

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

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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Page 2	Mark Scheme: Teachers' version	Syllabus
	GCE O LEVEL – May/June 2009	2059

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]

Page 3	Mark Scheme: Teachers' version	Syllabus
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(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-forestation
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]

Page 4	Mark Scheme: Teachers' version	Syllabus
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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]

Page 5	Mark Scheme: Teachers' version	Syllabus
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(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]

Page 6	Mark Scheme: Teachers' version	Syllabus
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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]

Page 7	Mark Scheme: Teachers' version	Syllabus
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(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]

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

Any two of:

Labour, capital, machinery, skills, technology, transport, power, water, etc.

(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]

Page 9	Mark Scheme: Teachers' version	Syllabus
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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

(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]

Page 10	Mark Scheme: Teachers' version	Syllabus
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(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/imbanced 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]