GradeMax



Mark Scheme (Results)

Summer 2022

Pearson Edexcel International GCSE
In Bangladesh Studies (4BN1)
Paper 2 The landscape, economy and people of Bangladesh

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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.

Paper 2

Question Number	Answer	Mark
1(a)(i)	AO3 (1 mark) C Sylhet The answer cannot be A or D as these are in Zone 2. The answer cannot be B because it is in Zone 3.	**(1)**

Question Number	Answer	Mark
1(a)(ii)	AO3 (1 mark) Award 1 mark for a suitable definition. • Where two tectonic plates meet (1) Accept any other appropriate response.	**(1)**

Question number	Answer	Mark
1(b)	AO1 (2 marks) Award 1 mark for each suitable climatic zone, up to a maximum of 2 marks. • Tropical savanna (1) • Humid subtropical (1) • Subtropical highland (1) • Monsoon (1) Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
1(c)	AO1 (1 mark)/AO2 (2 marks) Award 1 mark for identification of a suitable cause and 2 further marks for expansion, up to a maximum of 3 marks. Only credit **one** cause. • Strong winds due to a tropical storm/cyclone (1) travel over the Bay of Bengal (1) forcing water towards the coastline (1). • The Bay of Bengal can act as a funnel (1) which directs tropical storms/cyclones to the coast (1) which causes strong/high waves to hit the shore (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
1(d)	AO2 (2 marks)/AO3 (2 marks) Award 1 mark for each suitable response, with a further mark for development up to a maximum of 2 marks for each response. Only **one** response from an international agency and **one** response from the government of Bangladesh should be credited. International agencies: • UNHCR *(*United Nations High Commissioner for Refugees)/ UN Refugee Agency distributing material for temporary housing, as well as clothing, cooking materials to those affected by housing loss (1), to prevent further deaths due to homelessness (1). • Red Crescent distributed food and water aid to those in shelters (1) to ensure starvation is avoided (1). • Red Crescent Youth supported evacuation of people to cyclone shelters (1) to reduce the amount of people harmed or injured (1). Government of Bangladesh: • Local authorities to coordinate relief aid (1) to ensure aid is distributed more evenly (1). • Invest more money in the Cyclone Preparedness Programme (CPP) (1) to prevent as much damage in future events (1). • Worked with Red Crescent to ensure emergency relief was targeted to the right areas (1) to ensure people had access to food and safe drinking water (1). • Mobilisation of armed forces (1) provide trucks, zodiac boats, helicopters etc to provide emergency	**(4)**

	rescue and repair to services (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** The answer will vary depending on the natural resource chosen: water, forest products, fish/shellfish, and minerals. Water: • Water used in industrial processes can become polluted leading to contamination of water sources used for drinking, particularly in urban areas. • Overuse of water for irrigation can create stress for groundwater sources which can lead to spread and increased severity of arsenic contamination. • The ready-made garment sector is water intensive, and lead to a decline in the water table in areas around Dhaka (around 10m between 2000-2010). Forest products: • Forests cover around 17.4% of land area of Bangladesh, but this is declining (around 2600ha per year) due to logging of forests for timber or fuelwood (particularly in the hill forests of the south east). • Deforestation reduces the quality of the soil and increases the risk of topsoil being washed away by rain and reduces habitats for species leading to reduced biodiversity. • Degradation of mangrove forests along the coastal zone can reduce protection of the coastline to storm surges. Fish shellfish: • Poor management of shrimp fishing in Sundarbans is causing damages to the mangrove ecosystem as conversion of land to shrimp farms interrupts water flows and movement of native fish species. • Intensive freshwater aquaculture is reducing fish stocks as breeding cycles are interrupted. • Overfishing and killing of young fish in coastal and marine areas

	had led to a reduction in fish stocks which is affecting these ecosystems due to disrupted food chains. Minerals • Underground coal mines around Barapukuria Coal mining area causing land subsidence and changing soil characteristics. • Mining processes can lead to heavy metal pollution of the soil and water sources nearby. • Mining activities can lead to alterations to river channels, which can increase the risk of flooding. •

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)

Question number	Indicative content
1(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 not suggested below must be credited. **Indicative Content** • Bangladesh experiences frequent flood events. There are three very extensive river networks run through the country (around 230 rivers) the Ganges, Meghna and Brahmaputra, as well as low lying coastal land. • Due to large river networks, a larger proportion of the country is part of a flood plain (around 80%) or delta. • There are a range of causes which contribute to flooding. • Candidates may discuss how different areas are affected by different types of flooding i.e., river vs coastal and different causes may be more important in different areas.

	Physical causes • Monsoon climate leads to heavy rainfall from June to October. Around 80% of Bangladesh's rainfall takes place during monsoon season, typically leading to periods of flooding. In 2020 around 1/3 of Bangladesh was underwater after extended periods of heavy rain. • Snowmelt from the Himalayas in the late spring and summer leads to increased river volume and flooding. • Tropical cyclones create strong winds and heavy rain, as well as storm surges which can particularly affect the delta region. • Much of the Bangladesh is low lying, making it more susceptible to flooding: 70% of the country is less than 1m above sea level. **Human causes** • Deforestation in the upper course of the river, leading to greater runoff and faster soil erosion. Rivers silt up due to increased soil erosion, this can raise the riverbed, reduce river capacity and consequently increase the likelihood of flooding. • Urbanisation around areas on the flood plain, increases run off, as well as reduced interception from vegetation, leading to reduced lag times and increased flooding. • Poorly maintained river embankments which can lead to collapse during flood events. • Bangladesh is at risk from the impact of human induced climate change, which is thought to lead to increased rainfall, increased extreme weather events including cyclones, flooding events, particularly in the delta region, as well as sea level rise.	
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 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) D 2016 The answer cannot be A as 2006 (20 million), B as 2008 (40 million) or C 2013 (115 million).	**(1)**

Question number	Answer	Mark
2(a)(ii)	AO3 (1 mark) Award 1 mark for correct answer. • 160-20 = 140 million (1) • Accept answers in the range 135-145.	**(1)**

Question number	Answer	Mark
2(b)	AO1 (2 marks) Award 1 mark for each correct factor, up to a maximum of 2 marks. • High population density for workforce (1) • Reliable communications/electricity supply infrastructure (1) • Urban areas with banking and financial services (1) • Flat areas suitable for building (1). • Financial incentives from the government (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. • Remittances can help address the negative the balance of trade (1) increasing disposable income (1) which may allow families to start small businesses (1). • May reduce poverty in rural areas (1) by providing an income that can be invested in farming equipment (1) to increase yields (1). • Remittances can help pay for services such as education (1) which means family members might be able to access skilled jobs (1) and earn more money which can be spent in Bangladesh (1). • Remittances were around US$22 billion in 2021 (1) which is around 6% of GDP (1) providing a significant proportion of the national income (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
2(d)	AO2 (2 marks)/AO3 (2 marks) Award 1 mark for each suitable challenge, with a further mark for explanation, up to a maximum of 2 marks. Only two challenges should be credited. • Railways have received little investment or maintenance (1) which means many of the trains are old and overcrowded and experiences problems (1). • Inherited colonial network of railways (1) do not meet the modern needs of Bangladesh today with some areas of country with poor access (1). • Increased population growth has not been matched by expansion in public transport (1) leading to overcrowding of services (1). • Congestion due to increased demand for services (1) due to increased rural-urban migration (1). Accept any other appropriate response.	**(4)**

<table>
<tr><td>Question number</td><td colspan="2">Indicative content</td></tr>
<tr><td>2(e)</td><td colspan="2">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

• In the 2019 Global Hunger Index Bangladesh ranked 88th of 117 countries, with a score of 25.8 which is considered ‘serious’.
• It is estimated that 25% of people in Bangladesh are food insecure, with 11 million people suffering from acute hunger, and as much as 56% of households experiencing periods with food shortages.
• Bangladesh has made great progress in expanding food production in recent decades, keeping pace with population growth, but there are still short-falls in some crops, and access to food is unequal.
• Food security in Bangladesh is vulnerable to the impacts of climate change because the country is so dependent on the agricultural sector and may experience changing patterns in rainfall and temperatures which will threaten production.
• Several programmes have been established by the government of Bangladesh (with several ministries working together including finance, agriculture, fisheries and livestock, food etc) as well as with NGOs and other international organisations (such as FAO, WFP, USAID).
• Food Security Country Framework (FSCF) established to try and help cope with increased demand for food due to continued population growth. This included support for agricultural intensification and diversification through quality inputs and mechanization.
• Improvement in the use of high yield crop varities and use of technology in agriculture has increased availability of food for some poeple, in particular self sufficiency in crops such as rice and potatoes.
• Empowering women is seen as key to achieving food security. Training programmes have been created for women on nutritional awareness, and to increase womens’ participation in agriculture.
• Other international organisations have established more specific projects e.g FAO project in remote areas of Chittagong Hill Tracts supported household farming providing support for quality seed production, improving farming practices and poultry keeping.</td></tr>
<tr><td>Level</td><td>Mark</td><td>Descriptor</td></tr>
<tr><td></td><td>0</td><td>No rewardable material.</td></tr>
</table>

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)

<table>
<tr><th>Question number</th><th colspan="2">Indicative content</th></tr>
<tr><td>2(f)</td><td colspan="2">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.

Indicative content

• There are a wide range of TNCs present in Bangladesh that candidates might discuss. Unilever, HSBC, H&M, Nestle, Siemens, for example.
• Answers may focus more on the positive or negative impacts of the presence of TNCs for the people of Bangladesh.

Statements which may suggest positive impacts:

• TNCs provide a range of more highly skilled employment and training opportunities, therefore increasing the potential to increase income and develop transferable skills.
• TNCs can bring increased foreign investment into Bangladesh, which can improve not only services but technology and infrastructure too, which in turn can improve quality of life for some people.
• TNCs can introduce aspects of different international cultures to the people of Bangladesh.

Statements which may suggest negative impacts:

• Often a substantial proportion of TNCs profits are sent back to the country where the HQ is located, therefore not necessarily generating income which will benefit Bangladesh and its people directly.
• The introduction of more globalised companies may influence local culture and practices, therefore causing a threat to local cultures.
• Some TNCs are associated with having low health and safety regulations, minimal employment rights and/or little job security.
• Sometimes TNCs may locate in Bangladesh due to lower wage costs, and so workers may feel exploited. Although TNCs often require highly skilled workers, sometimes these are imported from other countries, and therefore not benefitting local workers.</td></tr>
<tr><td>Level</td><td>Mark</td><td>Descriptor</td></tr>
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• An unbalanced or incomplete argument that provides</td></tr>
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		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) B 0.62 Cannot be A (below 0.62), C or D (above 0.62).	**(1)**

Question number	Answer	Mark
3(a)(ii)	AO3 (1 mark) Award 1 mark for identification of suitable indicator • Life expectancy (1) • GNI per capita (1) • Years of schooling (1)**.**	**(1)**

Question Number	Answer	Mark
3(a)(iii)	AO1 (2 marks) Award 1 mark for a suitable factor identified and a further mark for explanation, up to a maximum of 2 marks. • Improved access to healthcare services such as vaccinations (1) can reduce risk of diseases which could lead to death (1). • Improved education (1) leading to more nutritious diets which can reduce risk of death (1). • Rising income (1) which allows people to improve their diet/access to medicines/healthcare (1).	**(2)**

Question number	Answer	Mark
3(b)	AO1 (1 mark)/AO2 (2 marks) Award 1 mark for identification of a suitable challenge and 2 further marks for explanation, up to a maximum of 3 marks. Only credit **one** challenge. • Lack of young people to work on the farm (1) as urbanisation has led them to work in cities (1) to try and earn more money (1). • Poverty (1) as many households are below the poverty line (1) due to lack of employment opportunities (1). • Lack of education facilities (1) as these are often concentrated in cities (1) which means people cannot gain skills to move into better paid employment (1). • Gender inequality is present in many rural areas (1) as women are expected to stay at home (1) and may miss out on education and employment opportunities (1). • The dominance of subsistence agriculture (1) which means people do not have surplus crops to sell (1) which means they cannot make further investments or establish small businesses (1). Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
3(c)	AO2 (2 marks)/AO3 (2 marks) Award 1 mark for each suitable opportunity or challenge identified, with a further mark for explanation, up to a maximum of 2 marks. Only **one** opportunity and **one** challenge should be credited. Opportunities: • Increase in skilled employment opportunities (1) as more companies locate in urban areas and demand for services increases (1). • Increased investment in health care and education services, infrastructure and facilities (1) which can improve quality of life (1). • Reduced risk of disease (1) as there are better health care services and sanitation systems (1). Challenges • Traffic congestion (1) due to increased car ownership (1). • Lack of housing/overcrowding (1) which could lead to the development of informal settlements (1). • Can lead to increased inequality in cities (1) as there is greater competition for housing and services (1). Accept any other appropriate response.	**(4)**

Question number	Indicative content
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 suggests below must also be credited. **Indicative content** • Bangladesh is particularly vulnerable to climate change due to large areas of low-lying land, high population densities and inadequate infrastructure. • Climate change is projected to change the intensity and frequency of natural disasters, exacerbate the extent of river and coastal flooding as well as negatively impact agricultural productivity, infrastructure and development projects which will create additional stresses on the economy of Bangladesh and reduce GDP growth rate. Relevant points that may be discussed include: • Responding to climate change requires high levels of financial investment from government which diverts money from other services and economic development programmes. Between 1980 and 2020 the government invested over US$10 billion in climate resilience strategies (physical measure such as polders, shelters etc and non-physical such as awareness raising programmes). Current rate of spending is about 7% of annual budget but is likely to need to increase to cover all the costs identified for adapting to climate change. • People may be forced to leave their homes. Two thirds of Bangladesh's population live less than 5m above sea level, and 28% live on the coast. It is predicted by 2050 that with a 50cm increase in sea level that 11% of the land in Bangladesh would be affected, leading to 18 million people being forced to migrate. • Any rise in sea level has the potential to flood a lot of homes, businesses and agricultural land. Loss of agricultural land means loss of crops and therefore potential exports which could lead to a reduced GDP and greater imbalance of trade. • Many farmers have reported changes associated with climate change including unseasonable rain, a more intense dry season, and less rain. Given the economy of Bangladesh is so dependent on agriculture it is particularly vulnerable. • Increases in the frequency and severity of tropical storms may cause more loss of human life, plus more damage to buildings and infrastructure. This means there will be greater investment required for disaster monitoring and prevention which will divert money from other services, as well as money needed to respond to the disaster events which may occur more frequently.

	• Evidence suggests there is already an increase in cyclone frequency in cyclone seasons (November & May). Tropical storm Mora in 2017 made landfall in Cox's Bazaar district and affected 3.3 million people costing US$297 million.	
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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. **Indicative Content** • The population density of Bangaldesh is around 1,265 people per sq km. However this varies significantly across the country from 83 people per square kilometre in Rangamati district in to 23,234 people per square kilometre in Dhaka. • Population densities are highest in the regions around Dhaka in the centre of the country and Chattogram towards the south east. These districts include some of the largest cities from which their districts get their name. • South west coastal areas typically have densities from 250-750 people per square km, while northern and western districts tend to have densities with between 750-1249 people per sq km. South eastern coastal areas have extremely high densities around Chittagong but away from the coast the south east has some of the lowest population densities often below 250 people per sq km. • There are a range of physical and human factors that affect the population distribution in Bangladesh. **Physical factors:** • Relief: While much of Bangladesh is a low-lying country, the Chittagong hills in the south-east and low hills of Sylhet in the northeast and highlands in the north. These areas of high elevation are less suitable for settlement growth. Low lying lands in large proportions of the country, along floodplains has made these areas accessible. • Soil fertility: Around 75% of Bangladesh is classified as flood plain which means there is a lot of fertile land for agriculture which leads to higher population densities. • Climate: north-western areas of Bangladesh have been experiencing drought for several decades which has discouraged population growth, due to difficulties in producing crops. **Human factors:** • Cities such as Dhaka are commercial and administrative centres with more advanced infrastructure and service provision than rural areas. This has led to rural-urban migration in many districts leading to even fewer people living in rural areas. • Rapid urbanisation has led to the expansion of cities such as Dhaka and the growth of nearby cities as a result. This concentrates more of the population in this district and those

	nearby (e.g., Gazipur, Narayangani). • Transport connections: remote areas of the country such as Bandarban district have poor transport links and communication facilities.	
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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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