Cambridge O Level

BANGLADESH STUDIES **7094/02**

Paper 2 Environment Development of Bangladesh **May/June 2019**

MARK SCHEME

Maximum Mark: 75

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Question	Answer	Marks
1(a)(i)	**Use Fig. 1.1 to describe the location of hill areas in Bangladesh.** SE / Chittagong division / Bandarban hill district / Rangamati / Khagrachhari NE / Sylhet division East on own = 1	**2**
1(a)(ii)	**What are the main <u>physical</u> characteristics of the hill areas of Bangladesh?** <u>Relief</u>: low hills and high hills steep slopes / slopes > 40%, often 100% subject to landslide / erosion long / narrow ridges/average 36m wide / hog back ridges parallel ridges / ridges approx N–S high hills heights 300–1000m above sea level low hills <300m above sea level valleys approx. run N–S hot springs [at Sitakunda Peak] Keokaradang 1,230 m/ high peak / other named peak e.g. Sak-Haphong <u>Rock types</u>: shales/siltstones/sandstone <u>Soil</u>: brownish loam very acidic <u>Climate</u>: Tropical monsoon / heavy rain <u>Drainage</u>: trellis/dendritic drainage major rivers drain into the Bay of Bengal Karnafuli, Sangu, Matamuhuri and Feni rivers <u>Lakes</u>: Rainkhiangkine, Bagakine, Kaptai <u>Vegetation</u>: forested 700 species of flowering plants <u>Animal life</u>: snakes / monkeys / jungle cats / wild boar / foxes / abundant birdlife	**4**
1(b)(i)	**Complete the diagram by adding the labels from the key in the correct place, on Fig. 1.2. One has been completed for you.** delta flood plain meander ox bow lake [distributaries]	**4**

Question	Answer	Marks
1(b)(ii)	**Explain how a delta is formed.** river carries large load as river enters the sea it loses velocity/speed begins to deposit its [sediment] load flocculation idea deposits accumulate more quickly than the sea's currents and tides remove it / weaker (tidal) currents over time deposits build upwards and outwards to form a delta delta is colonized by plants [to stabilise it]	**4**
1(b)(iii)	**Name <u>two</u> large rivers which join together to form the Bengal Delta?** Ganges-Padma Brahmaputra-Jamuna Meghna	**2**
1(c)(i)	**Inland fishing accounts for 70% of the total annual fish production in Bangladesh. The other 30% is marine fishing. <u>Complete Fig. 1.3</u>, to show the percentage of each type of fishing.** 1 mark for correct line at 30% or 70% 1 mark for correct shading, according to key	**2**
1(c)(ii)	**Suggest <u>two</u> reasons why there are large numbers of fish in the Bay of Bengal.** absence of ocean current in the Bay of Bengal great volume of fresh water added from rivers mixing of fresh and marine waters creates one of the world's biggest brackish-water zones huge mass of organic and inorganic nutrients added to the Bay of Bengal by rivers	**2**

Question	Answer	Marks
1(d)	**A 'Using more large mechanised fishing boats (trawlers) is the best way to increase fish production in Bangladesh.'** **B 'Developing aquaculture (fish farming) is the best way to increase fish production in Bangladesh.'**	
1(d)(i)	**Give <u>one</u> piece of evidence which supports statement A.** Most fishermen use non-mechanised / low-cost craft and unskilled workers. Big trawlers catch more fish. Bigger boats are safer – the marine fishing season is from October to March – when the sea is rough. Bangladesh has a vast fishing zone – Bay of Bengal / coastline c480 km/territorial water c20 nautical km from coast – area of the marine fisheries zone is more than 200 000 sq.km.	**1**
1(d)(ii)	**Give <u>one</u> piece of evidence which supports statement B.** development of nutritious fish feed improvement of breeding techniques and new culture practices for indigenous and endangered species can increase the aquaculture production genetically engineered species can increase aquaculture production development of aquaculture in derelict ponds, irrigation canals, roadside ditches and floodplains can increase fish production rotation of aquaculture and agriculture can be practiced / During times of high salinity, marine shrimp and fin-fishes are cultured. In times of low salinity, the areas are used to grow paddy rice. Note: known locally as the *bheri / gher* culture aquaculture is sustainable	**1**

1(d)(iii)	**Which statement do you agree with the most? Give reasons for your answer.**
	
	No marks for stating A or B, only for giving reasons.
	Credit reasons for accepting one and rejecting the other.
	Accept answers that give support to both statements.
	Allow points to be developed up to max. 3
	
	Arguments against could include:
	A. There are already too many fishermen which has adversely affected their income. Overfishing / depletion of fish stocks.
	B. Aquaculture is contributing to the spread of fish diseases as a result of:
	    overstocking
	    overfeeding the stock
	    using too much fertiliser
	    monoculture
	    poor pond management.
		3

Question	Answer	Marks
2(a)(i)	**What is a monsoon climate?** one that experiences heavy summer (seasonal / April to September) rainfall due to seasonal change in the prevailing wind	1
2(a)(ii)	**Use Fig. 2.1 to help you explain why heavy rain occurs in summer in Bangladesh.** in summer the land is warmer than the sea high temperatures over the land creates an area of low pressure high pressure develops over ocean / Australia winds blow from high-pressure area to low-pressure area winds blow from the ocean to land area summer monsoon winds bring in a huge amount of moisture from sea causes heavy rainfall, **in** late May or early June convection = max 1	3
2(b)(i)	**Study Fig. 2.2, which shows the mean monthly temperature in Rajshahi.** **How does the temperature in Rajshahi change over the year?** rises from Jan to June falls June to July stays same July to Sept falls Sept to Dec lowest temp. 18 °C in Jan **and** highest temp. 30° in June range 18 to 30 °C / 12 °C Any correct change – refer to graph **RAJSHAHI Temperature** J F M A M J J A S O N D 18 20 25 28 29 30 29 29 29 27 23 19	3
2(b)(ii)	**Complete the rainfall bars for Rajshahi on Fig. 2.2** 1 mark for 2 bars correctly plotted 2 marks for 4 bars correctly plotted 3 marks for 6 bars correctly plotted	3

Question	Answer	Marks
2(c)(i)	**Study Fig. 2.3, which shows drought areas in Bangladesh.** **What is meant by the term *severe drought*?** absence of water / not enough water <u>for a long period of time</u>	1
2(c)(ii)	**Use Fig. 2.3 to describe the location of areas suffering from severe drought in Bangladesh.** mostly in NW / Rajshahi division / Panchagarh/Thakurgaon/Dinajpur small area in SW / Khulna division / Satkhira district(c) small area in SE / Chittagong division / Cox's Bazaar district	2
2(c)(iii)	**What are the main causes of drought?** lack of rainfall / transpiration and evaporation > precipitation lack of surface water flow / India dams restrict flow excessive water extraction deforestation Global Warming / climate change **Allow development**	3
2(d)	**One effect of drought is rural to urban migration. Describe other push factors that cause people to leave the Bangladesh countryside and move to cities.** poverty lack of employment landlessness harvest fail lack of food lack of drinking water lack of education establishments lack of medical care poor sanitation poor living conditions natural disasters (MAX 2) etc.	4

Question	Answer	Marks
2(e)	**'The climate of Bangladesh brings not only damaging droughts but also life-giving monsoon to rural areas.'**	
2(e)(i)	**Give <u>one</u> piece of evidence to support the view that droughts cause problems for rural areas of Bangladesh.** crops fail famine / malnutrition / lack of food lack of fodder livestock die loss of income / livelihood price of food rises / high prices scarcity of <u>drinking</u> water arsenicosis (deeper wells for groundwater) irrigation less effective	**1**
2(e)(ii)	**Give <u>one</u> piece of evidence to support the view that the monsoon 'gives life' to rural areas in Bangladesh.** provides water for irrigation provides water for drinking etc.	**1**
2(e)(iii)	**In your opinion, are the benefits of the life-giving monsoon greater than problems caused by drought? Give reasons for your answer.** No marks for stating view, only for reasons. Points can be taken from those in **(i)** and **(ii)** and developed further. Accept arguments that support both sides of the argument or just one side.	**3**

Question	Answer	Marks
3(a)(i)	**Use Fig. 3.1 to describe the distribution of coalfields in Bangladesh.** NW / Rajshahi division / Jamalganj, Barapukuria, Khalaspir, Dighipara and Phulbari districts NE / Sylhet / Sunamgani Mostly clustered	**2**
3(a)(ii)	**What is coal used for in Bangladesh?** electricity generation / steel production / cement manufacturing / chemical industry / heating homes	**1**
3(b)(i)	**Use Fig. 3.1 to describe the location of the Sundarbans mangrove forest.** SW Kulna division Sathira, Bagerat, Borghuna districts	**1**

Question	Answer	Marks
3(b)(ii)	**Describe the main <u>physical</u> characteristics of the Sundarbans.** barely above sea level / up to 0.91m / low lying flat relief saline soils / salty conditions tidally influenced lands / tidal forests pneumatophorus roots (which rise above the ground or water) evergreen in nature *sundari* main species / *golpata* small annual temperature range /c13–32 annual rainfall heavy/ usually over 2500 mm flooding during the rainy season	**4**
3(c)(i)	**According to the article, which <u>two</u> species are under threat?** (Bengal) tigers Dolphins	**2**
3(c)(ii)	**Explain how the development of power stations can cause pollution.** <u>air pollution</u>: *[no marks for stating type of pollution as Q is explain]* from burning fossil fuels e.g. coal harmful gases / greenhouse gases emitted into the atmosphere e.g. CO2 / SO2 / NOx / named gas cause acid rain <u>noise pollution</u>: from construction / transport of fuel from machines <u>water pollution</u>: from hot water / waste <u>land pollution</u>: from ugly buildings / solid waste	**4**
3(c)(iii)	**Explain how climate change and agriculture are also posing serious threats to the Sundarbans mangrove forest.** *RESERVE 1 for climate change and 1 for agriculture.* *Allow development* *No double credit* **Climate change** increase temperature / Global Warming more cyclones rising sea levels 2–3m by 2050 Sundarbans submerged **Agriculture** deforestation / land cleared for farming pesticide use fertiliser use	**4**

Question	Answer	Marks
3(d)	**Study Fig. 3.3 which shows electricity generation from renewable energy sources in Bangladesh.** **Use the data from Table 3.1 to complete a divided bar graph for 2013, on Fig. 3.3.** 1 for correct lines 1 for correct shading	**2**
3(e)	**A.　'The development of coal resources in Bangladesh is the best way to guarantee its future energy supply.'** **B　'The development of renewable energy in Bangladesh is the best way to guarantee its future energy supply.'**	
3(e)(i)	**Give one piece of evidence which supports statement A.** coal is cheap Bangladesh has coal reserves coal is efficient / produces a lot of energy gas will run out, need an alternative etc.	**1**
3(e)(ii)	**Give one piece of evidence which supports statement B.** renewable energy will not run out Bangladesh has potential for solar energy Clean / non-polluting / green / eco-friendly Improved technology for renewables etc.	**1**
3(e)(iii)	**Which statement do you agree with the most? Give reasons for your answer.** No marks for stating A or B, only for giving reasons. Credit reasons for accepting one and rejecting the other. Accept answers that give support to both statements. **Allow points to be developed**	**3**

Question	Answer	Marks
4(a)(i)	**Why are some rural people in Bangladesh landless?** **Allow development** land ownership / land fragmentation inheritance population growth weak legal framework / no legal protection / institutional crises land erosion	**3**

Question	Answer	Marks
4(a)(ii)	**What are the results of becoming landless for people in Bangladesh?** no job / join informal sector lose your home poverty lack of food migration	**3**
4(b)	**Use the information in Fig. 4.1 to <u>complete Fig. 4.2</u>. 1991 has been completed for you.** 1 mark for each bar correctly plotted.	**2**
4(c)(i)	**Study Fig. 4.3, which shows the growth rate of Gross Domestic Product (GDP) in Bangladesh 2007–16. GDP is one of the main indicators of a country's development.** **Describe the main changes shown in Fig. 4.3.** overall increase from 6.4 to 7% / by 0.6% 2007–2010 declines / from 6.4% to 5.6% 2010–2011 increases / from 5.6% to 6.5% 2011–2012 stays same / at 6.5% 2012–2013 decreases / from 6.5–6% 2013–2016 increases / from 6% to 7% / by 1%	**3**
4(c)(ii)	**Explain the impact that continued economic growth will have on poverty and quality of life in Bangladesh.** *RESERVE 1 for poverty and 1 for quality of life.* <u>**poverty**</u> will decline people will earn more money / more people with jobs more taxes will be paid (which can be used for ….) <u>**quality of life**</u> will improve better health care better sanitation electricity supply etc.	**4**

Question	Answer	Marks
4(c)(iii)	**Name <u>one</u> indicator, other than GDP, that is used to measure human development in Bangladesh and explain what it measures.** Examples: life expectancy • how long person can expect to live • adult literacy • the per cent of adults who can read and write • death rate • the number of deaths per thousand of the population per year • infant mortality rate • the number of babies who die under 1 per 1000 live births per year etc.	**2**
4(d)(i)	**Compare the number of mobile phone users with active internet users in 2016.** more mobile phone users than active internet users	**1**
4(d)(ii)	**Suggest how the number of mobile phone users <u>and</u> active internet users will change by 2020. Use data from Fig. 4.1 to support your answer.** increase active internet users will increase more than mobile phone users only 39% of population are active internet users already 83% own mobile phones	**2**

Question	Answer	Marks
4(e)	A. **'Job creation is Bangladesh's top development priority.'** B. **'Improving education is Bangladesh's top development priority.'**	
4(e)(i)	**Give <u>one</u> piece of evidence which supports statement A.** reduces unemployment jobs gives a population the means to support itself jobs produce vital things such as food, manufactured goods and services creating jobs outside farming increase wages jobs in secondary / tertiary sector create more economic wealth jobs create the opportunity to break out of the cycle of poverty / informal jobs do not break the cycle of poverty. more people paying taxes increases GDP etc.	**1**
4(e)(ii)	**Give <u>one</u> piece of evidence which supports statement B.** education improves literacy and numeracy for better jobs / use of technology higher wages – increase GDP, more taxes / increased standard of living enables people to work abroad – send remittances home literacy key to improving quality of life / decreases poverty improved education is the best way to slow down population growth • awareness of population problem/family planning • female education reduces marriage age and fertility rate • literate women have fewer children/fewer dependents tertiary education produces more professionals need for management / entrepreneurs to develop industry / services need for research skills to operate in global economy, e.g. English and maths etc.	**1**
4(e)(iii)	**Which statement do you agree with the most? Give reasons for your answer.** No marks for stating view, only for reasons. Points can be taken from those in **(i)** and **(ii)** and developed further. Accept arguments that support both sides of the argument or just one side.	**3**

Question	Answer	Marks
5(a)(i)	**Complete the graph, Fig. 5.1, using the data below, to show the projected population in Bangladesh from 2030 to 2050.** 1 mark for some points plotted correctly 2 marks for ALL points plotted accurately 1 mark for neat dashed line joining the points	3
5(a)(ii)	**Suggest benefits and problems for Bangladesh of continued population growth.** *RESERVE 1 for benefits and 1 for problems* **Benefits:** Workforce: growing workforce for manufacturing and services / low cost advantage More people work abroad so more remittances Market growth: increased purchasing Talent pool: new talented minds of younger generations **Problems:** Education: not enough schools / colleges / universities Healthcare: not enough doctors / clinics / hospitals Employment: not enough jobs / growing informal sector Poverty: increasing poverty Crime: increases Food supply: malnutrition / starvation Rural economy: more landless people / smaller plots / increasing population density / lack of land Living conditions: more slums / poor sanitation / hygiene / waste disposal / lack of clean water supply / electricity Named pollution: increase air / water / noise / land pollution	4
5(b)(i)	**How is population growth rate calculated?** BR–DR (per thousand divided by 10 to convert to %)	1

Question	Answer	Marks
5(b)(ii)	**Compare Bangladesh's population growth rate with Pakistan and India as shown in Fig. 5.2.** *Only give marks for comparisons* *RESERVE 1 for each of B & Pakistan and B & India* *Refer to Fig. 4.2, no repetition* Bangladesh rate is less than Pakistan B decreased > P B from 2.06 to 1.16%, P from 2.4(1) to 2.09% B changes by 0.9%, P by 0.32% B decreased, P decreased then increased 2000–2006 Bangladesh higher rate than India (or any year) 2006–2015 B < India (or any year) Both decreased B decreased > India B from 2.06 to 1.16%, India from 1.84 to 1.23% B by 0.9%, India by 0.61% B decreased fast, then slow but India decreased steadily	4
5(b)(iii)	**Suggest reasons why Bangladesh's population growth rate has decreased.** falling birth rate success of family planning policy / education about family planning availability of birth control / contraception better education for women increased employment opportunities for women / more career orientated lower IMR reductions in poverty because very poor people have large families increasing economic prosperity, parents plan education of children, rather than economic survival strategy reduction in early marriage changing attitudes / empowerment of women preference for male child declining	5
5(c)(i)	**What is the informal sector?** activities that are not formally regulated by the government very low-value-added activities	1
5(c)(ii)	**Give two examples of jobs in the informal service sector.** domestic service as servants, drivers, or cooks, shining shoes on pavements, providing haircuts on street corners, selling peanuts or flowers in railway stations or footpaths, operating cycle rickshaws and pushcarts. etc.	2

Question	Answer	Marks
5(d)(i)	**'Having a large number of jobs in the informal sector has many benefits for Bangladesh.'** **Give <u>one</u> piece of evidence which supports this statement.** means that unemployment is very low in Bangladesh allows the poor employment, even if very low income *service* sector requires almost no capital to enter so is a final resort for all those who fail to find work anywhere else is a source of dynamism in the economy. informal employment is an important part of the economy of many large cities provides a wide range of cheap goods and services that would otherwise be out of reach for many people. allows average wages to be kept low, this means that TNCs are not persuaded to look elsewhere for cheap labour etc. DO NOT ACCEPT reduces poverty	1
5(d)(ii)	**Give <u>one</u> piece of evidence against this statement.** represents a wasteful use of human resources that could be more productively employed in higher wage sectors if only jobs were available absence of regulation allows the informal sector to pay low wages begging, petty crime and prostitution … informal jobs do not break the cycle of poverty many children work from dawn until dusk, earning on average 14 taka a day children work in vulnerable conditions, exposed to hazards including street crime, violence, drugs, sexual abuse, toxic fumes and substances, without adequate safety protection and carrying heavy loads insecurity in terms of work and income high exposure to work-related risks no health, disability, unemployment or life insurance uncertain legal status few rights or benefits lack of organisation don't pay taxes doesn't contribute to GDP etc.	1
5(d)(iii)	**How far do you agree with this statement? Give reasons for your answer.** No marks for stating how far, only for giving reasons. Credit reasons for supporting or disagreeing with the statement. Accept answers that both agree and disagree with the statement. Allow arguments for the formal sector. **Allow points to be developed.**	3