GradeMax



Mark Scheme (Results)

November 2020

Pearson Edexcel International GCSE
In Bangladesh Studies (4BN1)
Paper 02: The landscape, people and economy 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.

Question Number	Answer	Mark
1(a)(i)	AO3 (1 mark) B Padma Cannot be A, C or D due to the location.	**(1)**

Question Number	Answer	Mark
1(a)(ii)	AO3 (1 mark) Award 1 mark for correct point, maximum 1 mark. • Low lying (1) • Slow velocity of water (1) • High proportion of deposited sediment (1) • May contain stagnant water (1) • Very fertile (1) • Tidal waters (1) • Distributaries (1) • Many islands (1) Accept any other appropriate response.	**(1)**

Question Number	Answer	Mark
1(b)	AO1 (2 marks) Award 1 mark for each correct characteristic, up to a maximum of 2 marks. • tidal swamp (1) • trees which can survive salty water conditions (1) • shallow root systems (1) • thick/dense roots above the ground (1) • habitat for wildlife such as crocodiles (1) • breeding area for small fish (1) Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
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. Only credit **one** cause. • Storm surges (1) cause a sudden rise in sea level due to very strong winds (1) which can create very strong waves (1). • Rising sea levels (1) due to climate change (1) which means low-lying coastal areas will be prone to flooding (1). • Tsunamis (1) caused by earthquakes (1) which displace water and creates a huge wave hitting coastal area causing severe flooding/loss of property (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 identified, with a further mark for development up to a maximum of 2 marks for each response. Only **two** responses should be credited. Primary impacts • Try to persuade government to introduce building laws and regulations (1) to ensure more buildings are built to withstand earthquakes. • Assist with efforts to fix damaged transport links (1) to ensure people and goods can continue to travel around the country (1). • Try to improve emergency response services (1) to reduce deaths from injuries which could be treated (1). Secondary Impacts • NGOs can provide medical supplies/personnel (1) to help reduce the spread of disease (1). • Deliver education programmes to local people (1) to ensure more people know how to respond to earthquake events (1). • Install tsunami warning systems (1) to try and reduce deaths in future events (1). • Creation of specialist teams (1) to deal with rescue from collapsed buildings/fires (1). Accept any other appropriate response.	**(4)**

<table>
<tr><th>Question number</th><th colspan="2">Indicative content</th></tr>
<tr><td>1(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 not suggested below must also be credited.

Indicative content

• There are a range of renewable energy resources being exploited in Bangladesh including biogas, hydroelectric power, solar and tidal.
• Use of renewable energy can expand capacity and provide electricity when there are shortfalls from other sources. This can reduce reliance on non-renewable energy sources such as coal and oil
• Use of renewable energy sources can help to reduce greenhouse gas emissions which contribute to climate change.
• Some renewable energy sources can allow more remote areas to access electricity. Rooftop solar power has provided electricity to a large number of people particularly in remote off grid areas which wouldn't have had power otherwise. Small-scale power installations like this have been supported by NGOs and have helped bring people out of poverty.
• Household and village level biogas plants allow more remote places to access energy. Biogas technology is particularly useful for cooking.</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>
<tr><td>Level 1</td><td>1–2</td><td>• 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)</td></tr>
<tr><td>Level 2</td><td>3–4</td><td>• 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)</td></tr>
<tr><td>Level 3</td><td>5–6</td><td>• 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)</td></tr>
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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** **A02** Answers may take a case study approach to discuss effectiveness of responses. For example: • Cyclone Sidr affected Bangladesh on 15th November 2007, affecting low-lying coastline around the north end of the Bay of Bengal which is densely populated. Strong winds and a storm surge caused flooding to residential, farmland and forest ecosystems, and caused loss to clean water and electricity. It is estimated to have killed around 3,500 and affected over 7 million people. In preparation for the cyclone there were warnings sent out by mobile phone, however there were no tv or radio warnings to spread the message. Some rail services were stopped. After the event rescue teams struggled to reach damaged areas due to damaged infrastructure and flooding. Water and power supplies took a long time to restore. • Before Cyclone Sidr there were around 1500 shelters which could each hold 5000 people. After the cyclone, the government initiated a further 2000 new cyclone shelters in 15 different vulnerable districts. Despite these new shelters, the number is insufficient for the level of population at risk. **A03** • Indications that responses have not been effective are likely to include discussions of lack of access to safe drinking water, food, and the rise of infectious diseases, affecting the livelihoods of thousands of people, population displacement, loss of farmland and crops. • Bangladesh has made significant efforts to reduce deaths from cyclones through improvements to early warning systems, building shelters and establishing evacuation plans, constructing coastal embankments (around 4000km), maintaining coastal forest cover and reforesting some areas (1200km^2 of mangrove) and focusing on community level education around actions to take before and after a cyclone event.

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) • C 25 Cannot be A (1994-95), B (1999-00) or D (2014-15)	**(1)**

Question number	Answer	Mark
2(a)(ii)	AO3 (1 mark) • 35 -23 = 12 (1)	**(1)**

Question number	Answer	Mark
2(b)	AO1 (2 marks) Award 1 mark for each correct manufacturing industry, up to a maximum of 2 marks. • Textiles (1) / Leather (1). • Steel (1). • Cement (1). • Shipbuilding (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. • Remote rural areas with low populations do not receive as much investment as cities (1) so many people migrate to other areas (1) which means many people left behind may experience poor living conditions due to low income (1) • Concentration of industry in cities can attract large numbers of migrants (1) this can lead to high unemployment where there are not enough jobs (1) and creates pressures on cities to create sufficient services and amenities (1). • Investment in transport and infrastructure tends to concentrate in urban areas (1) which means more remote areas remain isolated with poor connections (1) which means investment is less likely i.e. negative multiplier effect. Accept any other appropriate response.	**(3)**

Question number	Answer	Mark
2(d)	AO2 (2 marks)/AO3 (2 marks) Award 1 mark for each suitable strategy identified, with a further mark for explanation, up to a maximum of 2 marks. Only two strategies should be credited. • Mechanization (1) - introducing technology to reduce time taken for farming processes and reducing labour requirements (1). • Increased irrigation (1) - extension of irrigation facilities allow crops to be grown in areas with insufficient water supplies at different times in the year (1). • Introducing high yielding varieties of seeds (1) - increased output 10-20% compared to traditional varieties (1). • Fertilizers (1) - the use of chemical fertilisers (often nitrogenous) has increased output (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)

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Indicative content

Secondary sector industries have a range of environmental impacts in Bangladesh. Candidates may refer to one or more of the following impacts, for example:

• Water pollution: A range of industries in Bangladesh contribute to increased water pollution (paper, pharmaceuticals, metal industries, pesticides, tannery) with a lot of untreated industrial waste reaching water sources. This contaminates both drinking water sources and water used for agriculture.
• Air pollution: One of the main industries contributing to air pollution in urban areas this is the brick kiln industry. The brick kilns contribute significantly to the concentration of PM2.5 which remain significantly above the WHO suggested safe levels.
• Deforestation: Increased demand for land for industry as well as wood for use in building and industrial processes is leading to increased deforestation. This leads to land degradation, including soil erosion, loss of biodiversity, reduced carbon dioxide being removed from the atmosphere (and so contributing to global warming).</td></tr>
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		• 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. **Indicative content** **A02** • Food security remains an important issue for the future development of Bangladesh. USAID estimate that malnutrition costs Bangladesh more than US$1 billion in productivity plus additional health costs. For Bangladesh to continue to develop it needs to ensure there is investment in food security. • Bangladesh has made great improvements to its food security since the 1970s when it experienced chronic food deficit. Food growth-maintained pace with population growth for many years due to developments in agriculture (Green Revolution etc). • Country Investment Plan allocated US£8.8 billion to food security and nutrition (funded by government of Bangladesh and development partners). • Programmes such as School Feeding developed by the government were designed to ensure sufficient nutrition for children in poor and vulnerable area, including the distribution of fortified biscuits which included 6% of child's nutrient requirements). **A03** • Despite efforts to address issues of food security many people remain without sufficient nutrition. Estimated that 1 in 3 children are still affected by malnutrition and stunted growth as a result. • While Bangladesh grows a large amount of food, this is not evenly distributed to accessible to all the population. Greater efforts are needed to ensure equality of access to food to ensure greater food security in the future. • Concerns over the future of food security are interlinked with the challenges of climate change and the potential impact on the ability for Bangladesh to grow food.

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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 48 Cannot be A (2010), C (2002) or D (2000)	**(1)**

Question number	Answer	Mark
3(a)(ii)	AO3 (1 mark) Award 1 mark for correct definition. • The number of live births per 1,000 women in one year. (1) Accept any other reasonable response.	**(1)**

Question number	Answer	Mark
3(a)(iii)	AO1 (2 marks) Award 1 mark for each suitable factor, up to a maximum of 2 marks. • Improved health care facilities (1). • Better ante-natal and post-natal care (1). • Reductions in malnutrition (1). • Increased access to education (1), • Increased female literacy rates (1). Accept any other appropriate response.	**(2)**

Question number	Answer	Mark
3(b)	AO1 (1 mark)/AO2 (2 marks) Award 1 mark for reason, with a further 2 marks for a developed idea of why these are important, up to a maximum of 3 marks. • Remittances involve money being sent back to rural areas Bangladesh from people working abroad (1) providing income for family members who do not earn enough money (1) due working in agriculture (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 challenge, with 1 mark for each developed point, up to a maximum of 2 marks per challenge. Only two challenges should be credited. Candidates are not required to use figures from the resource but may refer to it to support their answer. • Increased population density (1) which can lead to overcrowding/shortage of suitable housing (1). • Increased demand for services (1) which can mean some people do not have access for example to doctors or schools (1). • Increased demand for housing (1) which can lead to the development of informal settlements (1). • Lack of sufficient jobs for the population (1) which can lead to a rise in the informal economy (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** Relevant points that may be discussed include NGO activities which try to address: • Housing quality: some NGOs have been helping to improve the quality of buildings in informal settlements while others have sought to increase services to these residential areas, including improved electricity and water supplies, as well as drainage and sewerage services. For example, Water Aid undertook a project in 170 informal settlements in Dhaka, Khulna and Chittagong to improve access to safe drinking water and improve access to improved hygienic latrines. • Poverty: one strategy to help lift people out of poverty is to fund microfinance programmes to provide small loans to allow them to start small businesses which would allow families to gain an income and improve their quality of life. • Health: providing health clinics, particularly around maternal and child health for those in informal settlements where access to these services is more difficult. • Education: NGO's such as BRAC working towards ensuring access to primary school education for children from poorer communities, in order to improve the chances of being able to access better jobs.

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Question number	Indicative content

3(e)	AO2 (4 marks)/AO3 (4 marks)
	
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	Indicative Content
	
	A02
	
	Relevant points that may be discussed:
	
	• Climate change has the potential to have significant impacts on Bangladesh including change rainfall patterns, increase coastal and river flooding, sea level rise (potentially 0.4-1.5m on the coast by 2100), as well as more extreme weather events.
	• Different impacts are being experienced, and are predicted for different areas, and therefore varied local strategies are important. According to the World Bank:
	  ○ South, Southwest and Southeast coastal regions at risk from more severe tropical cyclones, sea level rise and saline intrusion.
	  ○ Northwest potentially more prone to drought
	  ○ Northeast likely to experienced delayed rainfall in addition greater flooding.
	  ○ Central areas along major flood plains at risk from greater flooding, in particular flash flooding.
	• There are many local communities which are attempting to increase resilience to climate change impacts.
	• Bangladesh Climate Change Resilience Fund allocates funds to NGO and community-based programs via the Community Climate Change Project.
	• Projects vary due to location and risk: e.g. raising homes to avoid future floodwaters, strengthening embankments, increasing rainwater harvesting, adapting agriculture to include drought resistant or flood tolerant crops.
	
	A03
	
	• Bangladesh's national climate change strategy and action plan is important to coordinate activity across the country and ensure a wide range of stakeholders are involved beyond individual households and local communities.

	• Local strategies need to be used in conjunction with broader national and international strategies to address the challenges of climate change. Government needs to increase capacity to deal with flooding and increased rainfall which could include greater embankments along rivers. International community needs to address the causes of climate change and change behaviours to reduce the potential future impacts of climate change.

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