

Mark Scheme

Summer 2021 (Results)

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

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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
1(a)(i)	AO3 (1 mark)	
	C 140,000 A is incorrect as it is lower than 140,000, B is incorrect as it is lower than 140,000, D is incorrect as it is higher than 140,000.	(1)

Question Number	Answer	Mark
1(a)(ii)	AO3 (1 mark)	
	30,000 (metric tonnes)	
	15,500-12,500 =30,000 (metric tonnes).	
	Credit answers between 28,000 and 32,000 metric (1)	

Question number	Answer	Mark
1 (b)	AO1 (2 marks) Award 1 mark for each suitable characteristic. • Annual rainfall (precipitation) is low/arid/approximately 38mm per annum • Temperatures are hot in summer • In June the average temperature is approximately 39 °C • Occasional summer thunderstorms • Cooler temperatures in winter • Winter temperature 25°C average • Large diurnal temperature range • Low humidity.	
	Accept any other appropriate response.	(2)

Question number	Answer Mark			
1(c)	AO1 (1 mark)/AO2 (2 marks) Award 1 mark for suitable characteristic and 2 further marks for expansion, up to a maximum of 3 marks. Only credit one characteristic.			
	• Extensive area/ approximately 41,440 km ² of flat land (1) due to river deposition of sediment (1) as the river losses velocity (1).			
	• The river Indus divides in to channels/distributaries (1) due to deposition of sediment (1) blocking the main river channel and causing the river to divert its course (1).			
	• There are extensive mangrove forests growing in the inter-tidal zone (1) because mangrove trees are specially adapted to low oxygen conditions (1) as they have aerial roots to absorb gasses (1).			
	• The Indus Delta used to flood regularly after the monsoon rains (1), however since the 1940's large scale irrigation schemes on the River Indus have reduced the amount of water and sediment reaching the delta (1) therefore the delta has decreased in size (1).			
	• The Indus delta changes the regional shape of the coastline (1) as elongated 'finger-shaped' low sandy areas (1) separated by channels called distributaries form an indented fan shaped coastline instead of a smooth coastline (1).			
	Accept any other appropriate response.	(3)		

Question number	Answer	Mark
1(d)	AO2 (2 marks)/AO3 (2 marks)	
	Award 1 mark for an outlined impact and 1 mark for expansion of the impact, up to a maximum of 2 marks each. Only two impacts should be credited	
	 Landslides (1) rock falls/slope failures are caused by earthquake vibrations (1). 	
	Tsunami (1) large coastal waves result from	(4)

earthquakes out at sea flooding coastal areas (1).
 Fires (1) caused by broken gas pipes/electricity cables (1).
 Diseases (1) resulting from contaminated water supplies (1).
• Damage to infrastructure, such as roads (1) prevents aid from reaching affected areas (1).
 Landslides, liquefaction and fallen debris (1) may prevent essential medical supplies reaching affected areas, especially remote rural regions (1).
Accept any other appropriate response.

Question number	Indicative content
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.
	Indicative content
	Water
	 An estimated 50% of agricultural land in Pakistan is affected by waterlogging or salinity. Waterlogging in the Punjab is caused by over-use of water during irrigation which causes the water table to rise, making the soil saturated and unsuitable for plant growth. The rising water brings salts, in solution, to the surface which are left as a surface deposit, preventing plant growth. Dams and barrages for water extraction and other purposes along the River Indus are causing reduced water flow in the river, this loss of water is causing damage to the coastal mangrove forests and the associated ecosystem.
	Forest products
	 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 soil erosion. 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.
	 The mazri forests in Balochistan are exploited to provide palm leaves for the 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 biodiversity.
	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 may also cause loss of ecosystems and habitats.

	Col are bic res • Fre ex eu na Minerals • Un los col tox • Bo v • Ex	 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. Modern fishing nets rip-up and destroy corals resulting in the loss of coral reefs and associated ecosystems. 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 the contamination of surface water, groundwater and the soil by toxic minerals. 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. 	
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	Mark	Descriptor
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)/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 be credited.
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.
Relevant points that support the statement may include:
 Pakistan's monsoon climate causes heavy rainfall from June to September. Approximately 75% of Pakistan's rainfall occurs during monsoon season increasing over-land and river flow and resulting in periodic flooding in cities such as Karachi and rural areas. Glacial melt. Increasing temperatures in spring and summer in the Himalayas and other mountain ranges result in glacial ablation. Much of the meltwater flows into Pakistan's extensive river network and, as a large proportion for the country is part of a flood plain or delta, this causes flooding in these flatter areas. The steep relief of the mountain ranges in the north and north west of Pakistan, for example the Hindu Kush range, mean that there is rapid surface run-off which causes rivers to flood areas downstream. The mountain ranges in the north and north west of Pakistan are formed of impermeable rocks and have a very thin covering of soil. Therefore, nearly all precipitation and glacial melt water flows over the land surface as surface run-off and into rivers. This increases river discharge and flooding in the lower lying areas downstream. Coastal tropical cyclones may produce storm waves which prevent a river, especially the Indus, from flowing into the sea which causes flooding of coastal areas. This process can result waves of up to four metres when combined with spring tides.
Relevant points to counter the statement may include:

	Hir erc thi cou int de Ur Inc lea Po Inc an Pa ch	forestation in the upper courses of the rivers, such as the malayan foothills, results in rapid surface runoff and soil osion. Rivers silt up due to increased deposition of eroded soil, s can raise the river bed, reduce river capacity and as a nsequence increase the likelihood of flooding. Trees also ercept precipitation therefore reducing flood risk; therefore, forestation may significantly increase flooding. banisation and agriculture on rivers' flood plains, especially the dus, increases run off and reduced interception by vegetation, ading to reduced lag times and increased flooding. orly maintained river embankments, especially along the dus, results in the embankments collapsing during flood events d allowing flood waters to escape from the river channel. kistan is at risk from the impact of human-induced climate ange, which is thought to result in increased rainfall, especially ring the Monsoon period, increasing the flood risk.
Level	Mark	Descriptor
	0	No rewardable material
Level 1	1-3	 Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) 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)
Level 2	4-6	 Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) An imbalanced argument that provides some consideration of factors, leading to judgements and a final conclusion that are partially supported by evidence. (AO3)

Level	Mark	Descriptor
Level 3	7-8	 Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (AO2) 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)

Question number	Answer	Mark
2(a)(i)	AO3 (1 mark)	
	В 75%	
	A 65% is too low, C 85% is too high, D 95% is too high.	(1)

Question number	Answer	Mark
2(a)(ii)	AO3 (1 mark)	
	 Award 1 mark for a suitable service. Carpet making (1) Embroidery (1) Shoe cleaning (1) Vehicle/car washing (1) Brick making (1). 	
		(1)

Question number	Answer	Mark	
2(b)	AO1 (2 marks)		
	Award 1 mark for each correct factor. • Workforce availability (1)		
Raw materials availability (1)			
	Transport networks (1)		
	Availability of power (1)		
	Consumer demand (1).		
	• Distance from an urban area (1).		
	Accept any other appropriate response.	(2)	

Question number	Answer	Mark
2(c)	 AO1 (1 mark)/AO2 (2 marks) Award 1 mark for suitable reason and 2 further marks for expansion, up to a maximum of 3 marks. Only credit one reason. The cost of importing energy, especially oil (1) contributes to Pakistan's trade deficit (1) which means that there is less money available to promote economic development (1). Load shedding/power cuts (1) partly due to the high cost of imported energy (1) means that many industries are without power for extended periods reducing output and economic development (1). Importing energy is expensive (1) and this leads to an increase in manufacturing costs in Pakistan (1) therefore manufactured products are not always competitive in the global market which adversely affects Pakistan's economy (1). Pakistan spends approximately one quarter of its total import bill on energy (1). This high cost means that funds are not available to develop renewable and other energy resources in Pakistan (1) which greatly reduces the opportunities to extend economic development (1). Accept any other appropriate response. 	
		(3)

Question number	Answer	Mark
2(d)	 AO2 (2 marks)/AO3 (2 marks) Award 1 mark for each strategy outlined, with a further mark for explanation, up to a maximum of 2 marks. 1.Plant breeding programmes To increase crop yield (1) plant breeding programmes have resulted in high yielding varieties of rice and wheat (1). 	
	 To develop crops better adapted to drought affected areas, for example Balochistan (1) improving regional food security (1). To develop genetically modified crops (1) which reduces dependence on herbicides and insecticides (1). 	
	2. Fertilisers	(4)

	 Increase crop yield (1) by supplying essential plant nutrients (1). Without the use of fertilisers crop production falls (1) as crops deplete the nutrient content of soil (1). Fertilisers add nutrients and minerals such as zinc to soils which have a low natural content (1) these nutrients and minerals are taken up by crops and are important for a balanced diet (1). The Pakistani government proposed (2020) to provide a subsidy of Rs 37bn (1) to encourage the use of fertilisers to help maintain food security during Covid-19 (1). 	
A	ccept any other appropriate response.	

Question number	Indicative	e 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 suggests below must also be credited. Indicative content Gender inequality is considered to be a major factor affecting economic development. Pakistan is currently ranked as the second lowest country in the world for gender equality by Global Gender Gap Index. There is lack of access to quality family planning services, especially in rural areas, therefore woman have a high fertility rate, an average of 3.8 children per woman This means that Pakistan's population is rapidly increasing which is hindering economic development. The status of women is low, especially in rural areas. Women are not permitted to leave the home to work, and this loss of labour adversely affects the economic development of Pakistan, both regionally and nationally. The number of women in education is significantly lower than that of men. 33% percent of primary school age girls do not attend school in Pakistan, compared to 21% of boys. Girls are therefore not equipped to participate in the work place, reducing their contributions to the over-all economic development of Pakistan. 	
Level	Mark	Descriptor
Level 1	0 1-2	 No rewardable material. 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)

Question number	Indicative content
2(f)	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 suggests 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.
	Relevant points that support the statement may include:
	 The profits made by transnational corporations (TNCs) located in Pakistan are sent back to the TNC's base in an another, usually developed, country. This finance is not available to help with the development of Pakistan. Globalisation is affecting the culture of Pakistan. For example, the national dress of Pakistan is Shalwar Qameez, but cultural globalisation is affecting people's choices and many are adopting western style clothing. The introduction of fast-food outlets has altered the traditional diet of many, especially younger, Pakistanis. Globalisation increases the disparity between the regions of Pakistan. Large urban centres such as Karachi benefit from the links with a broader market base and communications. However, regions which largely depend on traditional agriculture such as Gilgit-Baltistan do not receive these benefits or develop economically. The resulting disparity in Pakistan helps to increases rural to urban migration, particularly by younger people. This reduces the work force in rural areas and increases the imbalance of population distribution.
	Relevant points to counter the statement may include:
	 Globalisation is linked to the emergence of worldwide production and markets and therefore allows access to a range of imported products for consumers and companies. Globalisation makes the movement and goods between countries easier which benefits Pakistan. Globalisation has provided opportunities for developing countries, expanding their export markets and attracting foreign capital, which helps development. However, the increase in Pakistan's exports has not been as rapid as other countries. However, globalisation has helped the development of

	 communication technology in Pakistan which has had some benefits for the economy. This is one of the fastest growing sectors in Pakistan. A number of TNCs have based branches in Pakistan. These have provided increased work and training opportunities, investment in Pakistan's infrastructure and frequently offer enhanced services such as health care for their employees and their employees and their families. 		
Level	Mark	Descriptor	
	0	No rewardable material	
Level 1	1-3	 Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) 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) 	
Level 2	4-6	 Demonstrates elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) An imbalanced argument that provides some consideration of factors, leading to judgements and a final conclusion that are partially supported by evidence. (AO3) 	

Level	Mark	Descriptor
Level 3	7-8	 Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (AO2) 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)

Question number	Answer	Mark
3(a)(i)	AO3 (1 mark)	
	C increasing strength of tropical cyclones	
	Not A as glacial size will decrease, not B as flooding will increase, not D as sea levels will increase/rise.	
		(1)

Question number	Answer	Mark
3(a)(ii)	3(a)(ii) AWard 1 mark for a correct cause.	
	 Burning fossil fuels (1) Rice cultivation (1) Meat/dairy farming (1) Sunspot activity (1). Increased CO₂ emissions (1). Increased methane emissions (1). 	
	Accept any other appropriate response.	(1)

Question Number	Answer	Mark
3a(iii)	AO1 (2 marks) Award 1 mark for each correct cause, with a further mark for the development of this cause up to a maximum of 2 marks. • Reduction in income from exports (1) caused by lower agricultural production (1).	
	 Increase in imports, such as raw cotton as the climate become unsuitable for cotton farming (1) causing a negative balance of trade (1). Increase in food imports increasing trade deficit 	

	 (1) as areas of Pakistan become too dry for crop production, for example during the drought which affected Sindh province (2018-19). Reduction in local incomes form fishing (1) as lakes and rivers are adversely affected by climate change (1). Reduction in river flow due to climate change could reduce the amount of hydropower produced (1) increasing the amount and cost of energy imports (1). 	
	Accept any other appropriate response.	(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 one factor. Regions with high employment in agriculture (1) such as labour intensive rice production in the Punjab (1) can support a high population density (1). Sea ports such as Karachi attract industries (1) and consequently investment (1) and can economically support a high population density (1). The lack of infrastructure, for example roads, rail and regional airports (1) in the western and northern areas of Pakistan (1) mean that these areas are difficult to access and have a low population density (1). Rural to urban migration (1) for work , sercies and social reasons (1) mean that remeote rural areas have a decresing population density (1). Accept any other appropriate response. 	
		(3)
		(5)

Question number	Answer	Mark
3(c)	AO2 (2 marks)/AO3 (2 marks)	
	Award 1 mark for an outlined benefit and 1 mark for expansion of the reason, up to a maximum of 2 marks each. Only credit two benefits.	
	 Increases disposable income (1) allowing families to develop small businesses (1). 	
	• Provides finance for education (1) which will increase knowledge about improved farming methods (1).	
	• Reduces poverty in rural areas (1) and allows access to a more varied diet and food security (1).	
	• Provides finance for medical treatment (1) improving the health of those living in rural areas (1).	
		(4)

Question number	Answer	Ma
3(d)	AO2 (3 marks)/AO3 (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.	
	Karachi	
	 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. Education availability. Karachi has a large number of schools and Pakistan's largest university 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 Work. As the financial hub of Pakistan, Karachi provides many job opportunities. 	
	Lahore	
	 Health care. Lahore has one of the best health systems 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. Transport. Lahore has one of the most efficient public 	

	 En in Faisalab Ma in int He ho Tra an au Int Tra an au Re of Au Sp ma 	ajor industry and trade hub. Specialising in textiles particular, Lahore also hosts many companies and cernational banks. Palth care availability. The government-run spital, the Allied Hospital is the largest in Pakistan. Ansport. Faisalabad is well-connected by rail, road d air. Public transportation in Faisalabad includes to-rickshaws, buses and railways. Faisalabad ternational Airport is located on the outskirts of the	
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	 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 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 be credited.		
	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.		
	Indicative Content		
	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.		

Level	Mark	Descriptor	
	0	No rewardable material	
Level 1	1-3	 Demonstrates isolated elements of understanding of concepts and the interrelationship between places, environments and processes. (AO2) 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) 	
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Level	Mark	Descriptor	
Level 3	7-8	 Demonstrates accurate understanding of concepts and the interrelationship between places, environments and processes. (AO2) 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) 	

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