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.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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CIE is publishing the mark schemes for the October/November 2009 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

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.

(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'.

(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]

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

(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]

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. **[3]**

Potwar/Potawar

(b) Name the two main centres of production of surgical instruments D and E. **[2]**

D Sialkot,
E Lahore

(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)

(d) Explain how government organisations help and promote the develop 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

(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

(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/mall 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

(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

(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]

(ii) Why are many people unemployed in cities?

illiterate/uneduated
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]