

CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

MARK SCHEME for the May/June 2014 series

0449 BANGLADESH STUDIES

0449/02

Paper 2 (Environment and Development of Bangladesh),
maximum raw mark 75

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.

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- 1 (a) **The rivers of Bangladesh change course often. Explain how rivers change course and form ox-bow lakes. You may use a diagram(s) to explain your answer.**
- erosion on outer banks
deposition on inner banks
cause a river to migrate downstream
when meander pronounced/more circular
erosion on outer bend forms a narrow neck
deposition builds up on inner bend
neck eventually eroded
river flows straight/breaks through
deposits seal off the meander to create ox-bow lake [4]
- (b) **Study Fig. 1 which shows the number of passengers and the amount of cargo transported by rivers between 1995 and 2010.**
- (i) **Describe the changes in passenger numbers between 1995 and 2005.**
fluctuating/variable/gradual or slight increase [1]
- (ii) **Between which years did the amount of cargo carried stay the same?**
1995–2002 [1]
- (iii) **When was the biggest increase in the number of passenger transported by river?**
2005–2006 [1]
- (c) **Explain why rivers are an important form of transport in Bangladesh.**
- large network of rivers/rivers everywhere
well connected to rest of transport system
cheap means of transport
natural/environmentally friendly
2/3 country flooded during monsoons – roads/railways limited use
– provide aid/essential services
roads and railways expensive to build/maintain
roads congested/traffic jams/pressure on roads
main towns/commercial centres on river banks
villages not always accessible by roads/poor quality roads
large amount/bulky goods carried
ferries instead of bridges
inland ports [4]
- (d) (i) **Study Fig. 2 which shows the annual rainfall in Bangladesh. Describe the distribution of rainfall in Bangladesh.**
heavy/+3500 – in NE
high/2500-3500 in – hilly regions/Sylhet/Chittagong
– coastal areas at delta/mouth of Ganges/Padma
moderate/2000-2500 – in N/NW
extending SEwards
lower/1500-2000 – towards W
lowest/-1500 – extreme W, near Rajshahi
any 3 sections @ 1 mark each [3]

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- (ii) **Study Fig. 3 which shows annual rainfall patterns in Rajshahi and Chittagong. Using Fig. 3 only, compare the rainfall patterns of Rajshahi and Chittagong.**
 Rajshahi lower than Chittagong in all months
 same pattern
 most in July/July-September/monsoon period for both
 very little rain in November-April for both [2]

- (iii) **State when thunderstorm rainfall occurs and explain the causes of this rainfall.**
 summer/March-September
 late monsoon/October–November
 afternoons

reserve 1 mark

on hot, humid days air above ground heated
 warm, moist air rises
 expands
 cools
 condenses into water vapour
 form cumulo-nimbus clouds – leads to rainfall

reserve 1 mark [4]

(e) Study the two statements below.

A ‘Hydro-electric power could greatly improve Bangladesh’s electricity supply.’

B ‘The scope for increasing the generation of hydro-electric power is very limited in Bangladesh.’

- (i) **Give one piece of evidence which supports statement A.**

cheaper than coal/oil/gas
 renewable/gas running out
 necessary physical features – hilly, high rainfall, fast flowing rivers – available in parts of NE and SE
 15 rivers identified as having potential for HEP [1]

- (ii) **Give one piece of evidence which supports statement B.**

only 1 HEP station at Kaptai
 majority of land low and flat/most rivers in final stage
 need to use dams built in neighbouring Myanmar
 causes displacement of people
 expensive to build [1]

- (iii) **Which statement do you agree with the most? Give reasons for your answer.**

Points can be taken from those in (i) and (ii) and developed
 No marks for stating A or B, only for reasons

Accept answers that support both statements [3]

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- 2 (a) Study Fig.4, a pie chart which shows the percentage of fish caught in different areas.

Complete the pie chart for the inland fisheries where aquaculture is practised using the figures below:

ponds and baors – 35% =1

shrimp farms – 5% =1

[2]

- (b) (i) Describe two differences between marine and inland fishing.

Marine –

at sea/in salt water

larger/powerful/specialised vessels needed e.g. trawlers

mackerel, dogfish, shark, ray

Inland –

fresh water

use rods and small nets/small/traditional boats

carp, catfish, shrimps, tilapia

cultured, aquaculture, genetically engineered species

Need to compare the 2 types

[2]

- (ii) Describe methods of inland fishing.

Capture/caught –

in shallow waters

rafts/small boats

use bare hands

lines/rods and traps of bamboo

nets of different meshes

allow traditional names

Aquaculture –

improved breeding and feeding techniques

use derelict ponds, irrigation canals, roadside ditches

Polycultures –

e.g. poultry-fish, rice-fish

tidal areas – rotation of aquaculture and agriculture

– high salinity – shrimps reared, low salinity – rice grown

[4]

- (iii) Why has it been difficult to increase the amount of fish caught in the marine fishing industry?

short marine fishing season October – March because of adverse weather conditions

lack of modern methods/need modernised boats/advanced tools

most traditional boats with small engine – limited to coastal fishing

over-exploitation of fish in coastal waters

need for conservation and management

many fishermen poor – cannot afford to expand/receive no loans

many fishermen illiterate – do not try new methods

[3]

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- (c) **Study Fig. 5 which shows the distribution of forests in Bangladesh. Describe the distribution of the three types of forests.**

deciduous – scattered in central and Sylhet areas/in E/one to the NW/Dinajpur
 evergreen – in Chittagong Tracts area, to the E/SE
 mangrove – coastal areas, to SW/Sundarbans

1 mark for each type

[3]

- (d) (i) **Study Photograph A (Insert) which shows a mangrove forest in Bangladesh.**

Describe the trees shown in Photograph A.

pneumatophorus roots/roots above ground level
 prop roots
 pencil-like roots
 fallen/leaning trees
 canopy of leaves
 very thin trunks/vines/lianas
 grow in water/flooded area/in mud/swamp
 close together/dense vegetation

[3]

- (ii) **Explain why it is important to conserve the mangrove forests.**

most productive of the forests
 buffer against storms, tsunamis, etc.
 protect coast from erosion
 diversity of wildlife
 important tourist area
 home of Bengal tiger
 source of fuelwood
 breeding ground of fish/shrimps

[3]

- (e) **Study the two statements below.**

A 'Deforestation is unavoidable with the increasing population of Bangladesh.'

B 'It is necessary to maintain the forests of Bangladesh to prevent environmental problems.'

- (i) **Give one piece of evidence which supports statement A.**

more land needed for housing, agriculture, industry
 increased use of timber for housing, industry
 increased need for fuelwood
 expansion of shrimp cultivation

[1]

- (ii) **Give one piece of evidence which supports statement B.**

leads to desertification Barind/NW
 soil erosion – leading to flooding
 reduction of rainfall – lack of evaporation from leaves
 climate change/global warming
 loss of habitat and species of plants and animals
 less flooding

[1]

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- (iii) Which statement do you agree with the most? Give reasons for your answer.

Points can be taken from those in (i) and (ii) and developed
No marks for stating A or B, only for reasons

Accept answers that support both statements

[3]

- 3 (a) (i) Study Fig. 6 which shows the employment structure and GDP per person of three countries.

Complete the graph for India using the figures below:

agriculture – 50%
manufacturing industry – 15%
services – 35%

1 mark for each sector with correct % and shading

[3]

- (ii) Using the information from Fig. 6 describe the relationship between employment structure and GDP in the three countries.

Myanmar least developed/GDP – most agriculture/least services
Bangladesh slightly more GDP – more industry/less agriculture
India the most developed – more services, even though more agriculture than Bangladesh and less industry
increased service sector = increased GDP

Allow 1 general mark if GDP is linked to a sector but not a country

[3]

- (b) (i) Read the following article (Fig. 7) taken from a newspaper in May 2011. Using Fig. 7 only, explain why Bangladesh's economy has increased.

increase in industry/manufacturing/garment industry
increase crop yields/better weather for rice and wheat

[2]

- (ii) Using your own knowledge, explain why small scale industries, such as the garment industry, have been so successful in Bangladesh.

do not need state assistance/foreign buyers supplied credit
exports
no quota restrictions/large exports
cheap labour/low wages
plenty of (trainable) labour
simple technology/advanced machinery not necessary
quality control
demand for cheaper clothing from abroad
as a less developed country – preferential treatment from USA and EU
government incentives – streamlined export-import formalities, warehouse facilities

[4]

- (iii) Why is a reliable electricity supply necessary for industrial growth?

needed for efficient use of machines
higher output/fewer stoppages/continuous production
needed for office work – computers, etc.
for lights/fans/air conditioning
to compete with other countries

[2]

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- (c) (i) The money sent back to Bangladesh by international migrants is another factor for the economic growth.

Which countries are the most popular destinations for international migrants from Bangladesh?

Middle East or 2 named countries – Saudi Arabia, Kuwait, UAE, Oman, Qatar, etc.
For Asia – must name 1 or 2 countries – Singapore, Malaysia, S Korea, etc.

[2]

- (ii) **Explain why people migrate to other countries.**

poor living conditions/for better standard of living
improve quality of life/better health care
unemployment/looking for jobs
better wages/escape poverty
landlessness
better opportunities for career
to study/education
join family
political/religious problems

[4]

- (d) **Study the two statements below.**

A 'More manufacturing industries are needed to improve the economy.'

B 'Increasing the service sector is the best way to improve the economy.'

- (i) **Give one piece of evidence which supports statement A.**

higher value goods
productivity higher than agriculture
export goods
earn foreign exchange
high-wage employment
employment

[1]

- (ii) **Give one piece of evidence which supports statement B.**

attracts finance
high value-added services
informal service sector not so valuable/increases employment of poor/unskilled
education key to development – more teachers
allow a named service if linked to development

[1]

- (iii) **Which opinion do you agree with the most? Give reasons for your answer.**

Points can be taken from those in (i) and (ii) and developed
No marks for stating A or B, only for reasons

Accept answers that support both statements

[3]

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- 4 (a) (i) **Study Fig. 8 which shows the main growing areas for three cash crops. Describe the distribution of the jute, sugar cane and tea growing areas.**
 Jute – along main rivers, central area, small area in SW
 Sugar cane – to W, along western border/NW
 Tea – to E, higher areas /Sylhet/Chittagong
- 1 mark for each crop [3]
- (ii) **Why is it important to grow cash crops?**
 export
 earn foreign exchange/increase GDP
 raw materials for industry
 source of employment [2]
- (b) (i) **Study Fig. 9 which shows the percentage change in acreage and production of three cash crops between 1997 and 2010.**
- Complete the production graph using the figures below:**
- sugar cane: – 40%
 tea: +13%
- 1 mark for each crop [2]
- (ii) **Explain why it is difficult to increase the production of cash crops such as jute and sugar cane.**
 demand/need for food crops
 more profitable to grow food
 low investment/no subsidies/e.g. of lack of investment (irrigation, land, fertiliser, etc.)
 low world demand for jute
 scarcity of land/pressure on land
 low world prices/low profit
 competition from other countries [4]
- (iii) **Name two products made from jute**
 carpets, bags, sacks, hessian cloth, rope, home textiles [2]
- (c) **Read the article, Fig. 10, on Bangladesh's glass industry.**
- (i) **Why has the glass industry in Bangladesh grown?**
 increase in construction
 basic raw material/silica sand found in Bangladesh [1]
- (ii) **Name two raw materials needed for the glass industry.**
 silica sand and limestone [1]
- (iii) **What provides the power for the glass industry?**
 (natural) gas [1]

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(d) What can the State do to encourage industrialisation in Bangladesh?

improve infrastructure – transport, electricity, ports – max 2
 encourage investors and MNCs
 enforce legal framework
 prevent strikes
 train workers/increase skills
 improve financial system/resolve bad debt problem/provide loans/subsidies
 reduce taxes on imports/exports
 develop EDZs
 protect infant domestic industries with legislation

[4]

(e) Study the two statements below.

A ‘Modern techniques are needed in agriculture to increase food production.’

B ‘Modern techniques in agriculture cause too many problems.’

(i) Give one piece of evidence which supports statement A.

HYVs increase yield – multiple cropping – mature faster
 fertilisers increase yield, soil fertility
 pesticides prevent loss of crops to insects
 irrigation provides reliable supply of water
 machinery/technology efficient/fast/prevents wastage
 training/education/awareness of new techniques
 population increase needs more food/prevent malnutrition

[1]

(ii) Give one piece of evidence which supports statement B.

expensive (for small farmers)
 fertilisers damage the soil over time
 fertilisers cause water pollution – eutrophication
 pests become resistant to pesticides
 pesticides cause water pollution
 mechanisation causes unemployment
 irrigation causes arsenic contamination of water

[1]

(iii) Which opinion do you agree with the most? Give reasons for your answer.

Points can be taken from those in (i) and (ii) and developed
 No marks for stating A or B, only for reasons

Accept answers that support both statements

[3]

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- 5 (a) (i) **Study Fig. 11 which shows the birth rate in India, Bangladesh and Pakistan in 1980 and 2010.**
Complete the graph for Pakistan on Fig. 11 using the figures below:
 1980 – 43
 2010 – 27
- 1 mark for each year [2]
- (ii) **Compare the changes in birth rate from 1980 to 2010 in Bangladesh with the changes in India and Pakistan.**
 Bangladesh biggest decrease
 Bangladesh started highest now lowest
 decreased by 24/1000 cf India 13/1000 – 1/1000 lower
 cf Pakistan 16/1000 – 7/1000 lower [3]
- (b) (i) **What is meant by the term ‘infant mortality rate’?**
 number of babies dying (per 1000 of the population)
 under 1 year of age [2]
- (ii) **Study Fig. 12 which shows the infant mortality rate between 1980 and 2010 for Bangladesh, India and Pakistan.**
How has the infant mortality rate for Bangladesh changed in comparison to India and Pakistan between 1980 and 2010.
 Bangladesh – rapid/steep decrease cf steadier decrease of India and Pakistan
 – biggest decrease
 – by 92/1000
 – started highest now lowest
 Pakistan – by 52/1000
 India – by 54/1000 [3]
- (iii) **Explain how the health care system has brought about the changes in the infant mortality rate and birth rate in Bangladesh.**
 expanding immunisation
 diarrhoeal disease control/oral rehydration
 epidemic control
 family planning + awareness of population increase and situation
 establishing health complexes/clinics in every upazila/rural area
 NGOs and delivering health care to the poor
 health, sanitation and nutrition education/awareness re health
 maternal and antenatal care
 more hospitals
 more/better trained doctors/improved ratio to people [4]

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- (c) (i) **Explain what is meant by ‘a non-governmental organisation (NGO)’.**
 private not public/state sector
 run on non-profit basis/reinvest any profit
 financed by charities/donations (particularly international donors)
- (ii) **Describe the type of work done by NGOs, such as BRAC and Proshika, in Bangladesh.**
 provide healthcare/education
 in rural areas
 for the poor
 immunisation programmes, Child Survival Programme
 family planning
 training health cadres in communities
 teaching households about hygiene and sanitation
 distribution/provision of food and medicine
 building houses for the homeless/provide shelter
 empowerment of women/the poor/underprivileged
 access to microcredit/loans to set up business [4]
- (d) **Study the two statements below.**
- A ‘The health care system is vital to improving the quality of life of the poor in Bangladesh.’**
- B ‘Improving nutrition will enhance the quality of life of the poor in Bangladesh.’**
- (i) **Give one piece of evidence which supports statement A.**
 controls disease, e.g. malaria, diarrhoea
 hygiene education
 enables people to work/earn money
 but other agencies need to be involved, e.g. clean drinking water, sanitation,
 increase LE/decrease DR [1]
- (ii) **Give one piece of evidence which supports statement B.**
 poor nutrition = poor health/healthier
 e.g. anaemia, malnutrition, blindness
 government set target to raise per capita calorie intake
 affects ability/energy to work, enjoy life [1]
- (iii) **Which opinion do you agree with the most? Give reasons for your answer.**
 Points can be taken from those in (i) and (ii) and developed
 No marks for stating A or B, only for reasons
- Accept answers that support both statements [3]