

## MARK SCHEME for the May/June 2008 question paper

### 2059 PAKISTAN STUDIES

2059/02

Paper 2 (Environment of Pakistan), 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.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

CIE is publishing the mark schemes for the May/June 2008 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

Page 2	Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2008	2059

1 (a) Study the Photograph A, showing sugar cane cultivation.

(i) Describe the scene.

- bullocks/cattle/buffalo/ox/cow
- traditional/manual labour/man/farmer
- wooden
- plough/ploughing
- young/small plants
- ratoons
- flat
- dry soil
- uncut crop in background
- trees in background

[4]

(ii) What are the advantages and disadvantages of using tractors instead of animals for work on a farm?

Advantages (res.2)

- Faster/quicker/suitable for larger fields
- More efficient/modern/less hard work/do not tire
- Needs fewer workers
- Saves animal feed/land/cost of animals

Disadvantages (res.2)

- Expensive to buy/few available to buy/imported }  
Cost of fuel } max. 2 costs  
Cost of repair/difficult to repair }  
Breakdowns  
Unemployment  
Needs skilled labour  
Compact the ground  
No milk/meat/food etc.  
No dung for fertiliser  
Maintenance/repair facilities may not be locally available  
Cannot use in mountains/fragmented farms

[6]

(b) Yields from crops vary from year to year. Explain the reasons for this.

- Lack of rain }  
Timing/ variability of rain } max.2 climate  
Flooding }  
Wind }  
Problems of irrigation/shortage of water/silt in canals/reservoirs/mechanical failure  
Build up of salt and waterlogging  
Pests and diseases (max 2)  
Family problems/sickness/men go to city  
Reference to better inputs must relate to previous year's profit

[4]

(c) (i) What work is done on the farm by these animals, other than that shown on the photograph?

- Hoeing – to remove weeds, thin seedlings
- Harvesting – cutting the crop
- Milling/grinding/threshing – to remove husks, for flour, by animal walking round
- Transport – of seeds, fertiliser, crop, to field, to market,
- Drawing water – from wells, by shaduf, charsa, by walking round
- Threshing – separating the husk from the seed

[3]

Page 3	Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2008	2059

- (ii) **What do these animals and other livestock on the farm produce that they can use or sell?**  
Dairy products/milk/butter/ghee etc.  
Meat  
Hides/skin  
Young stock  
Eggs  
Dung  
Hooves  
Horns  
Bones
- [3]

- (d) **How can livestock farming be improved in Pakistan?**  
Capital/investment/loans/subsidies for – named purpose  
Selective/cross breeding, breeding on scientific lines – for better animals etc.  
Better feed/fodder – for stronger, bigger, animals etc.  
More grazing land – by irrigation, drainage, fertiliser etc.  
Control of disease – e.g.  
    Research – disease, breeding, feed etc.  
    Vaccination – to improve health  
    More medicines/more vets to treat animals  
    Education/training in named modern methods  
    Better hygiene/care/living conditions etc.  
    Mechanisation e.g. milking machines for hygiene, speed
- [5]

2 (a) **Study Fig.1, a map of natural hazards in Pakistan.**

- (i) **Describe the distribution of soil erosion in Balochistan.**  
Scattered/widespread/in mountains  
Especially in SW  
Line at base of highlands  
Named mountain range/hills/plateau e.g. Central Makram Range, Coastal Range, Chagai Hills  
Provincial borders
- [3]
- (ii) **Explain why the dry climate of Balochistan increases the risk of soil erosion.**  
Lack of vegetation/bare soil  
Slow to re-grow  
Over cultivation  
Dry soil less cohesive  
Wind blows soil away
- [3]
- (iii) **Where does eroded soil go to?**  
Wind blown into dunes/on foothills  
Into rivers/canals/ditches/sea  
Reservoirs/dams/lakes
- [3]
- (iv) **How can soil be protected in areas of low and unreliable rainfall?**  
Shelter belts/trees/afforestation  
Irrigation of trees  
Prevent over-grazing/move livestock/fewer livestock  
Fill gullies/improved cultivation  
Terraces and stone lines/reduce gradient  
Contour ploughing  
Strip farming
- [4]

Page 4	Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2008	2059

(b) Study Fig. 1 again.

(i) Which area is affected by tropical cyclones?

Coast/sindh coast, Balochistan coast  
Named area e.g. Indus delta, Makram coast

[1]

(ii) Describe the physical effects of tropical cyclones in this area.

High winds  
High waves  
Heavy/high rainfall  
Floods  
Thunderstorms/thunder/lightening  
Damage (max.3) but buildings max 1, roads and railways max 1

[5]

(c) Heavy rain and thunderstorms affect business and industry in urban areas. Explain the advantages and disadvantages of the rain and storms.

Advantages (res.2)

Water supply  
Reservoirs filled for HEP/power supply

Disadvantages (res.2)

Floods – damage and blockage of roads  
High winds – damage to buildings, trees  
Erosion of land – effect on roads/railways/runways  
Loss of power supply – loss of production, business  
Danger of lightening  
Loss of raw material e.g. cotton, sugar cane  
Disruption of fishing/shipping/trade  
No flights for businessmen

[6]

3 (a) Study Fig. 2 a map of population density distribution in Sindh province.

(i) Name the cities A, B and C.

A – Karachi  
B – Hyderabad,  
C – Sukkur,

(ii) Name the desert D.

NB. NOT THAL  
Thar(parkar)

(iii) Name the river E.

Indus

[5]

(b) (i) Explain the physical reasons for a higher density of population in area Y.

NB. NOT 'GOOD CLIMATE'

alluvial/rich/fertile soil for good agriculture  
well drained soil for good agriculture, travel, building etc  
flat land for use of machinery, travel/building/irrigation etc.  
water available for irrigation, domestic use, industry etc.  
(max 2 uses from any line)

[4]

Page 5	Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2008	2059

- (ii) **Explain the low population density in area X.**  
Delta/Indus delta  
Salt water/saline soil – difficult to farm/poor soil  
Low river flow/lack of fresh/clean water – so unsuitable for farming, domestic use  
Flooding – so causes problems to farming, industry  
Swamp/marsh – difficult to build/poor foundations  
Mangrove trees – so lack of farmland  
Tropical storms/typhoons/cyclones – dangerous  
Lack of roads – so difficult to move around  
Lack of other named infrastructure – so no industry, improved living standards  
Dry climate/lack of rain so no agriculture, industry, sanitation  
Fishing in decline due to pollution/mangroves dying  
Lack of industry therefore no jobs [3]

**(c) Port Qasim is located 20 kilometers south-east of city A.**

- (i) **Give two reasons why this site was chosen for a new port.**  
Deep water  
Sheltered harbour/creeks/inlets  
Close to Karachi/relieve pressure on Karachi Port  
Near steelworks/Pakistan Steel Mill  
Flat land  
Space for industrial development  
Near oil refinery [2]
- (ii) **Name the other port in Sindh to the west of city A.**  
Keamari/Karachi Port [1]

**(d) Iron ore, oil, and machinery are imported in large quantities at Port Qasim.**

- (i) **Give one large-scale use of each of these three.**  
Iron ore – to Pakistan Steel at Korangi, steel, named iron or steel product  
Oil – transport, power, electricity, chemicals, etc.  
Machinery – vehicles, named industry, power generators etc. [3]
- (ii) **Another large import is wheat. Name one country from which it is imported.**  
UK, USA, Russia/Australia [1]
- (iii) **Explain why Pakistan will need to continue to import wheat.**  
Increasing population  
Poor agricultural production/smaller area cultivated/increase slower than population [2]

**(e) Name one dry port and explain why dry ports are needed to reduce the burden on sea ports.**

- Sambrai(Sialkot), Lahore Multan, Faisalabad, Rawalpindi, Hyderabad, Larkana, Peshawar, Quetta  
Reasons:  
lack of space/storage  
to deal with paperwork/quicker processing and clearing/customs duties/tax etc.  
relieve congestion  
only 2/3 sea ports/few sea ports  
allows packing/unpacking (of containers) (1+3) [4]



Page 7	Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2008	2059

(c) Study Fig. 3 a graph comparing the production of marine and inland fish in Pakistan.

(i) Compare the changes shown in the graph.

- Both increase
- Marine increases more than inland/faster than inland
- Marine increases/continuously but inland had little increase until early 1970s
- Inland increased to nearly 10 times bigger/marine only 5 times bigger
- Comparative figs (max 1) – units not required

[3]

(ii) Explain why more people are employed in inland fisheries than marine fishing.

- More people live near rivers, lakes etc.
- Maintenance of ponds
- Hatcheries
- Feeding
- Harvesting (catching)
- Transport
- Government encouragement/loans etc.

[3]

5 (a) Most hydro electric power (hydrol) schemes are in Northern Pakistan.

(i) Name two large dams and the rivers on which they are built.

- Tarbela on river Indus
- Mangla on river Jhelum
- Warsak on river Kabul
- Must name both dam and river for one mark

[2]

(ii) Why do the reservoirs of these dams hold large quantities of water?

- Deep valley/large valley/high dam
- Steep sides
- Large river/permanent flow/water from snowfields/glaciers
- Low evaporation/cool climate,
- High rainfall

[3]

(b) Study Fig. 4, a diagram showing how hydro electric power is made.

Name the machine A, and explain how it uses the flow of water to make electricity.

- A – turbine/generator/power station
- Turbine spins/rotates/moves

[2]

(c) Study Fig. 5, a pie chart showing the percentage use of electricity.

(i) Which sector uses the largest percentage of electricity?

- Domestic/homes

[1]

(ii) State two other large users of electricity shown on the chart and explain what they use it for.

- Industry – for machinery, computers, lighting, air conditioning etc
- Farming – for much of above, tubewells, drying crops, etc.
- Offices – computers, lighting, communication, air conditioning etc.
- One mark for two large users

Three marks for how the electricity is used (2+1) [1+3]

[4]

Page 8	Mark Scheme	Syllabus
	GCE O LEVEL – May/June 2008	2059

- (iii) **What problems are caused when the electricity supply to factories breaks down?**  
Stops production/slow production/output reduced  
Damages machinery short circuit/explosion  
Damages goods/affects the quality e.g. food, cloth  
Delays contracts/orders  
Loss of money/profit/orders  
Workers laid off/sit idle [4]

- (d) (i) **Name two environmentally-friendly ways of making electricity other than hydro-electric power.**  
Any two of solar, wind, tidal, biogas, bagasse, geothermal [2]

- (ii) **Explain why each of the two ways you have named could be used in Pakistan.**  
Solar – long hours of sunshine/many sunny days/many days of clear skies  
Wind – Indus plain flat, on mountains, windy in coastal areas, Balochistan, mountains  
Tidal – for coastal areas esp. Karachi  
Biogas – cheap, small scale, disposes of waste product  
Bagasse – many sugar cane factories, disposes of waste product, cheap, small scale  
(Geothermal – not in Pakistan) [2]

- (iii) **Why is it important that more renewable energy schemes are developed in Pakistan?**  
**You may use your answers to part (c) and your own knowledge.**

General reasons for needing more power supplies:  
frequent power cuts and stoppages/load shedding/shortage of HEP  
increasing population/industrialisation/development  
higher living standards  
to encourage development/modernisation/industrialisation  
rural electrification

Reasons for more renewable schemes:  
fossil fuels running out/renewables do not run out  
fossil fuels expensive  
renewables cheap/free after installation  
can be generated in remote areas/no expensive infrastructure needed  
small scale/cheap to construct  
nuclear is dangerous/problems of waste disposal-renewables safe  
fossil fuels cause air pollution/renewables do not pollute  
poor quality of coal/reserves not exploited/small reserves in Pakistan  
allows independence/need not rely on other countries

Credit ideas from either section, no reserves [5]