

**MARK SCHEME for the October/November 2011 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.

- Cambridge will not enter into discussions or correspondence in connection with these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2011 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

Page 2	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

1 (a) Study Photograph A (Insert).

- (i) State three ways in which the owner has improved the site for fish farming. [3]

Rectangular / man-made ponds for better management etc.  
 Separation of ponds/embankment for different ages / species  
 Roads / ponds lined to prevent contamination / mud / dust / leakage etc.  
 Brick / stone / Pucca road for vehicles / for easy access  
 Trees for shade / shelter / beauty  
 Ponds full of water for healthy fish / good conditions

- (ii) Name two species of fish reared on fish farms. [2]

Any two of  
 Manaseer, Rahu, Palla, Thalla, Trout, Carp, shrimp, catfish, croaker, perch (Damral)

- (iii) Describe the fishing methods used on a fish farm. [4]

Prepare ponds / half fill for insects  
 Hatch eggs / buy smelt (small fishes) / breeding  
 Of single species / improved type of stock  
 (Regular) feeding (with poultry waste)  
 Health care / regular checks  
 Top up ponds / check water levels clean water  
 Transfer between ponds by size  
 Catch fully grown fish / fish of market size etc.  
 By net

(b) Study Fig.1, which shows fish production in Pakistan.

- (i) Which type of fishing increased from 1997 to 2007? [1]

Inland (and fish farms) /both types

- (ii) In which year was marine fish production lowest? [1]

1997

- (iii) How did the overall total production change from 1997 to 2007? [2]

Increased overall / 1997–2007  
 Increased then decreased / highest in 2002

(c) Explain why fishing and fish farming are important industries in Pakistan. [4]

Nutritious food / good quality / healthy  
 Content of food including fish oil, e.g. protein, white meat, low in cholesterol, vitamins (max 1)  
 Bones for fertiliser / other waste product and use  
 Source of income  
 Source of employment  
 Export / earns foreign exchange – of named type of fish / shellfish / product or to a named country or area

Page 3	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

(d) (i) State three ways in which fish can be stored and processed before sale. [3]

Chilled / refrigerated  
 Frozen / in freezer  
 Gutted  
 Filleted / de-boned  
 Dried  
 Salted  
 Canned

(ii) At the present time, most of the fish catch is processed in Karachi. The ports of Balochistan such as Gwadar and Pasni have the potential for development.

What are the advantages and disadvantages of developing fish processing industries in the ports of Balochistan? [6]

Advantages (res 2)

Stimulates development of fishing industry / port facilities (other than processing)  
 Gwadar Port  
 Reduced cost of transport (than to Karachi)  
 More fresh / no delay / no need for storage  
 Infrastructure development, e.g. roads, power, telecommunications  
 Adds value to fish

Also credit the following ideas with reference to Balochistan

Income – higher living standards, better housing, jobs linked to income or economy  
 Trade with named country or area – more visitors, contact with other areas etc., e.g. Middle East  
 Economic development, e.g. investment, entrepreneurs (with some detail)

Disadvantages (res. 2)

Undeveloped infrastructure  
 Lack of infrastructure, e.g. roads, power, water, ports, etc.  
 Small market / population  
 Long way from major centres of population, e.g. Karachi  
 Uneducated / unskilled population  
 Lack of interest from investors or government / high cost of any development  
 Inhospitable climate / relief  
 Named pollution linked to processing (max 1)  
 Effects of increase in urban population (max 1)  
 Poor quality product / canned fish banned in some countries

If not related to Balochistan max 2

[Total: 25]

2 (a) Study Fig. 2, which shows cotton growing regions in Pakistan.

(i) Name the regions A and B. [2]

A – north / north-east / Upper Sindh  
 B – south / south-west / Lower Punjab / Upper Indus Plain

Page 4	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

(ii) Why is cotton not grown further north? [2]

Too cold (in summer / growing period)  
 Sensitive to frost  
 Rain / too wet during harvest  
 Poor soil / infertile etc.  
 Steep slopes / no flat land  
 Remote / long way from factories, demand etc.

(iii) Why is cotton not grown further west? [2]

Too dry / lack of rainfall (for growth)  
 Lack of irrigation canals  
 Too cold (in growing period)  
 Poor soil / infertile / etc.  
 Steep slopes / no flat land  
 Remote

(b) Study Fig.3, a graph of cotton farming.

(i) State the area used to grow cotton in 2005. [1]

3.2 / 3,200,000

(ii) State the production in 2005. [1]

2.4 / 2,400,000

(iii) By how much has the area used to grow cotton increased from 1975 to 2005? [1]

1.2 / 1,200,000 hectares / 2.8–2.9 acres

(iv) Which has increased faster, the area used or the cotton production? [1]

(Cotton) production

(c) (i) Explain three factors that have caused the yield of cotton to increase per hectare. [6]

An explanation of any three of the following, (max 2 any factor)

fertiliser	for nutrients /fertility + Pakistan soil deficient in nitrogen, better than dung
irrigation	to make up rainfall deficiency + named modern method, all year water
pesticides	as pests reduce growth + example
mechanisation	for efficiency + faster, better quality of work, named machine
education	in modern methods + examples of how things can be improved
HYVs	high yield + pest resistance / double cropping / example
capital	for buying inputs + example
land reform	for more motivation, bigger fields etc.

2 marks for each factor

Name only = 0

Page 5	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

(ii) Explain why cotton yields vary from year to year. [3]

rainfall / damage to cotton boll before harvest  
summer temperatures / early frost  
availability of water from irrigation or rain  
floods / high winds / storms etc. causing damage  
pest attack causing damage  
previous income affecting investment so cannot buy good quality inputs  
sickness of labour affecting production

Name only = 0

(d) What are the advantages and disadvantages of developing the cotton manufacturing industry in Pakistan? [6]

Advantages (res. 2)

Established industry / good reputation worldwide  
Creates jobs / employment / develops skills  
Traditional skills / cheap labour available  
Value-added export / export of named product or to named area / large scale export/ main export  
Higher price (because it is processed) / value added  
Farmers can increase income  
Better named infrastructure  
Less imports / can meet demands of population  
Can compete with other countries

Disadvantages (res. 2)

Lack of modern skills / education  
Lack of money to invest / investors  
Competition from other countries  
Old machinery, breakdowns, slow, old products / need to import machinery  
Water shortage for manufacturing / conflict with other users  
Power shortage / power breakdown,  
Poor roads and railways / transport to ports,  
Government policy / changing policies  
Less land for growing food other crops  
Problems of poor harvest / pest attack / climate problems  
Effects of increase in urban population (max 1)  
Named pollution linked to cotton manufacture (max 1)  
Machines will replace manpower / loss of unskilled jobs  
Lack of investment in other industries / services

[Total: 25]

3 (a) Study Fig. 4.

(i) Name the area A which has many mineral resources. [1]

Salt range

Page 6	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

(ii) Name two minerals that can be extracted in this area. [2]

Any two of

Rock salt, gypsum, limestone / marble / dolomite, oil / petroleum, gas, coal, iron ore, celestite, soapstone / talc / stealite

(iii) Name the cities B and C. [2]

B – Peshawar

C – Islamabad / Rawalpindi

(b) Study Fig. 5, which shows fertiliser production in Pakistan.

(i) By how much did fertiliser production increase from 2000 to 2008? [1]

1.0–1.2 / 1,000– 1,200

(ii) Compare the production from 1990 and 2000 to that from 2000 to 2008. [3]

More variable 1991–2000 than 2000–2008

Overall rate of increase greater / gradient steeper 1990–2000

3.0–4.6 / 1.6 million tonnes compared with 4.6–5.7 / 1.0–2 million tonnes / figures with units (max 1)

Allow for slight inaccuracy in figures

(c) What are the benefits of increasing fertiliser production for the people and the economy of Pakistan? [4]

Higher yields

More food production

More agricultural exports, or improved balance of payments (max1)

Reduced imports of fertiliser, or improved balance of payments (max1)

Higher GNP

Less debt

Higher farm incomes / profits

More jobs

Cheaper cost of fertiliser

More industrial goods (e.g. cotton)

(d) Study Fig 6, which shows imports of goods to Pakistan in 2007.

(i) State the percentage of: [2]

Machinery – 65

Electrical goods – 10

(ii) Name two machines that may be used in a craft industry. [2]

Allow any tool as long as it is likely to be mechanical

E.g. sewing machine, drill, lathe, sawing (machine), generator

Page 7	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

(iii) Explain the importance of mechanisation to the craft industry and other small-scale industries of Pakistan. [4]

Faster  
Larger production  
Lower labour costs / cheaper  
Less work / easy / less tiring  
Standardised product / better quality  
Can replace child labour  
New skills learned

Allow development, e.g.  
Faster so that more income can be made because more production  
Standardised product so that it is more attractive to buyers

Allow problems, e.g.  
Unemployment, loss of traditional skills

(e) The countries of the European Union have a large demand for goods such as clothes and sports goods. Pakistan can produce these goods cheaply.

Explain the advantages and disadvantages of developing a trade agreement with partners in the EU. [4]

Advantages (2 marks)

More exports / can pay off debt / improved trade balance / more foreign exchange (max 1 boosts economy)  
Cheaper imports  
Better availability  
Boosts industrialisation / more factories built / more investment in these industries  
Fewer trade barriers / lower taxes  
Stable market

Disadvantages (2 marks)

Can be stopped / sanctions  
Conditions imposed / ban on child labour  
Pakistan goods may not be up to standard  
Pakistan production may not be reliable  
Imports may compete with local production  
May affect other agreements, e.g. Iran, China  
Fluctuating currency rates

[Total: 25]

4 (a) Study Photograph B (Insert).

(i) What are the animals shown in the photograph? [1]

Sheep / goats (list rule)

Page 8	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

- (ii) Describe the topography (relief) and vegetation of the area shown in the photograph. [3]

Topography (res. 1)

Flat  
Gently sloping, undulating  
Small ridges

Vegetation (res. 1)

Sparse  
Scattered / uneven  
(Small) bushes, scrub, trees, thorny (any 2)

- (iii) Explain why these animals are reared in a nomadic way in arid areas. [3]

Search for / lack of food / pasture  
Quickly finished so have to move  
Search for / lack of water  
Move with the weather  
No infrastructure for settlement

- (iv) What are the disadvantages of keeping animals in a nomadic way? [2]

Overgrazing / soil erosion / desertification  
Low incomes  
Animals may die / starve / poor quality animals  
Difficult to improve / develop  
Lack of veterinary care / disease spreads easily  
Poor breeding

- (v) Suggest an alternative way of keeping these animals. [1]

In stalls / stall feeding  
In fields / fenced areas  
Transhumance

**(b) Study Fig. 7.**

- (i) State one important physical reason for the low density of population in each of these areas: [3]

**A** – High relief, mountainous, hilly / cold temperatures  
**B** – Arid, dry, extreme temperatures / lack of soil, stony, plateau, sand storms  
**C** – Arid, dry, extreme temperatures / hot /lack of soil, sandy, sand storms



Page 9	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

(ii) RELIEF RAINFALL RIVERS

Explain how each of the three factors above contributes to a high density of population in area D. [6]

One mark for simple explanation of factor, development mark for links to higher population density

Relief (2 marks)

Flat / gently undulating

So good for cultivation, mechanisation, roads (allow infrastructure), buildings

Rainfall (2 marks)

Monsoon / enough / high rainfall

So plenty for rainfed / barani farming, domestic or industrial use, better air quality

Rivers (2 marks)

Indus and tributaries

So bring silt /alluvium, water for named use, fishing

So perennial irrigation

(c) Choose either area A or area B from Fig. 7.

It is often suggested that improved transport and telecommunications can bring development to a sparsely populated area.

What are the advantages and disadvantages of these improvements to either area A or area B? [6]

Advantages (res. 2)

Development of mineral / other resources

Trade / access to markets for local products, e.g.via Gwadar port, to Iran and Afghanistan

Industrial development

Development of employment opportunities

Access to consumer goods / better food / machines etc.

Access to health / education

Contact with buyers by telecommunications

Advertising by telecommunications

Distance learning

Tourism

Disadvantages (res. 2)

People can leave more easily / more rural-urban migration

Difficulty of construction (must be clear reference to the area), risk of damage or blockage

Cost of construction / cost of maintenance / lack of machinery etc.

Lack of power / electricity for telecommunications

People may see better lives / opportunities elsewhere

Low population therefore uneconomic

Resistance of local tribes / loss of culture

Deforestation when roads/ transmission lines are built

[Total: 25]

Page 10	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

5 (a) Study Fig. 8, which shows January temperatures in Pakistan.

(i) What is the temperature at: [3]

Karachi – over 18/ any figure between 18 and 30

Faisalabad – 10–15 or any figure between these

Chitral – 5 or under, or any figure from –10 to + 5

Or credit a temperature within the range

(ii) Do the temperatures increase or decrease: [2]

A from south to north – decrease

B from east to west – decrease (allow increase only if stated 'in the south')

(iii) Explain **two** factors that affect winter temperatures in Pakistan. [4]

Insolation / angle of the sun

As the overhead sun moves to the southern hemisphere / over Tropic of Capricorn, rays spread over a larger area

Altitude / height of the land

As this increases temperatures decrease

Air is less dense so holds less heat / heat radiated from the surface decreases with altitude

Continental / maritime effect

Land loses heat in winter

No moderating sea winds

2 marks for each factor

(b) Study Fig. 9, which shows the distribution of monsoon rainfall in Pakistan.

(i) Name the areas of high rainfall A and B. [2]

A – South / lower / south-east Sindh

B – North / upper / central Punjab

(ii) Name the body of water that is the source of moisture for the monsoon winds X and Y. [2]

X – Bay of Bengal

Y – Arabian Sea

Page 11	Mark Scheme: Teachers' version	Syllabus	Paper
	GCE O LEVEL – October/November 2011	2059	2

- (c) Explain why the lack of monsoon rainfall in the Southern Punjab and Sindh causes problems for farmers. [6]

Poor crop growth / difficult to grow crops  
 Low profits / incomes / farm economy  
 Unreliable / variable rainfall  
 Little or no other sources of rain / western depressions, relief etc.  
 Low humidity  
 High evaporation / evapotranspiration  
 Due to high temperatures  
 Need for irrigation / expensive to irrigate / depends on rivers and canals  
 Irrigation water already used by North Punjab and other users  
 Poor farmers cannot afford tubewells etc.  
 Can be soil erosion / blowing

- (d) Consider the feasibility of improving water supply to farmers in Punjab and Sindh. [6]

In favour (res.1)

Rainfall in monsoon season can be stored  
 Snow melt from mountains  
 Indus river system brings water from highlands  
 Can make more storage / reservoirs / dams / barrages  
 Can build more canals  
 Can use groundwater / build more tubewells

Against (res. 1)

Cost of reservoirs, canals etc  
 Cost of tubewells  
 Lack of reservoirs / dams / barrages  
 Indus Treaty limits supply / conflict with India over supplies  
 Lower water table restricts groundwater  
 Waterlogging and salinity problems  
 Lack of / cost of power supplies for pumps  
 Other constraints, e.g. education, wastage, conflict between users etc.  
 Can be ruined by floods

Alternative approach

Improvements (res. 1)

More storage  
 More canals  
 Reduce waste / seepage / flooding  
 Clear silt / silt traps  
 Control water pollution  
 Modern technology, e.g. tubewells, sprinklers  
 Education of farmers  
 Plant trees for more rainfall

But (res. 1 mark)

Need for investment  
 Lack of training for farmers  
 Lack of water supply  
 Conflict with India

[Total: 25]