



## Cambridge O Level

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PAKISTAN STUDIES

2059/02

Paper 2 Environment of Pakistan

October/November 2021

MARK SCHEME

Maximum Mark: 75

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**Published**

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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This document consists of **24** printed pages.

**Generic Marking Principles**

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

**GENERIC MARKING PRINCIPLE 1:**

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

**GENERIC MARKING PRINCIPLE 2:**

Marks awarded are always **whole marks** (not half marks, or other fractions).

**GENERIC MARKING PRINCIPLE 3:**

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

**GENERIC MARKING PRINCIPLE 4:**

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

**GENERIC MARKING PRINCIPLE 5:**

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

**GENERIC MARKING PRINCIPLE 6:**

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Question	Answer	Marks
1(a)(i)	<p><b>Study Fig. 1.1, a map showing the natural topography of southern and western Pakistan. For the landforms labelled V, W and X on Fig. 1.1, circle the correct answer below.</b></p> <p><b>V</b></p> <p>V = Potwar Plateau</p> <p style="text-align: right;">1 @ 1 mark</p>	<b>1</b>
1(a)(ii)	<p><b>W</b></p> <p>W = Salt Range</p> <p style="text-align: right;">1 @ 1 mark</p>	<b>1</b>
1(a)(iii)	<p><b>X</b></p> <p>X = Balochistan Plateau</p> <p style="text-align: right;">1 @ 1 mark</p>	<b>1</b>
1(a)(iv)	<p><b>Using Fig. 1.1 <u>only</u>, describe the location of the Sulaiman Range.</b></p> <ul style="list-style-type: none"> <li>• east of Quetta;</li> <li>• south/south-west of Peshawar;</li> <li>• west of river Indus;</li> <li>• south/south-east of/near to river Zhob;</li> <li>• near to confluence of rivers Indus and Zhob/between the two rivers;</li> <li>• south-east of Afghanistan/north-east of Iran/north-west of India;</li> <li>• in centre of Pakistan/inland/far away from international border/Arabian Sea/coast;</li> <li>• any appropriate distance from/to a named feature measured from the scale e.g. Quetta 220–260 km.</li> </ul> <p><b>Note:</b> only references to places/features which are named on the map are credited.</p> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>
1(b)(i)	<p><b>Study Fig. 1.2 (Insert), a photograph of the Salt Range. Using Fig. 1.2 <u>only</u>, describe <u>two</u> features of the Salt Range.</b></p> <ul style="list-style-type: none"> <li>• badland topography/dissected/rugged;</li> <li>• steep slopes/high land/mountainous/hilly;</li> <li>• sharp peak/peaks;</li> <li>• ridge/ravine/gullies/rills;</li> <li>• sparse vegetation/greenery/shrubs/scrub/bushes;</li> <li>• bare rock/rocky/gravel/barren/small rocks/scree/sandy/stony;</li> <li>• red/orange/brown rocks;</li> <li>• rocks in layers;</li> <li>• dry/arid.</li> </ul> <p style="text-align: right;">2 @ 1 mark</p>	<b>2</b>

Question	Answer	Marks
1(b)(ii)	<p><b>Name <u>two</u> minerals that can be obtained from the Salt Range and suggest <u>one</u> use for each.</b></p> <ul style="list-style-type: none"> <li>• <b>mineral:</b> salt/halite</li> <li>• <b>use:</b> for cooking/preserving/foods/soda/bicarbonate of soda/caustic soda/soda for laundry/textiles/tanning/bath salts/cosmetics/ (decorative) lamps.</li> <li>• <b>mineral:</b> gypsum/anhydrite.</li> <li>• <b>use:</b> cement/concrete/paints/fertilisers/plaster boards/plaster of Paris/spread on saline soil in farming.</li> <li>• <b>mineral:</b> limestone</li> <li>• <b>use:</b> cement/concrete/buildings/iron and steel extraction/bleaching powder/glass/soap/paper/paints/lime/treats sugar cane waste to produce alcohol fuel/painted on bark of trees to control pests and termites/aerate soil/treat salinity/acidity/as fertiliser.</li> <li>• <b>mineral:</b> coal</li> <li>• <b>use:</b> in brick kilns/to make coke/coal briquettes/in power generation/ cement production/medicines/tars/(home and commercial) heating.</li> <li>• <b>mineral:</b> bauxite</li> <li>• <b>use:</b> to produce aluminium/utensils/tins/cans/furnace linings/abrasives.</li> </ul> <p><b>Note:</b> to be awarded use mark a correct use must be given for a correctly named mineral.</p> <p style="text-align: right;">4 @ 1 mark</p>	<b>4</b>
1(c)(i)	<p><b>Explain <u>two</u> ways in which the natural topography of the Salt Range makes mineral exploitation difficult. You should develop your answer.</b></p> <ul style="list-style-type: none"> <li>• <u>steep</u> slopes/mountainous/rugged/uneven ground – so it is difficult to get (large) machinery into the area/can be landslides due to drilling/explosives;</li> <li>• deep ravines – inaccessible as difficult to build roads to where minerals are found;</li> <li>• loose rocks/rock falls/landslides – dangerous working conditions/risk of accidents;</li> <li>• badland topography – more expensive to reach the minerals/ expensive to build roads;</li> <li>• barren land – difficult to construct roads;</li> </ul> <p>Etc.</p> <p><b>Note:</b> Any identified idea must link to a feature of topography.  <b>Note:</b> One mark for identification of appropriate idea and a further mark for development.  <b>Note:</b> Max. 2 marks if no development.</p> <p style="text-align: right;">2 @ 2 marks</p>	<b>4</b>

Question	Answer	Marks
1(c)(ii)	<p><b>Describe <u>three</u> environmental problems caused by mineral extraction.</b></p> <ul style="list-style-type: none"><li>• vegetation cut down/deforestation as land is cleared for mining;</li><li>• soil erosion by exposure of soils to rains as land is cleared;</li><li>• habitats/ecosystem lost due to clearance of land;</li><li>• mining waste produces land pollution;</li><li>• water supplies polluted from mineral waste/chemicals from mining processes seep into groundwater and rivers/sea;</li><li>• air pollution from machinery/explosives/dust and smoke;</li><li>• noise pollution from machinery/extraction processes e.g. blasting;</li><li>• scarred landscape/deformed landscape from pits, tips, spoil heaps;</li><li>• subsidence due to collapse of underground tunnels;</li><li>• landslides due to explosions;</li><li>• depressions/deep holes which fill with rainwater.</li></ul> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>

Question	Answer	Marks
1(d)	<p><b>Evaluate the benefits and problems of further developing the mineral extraction industry in Pakistan. Give reasons to support your <u>judgement</u> and refer to examples you have studied. You should consider <u>different</u> points of view in your answer.</b></p> <p><b>Levels marking</b></p> <p>No valid response <span style="float: right;"><b>0</b></span></p> <p><b>Level 1</b> <span style="float: right;"><b>1–2</b></span>  Simple point referring to one view (1)  Simple points referring to any view (2)</p> <p><b>Level 2</b> <span style="float: right;"><b>3–4</b></span>  Developed point referring to one view (3)  Developed points referring to both views (4)</p> <p><b>Level 3</b> <span style="float: right;"><b>5–6</b></span>  Developed points referring to both views with evaluation or relevant example (5)  Developed points referring to both views with evaluation and relevant example (6)</p> <p><b>Content Guide</b>  Answers are likely to refer to:</p> <p><b>benefits:</b></p> <ul style="list-style-type: none"> <li>• loans for equipment/hiring experts from abroad with technical expertise;</li> <li>• sustainable mining techniques reduce environmental damage/allow safe disposal of waste;</li> <li>• provides employment opportunities in remote rural regions;</li> <li>• large mineral reserves - extraction allows long-term development;</li> <li>• wages in mining often higher than in farming etc;</li> <li>• transport and power infrastructure developed in remote areas</li> <li>• encourages growth in industries using the minerals e.g. steel industry near coal and iron ore;</li> <li>• improves the balance of payments/reduces imports and increases exports;</li> <li>• producing more minerals means more income and increased GDP;</li> <li>• more industrial development brings jobs, means increase in tax revenue for Pakistan can be spent on education/health;</li> </ul> <p>Etc.</p>	<b>6</b>

Question	Answer	Marks
1(d)	<p><b>examples include:</b> In 2014, the Chinese company MCC took over the operation of Duddar lead/zinc mine in Balochistan. Production increased rapidly as MCC brought in experts and modern mining machinery. Since 1980, US\$236 million has been invested in Duddar: US\$101 million by MCC. MCC invested in local education, health and water supplies.</p> <p><b>problems:</b></p> <ul style="list-style-type: none"> <li>• environmental damage can be irreversible;</li> <li>• better to develop other sectors of the economy e.g. agriculture to fulfil the demand from an increasing population;</li> <li>• jobs may be low paid and dangerous;</li> <li>• the financial cost of exploitation may not be fully recovered from the sale/use of the raw materials;</li> <li>• cost of levelling the land after mining activity to avoid land deformation;</li> <li>• cost of treatment of mining waste and fumes;</li> <li>• cost of technology/machines/experts to make the industry competitive;</li> <li>• some minerals are technically challenging/expensive to extract e.g. deep underground mining;</li> <li>• limited pool of workers with skill to operate advanced mining technology;</li> <li>• some minerals are low quality/may not be worth extracting - if the iron content of iron ore is less than 60%, it is not suitable for high-quality steel production e.g. coal from the Thar coalfield contains too many sulphur and lime impurities to be used in power stations;</li> <li>• cost of transporting minerals out/bringing workers in may discourage mineral extraction in remote areas e.g. deserts, mountain regions;</li> <li>• oil pipelines are expensive to build/maintain</li> </ul> <p>Etc.</p> <p><b>examples include:</b> Under Thario Halepoto village in the Thar Desert lie 1.5 billion tonnes of coal but exploitation will mean villagers lose their homes and grazing lands, the destruction of desert trees and ecology, and pollution of underground water that they rely on for drinking</p>	

Question	Answer	Marks
2(a)(i)	<p><b>Study Fig. 2.1, a map showing annual rainfall in southern and western Pakistan. Complete Fig. 2.1 by shading area Y using the information below and the key.</b></p> <p>Whole area shaded on map according to the key (diagonal) for 126–250 mm of annual rainfall.</p> <p style="text-align: right;">1 @ 1 mark</p>	<b>1</b>
2(a)(ii)	<p><b>Study Fig. 2.2, a map showing temperature regions of southern and western Pakistan. Identify temperature region Z shown on Fig. 2.2.</b></p> <p>Warm summer, mild winter.</p> <p style="text-align: right;">1 @ 1 mark</p>	<b>1</b>

Question	Answer	Marks
2(a)(iii)	<p><b>Using information from Figs. 2.1 and 2.2 <u>only</u>, complete the passage describing the relationship between annual rainfall and temperature regions. Choose the correct words from the list and place them in the spaces provided.</b></p> <p>There is a <u>weak</u> relationship between the pattern of annual rainfall and temperature regions. The majority of the areas with 0–125 mm of rainfall experience <u>hot</u> summers and <u>mild</u> winters, whereas areas of <u>high</u> rainfall experience cooler summers and winters.</p> <p>4 correct = 3 marks 3 correct = 2 marks 1 or 2 correct = 1 mark</p> <p>0 marks if the same word entered more than twice/throughout and this is the only correct answer.</p> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>
2(b)(i)	<p><b>Describe how the Western Depressions affect the pattern of rainfall in western Pakistan.</b></p> <ul style="list-style-type: none"> <li>• Western Depression brings rain to the north-western areas of Pakistan/ Peshawar/northern Pakistan;</li> <li>• Western Depression causes the rainfall from December-March/in winter;</li> <li>• Quetta dry for rest of year/only/most rain received is from Western Depressions;</li> <li>• Quetta has its highest rainfall/49 mm in February;</li> <li>• Peshawar has its highest rainfall/78 mm in March;</li> <li>• as winds move towards Balochistan there is no/little moisture left/little/ no rainfall.</li> </ul> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>

Question	Answer	Marks
2(b)(ii)	<p><b>Explain <u>two</u> factors that affect temperature in Pakistan. You should develop your answer.</b></p> <ul style="list-style-type: none"> <li>• altitude; for every 1000 metres in height temperature drops by approximately 6.5 °C /as altitude increases there is less atmosphere above, so less pressure. This lower pressure means air molecules spread further away from each other, which has a cooling effect;</li> <li>• latitude; areas closer to the equator or southern Pakistan/24°N have higher temperatures as sun's rays are more concentrated/higher angle of incidence/areas further away from the equator/northern Pakistan/37°N have lower temperatures as sun's rays spread out over a wider area/lower angle of incidence/lose more heat travelling further through the atmosphere;</li> <li>• angle of the sun; the position of the earth in relation to the sun, during summer Pakistan is tilted towards the sun and so has higher temperatures/during winter it is tilted away from the sun so has lower temperatures;</li> <li>• continentality/maritime influence; interior has higher temperatures as there is no cooling effect from the sea/along coastal areas ocean currents and prevailing winds have a moderating effect on temperature/inland areas heat up quickly in summer, producing hot summers/lose heat quickly, so have low average temperatures in winter; cloud cover; clouds keep the heat in during the night but can prevent solar radiation getting through during the day so can keep the heat out (or vice versa);</li> <li>• amount of vegetation cover/deforestation; areas with dense cover have lower temperatures since it provides shade from the sun's rays or vice-versa e.g. deserts;</li> </ul> <p>Etc.</p> <p><b>Note:</b> One mark for identification of appropriate idea and a further mark for development. <b>Note:</b> Max. 2 marks if no development.</p> <p style="text-align: right;">2 @ 2 marks</p>	<b>4</b>
2(c)(i)	<p><b>Define 'drought'.</b></p> <p>A long period of no/low/very little rainfall.</p> <p style="text-align: right;">1 @ 1 mark</p>	<b>1</b>
2(c)(ii)	<p><b>State <u>two</u> effects of drought on the natural environment of Pakistan.</b></p> <ul style="list-style-type: none"> <li>• desertification/extension of desert areas;</li> <li>• soil erosion;</li> <li>• ground/soil dries out/cracks/soil becomes less fertile/infertile/barren;</li> <li>• animals/aquatic life harmed/die/lose habitat;</li> <li>• vegetation/trees/plants die;</li> <li>• drying up of rivers/lakes/streams/water shortage/aridity;</li> <li>• drop in water table/less groundwater available to plants;</li> <li>• salt concentrations in water can increase.</li> </ul> <p style="text-align: right;">2 @ 1 mark</p>	<b>2</b>

Question	Answer	Marks
2(c)(iii)	<p><b>Describe the benefits and problems of cold climates for people in Pakistan.</b></p> <p><b>benefits:</b></p> <ul style="list-style-type: none"> <li>• brings tourism e.g. skiing/glacier hikes/holidays/boost jobs/economy/scenic beauty attracts tourists;</li> <li>• frozen water bodies can be used for ice skating;</li> <li>• (glacial) meltwater in summer is essential for irrigation;</li> <li>• (glacial) meltwater/plentiful water helps to power hydel schemes;</li> <li>• cold climate reduces evaporation from reservoirs;</li> <li>• can grow (temperate) fruits in summer/boost jobs/economy;</li> <li>• lower need for/cost of air conditioning;</li> </ul> <p><b>problems:</b></p> <ul style="list-style-type: none"> <li>• seasonal movement of livestock to lower areas/transhumance-difficult to rear animals;</li> <li>• snow/cold can trap people in homes/people have to move to other areas;</li> <li>• increased need for/cost of heating buildings;</li> <li>• roads can become blocked by snow/avalanches, cuts off communities;</li> <li>• increased chance of frostbite/hypothermia;</li> <li>• the cold climate makes it difficult to grow most crops e.g. wheat; difficult to work in extreme cold climates so people have to work indoors;</li> <li>• lakes/rivers freeze over, prevent fishing/scarce water supply;</li> <li>• avalanches may cause injuries/death;</li> <li>• seasonal tourism - fewer summer jobs.</li> </ul> <p><b>Note:</b> reserve 1 mark for benefits and 1 mark for problems. <b>Note:</b> different reasons required for benefits and problems.</p> <p style="text-align: right;">4 @ 1 mark</p>	<b>4</b>

Question	Answer	Marks
2(d)	<p><b>Pakistan experiences extremes of climate which can have many effects on people’s lives. Read the following two views:</b></p> <p><b>View A</b></p> <p><b>Storms and heavy rainfall have the most severe impacts for people in Pakistan.</b></p> <p><b>View B</b></p> <p><b>Droughts have the most severe impacts for people in Pakistan.</b></p> <p><b>Which view do you agree with more? Give reasons to support your answer and refer to examples you have studied. You should consider View A <u>and</u> View B in your answer.</b></p> <p><b>Levels marking</b></p> <p>No valid response <span style="float: right;"><b>0</b></span></p> <p><b>Level 1</b> <span style="float: right;"><b>1–2</b></span>  Simple point referring to one view (1)  Simple points referring to any view (2)</p> <p><b>Level 2</b> <span style="float: right;"><b>3–4</b></span>  Developed point referring to one view (3)  Developed points referring to both views (4)</p> <p><b>Level 3</b> <span style="float: right;"><b>5–6</b></span>  Developed points referring to both views with evaluation or relevant example (5)  Developed points referring to both views with evaluation and relevant example (6)</p> <p><b>Content Guide</b>  Answers are likely to refer to:</p> <p><b>agree with View A:</b></p> <ul style="list-style-type: none"> <li>• storms and heavy rainfall can destroy crops very quickly;</li> <li>• animals/cattle can be washed away/drown/be frightened;</li> <li>• livelihoods/houses/businesses can be washed away;</li> <li>• flooded roads create travel problems for business/industry; heavy rain increases soil erosion removing the top fertile layer;</li> <li>• fields become flooded which can create problems with waterlogging;</li> <li>• floodwaters from heavy rains can become polluted and spread disease;</li> <li>• cyclones make it unsafe for boats to go to sea, disrupting fishing;</li> </ul>	<b>6</b>

Question	Answer	Marks
2(d)	<ul style="list-style-type: none"> <li>• winds blow down power lines and phone lines; businesses are left without power or communications.</li> </ul> <p>Etc.</p> <p><b>examples include:</b> In August 2021 Karachi received 200mm rain in 12 hours, 68 000 people in Sindh forced into relief camps, one million acres of crops were destroyed by the flooding; cotton, vegetables, onions, tomatoes, and sugarcane.</p> <p><b>disagree with View A:</b></p> <ul style="list-style-type: none"> <li>• flood protection schemes can protect homes and businesses;</li> <li>• reservoirs and dams control the flow of water in rivers/hold back water;</li> <li>• buildings designed to withstand flooding/storm shelters can be built;</li> <li>• flooding spreads alluvium increasing the fertility of the land for farmers.</li> </ul> <p>Etc.</p> <p><b>agree with View B:</b></p> <ul style="list-style-type: none"> <li>• droughts can cause starvation/famine leading to illness and death;</li> <li>• results in crop failure and death of livestock;</li> <li>• people suffer from malnutrition and fatigue, so they are unable to work;</li> <li>• food supplies and fresh water has to be imported;</li> <li>• shortage of raw materials for industry reduces exports.</li> </ul> <p>Etc.</p> <p><b>examples include:</b> 2018/2019 droughts with 1.2 million people suffered from extreme (crisis and emergency level) food insecurity in Southern Pakistan resulted from acute shortages of water, food and fodder and resulted in critical levels of acute malnutrition amongst young children.</p> <p><b>disagree with View B:</b></p> <ul style="list-style-type: none"> <li>• droughts can be overcome by using irrigation or named examples e.g. karez/perennial canals/use of sea water through desalination</li> <li>• drought resistant seeds can be used e.g. water efficient varieties of wheat developed by Pakistan Agricultural Research Council (PARC);</li> <li>• transhumance can be practiced moving animals to areas with water;</li> <li>• belongings/buildings/homes are not ruined by drought.</li> </ul> <p>Etc.</p> <p><b>evaluation may argue:</b> Storms/heavy rainfall and droughts are as severe as each other as huge loss of life can occur from both/both have a detrimental effect on livelihoods/jobs and the economy.</p>	

Question	Answer	Marks
3(a)(i)	<p><b>Study Fig. 3.1, a map showing the percentage of land under cultivation in southern and western Pakistan. Using Fig. 3.1 <u>only</u>, describe the distribution of areas with over 50% of land under cultivation.</b></p> <ul style="list-style-type: none"> <li>• uneven distribution;</li> <li>• in three areas;</li> <li>• mostly in north-east;</li> <li>• small amount in south-east/centre;</li> <li>• predominantly in the east/none in the west/ close to Afghanistan/Iran;</li> <li>• inland/none on the coast/not close to Arabian Sea;</li> <li>• largest area close to India;</li> </ul> <p><b>Note:</b> only credit references to places/features which are named on the map. 3 @ 1 mark</p>	<b>3</b>
3(a)(ii)	<p><b>Define ‘cultivation’.</b></p> <p>To prepare land <u>and</u> grow crops on it.</p> <p style="text-align: right;">1 @ 1 mark</p>	<b>1</b>
3(b)(i)	<p><b>Study Fig. 3.2, a pie graph showing the percentage share by value of each of the main crops grown in Pakistan. Complete Fig. 3.2 to show the percentage share by value of cotton and rice. Use the information below and the key.</b></p> <ul style="list-style-type: none"> <li>• accurate drawing of line at either 75% or 85% (1)</li> <li>• correct shading (diagonal) to match the key (1)</li> </ul> <p style="text-align: right;">2 @ 1 mark</p>	<b>2</b>
3(b)(ii)	<p><b>State <u>two</u> reasons why wheat is the main crop grown in Pakistan.</b></p> <ul style="list-style-type: none"> <li>• it has many uses/bread/roti/variety of baked products;</li> <li>• it is a staple food/main part of (local) diet;</li> <li>• low grades of wheat and by-products used for animal feed;</li> <li>• rise in local demand due to increasing population;</li> <li>• use of subsidies to encourage farmers to grow wheat;</li> <li>• suitable climate/weather/temperature/soils/relief;</li> <li>• short/fast/90–120 day growing season;</li> <li>• requires less water/irrigation/rain than other crops;</li> </ul> <p style="text-align: right;">2 @ 1 mark</p>	<b>2</b>

Question	Answer	Marks
3(c)(i)	<p><b>Complete the passage below about growing rice in Pakistan. Choose the correct words from the list and place them in the spaces provided.</b></p> <p>Rice is normally grown on a <u>large</u> scale for <u>commercial</u> purposes in Punjab and <u>Sindh</u>. Small-scale <u>subsistence</u> farming is practiced in the <u>Northern</u> regions where rice is grown on <u>terraced</u> fields.</p> <p style="text-align: right;">3 @ 1 mark</p> <p>5 or 6 correct = 3 marks 3 or 4 correct = 2 marks 1 or 2 correct = 1 mark</p> <p>0 marks if the same word entered more than twice/throughout and this is the only correct answer.</p>	<b>3</b>
3(c)(ii)	<p><b>Describe the processes involved in the growing of rice.</b></p> <ul style="list-style-type: none"> <li>• rice seeds are sown/grown/planted in beds/nurseries;</li> <li>• bunds and terraces are repaired to ensure water stays in the field;</li> <li>• fields are prepared by ploughing/weeding;</li> <li>• fields are flooded (to a depth of 37 cm/14–15 inches);</li> <li>• water is diverted from rivers or irrigation canals;</li> <li>• when the plant is big enough/23 cm/9 inches it is planted in the fields;</li> <li>• fertiliser/manure is added, giving plants more nutrients for better growth;</li> <li>• the fields are kept full of water/flooded until the rice is ripe;</li> <li>• the water is drained off (by making holes in the bunds).</li> </ul> <p><b>Note:</b> Max. 1 mark for list, some relevant description must be provided.</p> <p style="text-align: right;">4 @ 1 mark</p>	<b>4</b>
3(c)(iii)	<p><b>Explain how <u>two</u> natural factors affect rice production. You should develop your answer.</b></p> <ul style="list-style-type: none"> <li>• temperature; mean temperature of 20-30 °C /warm/hot temperatures needed/cold temperatures would harm the crop/dry period/warm/sunny period needed for harvesting;</li> <li>• rainfall; high/heavy/plenty of rainfall needed of at least 1270 mm/over 2000 mm is best/heavy rain can destroy the crop close to harvest time;</li> <li>• humidity; high during the 4–6 months growing period; leads to the best quality/highest yields of rice;</li> <li>• land; level/flat/plain land for flooding/ease of irrigation/to facilitate the use of machinery/easier to sow/plough/harvest;</li> <li>• soil; fertile/loamy/clayey/alluvium is needed/soils that do not drain quickly so the rice plants stay wet/impervious sub-soil to retain water/rice grows best in waterlogged soils;</li> <li>• pest attacks/diseases; can destroy the whole crop/ decrease yields especially during hot spells e.g. leaf curl virus.</li> </ul> <p>Etc.</p> <p><b>Note:</b> One mark for identification of appropriate idea and a further mark for development. <b>Note:</b> Max. 2 marks if no development.</p> <p style="text-align: right;">2 @ 2 marks</p>	<b>4</b>

Question	Answer	Marks
3(d)	<p><b>To what extent are climatic challenges the biggest threat to Pakistan increasing its agricultural production? Give reasons to support your <u>judgement</u> and refer to examples you have studied. You should consider <u>different</u> points of view in your answer.</b></p> <p><b>Levels marking</b></p> <p>No valid response <span style="float: right;"><b>0</b></span></p> <p><b>Level 1</b> <span style="float: right;"><b>1–2</b></span>  Simple point referring to one view (1)  Simple points referring to any view (2)</p> <p><b>Level 2</b> <span style="float: right;"><b>3–4</b></span>  Developed point referring to one view (3)  Developed points referring to both views (4)</p> <p><b>Level 3</b> <span style="float: right;"><b>5–6</b></span>  Developed points referring to both views with evaluation or relevant example (5)</p> <p>Developed points referring to both views with evaluation and relevant example (6)</p> <p><b>Content Guide</b></p> <p>Answers are likely to refer to:</p> <p><b>climatic challenges:</b></p> <ul style="list-style-type: none"> <li>• increased temperatures threaten agricultural production; reduce crop quantity and quality due to the reduced growth period e.g. wheat/maize;</li> <li>• increased risk/consequences of drought;</li> <li>• seasons are changing e.g. monsoon season coming later/earlier/shorter/unreliable; means farmers can no longer rely on the rain;</li> <li>• climate change cannot be prevented;</li> <li>• expensive to mitigate against the impacts of climate change;</li> <li>• increased risk of storms/severity/ frequency impacts on harvesting;</li> <li>• climate change causes drier areas and the spread of locusts which eat crops;</li> <li>• increase in temperatures encourage the spread of leaf curl virus in cotton crops;</li> </ul> <p>Etc.</p>	<b>6</b>

Question	Answer	Marks
3(d)	<p><b>other factors:</b></p> <ul style="list-style-type: none"> <li>• water logging and salinity;</li> <li>• traditional farming techniques; manual labour is slow and inefficient;</li> <li>• environmental degradation/pollution;</li> <li>• limited investment in farming practices/machinery/seeds/training;</li> <li>• landownership/fragmentation; fragmentation causes farming processes to take longer and can't be mechanised;</li> <li>• most farming is subsistence, which has low yields;</li> <li>• literacy/education levels mean farmers may lack knowledge of how to improve yields;</li> <li>• some traditional varieties of field crops give low yields and are not disease resistant;</li> <li>• traditional irrigation methods are not always reliable;</li> <li>• overgrazing causes soil erosion and lack of food for animals;</li> <li>• variable availability of veterinary care makes animals prone to disease;</li> </ul> <p>Etc.</p>	

Question	Answer	Marks
4(a)(i)	<p><b>Study Fig. 4.1 (Insert), a map showing the top five destinations of goods exported and origins of goods imported by Pakistan in 2017. Using Fig 4.1 <u>only</u>, identify the country:</b></p> <ul style="list-style-type: none"> <li>• to which Pakistan exports the highest value of goods</li> <li>• from which Pakistan imports the highest value of goods</li> <li>• which Pakistan both exports goods to and imports goods from</li> </ul> <p>Exports to = USA Imports from = China Exports to and imports from = China</p> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>
4(a)(ii)	<p><b>In 2017 Pakistan's total exports were valued at US \$24.8 billion and its imports at US \$55.6 billion.</b></p> <p><b><u>Calculate</u> Pakistan's trade balance in 2017. Show your working in the box below.</b></p> <p>24.8 – 55.6 = –30.8(billion US \$)</p> <p><b>Note:</b> reserve one mark for working out. If correct answer but no working or incorrect working = max 1 mark</p> <p style="text-align: right;">2 @ 1 mark</p>	<b>2</b>

Question	Answer	Marks
4(b)(i)	<p><b>What is the difference between GNP and GDP?</b></p> <ul style="list-style-type: none"> <li>• GNP is the production by nationals both within and outside Pakistan/ measures the output by Pakistan nationals/companies wherever they are in the world.</li> <li>• GDP is domestic production from within a country regardless of who produced it/from nationals or foreign companies/the value of everything that people in a country produce.</li> </ul> <p style="text-align: right;">2 @ 1 mark</p>	<b>2</b>
4(b)(ii)	<p><b>State <u>two</u> of Pakistan’s main exports and <u>two</u> of its main imports.</b></p> <p><b>exports:</b></p> <ul style="list-style-type: none"> <li>• miscellaneous textiles/worn clothing;</li> <li>• cotton (yarn) (medium staple);</li> <li>• knit or crochet clothing/accessories;</li> <li>• clothing/accessories (not knit or crochet);</li> <li>• cereals/rice;</li> <li>• leather/animal gut articles;</li> <li>• copper;</li> <li>• sugar/sugar confectionery;</li> <li>• mineral fuels including oil;</li> <li>• beverages/spirits/vinegar;</li> <li>• salt/sulphur/stone/cement;</li> <li>• fruit, nuts;</li> <li>• medical/surgical/optical/technical apparatus;</li> <li>• sports goods;</li> <li>• carpets and rugs;</li> </ul> <p><b>imports:</b></p> <ul style="list-style-type: none"> <li>• mineral fuels including coal/oil/petroleum/oil products;</li> <li>• machinery/electronics/electrical equipment;</li> <li>• iron/steel;</li> <li>• chemicals/chemical products;</li> <li>• vehicles/cars;</li> <li>• plastics/plastic articles;</li> <li>• animal/vegetable fats/oils/waxes;</li> <li>• oil seeds;</li> <li>• cotton;</li> <li>• wheat:</li> </ul> <p style="text-align: right;">2 @ 1 mark</p>	<b>4</b>

Question	Answer	Marks
4(b)(iii)	<p><b>Describe the <u>changes</u> in the types and value of goods imported and exported by Pakistan in recent years.</b></p> <ul style="list-style-type: none"> <li>• fewer food products are imported;</li> <li>• imports of fuel energy are decreasing;</li> <li>• imports of high value/capital goods has increased (e.g. machinery to manufacture its products);</li> <li>• imports of consumer goods have decreased (e.g. computers, appliances, clothes);</li> <li>• exports of low value/primary /agricultural products have decreased;</li> <li>• exports of high value/manufactured/processed/industrial products have increased;</li> <li>• exports of value added goods have increased;</li> </ul> <p><b>Note:</b> reserve 1 mark for exports and 1 mark for imports.</p> <p style="text-align: right;">4 @ 1 mark</p>	<b>4</b>
4(c)	<p><b>Explain how trading blocs and currency exchange rates affect Pakistan’s trade. You should develop your answer.</b></p> <p><b>trading blocs:</b></p> <ul style="list-style-type: none"> <li>• members have a free trade agreement/there are low or zero trade restrictions; which encourages trade between member states e.g. Pakistan is a member of SAARC/so more goods can be exported to member countries by Pakistan;</li> <li>• since 2014 Pakistan has had preferential access for its exports to EU markets; with low or zero tariffs on most goods increasing trade;</li> <li>• Pakistan is a member of ECO/ASEAN; but some trade barriers remain;</li> <li>• have trade barriers; which hinders trade between non-member states which affects Pakistan if it does not belong to a particular trading bloc;</li> </ul> <p>Etc.</p> <p><b>exchange rates:</b></p> <ul style="list-style-type: none"> <li>• determine the cost of imports and the value of exports; therefore the increase or decrease of the PK Rupee is significant to trade;</li> <li>• determine the amount of overseas investment; companies/government/ people more likely to invest in Pakistan if the exchange rate is favourable;</li> <li>• currency depreciation means that imports are more expensive/exports have lower value; this can reduce trade as Pakistan may not be able to afford to import as many goods/will earn less from exports;</li> <li>• currency appreciation means that imports are cheaper/exports have higher value; this can increase trade as Pakistan can afford to import more goods/will earn more from exports//however Pakistan’s exports may decrease as countries may shop around for cheaper goods elsewhere.</li> </ul> <p>Etc.</p> <p><b>Note:</b> One mark for identification of appropriate idea and a further mark for development. <b>Note:</b> Max. 2 marks if no development.</p> <p style="text-align: right;">2 @ 2 marks</p>	<b>4</b>

Question	Answer	Marks
4(d)	<p><b>In 2017 Pakistan’s balance of trade was affected by a 0.2 per cent decrease in the value of its exported goods and a 5.1 per cent increase in the value of imported goods. Read the following two views:</b></p> <p><b>View A</b> Pakistan could decrease the amount of cheap goods imported to improve the balance of trade.</p> <p><b>View B</b> Pakistan could export goods to a wider number of countries to improve the balance of trade.</p> <p><b>Which view do you agree with more? Give reasons to support your answer and refer to examples you have studied. You should consider View A <u>and</u> View B in your answer.</b></p> <p><b>Levels marking</b></p> <p>No valid response <span style="float: right;"><b>0</b></span></p> <p><b>Level 1</b> <span style="float: right;"><b>1–2</b></span> Simple point referring to one view (1) Simple points referring to any view (2)</p> <p><b>Level 2</b> <span style="float: right;"><b>3–4</b></span> Developed point referring to one view (3) Developed points referring to both views (4)</p> <p><b>Level 3</b> <span style="float: right;"><b>5–6</b></span> Developed points referring to both views with evaluation or relevant example (5) Developed points referring to both views with evaluation and relevant example (6)</p> <p><b>Content Guide</b></p> <p>Answers are likely to refer to:</p> <p><b>agree with View A:</b></p> <ul style="list-style-type: none"> <li>• Pakistan could manufacture many of the products that it imports creating jobs;</li> <li>• many of the goods imported are not needed but are imported due to an increase in consumerism;</li> <li>• Pakistan can educate people on the impact of consumerism on the environment;</li> <li>• by focussing on local industry e can improve standards of goods can be improved e.g. by working with PTEC (Pakistan Technical and Educational Council) for training.</li> </ul> <p>Etc.</p>	<b>6</b>

Question	Answer	Marks
4(d)	<p><b>disagree with View A:</b></p> <ul style="list-style-type: none"> <li>• Pakistan does not have resources to manufacture goods that it imports;</li> <li>• it would cost too much to make the products/cheaper to import them; it is costly to develop infrastructure and to train and educate people;</li> <li>• it may be difficult to support the domestic demand for products that are no longer imported.</li> <li>• importing cheap goods does not affect the balance of trade significantly;</li> </ul> <p>Etc.</p> <p><b>agree with View B:</b></p> <ul style="list-style-type: none"> <li>• Pakistan currently only exports to five main countries;</li> <li>• increasing the number of countries that Pakistan can export to will mean that Pakistan will increase manufacturing /employment and earn more income;</li> <li>• Pakistan will be less reliant on a few countries for trade;</li> </ul> <p>Etc.</p> <p><b>disagree with View B:</b></p> <ul style="list-style-type: none"> <li>• it may not be possible to make trade agreements with more countries;</li> <li>• there is a lot of competition for trade;</li> <li>• trade blocs e.g. EU or individual countries may place tariffs on imports reducing the impact on the balance of trade;</li> <li>• increasing exports is not the only/best way to improve the balance of trade;</li> </ul> <p>Etc.</p> <p><b>Evaluation may argue:</b> that both ideas are necessary for improving Pakistan's balance of trade.</p>	

Question	Answer	Marks
5(a)(i)	<p><b>Study Fig. 5.1 (Insert), a graph showing the change in the percentage of adults owning a cell phone between 2002 and 2017 for selected countries.</b></p> <p><b>Using Fig 5.1 only:</b></p> <ul style="list-style-type: none"> <li>• <b>by how much has the percentage of mobile phone ownership changed in Pakistan between 2002 and 2017?</b></li> <li>• <b>what is the general trend of cell phone ownership?</b></li> <li>• <b>which country has experienced the largest change in cell phone ownership between 2002 and 2017?</b></li> </ul> <ul style="list-style-type: none"> <li>• 70% (tolerance 69%–71%)</li> <li>• increasing</li> <li>• Kenya</li> </ul> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>
5(a)(ii)	<ul style="list-style-type: none"> <li>• for online banking/pay staff/pay invoices;</li> <li>• selling/buying/trading/ecommerce/online shopping;</li> <li>• can use to set up website/social media/advertise/marketing;</li> <li>• for instant global/long distance communication;</li> <li>• to sell cell phones/related gadgets (cases)/services (screen repairs)</li> </ul> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>
5(b)(i)	<p><b>Study Fig. 5.2 a graph showing the most common uses (other than making a phone call) by people in Pakistan in 2013.</b></p> <p><b>Using information from Fig. 5.2 <u>only</u>, complete the sentence below about cell phone use.</b></p> <p>The most common use of cell phones is <b>send/receive text messages</b> whereas <b>9</b> per cent make or receive payments from a cell phone.</p> <p style="text-align: right;">2 @ 1 mark</p>	<b>2</b>
5(b)(ii)	<p><b>Suggest why a large percentage of people in Pakistan use cell phones to access health information.</b></p> <ul style="list-style-type: none"> <li>• can speak to clinicians from home/limited access to healthcare services in remote areas;</li> <li>• reluctant/eliminates fees/transport costs to visit doctor/hospital;</li> <li>• do not have time/saves time for medical appointment/to travel;</li> <li>• to research (24/7) (up to date/accurate) health information e.g. symptoms/diagnosis/cures;</li> <li>• increased literacy rates so take more interest in their health;</li> <li>• to research healthcare services e.g. vaccination centres;</li> <li>• to book appointments;</li> <li>• fast communication method in an emergency;</li> <li>• to contact health services in event of natural hazard;</li> <li>• allows remote monitoring of a patient e.g. giving data or getting test results;</li> <li>• gives access to personal medical records;</li> <li>• reminders to take medicines/make/attend appointments.</li> </ul> <p style="text-align: right;">3 @ 1 mark</p>	<b>3</b>

Question	Answer	Marks
5(c)(i)	<p><b>State <u>four</u> advantages to teachers and students of using the internet in education in Pakistan.</b></p> <ul style="list-style-type: none"> <li>• makes home learning possible/avoids unnecessary travel/learning continues when schools are closed/student unable to attend;</li> <li>• connect with other students/join education forums/debates/chatrooms;</li> <li>• attend online (live)/recorded/lessons/staff meetings;</li> <li>• virtual field work in the classroom/virtual learning experiences;</li> <li>• saves costs of buying books/cost of printing sheets;</li> <li>• to research topics/access worldwide sources/collect data/ information;</li> <li>• to easily share documents;</li> <li>• setting/completing and handing in homework;</li> <li>• to learn/access/use new information communications technology/how to build websites/how to use software;</li> <li>• to access past exam papers and/or mark schemes;</li> <li>• teachers can access training/courses.</li> </ul> <p style="text-align: right;">4 @ 1 mark</p>	<b>4</b>
5(c)(ii)	<p><b>Explain <u>two</u> challenges of providing telecommunications in some parts of Pakistan. You should develop your answer.</b></p> <ul style="list-style-type: none"> <li>• densely populated cities put a strain on network due to high numbers of users; so connections are not always available;</li> <li>• topography makes some parts of Pakistan inaccessible; so infrastructure cannot be developed there/lack of signal;</li> <li>• extreme weather event/thunderstorms/heavy rainfall; this can interrupt signal/damage towers and wires;</li> </ul>	<b>4</b>
5(c)(ii)	<ul style="list-style-type: none"> <li>• some areas of Pakistan do not have a steady supply of electricity/ regular load shedding or power cuts; so a fault with a major cable can cut off a whole region;</li> <li>• high initial costs/ it is not cost effective to develop infrastructure in sparsely populated areas of Pakistan; such as masts/telephone lines/cables/Wi-Fi</li> <li>• developing infrastructure can harm the landscape/ecosystems/ habitats/ destroy scenic beauty; so spreading the network in environmentally sensitive areas is difficult;</li> <li>• a shortage of IT professionals; limits pace of network development;</li> <li>• telecommunication companies are less willing to invest in some areas; because the population cannot afford bills/equipment;</li> </ul> <p><b>Note:</b> One mark for identification of appropriate idea and a further mark for development. <b>Note:</b> Max. 2 marks if no development.</p> <p style="text-align: right;">2 @ 2 marks</p>	

Question	Answer	Marks
5(d)	<p><b>The rate of growth of Pakistan’s telecommunications sector has been impressively fast-paced in recent years. However, computers and smart phones are of limited use if the internet is not widely available. Assess the role of telecommunications in the further development of Pakistan. Give reasons to support your <u>judgement</u> and refer to examples you have studied. You should consider <u>different</u> points of view in your answer.</b></p> <p><b>Levels marking</b></p> <p>No valid response <span style="float: right;"><b>0</b></span></p> <p><b>Level 1</b> <span style="float: right;"><b>1–2</b></span>  Simple point referring to one view (1)  Simple points referring to any view (2)</p> <p><b>Level 2</b> <span style="float: right;"><b>3–4</b></span>  Developed point referring to one view (3)  Developed points referring to both views (4)</p> <p><b>Level 3</b> <span style="float: right;"><b>5–6</b></span>  Developed points referring to both views with evaluation or relevant example (5)  Developed points referring to both views with evaluation and relevant example (6)</p> <p><b>Content Guide</b></p> <p>Answers are likely to refer to:</p> <p><b>significant role:</b></p> <ul style="list-style-type: none"> <li>• improvements to education and training/skills increase employment opportunities; e.g. foreign businesses making locally produced smart phones</li> <li>• it encourages foreign direct investment from businesses/corporations;</li> </ul>	<b>6</b>

Question	Answer	Marks
5(d)	<ul style="list-style-type: none"> <li>• it improves advertising and marketing opportunities/e-commerce;</li> <li>• new fibre-optic cables e.g. Khunjerab Pass, connect Pakistan businesses with the world e.g. Chinese networks;</li> <li>• the Digital Pakistan initiative aims to improve connectivity and digital skills, especially for young people and women;</li> <li>• video-conferencing can take place which may encourage multinational companies in other parts of the world to open branches in Pakistan;</li> <li>• the telecom sector contributes to government funds via taxes;</li> <li>• multi-national businesses consider Pakistan to have huge potential for growth in online banking introduce 4G/5G services;</li> <li>• teachers can use e-learning to teach students in different/remote areas which may improve life chances;</li> <li>• people can get remote access to medical staff which may improve quality of life;</li> <li>• farmers can use the internet to educate themselves about products which could increase yields/check weather updates etc;</li> </ul> <p>Etc.</p> <p><b>less significant role:</b></p> <ul style="list-style-type: none"> <li>• it is expensive to invest in;</li> <li>• there are other issues that need to be overcome before investing further in telecommunications e.g. improving reliability of electricity supplies/ reducing interruptions from technical faults and load shedding;</li> <li>• international companies may decide to locate where the population are already educated and skilled;</li> <li>• regional instability discouraged some foreign investors;</li> </ul> <p>Etc.</p>	