UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

GCE Ordinary Level

MARK SCHEME for the May/June 2007 question paper

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.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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

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

CIE is publishing the mark schemes for the May/June 2007 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

INTRODUCTION

The features of the mark scheme

Each question carries 25 marks. Candidates cannot earn more than the maximum marks in each sub-section. Three questions should be answered, but examiners are required to mark all the questions attempted by the candidate and credit the three highest scoring answers.

The mark scheme guides the examiner in where marks should be allocated, and lists a number of responses which will earn marks along with the general principles to be applied when marking each question. However it should be noted that candidates can earn marks if their answers are phrased differently **provided that they convey the same meaning as those in the mark scheme**.

As a general rule, **each line** of the mark scheme can be given **one mark**. A **diagonal line (/)** means that this is an **alternative** to that one mark. If **development marks** may be awarded, this will be clearly stated in that sub-section. Some questions will have **reserved marks** within their structure.

A point within a sub-section which is an answer to the question set in a different sub-section should **not** be given credit, as each sub-section asks different questions which require independent answers.

During co-ordination, the mark scheme may be modified to add points agreed after discussion or to delete any points not allowed. Examiners will be supplied with full details of any such changes before marking begins.

Marking mechanics

- The marks on this paper are all given with a tick. The total for each sub-section, and for the whole of each question should be the same as the number of ticks.
- **Sub-section** totals are written in the **right margin**, **question totals** are **encircled** at the **end of each question**.
- **Question totals** are transferred to the **front page**, with their question number, and the **final total** written in the **top right-corner** and **underlined**.
- Underlining may only be used for answers that are incorrect.
- Crosses may be used for short, wrong answers.
- All script must be seen to have been marked, even if it is wrong. The only exception to this is when a ‘max’ has been given.
- All blank pages must be marked as ‘seen’.
- Any comments written by the examiner on the answer paper should refer in some way to compliance to the agreed mark scheme.

1 Study the map of the Hunza Valley, Fig. 1.

(a) (i) Name the range of mountains in which this valley is situated.
Karakoram Range/Karakorams [1]

(ii) Name the town A.
Gilgit [1]

(iii) Name the highway which follows this valley north to China.
Karakoram Highway/KKH [1]

(iv) Name the Federally Administered Area in which this valley is situated.
Northern Area(s) [1]

(b) (i) What is a snowfield?
An area where snow/ice does not melt
Where snow lies all year [1]

(ii) Explain why a large part of the area in Fig. 1 is covered with snowfields.
Mountainous/high altitudes/Over 3000m
Cold climate/low temps/below FP
Moderate/high snowfall/precipitation
More accumulation than melting [2]

(c) (i) State where the summer pastures are situated on Fig.1.
next to snowfields [1]

(ii) Describe the method of farming called 'transhumance', which is used in areas such as the Hunza.
Goats/sheep/cattle/yak/dzu/livestock
Seasonal movement
Move to higher slopes in summer/to summer pastures
Move to find food/pastures/grass/for grazing
Animals fattened
Milk/meat/wool/skins, etc.
Stay in valleys in winter/permanent homes in valley
Animals kept in sheds in winter
Storage of hay/fodder crops
May take animals from other families [4]

(d) Study Fig. 2, which shows the climate of Misgar.

(i) With reference to Fig. 2, explain why the Hunza River increases in volume in the summer months.

temperature rises above FP/warm/higher temperatures in summer/named months
high rainfall in spring/early summer increases flow into river
snow/ice melts and flows into river [2]

(ii) Explain how topography and climate affects the lives of the people in mountain areas. Use your knowledge of mountain areas and information from Fig. 2 to help you.

Look for an effect linked to an aspect of topography or climate.

The same effect may be linked to several aspects of topography or climate, or the reverse.
For example:

Farming is difficult because of the cold climate
People live indoors because of the cold climate
Farming is difficult because of thin, stony soils
Lack of development because of inaccessibility
Roads blocked because of landslides, avalanches etc.
Craft industries because people live indoors in winter
People wear thick clothes because of the cold climate.
Transhumance is done because of the mountainous topography (max 2 transhumance)
Tourism is a source of income because of the beautiful mountain scenery

This list is not exhaustive, but serves to illustrate possible answers. [6]

(e) The water of the Hunza and other rivers from the Northern Areas is used to irrigate farmland in the Punjab. Explain how the flow of water is controlled.

Dams/barrages built to control/hold back flow in spring
Further facts about how these control water
Water allowed out at a controlled rate later in year
Indus Water Treaty (name + detail about treaty max 2)
Embankments/Levees
Gates/sluices to control water into canals/fields
Named dam (max 1)
Named barrage (max 2) [5]

[Total: 25]

2 Study the map of Pakistan, Fig.3.

(a) (i) Name the <u>two</u> main fruit crops grown in area <u>A</u>.
apples, apricots, almonds [2]

(ii) Why are fruit crops grown in mountain valleys?
warmth
shelter
sunshine
rain/less snow
soil
flat land [3]

(iii) Name one of the main fruit crops grown in area <u>B</u>.
Bananas/mangoes/citrus fruit [1]

(iv) Why are fruit crops grown in this area?
Monsoon/summer rainfall
Mild winter temperatures/above 15 C
Irrigation (from the River Indus) [2]

(v) Why are fruit crops grown mainly for local use?
Perishable
Heavy to transport
Small amounts/not of export quality [1]

(b) (i) Describe the climate of area <u>C</u>, shown on Fig. 3.
Arid/desert/drought/low rainfall
Rainfall below 125 mms
Cool/Mild winters/5-15 C above FP
Warm/Hot summers/25-40 C
Little/some rainfall from westerly depressions
High isolation/lack of cloud
Hot <u>and</u> dry/dusty winds
Cold nights [3]

(ii) Explain how karez irrigation helps date palms to grow in the oases of area <u>C</u>.
Provides water for growth (max 1)
Underground canal/subterranean
From mountains/foothills
From aquifer/groundwater/soaks into ground
More rain on mountains/higher slopes
Reduces evaporation [3]

(iii) Name <u>one</u> other type of crop grown in oases.
Vegetables- allow any name/tobacco
Named cereals – millet (bajra), sorghum (jowar), barley/maize, pulses [1]

(iv) How is crop growth improved by the date palms nearby?
Shade from/sun/extreme heat/reduce evapotranspiration
Shelter from winds/windbreak [2]

(c) (i) Name <u>two</u> animals that are reared by nomads in area <u>C</u>.

goats
sheep
cattle
camels [2]

(ii) Explain the importance of their livestock to the nomads.

Food – milk, meat, butter etc.
Clothing – wool, hides etc.
Income/for selling/bartering – Young animals/named product
Transport
Tents/shelter
Wealth [2]

(iii) Describe the nomadic method of farming.

Moving/settle for a few weeks
In search of water
In search of pasture/food
Subsistence farming [3]

[Total: 25]

3 (a) Study Photograph A (Insert), which shows part of the Changa Manga plantation.

(i) What evidence in Photograph <u>A</u> shows that this is a plantation?
Trees in lines/rows/equally spaced/grid
Same age/height
Same species [2]

(ii) What is used to line the canals, and why is this necessary?
Clay/cement/bricks
To prevent seepage/leakage/water getting out [2]

(iii) Why is the plantation being irrigated?
Low rainfall/there is not enough rainfall
For a constant/regular supply/rainfall is unreliable
Trees need a moderate to good water supply
High rate of evapotranspiration/evaporation/transpiration [2]

(iv) Why is the water level in the canal lower than the ground around it?
To avoid waterlogging to keep the water table low
Trees do not want their roots in water [1]

(b) (i) State <u>two</u> domestic uses of wood.
Firewood heating/cooking/house building/furniture/fencing (2 at 1 each) [2]

(ii) Explain how wood is used in industry and transport.
construction of building, bridges, etc.
means of transport – railway sleepers (not fuel), bridges, lorry chassis/carts
chemical such as – resin, varnish, mazri (for mats), pharmaceuticals, medicine, etc.
farm/agricultural use such as fences, gates, implements
paper production from pulp
sports goods such as bats, rackets, etc.
crafts such as ornaments, beads, etc.
furniture such as chairs, tables, etc.

(For a mark the use must be given. The candidate needs more than just a named product)
[4]

(c) (i) What is *sustainable forestry*?

ensuring supplies are there for the future selective cutting
replanting trees that have been cut down/re-afforestation
maintaining/looking after forests
planting species that do not need irrigation [3]

(ii) Why does Pakistan need to increase the area of irrigated plantations?

Too many trees have been cut down/too much deforestation
To provide more wood <u>for industry, increase in population etc.</u>
To relieve waterlogging/waterlogging and salinity
To prevent erosion <u>of banks/slopes</u>
To replace areas where forests cannot be replaced (e.g. due to soil erosion or urbanisation)
For tourism
To reduce imports [3]

(d) (i) Why is afforestation called a 'long-term investment'?

trees take many years to grow
many years before financial return/start production/results are seen
high cost of planting
costs during growth [2]

(ii) What are the advantages and disadvantages of developing a forest area for tourism?

<u>Advantage (res. 1)</u>
Employment opportunities
Source of income
Provision of named infrastructure/electricity, roads, water, sanitation (max 2)
Provision of other modern facilities, e.g. shops
Reduces the effects of deforestation/destruction of habitats/soil erosion (max 1)
Etc.

<u>Disadvantage (res. 1)</u>
High cost of development/money could be spent on other things
Effects on habitats/damage to trees
Litter/garbage
Resettlement of local people
Tourists may not come, problems of security, etc.
Loss of culture
Etc.

(res. 1 for each of adv. and disadv.) [4]

[Total: 25]

4 (a) Study Fig. 4, which shows the gas pipelines in Pakistan.

(i) Name the gasfield A.
Sui [1]

(ii) Name the cities B, C and D at the ends of the pipelines.
B *Peshawar,* C *Islamabad,* D *Sialkot/Jammu* [3]

(iii) State two ways in which gas can be supplied to areas away from pipelines.
Changed to a liquid/LPG/CNG
Cylinders
(Pressurised) tankers [2]

(b) Study Fig. 5, which shows the uses of natural gas in Pakistan.

(i) State the largest use of natural gas.
power [1]

(ii) Name a use in the 'other' sector.
commercial/office
cement
transport/cars/lorries/motor vehicles
named industry (not on pie chart) [1]

(iii) What is natural gas used for in homes and why is this fuel chosen?
Use (res. 1)
Heating
Cooking
Why (res. 1)
Available in cities/towns
Cheaper than oil or coal
Easier than collecting firewood
Less bulky/easier to transport than coal/wood
Cleaner than coal/wood/oil

(Reserve 1 for each of use and why) [3]

(iv) Why is natural gas called 'non-renewable'?
it will run out/is not being replaced/etc. [1]

(c) (i) Name <u>two</u> raw materials, apart from natural gas, which are used to make fertilisers.

Nitrogen
Sulphur
Gypsum
Potassium/Potash
Phosphate
Ammonia
Fish/animal remains/bones [2]

(ii) Explain why most fertiliser factories are in the Punjab and northern areas of Sindh.

Main farming area }
Deep soil/fertile soil } *max 2 for natural farming inputs*
Good irrigation }
Less flooding now to replace nutrients
Large population to feed
Good roads for transport/low transport costs
Named raw material near, e.g. Rock salt and Gypsum at Khewra/Salt Range
Gas at Sui
Other minerals (see Atlas of Pakistan page 23) [4]

(iii) Why is it important that Pakistan manufactures its own fertilisers?

Expensive (to buy)
Reduce imports/cannot afford to import fertilisers
Improves balance of payments/fertilisers burden the economy/greater crop production improves the economy
Heavy to carry very far
Produce more food for large population reduces malnutrition
Produce more crops for export
Increases employment/reduces poverty [3]

(d) What environmental damage can occur when a new fertiliser factory is built in a rural area?

Loss of farmland/land lost for factory and roads
Damage to roads
Water pollution/pollution of river/canal/irrigation water/water supply
Noise pollution
New quarries/pits
Dumping of waste (only credit if not given as a form of pollution)
Land clearance/loss of habitat/soil erosion
Traffic congestion

(example of damage linked to a location max.1) [4]

5 Study Fig.6, which shows the imports and exports of Pakistan.

(a) (i) State the increase in value of imports from 2000 to 2005.
560,000 – 580,000 (million rupees)
540,000 – 1,100,000 / 530,000 – 1,110,000 (million rupees) [1]

(ii) How has the value of exports changed compared to imports?
Both have increased
Imports have increased more than exports/increased faster after2003
Similar trends 2000 – 2003
Comparative figures (max 1) [2]

(iii) How will this affect the balance of trade?
It has increased (negatively)
It has got worse
There is a bigger deficit [1]

(b) Study Fig. 7, which shows the types of goods exported from Pakistan in 1975 and 2000.

(i) How have the proportions of primary and manufactured goods changed from 1975 to 2000?
Primary goods are a lower proportion of exports/exports have decreased
Manufactured goods are higher proportion of exports/exports have increased [2]

(ii) How have these changes affected earnings from exports?
Manufactured goods sell for higher prices
Earnings will increase
Manufactured goods are value-added [2]

(iii) Explain how cotton can be exported as a primary, a processed and a manufactured product.

Primary	*raw cotton*
Processed	*yarn, thread, cloth*
Manufactured	*ready-made garments, cloth*

[3]

(c) Name <u>two</u> dry ports and explain how they make import and export easier, and trade.

<u>Two names (res. 2)</u>
Lahore, Multan, Faisalabad, Rawalpindi, Hyderabad, Larkana, Quetta, Peshawar, Sambrial (Sialkot)

<u>Reasons</u>
Better customs checking/clearance/easier collection of taxes/revenue
Better transport links/easier transport to Karachi/cheaper transport to Karacit
Container facilities
Better management
Storage in sheds and open areas
Refrigeration available
Quicker processing/less time lost/avoid delays at Karachi
Less congestion at Karachi/eases pressure at Karachi
(candidates may refer to Port Qasim and/or Keamari instead of Karachi) 2 + 4 [6]

(d) (i) State <u>two</u> methods of telecommunication.

telephone
e-mail/internet
fax
computer conferencing
video conferencing
TV
radio [2]

(ii) Explain how telecommunication can be used to improve the supply of goods, and increase trade in Pakistan and abroad.

Look for how these methods are better in the 21st century (H), and what they are used for (F)
<u>How (H) (res. 1)</u>
Faster
Can contact other countries/long distance communication
Easier communication
Internet conferencing
Better advertising
Etc.

<u>For (F) (res. 1)</u>
Ordering/purchasing/buying/selling
Internet banking/transfer of funds
Finding out what it required/discussion
Call centres
Surfing the web/searching for goods or suppliers
Assembly of components/co-ordination of inputs
Etc.

(res. 1 each for 'how' and 'for')
(no reserves for supply or trade) [6]

[Total: 25]