

## **MARK SCHEME for the May/June 2014 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.

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1 (a) Study Fig 1, a graph showing wheat production and cultivation

(i) By how much did wheat production increase from 1991 to 2010?

10 million tonnes

(ii) By how much did the area of wheat cultivation increase from 1991 to 2010? [1]

11 million acres

(iii) Compare the production of wheat from 1991 to 2000 with the production from 2001 to 2010. [2]

Both increased

Both fluctuated (year to year)

For 1991–2000 Accept converse for 2001–10

Lower (average) production

Increased at a higher rate

From 14–21 mn / by 7 mn whereas 2001–10 from 19–24 mn / by 5 mn

Rises to / maximum 21 mn whereas 2001–10 24 mn

References to figures need million

(iv) To what extent was wheat production related to the cultivated area from 1991 to 2010? [3]

- Direct relationship / positive correlation / relationship described e.g. when production is high, area is high
- *Inverse / no relationship = 0 Res 1*
- Both lowest in 1991
- Both highest in 2010
- Year both constant – 2009
- Years both increase – 1994 / 1997 / 1999 / 2004 / 2006 / 2008
- Years both decrease – 1993 / 1998 / 2000 / 2001
- Exception (*max 1*) e.g.: production increases when area decreases – 2002
- production increases when area constant – 1991
- production decreases when area constant 2005 / 2007
- area increases when production constant – 1992 / 1995 / 2003
- area decreases when production constant – 1996

(b) (i) Circle the months in which most wheat is grown in Pakistan. [1]

October–May: Both periods circled = 0

(ii) Explain why the climate at this time is most suitable for wheat farming [3]

- Mild temperatures / 10–20 °C for growth
- Warmer / 25–30 °C (in spring) for ripening / harvesting
- Moderate rainfall / 150–500mm (in spring) for growth / to swell the grain / before harvest
- Dry period / no rain (in spring) for harvest

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(c) Why are waterlogging and salinity called ‘the twin menaces for farmers’?

- Waterlogging restricts root growth / prevents air pockets in soil
- Salinity poisons the soil / plants cannot tolerate salt

OR the generic for 1 mark max if neither statement above:

Takes agricultural land out of production / makes land uncultivable / infertile / damages crops / reduces yields / reduces income

(d) Describe the ways in which damage by waterlogging and salinity can be prevented. [6]

- Tubewells to lower water table (fresh water pumped up to flush out salt)
- Surface drains dug (diverts surface water to river / lake)
- Canals lined (prevents seepage)
- Canals closed temporarily
- (Eucalyptus) trees planted (deep roots absorb water from water table)

(e) To what extent can better education and training increase farm production? [6]

Possibilities – Res 2

Prevention of waterlogging and salinity / better water management / irrigation

Knowledge of proper fertiliser / pesticide usage

Knowledge of better seed varieties

Use of / ability to repair / maintenance of farm machinery

Easier to get bank / government loans / manage farm finances

Problems – Res 2

Lack of land

Lack of money (to implement the training)

Lack of named infrastructure + link, e.g. electricity for machinery

Power of landlords

Climatic problems

Reluctant to change from traditional methods

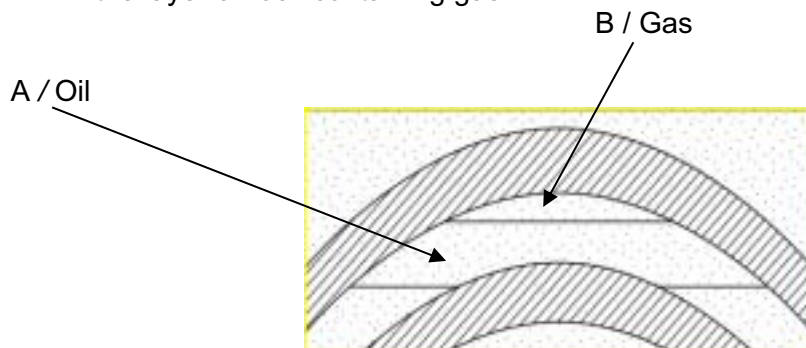
[Total 25]

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2 (a) Study Fig 2, a cross section showing an oil trap.

(i) Label on the diagram

A the layer of rock containing oil  
B the layer of rock containing gas



(ii) What is meant by the term 'porous rock' [1]

Rock with pores / holes / spaces / that lets liquids or gases pass through

(iii) Why is the feature in Fig. 2 called 'an oil trap'? [2]

Oil cannot get through the rocks around it  
Oil lies / trapped between layers of non-porous / impervious / impermeable rock  
Oil rises to the top of the anticline / top of bend in rocks

(b) Study Fig. 3 which shows the uses of oil. Choose three of the following terms to complete Fig. 3. [3]

by products – in the LHS heading box  
pesticide – below plastics  
petrol – below fuels

(c) Study Fig. 4, a map showing oil refineries and pipelines in Pakistan.

(i) Name and locate the oil refinery marked on the oilfield in Fig. 4. [2]

Attock (oil refinery)  
Morga(h) / Rawalpindi / Potwar Plateau / SE of Peshawar / NW of Faisalabad

(ii) Name one refinery where imported oil is processed. [1]

National Refinery / Pakistan Refinery / Pak-Arab Refinery / Korangi / Mahmood Kot

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(iii) Explain the importance of the White Pipeline, and other pipeline development of Pakistan.

- White Pipeline will carry refined oil / frees existing pipeline for crude oil – Res 1
- Reduce rail / road transport
- Cheaper method of transport (than tanker / rail transport)
- Faster method of transport (than tanker)
- To meet (increasing) demand for oil
- Will increase industrialisation / employment / economic prosperity / living standards / attracts investment (in inland areas)

(d) (i) Name an area where coal is mined in Pakistan, and state one type of coal found there. [2]

- Quetta – coking coal / Sharig coal / sub-bituminous
- Lower Sindh / Thar (desert) – lignite
- Salt Range / Dandot Pidh – sub-bituminous / lignite
- Makerwal – sub-bituminous
- If no or incorrect named area, 0 marks [2 × 1 mark]

(ii) Give two reasons why most of the coal mined in Pakistan is called 'low quality'. [2]

- High ash content
- High moisture content
- High sulphur content
- Low (hydro)carbon content
- Gives off less heat / low heating value / low burning temperature
- Crumbles easily / soft / not compressed

(e) To what extent can Pakistan rely on fossil fuels to increase fuel and power supplies? [6]

Possibilities – Res 2

- Large reserves of gas
- Sui / Pirkoh / Mari / Potwar Plateau area
- Large / new reserves of coal
- Of a type suitable for use in power stations / power generation
- Coal a cheap fuel
- Potential of coal gas
- Port at Karachi for imports

Problems – Res 2

- Small oil reserves / oil has to be imported
- Will run out / not renewable
- Coal is heavy / bulky to transport
- Gas is difficult to transport / explosive
- Fossil fuels expensive to import
- Because becoming inaccessible / higher cost of production / exploration / extraction / rising world prices

[Total 25]

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3 (a) Study the map Fig.5

(i) Name the towns A, B and C

- A – Quetta
- B – Peshawar
- C – Gilgit

(ii) Name one of the passes D, E and F shown on Fig. 5, and name the country that it links to Pakistan. [2]

- D – Khojak pass – Afghanistan
- E – Khyber pass – Afghanistan
- F – Khunjerab pass – China

(iii) Give two reasons why air transport is used to carry lightweight or valuable goods to other countries instead of roads. [2]

- Safety / less likely to be damaged / stolen / less risk of accidents
- Speed

(b) Study Fig. 6 (insert) an advertisement for cotton fabric.

(i) State three ways in which this company can be contacted. [3]

*Any three of* (Mobile) telephone, e-mail, internet / website, fax, letter, visit

(ii) Explain the importance of good communications to a business such as Cotton Fabrics International. [3]

- For ordering supplies / linking to dealers / enabling best prices
- For advertising
- For market research
- For direct (internet) sales / after sales service / customer contact / loyalty
- Speed of contact
- Global reach / www / international exposure
- To enable deliveries / transport of workforce / businessmen

(c) (i) Name two dry ports in Pakistan. [2]

*Any two of* Sambrial / Sialkot, Lahore, Multan, Faisalabad, Rawalpindi, Hyderabad, Larkana, Quetta, Peshawar

(ii) Explain how dry ports have increased trade in Pakistan. [4]

- Increases foreign trade / more exports / more imports
- Better access to remote areas / areas away from Karachi / opened up interior
- Saves time / expense of providing own transport to coast
- Less congestion / relieves burden at Karachi / Keamari / Port Qasim / sea ports
- Speeds up / more efficient paperwork / customs checks
- Stimulated / encouraged businesses / investment
- More efficient loading / containerisation

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(d) To what extent could a better road network increase the development of small and craft industries of Pakistan?

Advantages – Res 2

- More remote areas can be connected
- e.g. Swat – *Allow other relevant examples*
- Good access to raw materials
- Greater access to training
- Greater access to (export) markets,
- Increases tourist market
- Faster / safer trade

Problems – Res 2

- Limited marketing skills / access to product markets
- Roads likely to be often closed in mountain areas
- Due to landslides / avalanches / snow
- Cost of transport / middle man / do not have own transport
- Allows more import of cheap manufactured goods / more competition

[Total 25]

4 (a) Study Fig. 7, a map of deforestation.

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

- A – Sulaiman Range
- B – Safed Koh / FATA

(ii) Name the desert C. [1]

Kharan desert

(iii) State three reasons why deforestation occurs in one of the areas shown on Fig. 7. [3]

- Farming / growing food / fodder / cash crops,
- For firewood
- For timber
- Mining
- Roads
- Overgrazing
- Housing / urbanisation / residential
- Industry

(b) Study the article below from 'Dawn', November 4<sup>th</sup>, 2011.

(i) By how much has forest cover decreased since independence? [1]

30.5%

(ii) By how much should it increase by 2015 to meet its commitment under the UN goal? [1]

3.5%

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(c) State and explain three effects of deforestation in mountainous areas.

*Any three of the following*

- Soil erosion, no roots to hold the soil / less interception
- Landslides / avalanches
- Rocks / snow no longer held back by trees
- Leaching, no roots to bring minerals to surface / minerals washed out of exposed soil / infertile soils
- Silt blocks rivers
- Water runs off slopes
- Silt fills reservoirs / canals
- Silt settles in still / slow moving water
- Flooding
- Runoff increased / less interception
- Extinction / loss of species
- Loss of habitat
- Less rainfall / lower humidity
- Less transpiration
- Less shade
- Loss of branches and leaves
- Less tourism
- Loss of scenic beauty
- Shortage of firewood
- No fuel for heating / domestic use

[3 × 2 marks]

(d) Explain how forests can become a source of income for the people of rural areas. [4]

- Firewood / charcoal
- Named raw material e.g. timber / roots / leaves / ephedra / fruit / nuts
- For cottage / small scale / craft / pharmaceutical industries
- Named product e.g. furniture, toys, souvenirs
- Forests attract tourism
- Goods can be sold to tourists
- Creates employment e.g. forest guides / rangers / forest department / forestry

(e) (i) What is meant by the term ‘sustainable agriculture’? [1]

*A definition such as*

Supplying the food / agricultural product needs of the present generation while protecting / not compromising the food / agricultural product needs of those in the future

*Or*

Supplying the food / agricultural product needs of the present generation while protecting / not compromising the natural environment

*Or*

Supplying the food / agricultural product needs of the present generation while minimising environmental damage



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(ii) To what extent can agriculture be sustainable in Pakistan?

Possibilities – Res 2

- Less overcropping / multicropping
- Methods of preserving soil e.g. terraces / contour ploughing
- Restrict use of heavy machinery
- Keeping vegetation cover
- Better water management / avoiding over watering / conserving water / lining canals
- Organic farming / using manure
- Use of appropriate knowledge / training

Problems – Res 2

- High demand for more food
- Pressures on land e.g. for timber
- Lack of education / awareness of sustainable methods
- Unco-operative landlords
- Land reform needed
- Lack of government will / support / investment
- Resistance to changing traditional / modern methods

[Total 25]

5 (a) Study Fig. 8 showing the United Nations figures for the different age groups in Pakistan.

(i) What was the percentage of the age group 0–14 years in 2010? [1]

35–37 (%)

(ii) Which age group of the population has decreased from 1990 to 2010? [1]

0–14

(iii) How has the percentage of working population (aged 15 to 64) changed from 1980 to 2010? [1]

Increased / decreased to 1990 then increased

(b) (i) What is meant by ‘seasonal migration’? [2]

- Moving / migrating from one place to another according to the time of year / season
- Do not accept use of ‘migrate’ and ‘season’ together in a response*
- Influenced by the weather / quality of pasture / suitable living conditions / rearing conditions for animals / availability of water / employment

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(ii) Name and describe an example of seasonal migration.

Transhumance – Res 1

- Moving to higher land / mountains in the summer
- Animals kept on high summer pastures
- Returning to valleys in the winter
- Animals brought down to lower pastures / to sheds in winter
- e.g. goats / sheep / cattle / yaks / dzu
- Northern and Western mountains

OR

Nomadic / nomadism – Res 1

- Moving from place to place looking for water and pasture
- Taking their animals
- e.g. sheep / goats / camels
- Taking their tents
- Settle for a short period / several weeks
- Balochistan and desert areas

Specific example – Res 1

- Outward movement to which location + time of year / reason
- Details
- Return movement to which location + time of year / reason
- Details
- Time period
- Area within Pakistan

**Maximum 3 marks if no specific example**

(c) Study Photographs A and B (Insert).

(i) Give four features of the housing shown in the photographs.

[4]

- Closely built / dense / congested
- Low / one storey
- Near water level / near dirty water
- Some have power / telephone lines
- Poor / scrap materials / makeshift
- Named scrap building material e.g. corrugated metal / wood / cloth
- No glass in windows
- Rusty
- Stones on roofs

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(ii) Explain why people live in areas such as those shown in Photographs A and B

- Rural-urban migrants
- Refugees
- Looking for work / safety
- Close to work
- Work for low pay / poor / work in informal sector / poverty
- Cheap / cannot afford housing / housing too expensive
- Unemployed
- Authorities cannot provide enough housing / no investment in housing
- Only space / land that is available
- Access to water
- Considered only to be temporary
- Relatives already living there

(d) To what extent can living conditions in areas such as those in Photographs A and B be improved? [6]

Possibilities – Res 2

- Self-help schemes
- Authorities provide building materials / blocks / bricks and people their own labour
- International charities
- Work with street children, etc.
- (Local) Government schemes / projects
- Building of low-cost / permanent housing / loans to build own housing
- With minimum standards and basic facilities e.g. toilets
- Infrastructural development e.g. roads, water supply, sanitation, rubbish collection, electricity
- Provision of schools / (family planning) clinics

Problems – Res 2

- Lack of government will / priorities / political instability
- Lack of government funds / investment
- Corruption
- Dangerous for Western charities
- High cost
- Long term
- Huge scale of the problem
- May attract more migrants
- Local resistance to improvement projects

[Total 25]