan, as well as depriving coastal communities of an important food source.
- Freshwater aquaculture is being developed in Pakistan, for example in Sindh, and unless regulated may result in eutrophication, the loss of water quality and destruction of natural habitats.

#### **Minerals**

- Underground mining, for example coal mining in Sindh, causes loss of biodiversity, sinkholes and subsidence and contamination of surface water, groundwater and the soil by toxic minerals. However, the limited development of renewable energy resources and the high cost of imported oil and gas means that coal is important to the local and national economy.
- Both under-ground and surface mining involve the removal of vegetation and topsoil leading to loss of biodiversity.
- Extensive limestone quarrying in Balochistan causes loss of biodiversity and dust pollution which adversely affects the local ecosystems. However, Balochistan is one of the less developed areas of Pakistan, and quarries provides important local employment.

| Level   | Mark | Descriptor                                                                                                                                                                                                                              |  |
|---------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|         | 0    | No rewardable material                                                                                                                                                                                                                  |  |
| Level 1 | 1-3  | <ul> <li>Demonstrates isolated elements of understanding of concepts<br/>and the interrelationship between places, environments and<br/>processes. (AO2)</li> <li>An unbalanced or incomplete argument that provides limited</li> </ul> |  |

| consideration of factors, leading to judgements and a final |
|-------------------------------------------------------------|
| conclusion that are not supported by evidence. (AO3)        |

| Level   | Mark | Descriptor                                                                                                                                                                                                                                                                                                                            |
|---------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level 2 | 4-6  | <ul> <li>Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>An imbalanced argument that provides some consideration of factors, leading to judgements and a final conclusion that are partially supported by evidence. (AO3)</li> </ul>          |
| Level 3 | 7-8  | <ul> <li>Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>A balanced, well-developed argument that provides thorough consideration of factors, leading to judgements and a final conclusion that are well supported by evidence. (AO3)</li> </ul> |

| Question | Answer                                             | Mark |
|----------|----------------------------------------------------|------|
| number   |                                                    |      |
| 2(a)(i)  | AO3 (1 mark)                                       |      |
|          |                                                    |      |
|          | • D                                                |      |
|          | Not A as scientific procedures are shown.          |      |
|          | Not B as there is no evidence of water management. |      |
|          | Not C as the technology is advanced.               |      |
|          |                                                    | (1)  |

| Question<br>number | Answer                                             | Mark |
|--------------------|----------------------------------------------------|------|
| 2(a)(ii)           | AO3 (1 mark)  • A country's ability to feed itself |      |
|                    | Accept any other appropriate response.             | (1)  |

| Question<br>number | Answer                                                          | Mark |
|--------------------|-----------------------------------------------------------------|------|
| 2(b)               | AO1 (2 marks)                                                   |      |
|                    | Award 1 mark for each correct crop, up to a maximum of 2 marks. |      |
|                    | Wheat (1)                                                       |      |

| <ul><li>Rice (1)</li><li>Cotton (1)</li><li>Sugarcane (1)</li></ul> |     |
|---------------------------------------------------------------------|-----|
| Accept any other appropriate response.                              | (2) |

| Question<br>number | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Mark                |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| 2(c)               | AO1 (1 mark)/AO2 (2 marks)  Award 1 mark for initial point and 2 further marks for expansion, up to a maximum of 3 marks each. Only credit <b>one</b> factor.  • Pakistan imports large amounts of petroleum and natural gas (1) which is a significant cause of Pakistan's trade deficit (1). Therefore, Pakistan does not have the money available to invest in developing industries which would improve its exports and economy (1).  • Pakistan does not have the finance available to import sufficient energy (1). This causes frequent power shortages (1) which means manufacturing and other industries cannot operate efficiently, which adversely affects the economic development of Pakistan (1).  • Imported energy creates a negative balance of trade (1) due to relying on high imports of natural gas and oil (1) which means less money is available to support economic development in other areas (1).  Accept any other appropriate response. | (3)                 |
|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>1</b> - <b>7</b> |

| Question | Answer                                                                                                                                                         | Mark |  |  |  |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--|--|--|
| number   |                                                                                                                                                                |      |  |  |  |
| 2(d)     | AO2 (2 marks)/AO3 (2 marks)                                                                                                                                    |      |  |  |  |
|          | Award 1 mark for an outlined reason and 1 mark for expansion of the reason, up to a maximum of 2 marks.                                                        |      |  |  |  |
|          | <ul> <li>Trees are cut down/deforestation (1), which means that their<br/>roots no longer hold the soil together resulting in soil erosion<br/>(1).</li> </ul> |      |  |  |  |
|          | <ul> <li>Increased river flow, for example due to glacial melt waters (1) causes river banks to be rapidly eroded, resulting in soil erosion (1).</li> </ul>   |      |  |  |  |
|          | Reduces rainfall due the climate change (1) means that the                                                                                                     | (4)  |  |  |  |

| soil dries out and can be blown away by the wind resulting in wind erosion (1). |  |
|---------------------------------------------------------------------------------|--|
| Accept any other appropriate response.                                          |  |

| Question number | Indicative content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2(e)            | AO1 (3 marks)/AO2 (3 marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                 | The indicative content below is not prescriptive and candidates are not required to include all the material indicated as relevant. Other relevant material not suggested below must also be credited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                 | <ul> <li>Industries in Pakistan are mainly located in Punjab and Sindh. There are relatively few industries in the less developed areas, such a Balochistan.</li> <li>Industries such as textile production are located near to the source of raw materials. In Pakistan cotton grown in canal irrigated areas of Punjab and Sindh provinces, near to the main textile manufacturing areas such Faisalabad as this reduces transport costs.</li> <li>Faisalabad is Pakistan's textile centre. The city has a population of 3,203,846, which supplies a large skilled and semi-skilled work force.</li> <li>Industries are located in cities and regions where there is finance available to allow the establishment and investment in industries. Karachi is the financial centre of Pakistan, and this helps to explain why shipyards, steel mills and industrial parks are located there.</li> <li>Industries tend to be located in areas of low relief as this makes it to construct industrial buildings and infrastructure, therefore reducing costs. In Pakistan, the relatively flat Indus valley and flood plain provide more suitable industrial locations than the upland areas of the northern provinces or Balochistan.</li> </ul> |

| Level   | Mark | Descriptor                                                                                                                                                                                                                               |
|---------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | 0    | No rewardable material.                                                                                                                                                                                                                  |
| Level 1 | 1–2  | <ul> <li>Demonstrates limited understanding of concepts, some of which may be inaccurate or irrelevant. (AO1)</li> <li>Demonstrates unsustained links to the conceptual focus of the question, which are not developed. (AO2)</li> </ul> |
| Level 2 | 3-4  | <ul> <li>Demonstrates partial understanding of concepts, which are mostly accurate and relevant. (AO1)</li> <li>Demonstrates some links to the conceptual focus of the question, which are partially developed. (AO2)</li> </ul>         |
| Level 3 | 5-6  | Demonstrates thorough understanding of concepts, which are                                                                                                                                                                               |

| • | accurate and relevant. (AO1)  Demonstrates sustained links to the conceptual focus of the |
|---|-------------------------------------------------------------------------------------------|
|   | question, which are developed. (AO2)                                                      |

| Question | Indicative                                                                                                                                                                                                                                                                                                             | content                                                                                                                                                                                                                                                                                    |  |  |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| number   |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                            |  |  |
| 2(f)     | <b>-</b> 1 · 1:                                                                                                                                                                                                                                                                                                        | AO2 (4 marks)/AO3 (4 marks)                                                                                                                                                                                                                                                                |  |  |
|          | The indicative content below is not prescriptive and candidates are not required to include all the material indicated as relevant. Other relevant material not suggested below must also be credited.                                                                                                                 |                                                                                                                                                                                                                                                                                            |  |  |
|          |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                            |  |  |
|          |                                                                                                                                                                                                                                                                                                                        | nand word 'Assess' requires candidates to consider a number of d give a reasoned explanation of the factor or factors felt to be the ortant.                                                                                                                                               |  |  |
|          | Indicative                                                                                                                                                                                                                                                                                                             | e content                                                                                                                                                                                                                                                                                  |  |  |
|          | and te<br>systen<br>relies                                                                                                                                                                                                                                                                                             | conomy of Pakistan relies on exporting goods, particularly clothing xtiles, and this requires an efficient, well-maintained transport n. In addition, Pakistan's present and future economic development on efficient movements of raw materials, manufactured products gricultural goods. |  |  |
|          | rail lin<br>signific<br>major<br>the Ka                                                                                                                                                                                                                                                                                | rail links is consequently a government priority. There have been significant developments in road transport networks since 2007, including major roads such as the Coastal Highway and routes to China, especially the Karakoram Highway.                                                 |  |  |
|          | and lin                                                                                                                                                                                                                                                                                                                | o and Sindh provinces. This creates an uneven transport network nited development in other regions such as Balochistan. inated investment in transport is needed on a national scale to se economic development in regions such as the Northern                                            |  |  |
|          | <ul> <li>provinces.</li> <li>Economic development is also affected by the balance of trade as F has a trade deficit that severely limits economic growth. Research indicates that infrastructure investment on its own is not sufficient increase the economic activity in the underdeveloped regions of Pa</li> </ul> |                                                                                                                                                                                                                                                                                            |  |  |
| Level    | Mark                                                                                                                                                                                                                                                                                                                   | Descriptor                                                                                                                                                                                                                                                                                 |  |  |
|          | 0                                                                                                                                                                                                                                                                                                                      | No rewardable material                                                                                                                                                                                                                                                                     |  |  |
| Level 1  | 1-3                                                                                                                                                                                                                                                                                                                    | <ul> <li>Demonstrates isolated elements of understanding of concepts<br/>and the interrelationship between places, environments and<br/>processes. (AO2)</li> <li>An unbalanced or incomplete argument that provides limited</li> </ul>                                                    |  |  |
|          |                                                                                                                                                                                                                                                                                                                        | consideration of factors, leading to judgements and a final                                                                                                                                                                                                                                |  |  |

|         |     | conclusion that are not supported by evidence. (AO3)                                                                                                                                                                                                                                                                         |
|---------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level 2 | 4-6 | <ul> <li>Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>An imbalanced argument that provides some consideration of factors, leading to judgements and a final conclusion that are partially supported by evidence. (AO3)</li> </ul> |

| Level   | Mark | Descriptor                                                                                                                                                                                                                                                                                                                            |
|---------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level 3 | 7-8  | <ul> <li>Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>A balanced, well-developed argument that provides thorough consideration of factors, leading to judgements and a final conclusion that are well supported by evidence. (AO3)</li> </ul> |

| Question<br>number | Answer                                                                                                                                                                                                                             | Mark |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 3(a)(i)            | <ul> <li>AO3 (1 mark)</li> <li>B         It cannot be A as 6.70 m does not appear on the graph         It cannot be C as this reading is 0.15 m too high         It cannot be D as 7.20 m is the reading for 2020.     </li> </ul> |      |
|                    |                                                                                                                                                                                                                                    | (1)  |

| Question | Answer                                     | Mark |
|----------|--------------------------------------------|------|
| number   |                                            |      |
| 3(a)(ii) | AO3 (1 mark)                               |      |
|          | Award 1 mark for correct calculation.      |      |
|          | <ul><li>0.15 (m)</li><li>.15 (m)</li></ul> |      |
|          | Do not accept any other response.          | (1)  |

| Question  | Answer                                                           | Mark |
|-----------|------------------------------------------------------------------|------|
| number    |                                                                  |      |
| 3(a)(iii) | AO1 (2 marks)                                                    |      |
|           | Award 1 mark for each correct point, up to a maximum of 2 marks. |      |
|           | Plant trees to provide shade/absorb carbon dioxide               |      |

| <ul> <li>(1)</li> <li>Painting roofs white (1)</li> <li>Increasing the use of renewable energy resources (1)</li> <li>Reducing water loss from irrigation schemes (1).</li> </ul> |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|                                                                                                                                                                                   | (2) |

| Question | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Mark |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| number   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |
| 3(b)     | AO1 (1 mark)/AO2 (2 marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |
|          | Award 1 mark for initial point and 2 further marks for expansion, up to a maximum of 3 marks each. Only credit <b>one</b> factor.  • Glacial ablation will increase river flow and cause flooding (1) which will damage crops, especially export crops such as rice, and have a negative impact on the economy (1) and increasing the trade deficit (1).  • Glacial ablation will increase the amount of water in reservoirs therefore increasing the volume of water for hydropower production (1). This will reduce Pakistan's reliance on imports of oil and gas (1) and therefore have a positive impact on Pakistan's economy (1). | (3)  |
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | (3)  |

| Question<br>number | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Mark |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 3(c)               | AO2 (2 marks)/AO3 (2 marks)                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |
|                    | Award 1 mark for an outlined factor and 1 mark for expansion of the factor, up to a maximum of 2 marks each                                                                                                                                                                                                                                                                                                                                                               |      |
|                    | <ul> <li>Education. The reduction in the number of live births for each woman will mean that there are less children over-all to educate (1). This will mean that the teacher/student ratio should increase and education provision should improve (1).</li> <li>Employment. The reductions in births will decrease the number of young workers in the 2030's (1), this means that there will be fewer workers available which may cause worker shortages (1).</li> </ul> |      |
|                    | Accept any other appropriate response.                                                                                                                                                                                                                                                                                                                                                                                                                                    | (4)  |

| Question | Indicative content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| number   | A04 (2 L ) (4 02 (2 L )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3(d)     | AO1 (3 marks)/AO2 (3 marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|          | The indicative content below is not prescriptive and candidates are not required to include all the material indicated as relevant. Other relevant material not suggested below must also be credited.                                                                                                                                                                                                                                                                                                                                                                                                   |
|          | • The Green Revolution was introduced to Pakistan in the 1960s. The use of specially bred high yielding wheat varieties and synthetic fertilisers have almost doubled the amount of wheat and other crops produced. This supports rural communities by improving food security and by producing a surplus which can be sold.                                                                                                                                                                                                                                                                             |
|          | • Land reforms, such as the first legislation passed by Ayub Khan's government, aimed to redistribute land in rural Pakistan so that land owners could not own more than 500 acres of irrigated and 1,000 acres of unirrigated land. It also permitted the re-distribution of land among tenants. This supported rural communities by allowing the tenants to have sufficient land to grow crops and use the technology introduced by the Green Revolution. This helped rural communities to avoid food deficits and raised their standard of living.                                                    |
|          | • Incentives such as the Khushhal Pakistan Fund (2006) aimed to increase the standard of life, rural productivity and income. A number of individual programmes have benefitted rural communities, or will do so in the future. The Pakistan Electric Power Company plans to increase rural access to electricity. The Wellbeing Green Rural Lighting Programme is an incentive to provide solar-powered lanterns, resulting in stainable and affordable lighting. However, the impact is limited a Pakistan does not produce enough electricity, and most of the power produced is used by urban areas. |
|          | <ul> <li>Government programmes, which aim to raise agricultural production (e.g.,<br/>the Green Revolution and the introduction of drought resistant crops)<br/>have helped to increase output and incomes of rural communities who<br/>depend on farming. However, such schemes tend to benefit landlords and<br/>larger landowners.</li> </ul>                                                                                                                                                                                                                                                         |
|          | <ul> <li>There are also non-government schemes designed to help rural<br/>communities. The Aga Khan Rural Support Programme is a private, non-<br/>profit company, established to help improve the quality of life of the<br/>villagers of Gilgit-Baltistan and Chitral. This programme has resulted in the<br/>construction or repair of small infrastructure projects such as bridges,<br/>irrigation channels and hydropower units and tree planting. Although this<br/>programme has had notable successes, it is limited to a relatively small</li> </ul>                                           |

|         | <ul> <li>Plans to improve enrolment in education, especially at primary level, which is generally lower in rural areas, have had variable success. Some of the incentives such as female education are opposed in the more rural and less-accessible villages with traditional values. Enrolment in education remains low in rural areas overall.</li> </ul> |                                                                                                                                                                                                                                          |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level   | Mark                                                                                                                                                                                                                                                                                                                                                         | Descriptor                                                                                                                                                                                                                               |
|         | 0                                                                                                                                                                                                                                                                                                                                                            | No rewardable material.                                                                                                                                                                                                                  |
| Level 1 | 1-2                                                                                                                                                                                                                                                                                                                                                          | <ul> <li>Demonstrates limited understanding of concepts, some of which may be inaccurate or irrelevant. (AO1)</li> <li>Demonstrates unsustained links to the conceptual focus of the question, which are not developed. (AO2)</li> </ul> |
| Level 2 | 3-4                                                                                                                                                                                                                                                                                                                                                          | <ul> <li>Demonstrates partial understanding of concepts, which are mostly accurate and relevant. (AO1)</li> <li>Demonstrates some links to the conceptual focus of the question, which are partially developed. (AO2)</li> </ul>         |
| Level 3 | 5-6                                                                                                                                                                                                                                                                                                                                                          | <ul> <li>Demonstrates thorough understanding of concepts, which are accurate and relevant. (AO1)</li> <li>Demonstrates sustained links to the conceptual focus of the question, which are developed. (AO2)</li> </ul>                    |

| Question<br>number | Indicative content                                                                                                                                                                                     |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3(e)               | AO2 (4 marks)/AO3 (4 marks)                                                                                                                                                                            |
|                    | The indicative content below is not prescriptive and candidates are not required to include all the material indicated as relevant. Other relevant material not suggested below must also be credited. |
|                    | The command word 'Evaluate' requires the candidate to come to a conclusion/judgement which needs to be supported with an evidence-balanced argument                                                    |
|                    | Indicative content                                                                                                                                                                                     |
|                    | Karachi                                                                                                                                                                                                |
|                    | Benefits                                                                                                                                                                                               |
|                    | Employment. As the financial hub of Pakistan, Karachi provides many job opportunities. However, this are usually for educated                                                                          |

people and most of Karachi's population are unable to access these.

- Culture and entertainment. Karachi is known as the 'City of Lights' because of its culture and nightlife. This includes the National Academy of Performing Arts and the National Museum of Pakistan.
- Historical connections. Karachi contains some important historical sites, for example the hundred-year-old tombs in the Chowkandi graveyard and a number of buildings from the Raj era.
- Recreation. Karachi has a number of scenic beaches and parks, including the Kirthar National Park. However, the majority of Karachi's population live a long way from these facilities and are unable to afford the cost of travel.
- Education availability. Karachi has a large number of schools and Pakistan's largest university. However, the poorer areas have few education establishments, although incentives such as the Footpath School in Karachi provides a free, basic education.
- Transport. Karachi has severe traffic congestion, however there are plans to reduce this and provide residents with an effective system with new flyovers and bypasses constructed on the busiest roads.

### **Challenges**

- Poor infrastructure. Lack of investment in the road network means that these are poorly maintained and causes traffic congestion and pollution. Roads also flood during the monsoon period which causes both rod and vehicle damage.
- Approximately 70% of Karachi's inhabitants have low incomes, and the majority live in relatively more affordable peripheral areas and are not able to afford or do not have access to culture and entertainment.
- The poorer areas such as Afghan Basti and Manghopir have few education establishments, so the children growing up in these areas tend to be illiterate and work in unskilled jobs in the informal sector as they become older.
- Traffic congestion. Public transport options are limited and inadequate. An urban rail line closed in 1999, after years of poor station maintenance and service levels left the system under-used. Karachi's public buses, although numerous, tend to be poorly maintained and unpredictable. The lack of public transport has led to the increasing use of private rickshaws and cars, resulting in traffic congestion, pollution and grid lock.
- Pollution. Karachi is the world's fourth greatest polluted city as its air quality index has frequently increased to 11.8 times higher than the WHO annual air quality guideline value. Local authorities estimate that Karachi produces around 500 million gallons (2202441900 litres) a day of waste water. Around one fifth of water comes from industries, while and the remainder is domestic or municipal sewerage. This waste water is pumped, untreated, into the sea, killing fish. There are not any landfill sits in Karachi, so rubbish is thrown directly into drainage ditches and is eventually washed in the sea by monsoon rains.

#### Lahore

#### **Benefits**

- Health care. Lahore has one of the most developed health systems in Pakatan and provides better levels of health care than most regions of Pakistan
- Education. Lahore provides opportunities for higher education and has a number of universities. Lahore is known as the educational capital of the country. However, 30% of Lahore's population live in poorer areas where health care, education, and basics such as sanitation and electricity, are extremely limited.
- Transport. Lahore has one of the most efficient public transport systems in Pakistan, however, low paid and workers in the informal sector are unlikely to live near the main transport networks, or to be able to afford the fares.
- Employment. There are many opportunities for work in the health, transport and education sectors. However, much of this work requires skills and a level of education which people living in the informal housing areas are unlikely to have.

# **Challenges**

- Health care and other services 30% of Lahore's population live in poorer areas where health care, education, and basics such as sanitation and electricity, are extremely limited.
- Education. Despite availability of educational facilities, the low paid and workers in the informal sector are unlikely to live near the main transport networks, or to be able to afford the fares to reach these facilities. The poorer areas have very limited schools and the illiteracy rates in such areas is high.
- Pollution. Too many vehicles and road congestion, emissions from industries and waste from the industries cause severe pollution in Islamabad. Chemical industries do not have environmental management plans to recycle their waste and hazardous waste is put into open sites into the land resulting in pollutants contaminating with the soil with toxic waste.

### **Faisalabad**

#### **Benefits**

- Major industry and trade hub. Specialising in textiles, Faisalabad also hosts many companies and international banks. The textile industry provides work opportunities for semi-skilled workers.
- Health care availability. The government–run hospital, the Allied Hospital is the largest in Pakistan.

- Transport. Faisalabad is well-connected by rail, road and air. Public transportation in Faisalabad includes auto-rickshaws, buses and railways. Faisalabad International Airport is located on the outskirts of the city.
- Recreation. Faisalabad has a number of parks, most of which are maintained by the Parks and Horticulture Authority, Faisalabad.
- Sport. The Iqbal Stadium is an international test match cricket stadium, although currently mostly used for domestic games. It provides an important sport venue which encourages investment.

## **Challenges**

- Pollution. Faisalabad suffers from severe pollution. Atmospheric pollution caused by the textile and other industries and vehicle emissions is associated with poor health, especially breathing problems. Industries are responsible for industrial wastewater discharged directly into surface water sources without adequate treatment. This leads to polluted ground water and the high saline content of water.
- Load shedding. Faisalabad may have periods of up to six hours load shedding a day and unannounced power cuts. This causes the factories as well as homes to be affected, causing economic challenges textile manufacturing is stopped and the income if the city is negatively affected.
- Education. Faisalabad ha a literacy rate of about 60% and more boys attend school than girls. Some of the public schools are poorly maintained. Access to education is lower in the poorer and informal settlement areas. This lack of education leads to a high rate of low skilled workers who are unable to qualify for better paid work and tend to work in the informal industries.

Accept any other appropriate response.

| Level   | Mark | Descriptor                                                                                                                                                                                                                                                                                                                                       |
|---------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | 0    | No rewardable material                                                                                                                                                                                                                                                                                                                           |
| Level 1 | 1-3  | <ul> <li>Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>An unbalanced or incomplete argument that provides limited consideration of factors, leading to judgements and a final conclusion that are not supported by evidence. (AO3)</li> </ul> |
| Level 2 | 4-6  | <ul> <li>Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>An imbalanced argument that provides some consideration of factors, leading to judgements and a final conclusion that are partially supported by evidence. (AO3)</li> </ul>                     |

| Level   | Mark | Descriptor                                                                                                                                                                                                                                                                                                                            |
|---------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level 3 | 7-8  | <ul> <li>Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (AO2)</li> <li>A balanced, well-developed argument that provides thorough consideration of factors, leading to judgements and a final conclusion that are well supported by evidence. (AO3)</li> </ul> |

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