

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
GCE Ordinary Level

MARK SCHEME for the May/June 2012 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 Photographs A, B and C (Insert)

- (i) Name the forest types A, B and C and write the correct letter for each area shown on Fig. 1** [4]

A Coniferous / alpine

B Mangrove

C Tropical thorn / Rakh / Irrigated / Riveraine / Bela

(3 for names, 1 for all areas correct)

- (ii) Describe the appearance of the forest shown in Photograph C.** [3]

green / healthy

dense / close together

plantation / planned / in lines

varied height

form a canopy / canopy open / crowns meet / provides shade

no undergrowth / bare floor

same species

shisham / babul

- (iii) Explain the importance of the forest in Photograph B to fishermen and fishing villages.** [3]

breeding area / many fish there (max 1 mark for ref. to fish)

source of income

protection to villages (against storms, floods, tidal waves etc.)

firewood

fodder / food

timber / wood for boats, houses etc.

- (iv) Why does the forest in Photograph A appear to be in an area of afforestation?** [3]

regular pattern / evenly distributed / in blocks

straight lines

blocks of same height / age / young trees

blocks of same species

evidence of deforestation / cutting

- (b) (i) State two effects of deforestation in mountain areas.** [2]

Increased surface runoff

soil erosion / leaching / infertile

landslides / avalanches

floods

less rainfall } climatic change

higher temperatures }

loss of habitat / rare species

shortage of firewood / food

siltation in reservoirs (dams)

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(ii) Explain how one of these could be controlled.

[4]

Allow a 2nd mark for development of any line e.g. quick growing trees

(Soil erosion etc. controlled by)

planting trees to hold the soil

planting trees to protect the soil

terracing

contour ploughing

selective cutting

education / awareness

(Siltation controlled by)

Silt traps

Dredging / removal of silt from reservoirs

(Flooding controlled by)

Embankments

Dams / barrages

(Climatic change controlled by)

Reduce burning of fossil fuels

Controls on emissions

Laws / treaties etc.

(Loss of habitat controlled by)

Establish reserves

Selective cutting

Rangers / laws

(Shortage of firewood controlled by)

Use of alternative fuels (other than firewood) eg. LPG / natural gas

(c) CRAFTS TOURISM CLIMATE SOILS

With reference to **two** of the above, explain how a trees can be a valuable resource for the people who live in mountain areas. [6]

Credit only once

'for income / employment'

Improved standard of living / quality of life / better lifestyle

Res. 2 for each choice

CRAFTS – small scale / cottage industry, work for locals, income, furniture, toys etc. sale to tourists, local need, export, for raw material

TOURISM – scenic beauty (or similar) shade, picnics, nature study, photography, to buy crafts

CLIMATE – increases transpiration, increases humidity, more rain, shade, to lower temperature

reduce pollution / more oxygen / fresh air

SOILS – leaf fall creates humus, more fertility, can grow crops, pastures, prevents erosion / landslides / soil erosion, prevents flooding,

[25]

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2 (a) Study Fig. 2 and name

(i) the line of latitude A

36 °N

(ii) the mountain pass B

Khunjerab

(iii) the road C

Karakoram Highway / KKH / Silk Road

(iv) the province D(4)

Northern Area(s) / FANA / Gilgit – Baltistan

(b) Study Fig. 3 showing the climate of Gilgit.

(i) What is the maximum temperature, and in which month does it occur? [2]

27.5 °C

July

(ii) In which season of the year is the rainfall highest? [1]

Spring / early summer / March to May

(iii) Compare the climate of the months May to September with the months from November to February. [4]

May to September

Hotter

Over 18 °C / 18–27.5 °C

Wetter

Variable rain low/increasing

6–26 mm

November to February

Colder

Under 12 °C / 3–12 °C

Drier

rain/snow fall

2–6 mm

All figures must be comparative, and accurate

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- (c) In what ways does the winter climate make life difficult for people who live in mountainous area? [6]

snow covers ground (or reference to snow)
 water shortage / water freezes
 no farming in winter / nothing grows / need to store food / no fishing
 live indoors / cannot work outside
 animals kept in sheds / need feeding / no pasture
 roads or railways blocked / closed / no travel / communication
 damage to buildings eg. by avalanches, landslides, frozen pipes / death of people
 fog / no air travel
 power lines cut
 telephone lines cut / no telecommunication
 no tourism
 need to keep warm / need for heating
 long nights / short days
 less income / less work / less trade / economic activity stops

- (d) (i) What is the meaning of the livestock farming terms [2]

A Transhumance?

Seasonal movement to higher pastures in mountains in summer and return in winter

B Nomadic farming?

(Seasonal) movement in search of pasture / water / food

- (ii) What are the advantages and disadvantages of these types of livestock farming in either mountain or desert areas? [6]

Allow max 4 marks for general adv. and disadv of livestock farming in both areas

But reserve 1 adv. and 1 disadv for specific reference to **either** mountain **or** desert areas.

Advantages (res. 2)

Access to good pasture
 Low cost / free
 In areas of poor soil / land
 Source of income e.g. goods to sell (max 2)
 Source of food
 Dung for fertile soil
 Camels adapted to desert
 Sheep and goats eat poor quality grass

Disadvantages (res. 2)

Need to move about / no permanent home
 Poor quality animals / difficult to be commercial / cannot keep buffalo
 Lack of water in desert
 Lack of vets in both areas
 Relies on uncertain desert climate
 Overgrazing ONLY in desert / nomadic farming

[25]

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3 (a) Study Fig. 4 showing the climate of Sialkot.

(i) Circle on the x-axis

- A the month when rice would be planted.
Any one month from April to June
- B the months when it would be growing
Any 3–5 consecutive months between May and September
- C the month when it would be harvested
September or October [3]

(ii) Explain how canal irrigation is used and controlled to grow rice. [4]

from river / reservoir / dam / barrage / another canal
closed or opened (by sluice or gate)
field flooded in preparation / for nursery beds / before transplanting
kept flooded during growth
to a depth of about 30–37 cm / 12–15 inches
drained before harvest

(b) Study Fig. 5 showing wheat production.

(i) What was the production in 2008? [1]

21 million tonnes / 21 000 000 tonnes

(ii) Compare this to the production of wheat in the years from 1999 to 2007. [2]

higher than in 1999 / 2001/02/03/04
but not as high as 2005 / 2007
same as 2000 / 2006

(iii) Explain the reasons for the changes in production over these years. [4]

Rainfall variability / drought }
floods / storm damage } reference to a form of water supply max 2
poor irrigation }
temperature
pest attack
capital / loans / profit from previous year
family sickness
security / theft
wheat price
reasons for overall increase e.g. HYV, better / more fertiliser, mechanisation, training,
population increase

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- (c) To what extent is it possible to increase agricultural production by the use of modern methods? [6]

Possibilities (res. 2)

More growth with fertilisers
 Less damage with pesticides
 More yield with better seed / HYVs / GM crops
 HYVs / GM pest resistant
 Benefits of machines (max. 2)
 named modern irrigation method (max 2)
 Treatment of waterlogging and salinity e.g. with tubewells
 Crop rotation to improve fertility eg. growing pulses, fallow
 Training and education

Problems (may be environmental or economic) (res. 2)

Lack of literacy / education
 Means less training
 Lack of money to invest
 Traditional farming methods
 Over-use of irrigation water causes waterlogging / salinity
 Small / fragmented farms
 Causes and effects of pollution
 Build up of resistance to pests
 High cost of fertiliser, machinery etc.
 Water pollution from runoff with fertiliser / pesticide
 May be unsustainable

N.B. Credit other reasonable ideas

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(d) Study Fig. 6.

(i) What is the percentage of goods carried by rail? [1]

4, 5, 6 or 7

(ii) Compare the advantages of transporting goods by road and rail. [4]

All answers must be comparative.

Road

Door-to-door / goes everywhere

Reaches all areas / remote areas / more roads

Available to all / no special vehicles

More modern / better maintained

Better for short distances / local deliveries

Cheaper because

Faster because

Rail

Only goes to stations

Limited network

Cheaper because

Faster because

Carries more bulky / larger / heavier loads

Old infrastructure / equipment

Better for long distances

[25]

4 (a) Study Fig. 6.

Name on the map

(i) A the port where iron ore and coal are imported,

(Port) Qasim

(ii) B the site of the Pakistan Steelworks,

Pipri

(iii) C the lake that supplies water to the Pakistan Steelworks,

Haleji

(iv) D the destination of the motorway from Karachi.

Hyderabad

[4]

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(b) Explain why the Pakistan Steelworks is called 'a large scale industry'. [4]

handles large quantities of raw materials
 large production / large output / generates large income
 large area / site
 large electricity use / local power station
 large gas use / large pipeline
 large workforce
 higher output per worker
 large capital / investment
 mechanised / automated
 standardisation of products

(c) Study Fig. 7 showing imports of steel

(i) What is the value of imports in 2008? [1]

105 000 million Rs

(ii) By how much has this increased since 1998? [1]

85–88 000 million Rs.

(iii) Suggest one reason for this increase and explain this. [3]

Named reason (1 mark)

Industrialisation / growth of industry
 Named use eg. construction, machinery,
 Increase in cost of steel
 Devaluation of Pakistan currency
 Growing population

Explanation of that reason (2 marks)

Needs machinery
 Needs raw materials
 Building of new houses / industrial estates
 Road and rail repair
 Better agriculture
 Shortage of world steel supplies
 Devaluation of Pakistan currency
 Any reason from the first section above can be credited as an explanation

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(d) WATER ELECTRICITY GAS PIPES TELEPHONE ROADS

Choose two types of infrastructure from the list above and for each explain their importance to businesses on an industrial estate.

(Res. 2 for each type)

Water – for washing, cooling, cleaning,
food processing, chemicals, dyeing / bleaching

Electricity – for power / energy / machinery, light, heat, ventilation, computers,
faster / better / more efficient work

Gas – for power, heat, light, cooking food,
raw material for fertiliser / chemical industry

Telephone – (for contact with) suppliers and buyers, quick response, may be in other
places,
for sales, orders, marketing, advertising,
line to computer

Roads – (for transport of), inputs, outputs, people,
less breakage / damage of valuable goods, quick travel, attracts investors

(e) What are the benefits and problems of developing new industrial estates? (6)Benefits (res.2)

Employment / jobs / raise incomes

Goods for local needs

Goods for export / more trade

Increase GNP / GDP / increases national income / economic growth

Reduce imports

Attracts more investors / entrepreneurs

Development of named infrastructure e.g. roads, power, telecomm

Reduces emigration / if in rural areas reduces rural-urban migration

More competition improves quality

Stimulates growth of service industries

Problems (res.2)

Cost

Lack of skilled labour

Loss of agricultural land / trees

Depletion of named natural resources eg. water, gas

Lack of named infrastructure e.g. electricity, roads, water

Lack of government support

Named pollution (max 2) e.g. water, air, land

Need for more imports with e.g. machinery, raw materials, oil

(Increases) rural-urban migration

[25]

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5 (a) Study Fig. 9 showing population density in Sindh.

- (i) Describe the distribution of the areas with a population density of 201 to 800 people per square kilometre. [3]**

Northern border with Balochistan or Punjab / in the north or north-west
follows river Indus
central areas
towards to south-east / east of river towards south
named city or district (not Karachi) (max. 1)
e.g. Hyderabad, Sukkur, Larkana, Shikarpur, Jacobabad

- (ii) What is the lowest population density shown on the map? [1]**

under 50 persons per square kilometre

- (iii) Which area has the lowest population density? [1]**

SE Sindh / Thar(parkar)(desert)

- (iv) Explain the reasons for a high population density in the Karachi area. [6]**

rural-urban migration
high birth rate / low death rate (max 1)
industrial / port / administration / trade / commerce / fishing (max 2)
good housing
opportunities for businessmen / for trade
employment / work / jobs
example of type of work (but NOT fishing)
(perceived) better living standards / bright lights / entertainment
better infrastructure with eg. such as roads, rail / airport / electricity / gas / water /
(max 1)
better services with eg. such as education, health, sanitation (max 1)
more food
maritime climate more pleasant / moderate
refugees (from Afghanistan / after the partition in 1947)
old capital city of Pakistan / present capital city of Sindh province

- (b) Explain the difference between density and distribution of population. [2]**

density – numbers per unit area
distribution – the spread of people in an area
areas of different density within a larger area (or similar)

(c) Study Fig. 10 showing the increase in population in Karachi.

- (i) What was the population in 2010? [1]**

13 million

- (ii) By how much is this expected to increase from 2010 to 2020? [1]**

4 million

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(iii) What problems can be caused in an urban area by a high population density? [4]

poor housing / living on the streets / slums / Katchi Abadi / overcrowding
 unemployment
 poverty
 lack of hygiene / waste dumped / litter
 sickness / disease / poor health
 high death rates
 crime / drugs / terrorism
 traffic congestion / pressure on roads / rail
 shortages / strain on named resources / services / utilities with e.g. such as schools, health, food, (max 2)
named pollution (max 2)
 low quality of life

(d) Read the article published in 2009.

To what extent can self-help schemes, such as that in Orangi, succeed in improving the living conditions in this and other slum areas? [6]

Do not credit quotes from the Article. The candidate is expected to comment on these, or use their own ideas.

Success (res.2)

Water	Cleanliness, hygiene, safe to drink
Sanitation	Less disease / better health
	Lower death rates, infant mortality
Power	Electric light, air con.
Roads	Opportunities for trade etc.
Housing	Improvements or removal of slums / squatters, houses for the homeless
	stronger, bigger, drier
Health centres	better health, less disease, advice, effect on BR, DR and LE
Schools	better qualified for jobs, effect on health and BR
Cheap loans	more opportunities to set up businesses, leading to jobs,
	Safer / less crime / terrorism
	Higher income / will make money / economic development
	Set up / development of business, industry

Failure (Res. 2)

Lack of money / investment
 Lack of support co-operation
 Lack of education / skills to do the task
 Corruption
 Change of governments/political instability
 Huge size of task / high cost
 Will take time
 Or more specific e.g. shortage of water, electricity, education

[25]