

**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**  
International General Certificate of Secondary Education

**0448 PAKISTAN STUDIES**

**0448/02**

**Paper 2**

Due to a security breach we required all candidates in Pakistan who sat the paper for 0448/02 to attend a re-sit examination in June 2013. Candidates outside of Pakistan sat only the original paper and were not involved in a re-sit.



**UNIVERSITY of CAMBRIDGE**  
International Examinations

**MARK SCHEME for the May/June 2013 series**

**0448 PAKISTAN STUDIES**

**0448/02**

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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2013 series for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level components and some Ordinary Level components.

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1 (a) (i) For each of the following cities state the maximum rainfall and the month in which it falls.

Peshawar 68/69 mm, August  
Lahore 201/202 mm, July  
Murree 340 mm, July

[3]

(ii) Compare the amount and pattern of rainfall in Lahore and Peshawar during the monsoon season.

Lahore  
more rain/higher maximum  
increase then decrease  
earlier maximum/max in July  
tails off more slowly  
comparative figures (other than those from (i))

Peshawar  
*Credit comparison of above*

[3]

(iii) Explain how the monsoon winds bring rainfall to northern Pakistan.

from the sea/Bay of Bengal/Indian Ocean  
this increases the moisture content  
rise over land  
air cools  
condensation

[4]

(iv) Suggest two reasons why Murree has a higher rainfall than Lahore and Peshawar.

higher altitude/mountainous  
more thunderstorms  
more western depressions  
windward slope  
more vegetation/forests

[2]

(b) (i) Circle three of the phrases below that describe a semi-arid climate.

HIGH EVAPOTRANSPIRATION  
HOT DAYS AND COLD NIGHTS  
THUNDERSTORMS

[3]

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(ii) **Study Photograph A (Insert)**

**Explain how the ground surface and the vegetation show that this is an area of low rainfall.**

Ground (res. 1)

bare/barren ground

sand

small stones

Vegetation (res. 1)

scattered, e.g. sparse/scanty

lack of greenery/pale brown/not green

low bushes/shrubs/scrub/not tall

adaptations seen in photograph, e.g. thorns/thin leaves etc.

[4]

(c) **Explain the benefits and problems of high rainfall on either farming or road travel.**

**FARMING**

**Benefits (res. 2):**

increased water supply/less need for irrigation

alluvium from floods

reduces salinity

better plant growth

higher yield/income

benefit to animals

**Problems (res. 2):**

flooding

waterlogging

water is not absorbed

soil erosion/gullying

leaching

risk of pests/disease

damage at harvest, e.g. cotton, wheat

intensity can damage plant

loss of income (do not credit twice)

**ROAD TRAVEL**

**Benefits (res. 2):**

lays the dust

water to cool engine

**Problems (res. 2):**

flooding blocks roads/restricts access

washes away surface

destroys bridges

danger of lightning

danger to driving, e.g. slippery

[6]

[Total: 25]

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- 2 (a) Study Fig. 2 which shows the perennial canal system in Pakistan. Describe the distribution of the perennial canals.

mainly on Plains/Indus Plain/by the rivers  
 most widespread in Punjab  
 only from Indus in Sindh  
 mostly NE to SW in Punjab and Upper Sindh  
 mostly NW to SE in Lower Sindh  
 south/east of highlands  
 no canals in SE area/Balochistan/north/west/mountains  
 some in KPK

[4]

- (b) Name three types of irrigation, other than perennial canals, used in Pakistan. Explain briefly how each type works.

Allow one mark for a brief description and the second mark for more detail  
 inundation canals from rivers + details  
 tubewells from groundwater + details  
 Karez from foothills + details  
 others including ponds, tanks, charsa, shaduf and modern methods, e.g. sprinkler, tanker [6]

- (c) Explain how a perennial supply of water can damage farmland.

too much water/waterlogging  
 watertable rises  
 evaporates  
 causes salinity/salts accumulate on surface/surface crust

[4]

- (d) Study Fig. 3 which shows the main users of water in the Punjab. Name two conflicting users of water supplies in the Punjab shown on Fig. 3. Explain briefly why each user thinks that they should have more water.

2 conflicting users (one mark), e.g. farmer, industrialist, home-owner, power industry

Reasons for wanting more water (two marks each)

e.g. farmer wants it for higher yields – more food for growing population, income for himself, irrigation, example of high usage, e.g. rice and sugarcane.

e.g. industrialist wants it for bigger/better output – increase trade, exports, income for himself, example of high usage, e.g. drinks, chemicals.

e.g. home owner wants it for domestic use – better hygiene, food preparation, healthy living, example of high usage, e.g. washing, drinking. [5]

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**(e) To what extent is it possible to increase water supply in Pakistan?**

Possibilities (res. 2)

Indus river system + details

rainfall in mountains

melt water from mountains

groundwater

flat land for canals

cleaning dirty water/desalination

reduce losses, e.g. more storage, less leakage, ration usage (max. 2)

control misuse, e.g. by education

Problems (res. 2)

not enough river water

not enough rain

loss by leakage, siltation

Indus Water Treaty restricts water in reservoirs/rivers

evaporation in hot climate

pollution

demands always increasing

some places remote (e.g. Baluchistan)

lack of funds/government will

**[6]**

**[Total: 25]**

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### 3 Study Photographs B, C and D (Insert)

- (a) (i) Name the crops shown in each photograph and give a use of each within Pakistan.

One mark for correct name + use

B rice – for food

C cotton – for cloth, seeds for oil

D sugar cane – for food, allow by products

[3]

- (ii) With reference to one of the crops named in (a)(i) explain the meaning of cash crop farming.

No mark for repeating the name of a crop

growing a crop for sale (res. 1)

use of good quality inputs,

e.g. fertiliser, HYV/GM seed, modern machinery

[2]

- (b) (i) Place the following processes in the correct order  
**SOWING SEEDS, PLOUGHING, HARVEST, WEEDING**

ploughing, sowing seeds, weeding, harvest

[1]

- (ii) With reference to your answer to (b)(i) explain how rice is grown on small-scale farms in Pakistan.

manual labour/little machinery/hand tools (max. 2)

animal/draft power

seeds planted in nurseries

transplanted into flooded fields

care during growth – weeds, pests, maintaining water levels etc. (max. 3)

water drained before harvest

[6]

- (c) Study Fig. 4 which shows sugar cane production in Pakistan.

- (i) What was the highest annual production, and in which year did it occur?

Production – 64 million tonnes, Year – 2008

[2]

- (ii) By how much did production decrease between 2008 and 2010?

15 million tonnes

[1]

- (iii) Explain why the production of agricultural crops varies from year to year.

temperatures vary

rainfall varies,

e.g. floods, drought, extreme events

irrigation water may be short

high winds

pests/disease/virus

quality of inputs depends on last year's profit

human factors, e.g. sickness

changes in government policies

[4]

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(d) To what extent could the improvement of road, rail and air transport improve the distribution of food supplies in Pakistan?

Improvements (res. 2)

general comments, e.g. quicker, further, use for emergencies (max. 2)

air quick for perishable food

rail slow for bulky goods

road goes everywhere, door-to-door

Problems (res. 2)

air expensive

roads congested

rail lack of maintenance, not door-to-door

general comments, e.g. lack of funding, difficult topography, poor maintenance (max. 2) [6]

[Total: 25]



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4 (a) Study Fig. 5 which shows thermal and hydel (HEP) power stations in Pakistan.

(i) Name the cities A, B and C.

- A Islamabad or Rawalpindi
- B Lahore
- C Multan

[3]

(ii) Compare the distribution of thermal and hydel (HEP) power stations.

Both near rivers  
*Credit any relevant comparison from the list below*

Thermal (res. 1)  
 in cities/towns/urban areas  
 along River Indus in Sindh  
 more widespread

Hydel (res. 1)  
 away from cities/towns/urban areas  
 on River Indus in Punjab, KPK (accept NWFP)  
 in Northern part of the country  
 none in Sindh/Baluchistan

[4]

(iii) Explain why these two different types of power station are built in different areas in Pakistan.

Thermal  
 built where fuel is locally available,  
 e.g. coal at Quetta, Potwar plateau  
 oil/gas at Sui, N Punjab  
 oil/coal imported at Karachi  
 near demand in cities/towns

Hydel  
 needs large volume of water in river  
 high rainfall  
 deep/steep-sided valley  
 only available in North/in mountains

[4]

(b) Explain why the supply of electricity is not reliable in many parts of Pakistan.

shortage due to lack of oil, gas, coal  
 less water in reservoirs due to silting, less melting of glaciers  
 damage to grid/transmission  
 long transmission lines  
 theft  
 poor maintenance/old machinery/breakdowns  
 demand exceeds supply/increasing demands/load shedding  
 lack of investment in new power stations/alternative energy

[4]

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(c) Study Fig. 6 which shows the percentages of fuels used for electricity supply.

(i) Use Fig. 6 to state the percentage of electricity generated from natural gas.

46–47

[1]

(ii) Name the two other fossil fuels Y and Z, and explain why each is used less than natural gas.

coal – poor quality, small reserves, remote/in Balochistan, heavy to carry  
oil/petroleum/diesel – small reserves, unexplored, expensive.

[3]

(d) To what extent can the development of renewable energy resources improve the reliability of electricity supply in Pakistan?

Reliability (res. 2)

available everywhere

free after installation

possibilities, e.g. sunshine for solar, exposure for wind, coast for tidal or wave (max. 3)

Problems (res. 2)

costly to install

lack of technology

lack of skills

low output

variable output, e.g. wind, sun

[6]

[Total: 25]

Page 10	Mark Scheme	Syllabus	Paper
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5 (a) Study Fig. 7 which shows a population pyramid for Pakistan.

(i) What is the age range of the shaded portion of the population?

65 – over 75/over 65 [1]

(ii) Estimate how many people there are in this sector of the population.

5 million [1]

(iii) Why is this figure likely to increase in the next 20 years?

lower death rate  
longer life expectancy  
better healthcare/pensions etc.  
higher birth rate/more babies being born  
lower infant mortality [2]

(iv) What pressures will this increase put on the working population?

higher taxes  
less jobs  
example of costs, e.g. medical care, pensions, care homes, food [2]

(b) (i) Estimate how many children aged under 5 are shown on Fig. 6.

19–19.8 million [1]

(ii) Explain why the birth rate of Pakistan is very high.

lack of knowledge of family planning/consequences of a high population  
lack of contraception  
female illiteracy  
early marriage  
high infant mortality rate  
religion/children will be provided for  
pride in large families  
family labour/sent out to work  
desire for sons [4]

(iii) Explain how better health and education provision can reduce the birth rate in Pakistan.

Education  
use of contraception/family planning  
understand overpopulation  
emancipation of women/delayed marriage  
change of religious views  
mechanised/progressive farming

Healthcare  
lower infant mortality so fewer births  
use of contraception  
access to family planning clinics [6]

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(c) Study Fig. 8 which shows the calories and grams of protein consumed per person per day in Pakistan.

(i) Compare the increase in food calorie intake with the increase in protein consumption from 1980 to 2010.

protein increases more  
 calories constant/slight increase 2000–2010  
 comparative figures  
 (protein 61–71 grams, calories 2300–2400 per day)  
 comparison of decades (max. 1)

[2]

(ii) The United Nations (UN) has predicted that the population of Pakistan may double from 2010 to 2050.

To what extent can Pakistan increase its food supply for this large population?

Increase by

more fertiliser  
 better seed  
 more pesticides  
 irrigation  
 mechanisation  
 more land brought into cultivation  
 more fishing  
 education/professionals/colleges  
 investment/loans  
 more imports  
 foreign aid  
 better transport system linked to better distribution or less food spoilt  
 better storage facilities

Problems

lack of money  
 lack of education  
 lack of experts  
 too many people  
 lack of water  
 political problems  
 war etc.

[6]

[Total: 25]