

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
GCE Ordinary Level

MARK SCHEME for the May/June 2008 question paper

2059 PAKISTAN STUDIES

2059/02

Paper 2 (Environment of Pakistan), maximum raw mark 75

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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]

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- (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]

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(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]

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(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]

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4 (a) (i) **Name two fishing ports on the coast of Balochistan.**

Jiwani, Gwadar, Pasni, Ormara, Sonmiani

(ii) **Name two types of marine fish caught by fishermen.**

Shark	Herring
Drum	Mackerel
Croaker	Sardine
Cat fish	Pomfret
Skate	
Ray	

[2]

(iii) **Describe subsistence fishing methods.**

Small/wooden boats
Sailing/rowing boats
Traditional/hand made nets
Coastal only
Lack of machines/simple engines
Rod and line method
Fish kept in baskets of ice

[3]

(iv) **Explain how these methods can be improved to make fishing commercial.**

Engines
Gill netters/nylon nets/stronger nets
Can go further offshore
Radios
Chilled storage on boat
Trawlers
Loans for ---
Education/training for-----

[4]

(b) (i) **How can fish be stored and processed onshore?**

In ice/cold storage/refridgerated
Gutted
Canned
Dried
Frozen
Salted
Fish-fingers/other product
Fish oil

[3]

(ii) **Why is fish processing called 'value-added'?**

Can be sold for more money/more profit

[1]

(iii) **How does the poor infrastructure of Balochistan make development of the fishing industry difficult?**

Poor roads/no railway for transport
Lack of electricity/power for processing
Poor telecommunications to markets
Lack of fresh/clean water for processing
Illiteracy/lack of training/lack of education

[4]

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(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]

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- (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]