UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the May/June 2009 question paper

for the guidance of teachers

2059 PAKISTAN STUDIES

2059/02 Paper 2 (Environment of Pakistan), maximum raw mark 75

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UNIVERSITY of CAMBRIDGE
International Examinations

1 (a) Study Photograph A (Insert) showing the Hanna Dam.

(i) Describe the site of the dam.

steep rock face/scar/cliff
bare rock/rocky/barren
deep valley } valley
narrow valley }
flatter/lower area/beach
side valley/tributary
scree/gravel/sand [3]

(ii) What evidence shows that the water level in the reservoir is low?

Dry ground/silt/scars at edge/beach/sand/flat land at edge [1]

Study Photograph B (Insert) showing the Balloki Barrage.

(b) Compare the barrage shown in Photograph B with the dam in Photograph A.

Barrage is:
longer/wider/less high
water on both sides
link canal
both have railings along top
low/flatter land [3]

(c) Study Fig. 1, a graph showing the amount of water stored in the reservoir of the Hanna Dam.

(i) By how much did the amount of water decrease from 1974 to 2004?

0.45 million gallons/1.43 – 0.98 million gallons [1]

(ii) Suggest why the amount of water stored in the reservoir is decreasing.

Siltation/silting
Due to soil erosion/deforestation/overgrazing/river deposition
Less water supply
Due to climatic change/lower rainfall/higher temperatures/more evaporation
Increased usage (max 1) [2]

(iii) What can be done to stop the amount of water in the reservoir from reducing further?

Silt traps
Afforestation }
Terracing } of slopes
Dredging/removal of silt
Reducing wastage/pollution [3]

(d) (i) Why is HEP (hydel) a cheap source of electricity?

Free raw material/rain in mountains
Will never run out/renewable
Not imported/mined/drilled
Efficient/high power output [2]

(ii) What problems occur when supplying electricity from reservoirs to areas of high population?

Long distance to areas of use/high population
Cost of wires and poles/difficult terrain/Pakistan cannot afford this/shortage of money
Loss by damage
Loss by theft
Loss of power by resistance/transmission [3]

(e) Photograph A shows a chair lift. This shows that tourists may visit the area.

(i) List some other tourist attractions in mountain areas.

beautiful scenery, views, valleys, peaks
lakes, rivers
wild animals, birds, snakes, flora AND fauna
tribal people, traditional crafts
mountain climbing, fishing, winter sports, etc.
(list of any 2) [2]

(ii) Explain how tourism could help to develop some mountain areas. You may use examples in your answer.

Government investment leading to:

Infrastructure	– roads/airports for travel
	– electricity/water/gas/telecommunications
work	– development of small scale industries, to raise living standards
money	– for business people, shopkeepers, craftsmen, etc.
environmental improvement	– e.g. re-afforestation
education	– of skills required, more investment in schools
cultural change	– meet other cultures/cultural exchange
less isolation	– global awareness, trade
security	
increased food production	
improved health facilities	– better sanitation, hospitals, healthy living
rural	– urban migration reduced

example linked to development (max 1) [5]

[Total: 25]

2 (a) There are four main processes of rice cultivation:

harvesting planting preparation of fields growth

List the processes in the correct order.
preparation, planting, growth, harvesting [1]

(b) Study Fig. 2, a bar chart showing monthly rainfall in the Lahore area.
Explain how *each* of the processes named in (a) is linked to rainfall in the Lahore area from June to October.

June	Rain to soften soil for preparation of field/ploughing
June–July	Rain for planting seeds/seedlings
June–September	High/increasing rainfall for flooding fields
June–September	Sufficient rainfall/rain continues for growth
September–October	Drier period for harvest

(Figure with month from graph linked to process max 1) NOT AVERAGES [4]

(c) (i) Explain why many farmers use HYV (High Yield Varieties) of seed.
Bigger harvest/heavy crop/double yield/fast growth
Double cropping/multi-cropping
Disease/pest resistance
Drought resistance
Stronger stems
Growing population/increased demand
Government encouragement/incentives
Named variety with crop (e.g. Irripak rice, Maxipak wheat, Nayab 78 cotton) (max 1) [4]

(ii) Study Fig. 2 again. In how many months is the rainfall less than 40 mm?
6 [1]

(iii) Briefly explain *four* methods of providing water in times of low rainfall.
Explanation of:
Canal irrigation
Perennial canal from a dam/headworks
Inundation canal from a river in flood
Distribution/diversion canal from a mountain stream
Tubewell run by electricity
Shaduf, a bucket on a pole, from river or canal
Charsa water drawn from a well by animal power
Persian wheel, a waterwheel turned by animal power
Ponds and tanks to collect rainwater
Karez, a tunnel carrying water from the mountains
Tankers carrying water
Storage in dam, reservoir, barrage
Well for groundwater
Sprinklers [4]

(d) (i) What is alluvial soil?

silt/loam/sediment
deposited by rivers/from flooding
when they flood
contains nutrients/minerals [2]

(ii) Explain why alluvial soil is good for crop growth.

Fertile/contains nutrients (e.g. nitrate/potash/phosphate)
deep
fine texture for drainage/not prone to waterlogging
retains moisture/moisture retentive
replaced each year [3]

(e) Explain why there is a shortage of water for irrigation in the Indus Plains.

Canals blocked by silt/siltation
Low/lack of rainfall/variable rainfall/tail end of monsoon or western depressions/
Evaporation
Wastage/leakage/seepage
Demand of domestic, farming, industry users (max 2)
Conflicting users/too many users
Water pollution
Siltation in reservoirs/lower capacity
Less in Sindh because too much used in Punjab
Examples of use to illustrate answer (e.g. water for washing cotton threads) (max 2) [6]

[Total: 25]

3 (a) Study Fig. 3, a map showing three major cities and two major roads.

(i) Name the cities A, B, and C.
A – Hyderabad
B – Lahore
C – Peshawar [3]

(ii) Using the map, describe the route of the N5 road starting from Karachi.
NE (to Lahore)
NW/N then W (to Peshawar/Afghanistan/Durand line)
(East side of) River Indus
Khyber Pass to Afghanistan
Crosses river at Hyderabad
Follows River Chenab then Ravi
Crosses River Ravi (near Lahore)/other named rivers/Indus tributaries [3]

(iii) Compare this to the route of the Indus Highway.
other/west side of River Indus
heads north in Punjab instead of NE/follows only the Indus
does not go to Lahore/other large cities
shorter/more direct
crosses only one river [2]

(b) Study Fig. 4, a graph showing freight carried in a year by road and by railway in Pakistan.

(i) Compare the amounts of freight carried by road and railway between 1997 and 2006.
Total larger by road
About 20× more than railways
Road increased/rail stayed approx. same/rail increased less
Road 84 – 117 but rail 4 – 6 (1000 million tonnes per km)/rail stayed almost the same
Both increased 2003–6
Rail decreased in 2000, road always increases [3]

(ii) Suggest reasons for the differences in the amounts carried by road and railway.
More roads than railways
More road vehicles than rail
More places accessible by road/lorries can go anywhere/door-to-door service (max 2)
Lorries more useful/carry small amounts
Railways old/lack of investment
Investment in new/better roads/motorways [4]

(c) (i) Why are there very few major roads and railways in Balochistan?

low population (density)
scattered population/few towns/lack of urban development
Rugged/rocky/mountainous/barren/badland/rock slides/hills make barrier
Desert/lack of water/difficult working conditions
lack of government investment/backward/present political instability
little industry
tribal opposition [4]

(ii) Explain how better transport routes could help to increase development in Balochistan.

Industrialisation – bigger lorries, employment
Urbanisation – better travel, less nomadism
Faster travel for cars and lorries
EPZ and dry port developed
Better access to port at Gwadar/coastal development/development of ports
Travel to Afghanistan or Iran via Quetta and passes
Access for health and education workers or travel to them
Promotion of small scale industries
Tourism
Mineral exploitation
Fishing development/better access to markets
Higher incomes/living standards/quality of life
More security [6]

[Total: 25]

4 (a) Study Photographs C, D and E (Insert) showing the stockyard at Pakistan Steel Mills, Pipri.

(i) Name *three* raw materials used in the Pakistan Steel Mills.

Any three of:
Iron ore, coal/coke/coking coal, limestone, manganese, chromite [3]

(ii) Why are most of the raw materials imported?

Lack of development of resources/small output
Iron ore not mined in Pakistan
Coal poor quality [2]

(iii) Name the *two* outputs from the steel mills shown on Photographs D and E.

Any two of:
sheets, plates, rolls, coils, slabs [2]

(b) (i) Name *two* human inputs to the steel mills.

Any two of:
Labour, capital, machinery, skills, technology, transport, power, water, etc. [2]

(ii) Explain how human inputs such as those named in (b)(i) can improve production.

Labour – work machines, carry materials, office work
Capital – wages, machines, technology, investment
Machinery – faster, better quality, new products
Skills – computers, office work, machines
Technology – quality, speed, modernisation
Transport – faster, larger supply, bigger markets
Power – efficiency, speed, quality
Water – for cleaning
(any line max 2) [4]

(c) (i) What is an Export Processing Zone (EPZ)?

An industrial estate
Producing products for export
High quality/export quality goods/quality checked [2]

(ii) Explain how the building of industrial estates could help to increase industrial production in Pakistan.

Increase quality of goods
Reliable power/telecomm supply
Water supply/sanitation/cleanliness
Roads, railways to and from the estate/transport network
Attractive to investors/government incentives
Opportunities for more technology/modernisation/specialisation
Development in rural areas
Potential industrial linkages
Example of an industrial estate (max 1)
(any line max 2 for good development) [5]

(d) Describe the characteristics of an industry in the *formal* sector of employment.

Employment/not self-employed
Uses machinery
Investment of capital
Regular working hours
Fixed/set wages
Good quality goods/high value goods
In office or factory/in proper buildings/not at home
Legal/registered/pays tax
Skilled labour
Mainly men
Pension scheme
Incentives (e.g. health care, education) [5]

[Total: 25]

5 (a) Study Fig. 5, a population pyramid for Pakistan in 1998.

(i) How many million children were there below the age of 5 years?
19–19.2 (million) or males 9.7 or 9.8 + females 9.3 or 9.4 [1]

(ii) Why were there more children in the age group 5 to 9 than 0 to 4 years?
Changing birth rates, infant mortality, family planning, contraception [1]

(b) Study the sectors X, Y and Z on Fig. 5.

(i) Which sector represents the group 'young dependents'?
X [1]

(ii) Which sector represents the group 'economically active?'
Y [1]

(iii) The numbers of people in sector Z are likely to have increased since 1998. Explain the effects of this on the economy and development of Pakistan.
More dependents/burden on working population
More older family members to care for children
More older people to give advice
Overpopulation/strain on resources
Shortage/demand of food
More medical services needed/hospitals overcrowded
More old people's homes
Adaptations in houses for elderly
Less money for development/burden or pressure on economy
Cost of pensions [5]

(c) (i) Explain the reasons for a high birth rate in Pakistan.
Lack of knowledge of contraception/family planning
Lack of availability of contraceptives
Need for help on farms/increase income
Trying for a son
Support in old age
Religious beliefs/Allah will provide/prestige of large families
High infant mortality
Women at home to care for children/women lack education/marry at a young age
Do not know about problems of overpopulation/large families
Etc. [5]

(ii) Explain some measures that could be taken to reduce the birth rate.
Access to, education of, and use of contraceptives/family planning (2 marks)
E.g. Sabz sitara, green star (example of government scheme)
Reduce need for child labour/ban child labour
Education and awareness of population growth/how to improve living standards
Education of women/jobs for women
More clinics and hospitals
Healthy environment/better sanitation/better living conditions
Clean water/piped water
Better nutrition/better food
Religious support for birth control
Etc. [4]

(d) (i) What are the effects of population movements from rural to urban areas within Pakistan?

depopulation/neglect by government/lack of development of rural areas
loss of men in rural areas/lack of workers/imbalanced sex ratio/less agricultural production
shortage of housing/growth of squatters
water/air pollution
littering of streets
burden on e.g. schools, hospitals, power supplies, food, water (max 1)
unemployment in urban areas
traffic congestion
unrest/crime/violence/drugs
spread of disease [4]

(ii) Why do some people go to live in other countries?

Lack of opportunities for professionals (e.g. doctors)
Opportunities such as construction in the Middle East, unskilled to Malaysia, skilled to Canada
Corruption, lack of security in Pakistan/political instability, unrest
Lack of development in rural areas/lack of opportunities in urban areas (e.g. jobs, medical care, quality of life)
or opposites [3]

[Total: 25]