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## Mark Scheme (Results)

Summer 2022

Pearson Edexcel International GCSE

In Pakistan Studies (4PA1)

Paper 2 The landscape, people and economy of  
Pakistan

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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	Mark
<b>1(a)(i)</b>	<p style="text-align: center;">AO3 (1 mark)</p> <ul style="list-style-type: none"> <li>• C Ravi</li> </ul> <p>Not A Chenab as this is to the north Not B Jhelum as this is to the north Not D Sutlej as this is to the south</p>	<b>(1)</b>

Question Number	Answer	Mark
<b>1(a)(ii)</b>	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for correct term, maximum 1 mark.</p> <ul style="list-style-type: none"> <li>• Flood plain (1)</li> <li>• Active flood plain (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(1)</b>

Question Number	Answer	Mark
<b>1(b)</b>	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for each correct non-renewable energy resource up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> <li>• Gas/natural gas (1)</li> <li>• Coal (1)</li> <li>• Oil (1)</li> <li>• Nuclear (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(2)</b>

Question Number	Answer	Mark
<b>1(c)</b>	<p style="text-align: center;">AO1 (1 mark)/AO2 (2 marks)</p> <p>Award 1 mark for initial cause and 2 further marks for expansion, up to a maximum of 3 marks. Credit only <b>one</b> cause.</p> <ul style="list-style-type: none"> <li>• Storm surges, normally associated with tropical cyclones (1) resulting in very strong on-shore winds. (1) which push the top layer of water of the Arabian Sea upwards increasing the sea level and flooding the coastline (1).</li> <li>• Climate change (1) resulting in rising global temperatures which causes ice caps and glaciers to melt (1). This increases the volume of sea water and leads to coastal flooding (1).</li> <li>• Tsunami (1) are very large waves caused by earthquakes or volcanic eruptions offshore (1). As the wave approaches the coast it slows but its amplitude increases causing large scale flooding of coastal areas (1).</li> <li>• Deforestation of mangroves (1) removes protection against the height and velocity of high tides and storms (1) along the coastline and increases the risk of extensive flooding of coastal areas.</li> </ul> <p>Accept any other appropriate response.</p>	<b>(3)</b>

Question Number	Answer	Mark
<b>1(d)</b>	<p style="text-align: center;">AO2 (2 marks)/AO3 (2 marks)</p> <p>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.</p> <ul style="list-style-type: none"> <li>• Accumulation occurs in upland areas where large volumes of snow/precipitation fall. (1). Over a period of time the snow/frozen becomes compacted to form accumulated glacier ice (1).</li> <li>• More snow/precipitation falls in mountain areas than the volume of snow/ice which melts (ablates) (1). Over time, the snow/frozen precipitation increases in volume to form a thick layer of accumulated glacier ice (1).</li> <li>• Avalanches or snow slides can add snow to the glacier when snow falls down a steep slope from above. (1) This increases the glacier's volume and the process of</li> </ul>	<b>(4)</b>

	accumulation (1).	
	Accept any other appropriate response.	

Question Number	Indicative content
<b>1(e)</b>	<p style="text-align: center;">AO1 (3 marks)/AO2 (3 marks)</p> <p>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.</p> <ul style="list-style-type: none"> <li>• The Southwest Monsoon occurs in late summer, between the end of June/July and September. Half of the total annual rainfall in the areas affected by the monsoon occurs in July and August, averaging about 255 mm for both months. The primary reason for the rainfall during the summers is because of temperature differences between land and the ocean. Rising temperatures in South Asia from April onwards heat up the land areas while the ocean remains relatively cooler, resulting in the creation of a low-pressure zone over South Asia. The low-pressure zone then causes the moist air above the ocean to move on to land and results in rainfall. The Southwest Monsoon brings particularly heavy rainfall to northern Punjab because this area is the most affected by the monsoon wind blowing from the Bay of Bengal</li> <li>• Western Disturbances (depressions) mostly occur during the winter months between December and March. The Western Disturbances originate in the Mediterranean Sea and affect the western areas of Pakistan. They cause light to moderate showers in south western parts of the country and moderate to heavy showers with heavy snowfall in the northern parts of the country.</li> <li>• During the post Monsoon period between October to December there is little precipitation in Pakistan as no active wind or pressure systems are present.</li> <li>• Between April and June (early summer) convection currents can cause convection rain and thunderstorms in the northern and north west areas of Pakistan. Convection rainfall is caused by rising moist air cooling into the higher levels of the atmosphere so that condensation occurs. This causes the water vapour to condense and fall as convection rain.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
<b>Level 1</b>	1-2	<ul style="list-style-type: none"> <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>
<b>Level 2</b>	3-4	<ul style="list-style-type: none"> <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>
<b>Level 3</b>	5-6	<ul style="list-style-type: none"> <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 Number	Indicative content
1(f)	<p style="text-align: center;">AO2 (4 marks)/AO3 (4 marks)</p> <p>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.</p> <p>The command word 'Assess' requires candidates to consider a number of factors and give a reasoned explanation of the factor or factors felt to be the most important.</p> <p><b>Indicative content</b></p> <p><b>Solar power</b></p> <ul style="list-style-type: none"> <li>• The construction /production materials used in include cadmium, tellurium, gallium, indium and selenium. There is currently limited recycling for these in Pakistan.</li> <li>• When construction of large-scale installations such as Beaconhouse Canal Side Campus, Lahore, require land clearance which can have negative environmental impacts, o including soil; erosion, destroying habitats and displacing animals.</li> <li>• Water consumption. Solar panels have to be cleaned at regular intervals to ensure peak efficiency. Solar farms that use concentrated solar collector also require water for cooling. Areas such as Bolochistan have a water deficit and any additional water demands increase the environmental impacts on ground and surface water resources.</li> <li>• Pollution related to solar energy systems is considerably less compared to other sources of energy. However, transportation and installation of solar systems cause the emission of greenhouse gases.</li> <li>• However, solar produced energy contributes 96 to 98% less greenhouse gasses than coal generated electricity, particularly the highly polluting the low carbon coals produced in Pakistan.</li> <li>• Solar energy uses 86 to 89 % less water than coal-produced electricity. This minimises the amount of water potentially polluted and reduces environmental impacts.</li> </ul>



## **Hydropower**

- Hydropower provided 45% of power generation in 1991, but this has fallen to about 28%. Developments in association with China are planned to increase this to more than 40% by 2030.
- Constructing large hydropower plants involves blocking, diverting, or changing the natural course of river systems, causing destroying or damaging to wildlife habitats and migration routes. Over time, dammed rivers tend to have greatly reduced fish populations, which has negative implications for the health of river ecosystems.
- Damming rivers often reduces water and sediment flow downstream of the dam. Low water flow and low nutrient flow can lead to habitat losses.
- Associated infrastructure development will also cause habitat loss and increased greenhouse gas emissions. For example, the Dasu hydropower project in Khyber Pakhtunkhwa will require diverting and re-building 65km of the Karakoram Highway.
- Reservoirs created by damming rivers can contribute greenhouse gases. Organic material trapped in the reservoirs, such as dead plants, breaks down and releases carbon dioxide and methane.
- However, hydropower produces significantly less greenhouse gases than power production using oil or other fossil fuels and has therefore lower overall environmental impacts.

## **Wind energy**

- Many of Pakistan's pilot wind energy projects are located on tidal flats, mostly in Sindh, causing loss of habitats and bird feeding areas.
- The infrastructure needed for the erection of wind farms is insufficient in Pakistan and therefore existing bridges and roads have to be updated. These building projects and the construction of the wind farms themselves produce greenhouse gasses.
- Wind farms can produce both noise and visual pollution. Potential areas for new wind farms include the upland regions of Karachi – Hyderabad, ridges in the northern Indus valley, areas in western Pakistan and high mountainous regions. These are areas which are scenically attractive and undeveloped.
- However, wind energy is a low-carbon energy source A wind turbine generating electricity produces zero carbon emissions. The development of clean wind energy avoids significant carbon dioxide (CO<sub>2</sub>) pollution.
- Wind energy also reduces water consumption. Unlike thermal power plants, wind turbines do not require to produce electricity or cool power generating equipment. Water conservation is especially important in Pakistan which has an increasing water deficient.

	<p><b>Biogas</b></p> <ul style="list-style-type: none"> <li>• The Biogas Support Program (BSP) was introduced in 2000 by Pakistani government. Biogas production produces less greenhouse gases than fossil fuels.</li> <li>• Biogas production does not require the construction of roads and other infrastructure as the fuel source, animal manure, is available in the local area. This reduces greenhouse gas emissions.</li> <li>• Biogas generators helps to prevent firewood collection in rural areas of Pakistan. This reduces deforestation and helps to preserve wildlife habitats.</li> <li>• However, carbon dioxide is produced in the biological breakdown process and when using the biogas. The amount of carbon dioxide produced is considerably less compared than that produced by fossil fuels. Biogas is not carbon neutral.</li> <li>• Biogas production is only currently viable in rural or suburban areas of Pakistan and is produced on a very small scale. The environmental benefits are therefore limited.</li> </ul>
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Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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 Number	Answer	Mark
<b>2(a)(i)</b>	<p style="text-align: center;">AO3 (1 mark)</p> <ul style="list-style-type: none"> <li>• B. Secondary.</li> </ul> <p>Not A as primary industries obtain natural resources.            Not C as tertiary industries provide a service.            Not D as quaternary industries are intellectual or knowledge based.</p>	<b>(1)</b>

Question Number	Answer	Mark
<b>2(a)(ii)</b>	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for a correct factor, maximum 1 mark.</p> <ul style="list-style-type: none"> <li>• Availability of workers/workforce (1)</li> <li>• Local skills (1)</li> <li>• Raw materials (1)</li> <li>• Available infrastructure/transport networks/ power supplies (1)</li> <li>• Rental costs (1)</li> <li>• Traditional manufacturing area (1)</li> <li>• Available capital.</li> </ul> <p>Accept any other appropriate response</p>	<b>(1)</b>

Question Number	Answer	Mark
<b>2(b)</b>	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for each correct challenge, up to a maximum of 2 marks</p> <ul style="list-style-type: none"> <li>• Loss of culture (1)</li> <li>• Labour exploitation (1)</li> </ul>	

	<ul style="list-style-type: none"> <li>• Job insecurity (1)</li> <li>• Polluted water supplies/pollution from waste products (1)</li> <li>• Poorer air quality (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(2)</b>
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Question Number	Answer	Mark
<b>2(c)</b>	<p style="text-align: center;">AO1 (1 mark)/AO2 (2 marks)</p> <p>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.</p> <ul style="list-style-type: none"> <li>• The tenants have the right to land ownership (1), therefore is more likely to invest money and time in their land (1) which will result in more efficient farming producing higher yields (1).</li> <li>• There is a now a limit on the size of farms (1). This means that here will be less land division resulting from inheritance reasons (1) and farms remain large enough to produce economic amounts of produce (1).</li> </ul>	<b>(3)</b>

Question Number	Answer	Mark
<b>2(d)</b>	<p style="text-align: center;">AO2 (2 marks)/AO3 (2 marks)</p> <p>Award 1 mark for an outlined reason and 1 mark for expansion of the reason, up to a maximum of 2 marks.</p> <ul style="list-style-type: none"> <li>• The value of Pakistan's imports exceeds that of its exports (1). Pakistan imports high value petroleum and manufactured goods but exports less expensive household linens, rice and cotton yarn leading to a trade deficit (1).</li> <li>• Pakistan received 3.69 billion \$US in remittances which are invisible imports (1) These remittances are essential to Pakistan's balance of trade as they reduce the trade deficit/reduce the balance between imports and exports (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(4)</b>

Question Number	Indicative content
<b>2(e)</b>	<p style="text-align: center;">AO1 (3 marks)/AO2 (3 marks)</p> <p>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.</p> <ul style="list-style-type: none"> <li>• A World Bank study indicated that that over 90% of Pakistan’s freight and passenger traffic is transported by road. 50% of the national highway network is in a poorly maintained, significantly adding to transportation costs and reducing the competitiveness of businesses and exports. This has a negative economic impact on Pakistan.</li> <li>• The main transport network is concentrated along the coastal regions and the flat Indus floodplain. Other areas of Pakistan, such as Bolochistan, have a very undeveloped transport network which restricts development and the exploitation of mineral resources. This has a negative impact on the economic development of Pakistan.</li> <li>• Pakistan relies on the exportation and sale of primary products, especially rice, wheat cotton and sugar cane. Difficult and expensive transportation means that these products less competitive, reducing the amount of foreign exchange received and consequently negatively affecting Pakistan’s economic growth.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> <li>• Demonstrates limited understanding of concepts, some of which may be inaccurate or irrelevant. (AO1)</li> <li>• Demonstrates unsustainable links to the conceptual focus of the question, which are not developed. (AO2)</li> </ul>
Level 2	3–4	<ul style="list-style-type: none"> <li>• Demonstrates partial understanding of concepts, which are</li> </ul>

		<p>mostly accurate and relevant. (AO1)</p> <ul style="list-style-type: none"> <li>• Demonstrates some links to the conceptual focus of the question, which are partially developed. (AO2)</li> </ul>
Level 3	5–6	<ul style="list-style-type: none"> <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 Number	Indicative content
<b>2(f)</b>	<p style="text-align: center;">AO2 (4 marks)/AO3 (4 marks)</p> <p>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.</p> <p>The command word ‘Evaluate’ requires the candidate to come to a conclusion/judgement which needs to be supported with an evidence-balanced argument.</p> <ul style="list-style-type: none"> <li>• Many scientists, engineers, and teachers, trained in Pakistan, are working in other countries, for example the United States and Canada. This loss of skilled workers is a considerable problem for Pakistan. Pakistan is the third leading source of International Medical graduates (IMGs) to more affluent countries. The bureau of emigration and overseas employment estimate that thousands of doctors migrate from Pakistan each year. Although some of these trained doctors return, Pakistan often losses both their skills and the cost of their training, which negatively affects Pakistan’s economic development.</li> <li>• Pakistan has 9.7 doctors for every 10,000 of Pakistan’s population. This figure is lower in rural areas and the less developed provinces. Migration of skilled workers such as doctors means that health care is very limited in many areas of Pakistan, affecting the population’s health and their ability to work. This is an important factor, affecting regional development and the overall economic development of Pakistan.</li> <li>• However, the most significant economic development in Pakistan over the past ten years has been the dramatic growth of remittances. Remittances from overseas Pakistanis amounted to \$2.768 billion in July 2020, the highest amount recorded and 36.5% increase from July 2019. Remittances make up 7.9% of the Gross Domestic Product (GDP) and are therefore essential for Pakistan’s economy.</li> <li>• Migration of skilled workers is beneficial to Pakistan, which has a median</li> </ul>

	<p>population age of 22.8(2020). Consequently, Pakistan has a very large working-age population and migration to other countries reduces Pakistan's unemployment and therefore benefits Pakistan's economic development.</p>
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Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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 Number	Answer	Mark
<b>3(a)(i)</b>	<p style="text-align: center;">AO3 (1 mark)</p> <ul style="list-style-type: none"> <li>• A (<math>10.8+8.8 = 19.6</math>)</li> </ul> <p>Not B as <math>10.8+8.8=19.6</math>            Not C as <math>10.8+8.8=19.6</math>            Not D as <math>10.8+8.8=19.6</math></p>	<b>(1)</b>

Question Number	Answer	Mark
<b>3(a)(ii)</b>	<p style="text-align: center;">AO1 (1 mark)</p> <p>Award 1 mark for correct measure, maximum 1 mark.</p> <ul style="list-style-type: none"> <li>• Gross domestic product (GDP) (1)</li> <li>• Population density (1)</li> <li>• Population structure (1)</li> <li>• Birth rate (1)</li> <li>• Death rate (1)</li> <li>• Natural increase (1)</li> <li>• Human Development Index (HDI)</li> <li>• Population dependency ratio</li> <li>• Level of equality.</li> </ul> <p><b>Do not accept any other response.</b></p>	<b>(1)</b>

Question Number	Answer	Mark
<b>3(a)(iii)</b>	<p style="text-align: center;">AO1 (2 marks)</p> <p>Award 1 mark for initial point and 1 further mark for expansion, up to a maximum of 2 marks.</p>	



	<ul style="list-style-type: none"> <li>• Life expectancy is increasing (1), the current (2021) expectancy is about 67 years which is projected to rise to 77 years by 2100 (1).</li> <li>• Females have a higher life expectancy than males (1) in 2020 life expectancy for females was 69 years and for males 67 years (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(2)</b>
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Question Number	Answer	Mark
<b>3(b)</b>	<p style="text-align: center;">AO1 (1 mark)/AO2 (2 marks)</p> <p>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.</p> <ul style="list-style-type: none"> <li>• Social constraints and rural traditions mean that there is opposition to education in some rural areas, especially for girls (1). This increases gender inequality and means that the development potential of rural communities is not realised (1). Therefore, rural communities are less likely to be able to afford medical and other services (1).</li> <li>• There are limited government funds for education, Pakistan spends approximately 2.4% of its GDP on education (1). However, much of the funding is used for education in urban areas so there is less money available for rural communities (1) which leads to low levels of literacy and consequently reduces the economic development of rural communities (1).</li> </ul> <p>Accept any other appropriate response.</p>	<b>(3)</b>

Question Number	Answer	Mark
<b>3(c)</b>	<p style="text-align: center;">AO2 (2 marks)/AO3 (2 marks)</p> <p>Award 1 mark for an outlined reason and 1 mark for expansion of the reason, up to a maximum of 2 marks each. Only credit <b>two</b> challenges.</p> <ul style="list-style-type: none"> <li>• Housing. Pakistan's megacities have a large percentage of poor housing quality (1). In Karachi, for example,</li> </ul>	<b>(4)</b>

	<p>approximately 70% of the population are poor and are forced to occupy poor quality houses and informal settlements in peripheral areas of the sprawling city (1).</p> <ul style="list-style-type: none"> <li>• Power supplies. In many of Pakistan’s megacities cities, electricity is only supplied for a few hours a day (1) many of the informal settlements do not have power supplies at all, causing challenges and lowering the over-all quality of life (1).</li> </ul> <p>Accept any other appropriate response.</p>	
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Question Number	Indicative content
<b>3(d)</b>	AO1 (3 marks)/AO2 (3 marks)
	<p>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.</p> <ul style="list-style-type: none"> <li>• Areas with productive agriculture are often densely populated. Punjab, which has intensive wheat, rice and over crop production, has a population density of over 380 people per square km (380/km<sup>2</sup>) while Balochistan which has low agricultural productivity, has a population density of about 19/km<sup>2</sup>.</li> <li>• Urban areas with manufacturing employment tend to be densely populated. Central Karachi, which is linked to industrial and port employment, has a population density of approximately 48,400/ km<sup>2</sup>.</li> <li>• Government policy can have a significant impact upon population densities, the decision to create the planned capital city of Islamabad increased the population in the Pothohar Plateau of the Punjab region. Islamabad has a population density of about 2,089/km<sup>2</sup>.</li> <li>• Areas with well-developed transport infrastructure, for example the Indus plains are more densely populated than areas which are poorly connected, such as Gilgit-Baltistan which has a population density of 26km<sup>2</sup>.</li> </ul>

Level	Mark	Descriptor
	0	No rewardable material.

Level 1	1–2	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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 Number	Indicative content
<b>3(e)</b>	<p style="text-align: center;">AO2 (4 marks)/AO3 (4 marks)</p> <p>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.</p> <p>The command word Assess requires candidates to consider a number of factors and give a reasoned explanation of the factor or factors felt to be the most important</p> <p><b>Indicative content: Mitigation</b></p> <ul style="list-style-type: none"> <li>• Pakistan is one of the most vulnerable countries to climate change, despite producing only 0.72% of world total greenhouse gas emissions. The Government has introduced a number of climate change adaptation and mitigation policies.</li> <li>• The National Climate Change Policy (NCCP),2012, the Government developed plans for implementing climate change mitigation measures in the energy, agriculture, and forestry sectors. This included promoting renewable and hydroelectric power, importing natural gas instead of oil and coal, introducing energy conservation measures, developing public transport systems and implementing vehicle emission standards, promoting lower carbon farming management practices, setting afforestation and reforestation targets, and reducing illegal deforestation.</li> <li>• The Plant for Pakistan (2018) is a five-year project to plant 10 billion</li> </ul>

trees across Pakistan. Planting has continued during the coronavirus pandemic providing employment in rural areas and, eventually, increasing Pakistan's carbon sink potential.

- Despite the plans the Government are making, to be implemented at national and local government levels, there is limited understanding of the administrative and legal powers of the regulations, policies, and programs. There is therefore limited adoption of the NCCP.
- The NCCP policies lack sufficient finance. Some of these resources allotted for the NCCP policies are lost due to corruption.
- The government's priorities are focused on other challenges such as terrorism, the coronavirus pandemic and energy shortfalls. There is limited time or financial resources to deal with climate change mitigation.
- The government has currently been unable to introduce a coordinating system to monitor implementation of climate change research programs and their implementation.

**Indicative content: Adaption**

- Pakistan has begun to formulate a National Adaptation Plan for building resilience to climate change. This aims to reduce some of the vulnerabilities to climate impacts by creating medium- and long-term plans, including the integration of adaptation measures into national policy.
- A two-year project to develop the adaptation plan, supported by the UN Environment Programme (UNEP) and funded by the Green Climate Fund with US\$ 2.7 million, was launched in March 2021. It is too early to assess this plan's success.
- The 10 Billion Trees Tsunami initiative, is hoped that this will save six districts in the country from transforming into inhabitable deserts by 2050 as a result of climate change in Pakistan. These districts include Hyderabad, Sukkur, Mirpur Khas, Lahore, Multan and Faisalabad. Early results of this scheme in Balloki Nature Reserve near Lahore show some promising results.
- Pakistan's Ecosystem Restoration Fund is another new incentive (2019), intended to help the country adapt to flooding from glacial melt combined with monsoon rain in the summer months. Policies include afforestation, 'Recharge Pakistan' with integrated water management and conserving biodiversity and mitigating land degradation, all of which should help to Pakistan to adapt to climate change.

Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-3	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <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>

