

**MARK SCHEME for the October/November 2009 question paper  
for the guidance of teachers**

<b>2059/02</b>	<b>2059 PAKISTAN STUDIES</b> Paper 2 (Environment of Pakistan), maximum raw mark 75
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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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1 (a) Study Fig. 1, a temperature graph for Lahore.

(i) Describe the pattern of temperature through the year at Lahore. [3]

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  
high range 35–106 mms/71 mms  
highest in March/increase then decreases Jan–May  
lowest in Jan  
same pattern at both places

less/lower in L than C  
low range/23–41/18 mms  
highest in March  
lowest in April

B. June to Sept (max. 2)

Chitral

Lahore

less/lower in C than L  
low range 5–9 mms/4 mms/low  
highest in Sept/rises June–Sept

more/higher in L than C  
high range/range 62–205 mms  
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? [1]**

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. [2]**

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. [1]

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

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

<b>mechanisation</b>	<b>land consolidation</b>	<b>transport improvements</b>
<b>financial loans</b>	<b>education</b>	<b>telecommunication</b>
		<b>new seed varieties</b>

(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. [5]**

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 northern Punjab. [5]

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?** [1]

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. [6]

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 maintenance  
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. [5]**

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? [5]**

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]**