

**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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	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/scarps 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]

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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]

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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]

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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]

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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]

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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]