

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
GCE Ordinary Level

**MARK SCHEME for the October/November 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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1 (a) Study Fig. 1, a temperature graph for Lahore.

(i) Describe the pattern of temperature through the year at Lahore.

Either – using only the graph
 rises from January to June
 slow fall July to September/levels out
 falls further to December

or – alternative seasonal approach linked to the graph
 low in winter + months
 rising in spring + months
 falling when monsoon starts + months
 continues falling in autumn

(ii) Explain why heavy rain falls during the monsoon season. [3]

moisture-bearing/wet winds/carrying rain
 from the sea/Bay of Bengal
 rise over land/hills/mountains
 cools
 moisture condenses/clouds form
 low pressure (over northern Pakistan) brings air in

(b) Study Fig. 2, rainfall charts for Chitral and Lahore.
 Compare the amounts of rainfall for Chitral and Lahore.

A From January to May
 B From June to September [4]

A. January to May (max. 2)

Chitral	Lahore
more/higher in C than L	less/lower in L than C
high range 35–106 mms/71 mms	low range/23–41/18 mms
highest in March/Increase then decreases Jan–May	highest in March
lowest in Jan	lowest in April
same pattern at both places	

B. June to Sept (max. 2)

Chitral	Lahore
less/lower in C than L	more/higher in L than C
low range 5–9 mms/4 mms/low	high range/range 62–205 mms
highest in Sept/rises June–Sept	highest in July/decreases/July–Sept

Statements must be comparisons, or corresponding in each paragraph.

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(c) (i) In which months do western depressions bring rainfall to Pakistan?

December – March

(ii) Which of the cities in Fig. 2 receives more rainfall from these western depressions? [1]

Chitral

(iii) Explain why western depressions cause rainfall in Pakistan [3]

come from Mediterranean(sea)
bring moisture/cloud/water
cooling causes condensation
explanation of cyclonic rainfall can go to 3 marks

(d) Explain how topography and drainage cause problems for farming in Balochistan. [4]

Topography (res.1)

Candidate needs to link these to problems of farming in Baluchistan (i.e. Not the Indus Plain).
For example:

lack of fertility, soil erosion, use of machinery, irrigation
mountains
plateaux
steep slopes
stony soil
thin soil
barren land
'mountains/rugged topography unsuitable for farming' max. 1

Drainage (res.1)

Again, candidate needs to link these to problems of farming in Balochistan.

inland drainage basins/salt lakes
few/small rivers
rivers dry up/evaporate
much percolation/loss of water through soil
'lack of water for farming' max. 1

Do not credit 'waterlogging and salinity' unless the candidate says 'part of the Indus Plain in Balochistan'.

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(e) Read Fig. 3, an extract from a magazine.

Most farmers in Balochistan do not have access to water from the River Indus.

There are many small rivers that flow into shallow lakes but they are dry for most of the year. These small rivers can provide some water for irrigation.

Other sources of water are underground, and some water flows in tunnels from the mountains.

Irrigation News

Describe the irrigation methods that can be used by farmers in Balochistan and comment on the success of such schemes for increasing farming output. [6]

The candidate is expected to describe, and possibly illustrate at least 2 of the following schemes.

Maximum 4 marks on any one scheme, but 1 mark must comment on 'success'.

Reserve 2 marks for 'success of schemes.'

Credit labels on diagrams if not in script.

Allow one named or located example of each scheme.

Karez

canals from rivers/diversion canals

tubewells

wells (primitive)

shaduf to lift water

charsa to lift water

Persian Wheel to lift water

tanks for storage

dams (small)

For Example – The Karez

underground canal/tunnel

uses groundwater

vertical shafts for cleaning

water taken in turn according to shares in ownership

irrigates oases

Example – Quetta-Pishun valley, Mastung valley

Success – less important now, neglected – bad

sources drying up – bad

lack of government investment – bad

continuous supply – good

only water in the desert – good

water from mountains put to good use – good

does not evaporate – good

etc.

[Total: 25]

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2 Study Photograph A (Insert) showing a crop of sugar cane.

(a) (i) Describe the appearance of this crop.

tall/medium height
 not fully grown
 thin leaves/long leaves/like grass
 dense/close together
 good growth because lack of disease/well irrigated

(ii) Explain how the growth of this crop can be improved by [4]

A irrigation (max. 2)

plants need water to photosynthesis/to be healthy/sugar needs a lot of water
 makes it grow faster/bigger/higher yield
 needed in dry periods/drought/make up deficiency in rainfall
 to remove salinity (in the soil)

B fertilisers (max. 2)

provide minerals for growth/reduces crop failure/nutrients
 makes up for deficiencies/Pakistan soil deficient in minerals
 minerals need replacing after cultivation
 examples of minerals e.g. nitrogen, potash (potassium), phosphate
 makes it grow faster/bigger/higher yield (but not twice)

(b) Explain how this crop is processed. [6]

taken to factory/mill
 quickly/without delay
 washed/scrubbed
 crushed
 juice collected
 refined
 crystallised
 whitened/made into white sugar
 molasses/brown sugar
 baggase produced (a waste product)

Study Fig. 4, a graph of sugar cane production.

(c) (i) What was the increase from 1965 to 2005 in: [2]

A production ?

28–29 million tonnes

B yield per hectare?

13–14 tonnes per hectare

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(ii) Name an area of high sugar cane production.

East-central Punjab/Faisalabad/Sardodha
 South-central Sindh/Hyderabad/Badin
 Central NWFP/Charsadda

(d) Study the list of factors which affect agricultural development:

mechanisation	land consolidation	transport improvements
financial loans	education	telecommunication
		new seed varieties

(i) Choose three of these factors and for each explain how it increases production of sugar and other agricultural products. [6]

Mechanisation – faster work, more efficient, better preparation, can thresh and harvest, 'does not need to rest', use of tubewells

Land consolidation – bigger fields, more mechanisation

Transport – faster speed e.g. sugar can to the mill prevents losses, dry ports for inputs e.g. fertiliser, experts (advisers) can visit

Loans – funds to buy inputs e.g. fertiliser, machines, bigger fields, purchase more land, better irrigation

Education – knowledge of better methods,

Seed varieties – higher yields, resistance to pests and disease, less water demand, better germination

Telecommunication – access to information, education, skills

No mark for naming the factor.

Reserve one mark for a simple explanation of each factor (3 needed).

Allow a maximum of 4 for one factor.

This list is not exhaustive, and there may be links between the factors.

Do your best for the candidate, but do not credit excessive repetition.

(ii) Explain why it is important to increase the production of sugar and other agricultural products in Pakistan. [4]

increasing population

nutritious/need for better food production

higher incomes (for farmers and businessmen)

increase exports/earn foreign exchange/increase GDP/increase Pakistan's income

reduce imports/improve balance of payments

provides employment in (named industry)

by-products e.g. Bagasse for fuel,

Board for building etc.

[Total: 25]

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3 Study Fig. 5. A map of Pakistan.

(a) (i) Name the province A.

Balochistan

(ii) Name the river B.

Sutlej

(iii) Name the plateau C.

Potwar/Potawar

[3]

(b) Name the two main centres of production of surgical instruments D and E.

D Sialkot,
E Lahore

[2]

(c) (i) Give two examples of a small scale or cottage industry.

[1]

Two examples of a craft e.g. wood carving, embroidery, jewellery, ornaments etc. sports goods, surgical goods.
(2 names=1 mark – but one must be specific))

(ii) Using your answers to (c) (i) explain what is meant by a small-scale or cottage industry.

[4]

small production/small output
traditional skills
in homes/on the street/not in factories
lack of machinery/labour intensive/low technology
women workers/family workers/no hired labour
self-employment/informal industry/less than 10 workers employed/small workforce
low profits
to meet local demand
for tourism
local raw materials
low capital input/fixed assets less than Rs. 10 million
use waste products

see extract provided (p121 Sethi)

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- (d) Explain how government organisations help and promote the development of small-scale industries.

organisations e.g. PSIC (Pakistan Small Industry Corporation), PSIC (Punjab SIC), SMEDA (small and medium enterprise development agency) etc.
 marketing facilities/trade fairs/shops
 technical service centres/expert advice
 education and training
 cheap loans/loans on easy instalments
 tax breaks/cheaper raw materials
 small industrial estates
 dry ports/better road transport
 power supply/electrification/gas/water
 telecommunications
 more value – added goods
 aid mechanisation
 no reserves for help or promotion

- (e) Study Fig. 6, a map of air routes in Pakistan.

- (i) Name two major airports in the northern Punjab shown on the map. [2]

two from – Lahore (Alama Iqbal)/Faisalabad/Islamabad (Benazir Bhutto) or Fateh Jang

- (ii) Describe the distribution of airways from the northern Punjab. [3]

mostly to the south-west/south
 to the coast/Karachi
 follow the Indus plain/through Sindh

a few north and west
 to NWFP/Peshawar

via Islamabad to Northern Areas/Chitral/Gilgit

west to Quetta

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- (iii) Explain the advantages and disadvantages of using air transport in the Punjab.

Advantages (res. 2)

fast/saves time
 over difficult relief/mountains/deserts
 where no roads/railways/inaccessible
 direct to other countries
 businessmen/politicians/tourism
 perishable/high value/light goods
 more comfortable/less tiring
 promotes tourism

Disadvantages (res.2)

bad climate/fog/ice/snow/dangerous
 expensive
 unsuitable for perishables/heavy loads/cheap goods (do not double mark)
 few airports/difficult to build
 does not go door-to-door/airports may be out of city
 air pollution/global warming

[Total:25]

- 4 (a) Study Fig. 7, a pie chart showing the sources of energy supply.

- (i) Name the two largest suppliers of energy. [1]

oil and gas (2 for 1 mark)

- (ii) What percentage of energy comes from oil? [1]

47–48

- (iii) Name two other sources not named on the chart. [2]

HEP, nuclear, bagasse, solar, wind, geothermal, waves, tidal

- (iv) Why does coal only supply 4% of the energy supply in Pakistan? [3]

low quality/lignite
 reserves not developed/not mined
 bulky/heavy to transport
 used for other things e.g. coke, bricks, cement
 coal seams difficult to mine because – thin, contorted, faulted

- (b) Study Fig. 8, a map of Pakistan.

- (i) Describe the location of the two main oil fields shown on the map. [2]

Potwar plateau/Northern Punjab
 Lower Sindh/Southern Sindh

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(ii) What is crude oil?

unrefined/raw/as it comes out of the ground

(iii) Why does Pakistan import most of its oil? [2]

no enough for demands/not self-sufficient/small reserves
 running out
 lack of investment/development of new fields
 high cost/lack of money
 lack of skilled/educated labour

(c) Study Photograph B, a gas extraction unit at Nautheh, in the Potwar Plateau.

(i) With reference to Photograph B explain why natural gas is an easy fuel to extract. [3]

small size of land
 little impact on the environment
 simple machinery/small machinery
 pipes go into ground
 works automatically/no/little manpower needed
 controlled by valves/valves control pressure
 near road for easy access

(ii) Study Fig. 9, an advertisement for natural gas. Suggest why this advertisement states that natural gas is 'A cheap fuel. Easy to use'. [4]

produced in Pakistan/in Balochistan/at Sui/not imported
 large reserves
 lightweight
 available in pipelines
 portable in cylinders
 cleaner than burning wood/coal
 easy to extract

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(d) Explain the advantages and disadvantages of developing nuclear power.

Advantages (res. 2)

large output
 reliable
 small input of raw material/efficient
 long lasting fuel
 fossil fuels running out/reduce burden on other fuels
 less pollution/environmentally friendly
 will be less need for load-shedding/power cuts

Disadvantages (res.2)

expensive to buy fuel
 expensive to build
 lack of technology/skills/difficulties of maintainance
 dangerous/risk of radioactivity
 unpopular/local opposition
 disposal of waste is a problem
 risk of terrorism
 use for bombs

[Total:25]

5 (a) Study Fig. 10, a bar chart showing population change from 1951 to 2001.

(i) What was the total population in 2001? [1]

143–144 million

(ii) By how much did the total population increase from 1951 to 2001? [1]

111–114 million

(iii) Compare the increase in the urban and rural areas. [3]

more increase in rural/less in urban
 greater percentage increase in urban areas
 urban increase 5–48 million/by 43 million/approx. 9 times }
 rural increase 27–95 million/by 68 million/approx. 3.5 times } needs comparison

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(b) Explain the causes of the population increase in Pakistan since 1991.

high birth rate
 birth rate exceeds death rate
 longer life expectancy/lower infant mortality/lower death rate
 better health care/medical facilities
 better care of the elderly/pensions
 better sanitation and clean water/less disease
 lack of family planning/use of contraceptives
 traditional beliefs/want a son/Allah will provide (max.1)
 unaware of population problem/lack of education on ---
 need of family labour/lack of farm mechanisation
 lack of education of women/early marriage
 lack of government programmes
 lack of transport to rural areas

(c) Describe the effects of population growth on the economy and development of Pakistan. [6]

Economy

shortage of money/foreign exchange to buy food etc./negative balance of payments
 need for foreign loans
 debt
 lack of money for investment

Development

overpopulation leading to –
 shortages of –
 food,
 water,
 education,
 health services,
 work/unemployment,
 money/poverty
 housing/homelessness/living on the streets/overcrowding/Kacha Abadi
 pollution (must be named)
 traffic congestion
 high prices/inflation
 power/fuel/load shedding
 deforestation/trees/loss of farmland
 little industrial development

(d) Study Fig. 11, a bar chart showing employment and unemployment in 2004.

(i) What percentage of people are unemployed in urban areas?

[1]

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(ii) Why are many people unemployed in cities?

- illiterate/uneducated
- lack of skills/training
- tertiary jobs/jobs needing qualifications
- shortage of jobs/too many people/rural-urban migration
- IT in offices
- machines in factories
- unfinished projects/slow economic growth/recession
- new residents do not have contacts/family contacts

(iii) Suggest why the real number of people unemployed in rural areas may be higher than the figures recorded. [3]

- under-employment/more people work on farms than are needed/disguised unemployment
- difficult to collect figures
- women not included?
- many self employed/subsistence farming/subsistence existence
- seasonal work e.g. sugar mills
- informal employment (as opposed to formal employment)

[Total: 25]