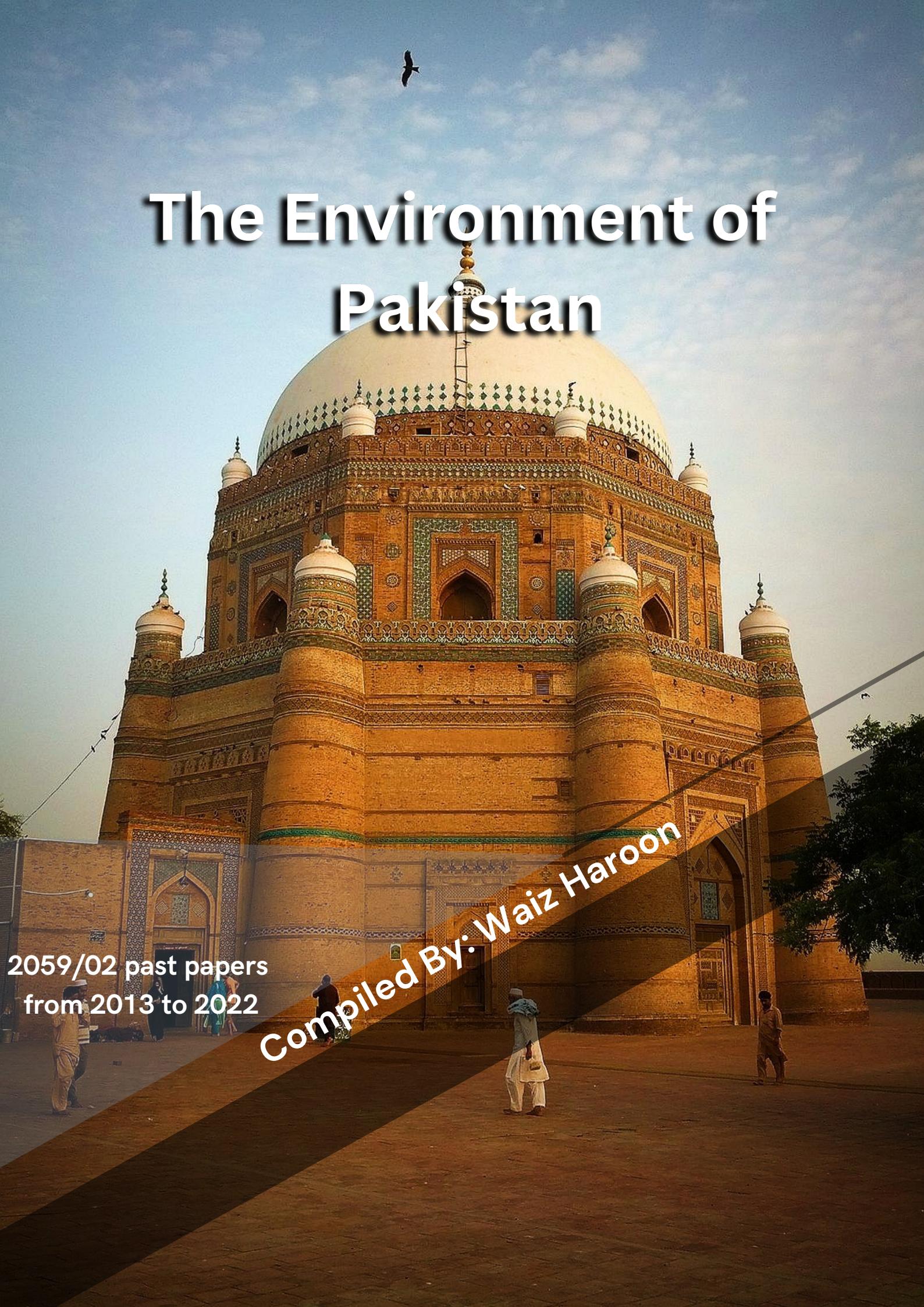


The Environment of Pakistan



2059/02 past papers
from 2013 to 2022

Compiled By: Waiz Haroon

AUTHOR'S NOTE

This PDF file contains topic-wise arranged questions along with marking schemes for "O" Level Pakistan Studies 2059 Paper 2 (Environment of Pakistan 2059/2).

The main object of the PDF is to help the candidates understand the correct method of answering the question in order to achieve high scores. It will help candidates prepare for the said paper in the shortest possible time. Important instructions regarding the technique of attempting the question paper have been given, which will help them write the answers with confidence.

The subject matter is authentic, and every attempt has been made to provide correct information. Cambridge Assessment International Education has provided marking schemes for each question. However, candidates are advised to remain in touch with their textbooks on the subject.

As a human, errors are possible, so please feel free to contact the author at the following address:

Jeejoowa20+topical@gmail.com

Waiz Haroon

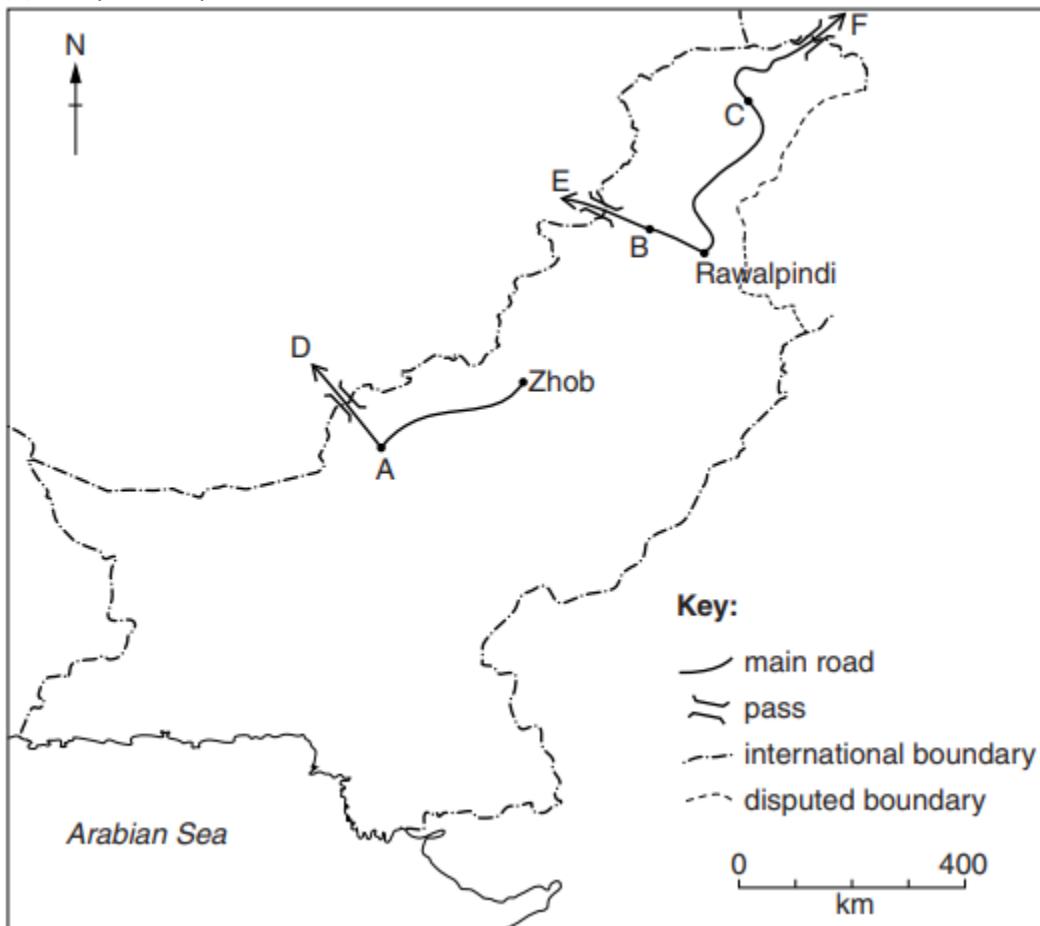
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The Natural Topography

[May/June 2014]

(a) Study the map



(i) Name the towns A, B and C. [3]

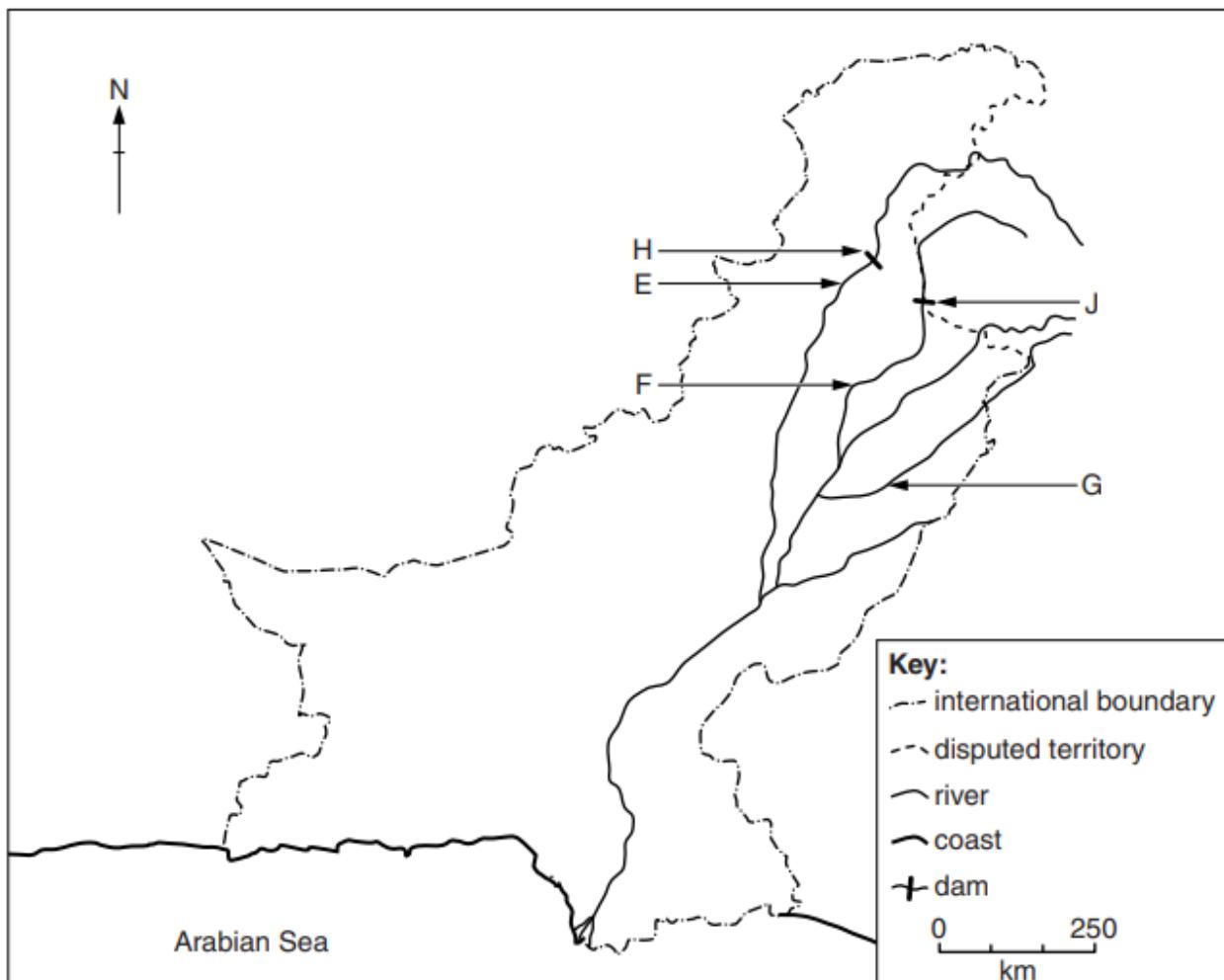
Markscheme:

- 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]

Markscheme:

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



Name:

- (i) The rivers E,F & G [3]

Markscheme:

E Indus

F Jhelum

G Ravi

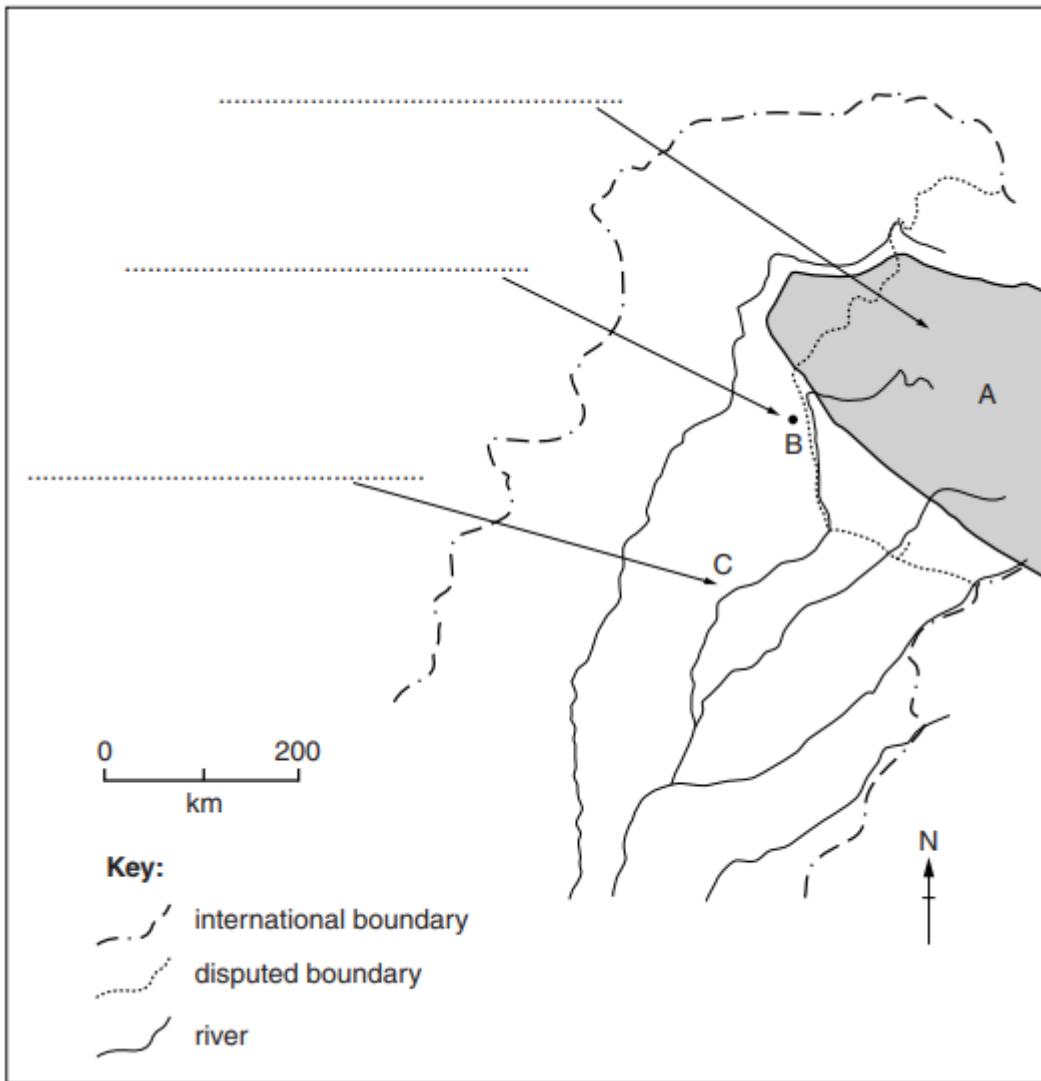
- (ii) One of the dams H or J [1]

Markscheme:

H Tarbela

J Mangla

(a) Study Fig. which is a map of northern Pakistan.



(i) On the map name the following:

- Mountain range A
- City B
- River C [3]

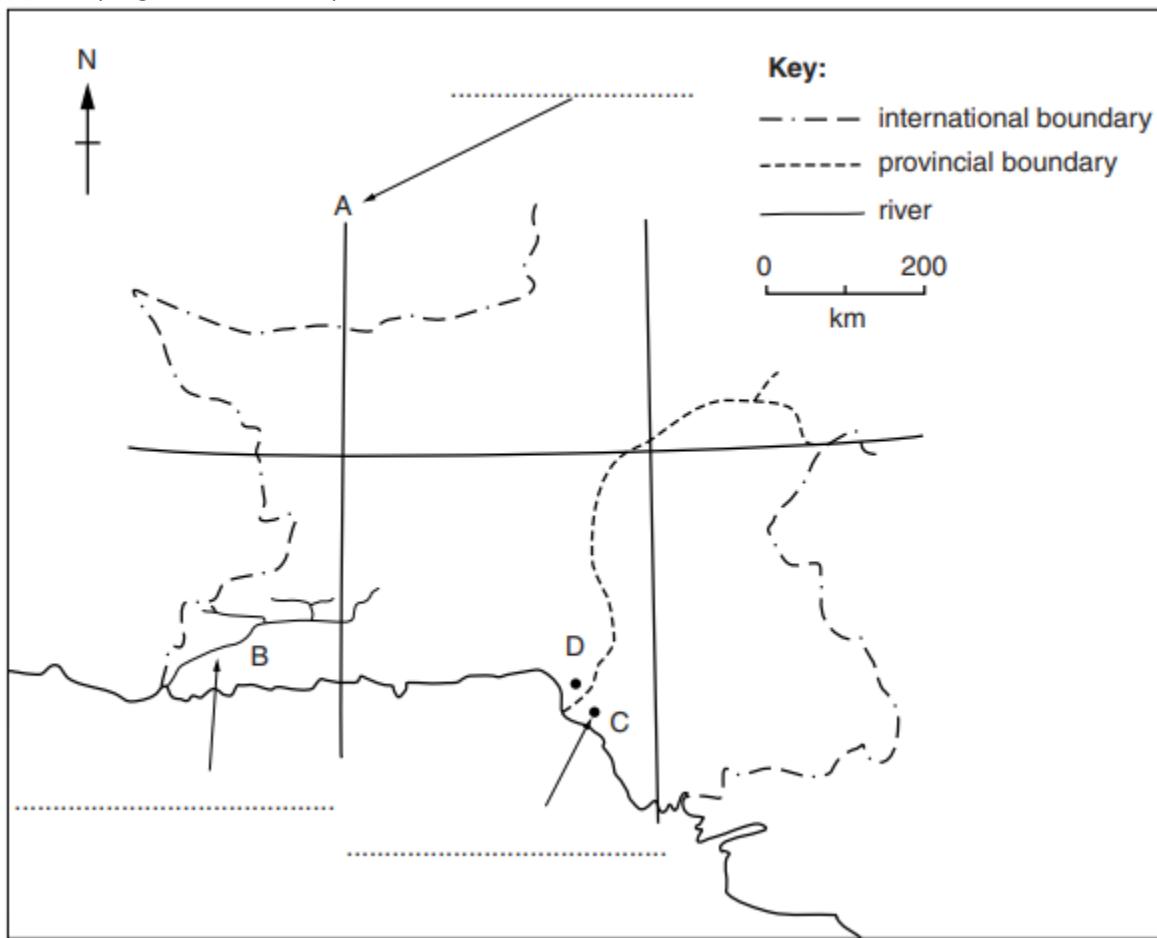
Markscheme:

A: Himalaya(s)

B: Murree

C: Jhelum

(a) Study Fig. which is a map of southern Pakistan.



(i) On the map name the following: Line of longitude A; River B; City C [3]

Markscheme:

A: – 64E

B: – Dasht

C: – Karachi

(ii) Explain the advantages of locating an industrial estate at D. [4]

Markscheme:

General

Provides employment

Industrial linkages

Supply of raw materials

To make use of government incentives

Specific

Good road connection

Makran Coast Highway

Close to airport at Karachi

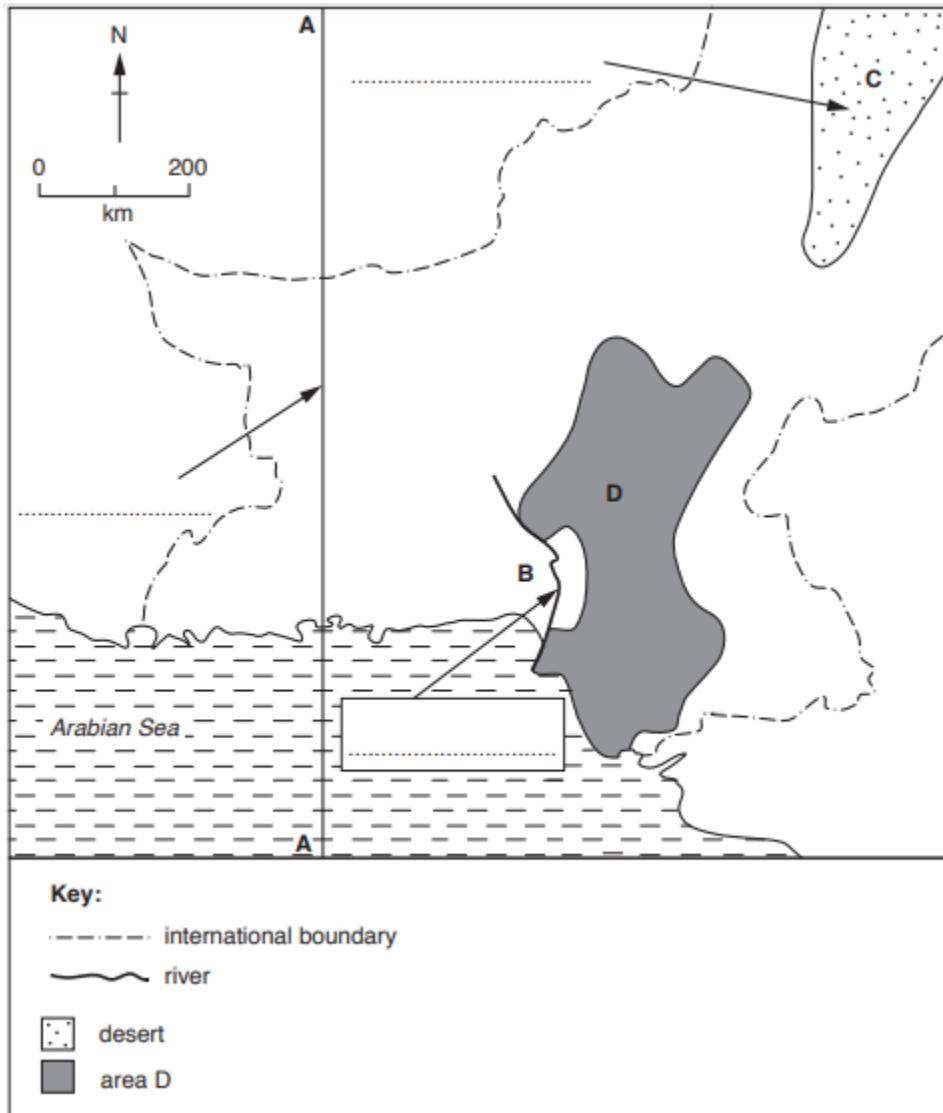
Close to Karachi/Port Qasim for exports / imported raw materials/ trade in semi-finished goods

Economic growth/diversification/develops industries in undeveloped area/province/Balochistan

Near thermal/nuclear power station/on electricity grid

Close to large domestic market in Karachi
 Large labour force available from Karachi

[October/November 2017]



(i) On the map name the following: Line of longitude A–A; River B; Desert C. [3]

Markscheme:

A 64°E

B Hab

C Thal

(ii) Describe the natural topography (relief) of Area D on the map. [3]

Markscheme:

- Flat or gentle sloping land;
- Lower Indus Plain / low altitude;
- Flood plain / active floodplain (bet) / old floodplain;
- Delta;
- Limestone cliffs at Hyderabad (Ganjo Takkar Hills) / escarpment / cuesta;

- Doab / sand dunes (tibbas);
- Piedmont plains with alluvial fans.

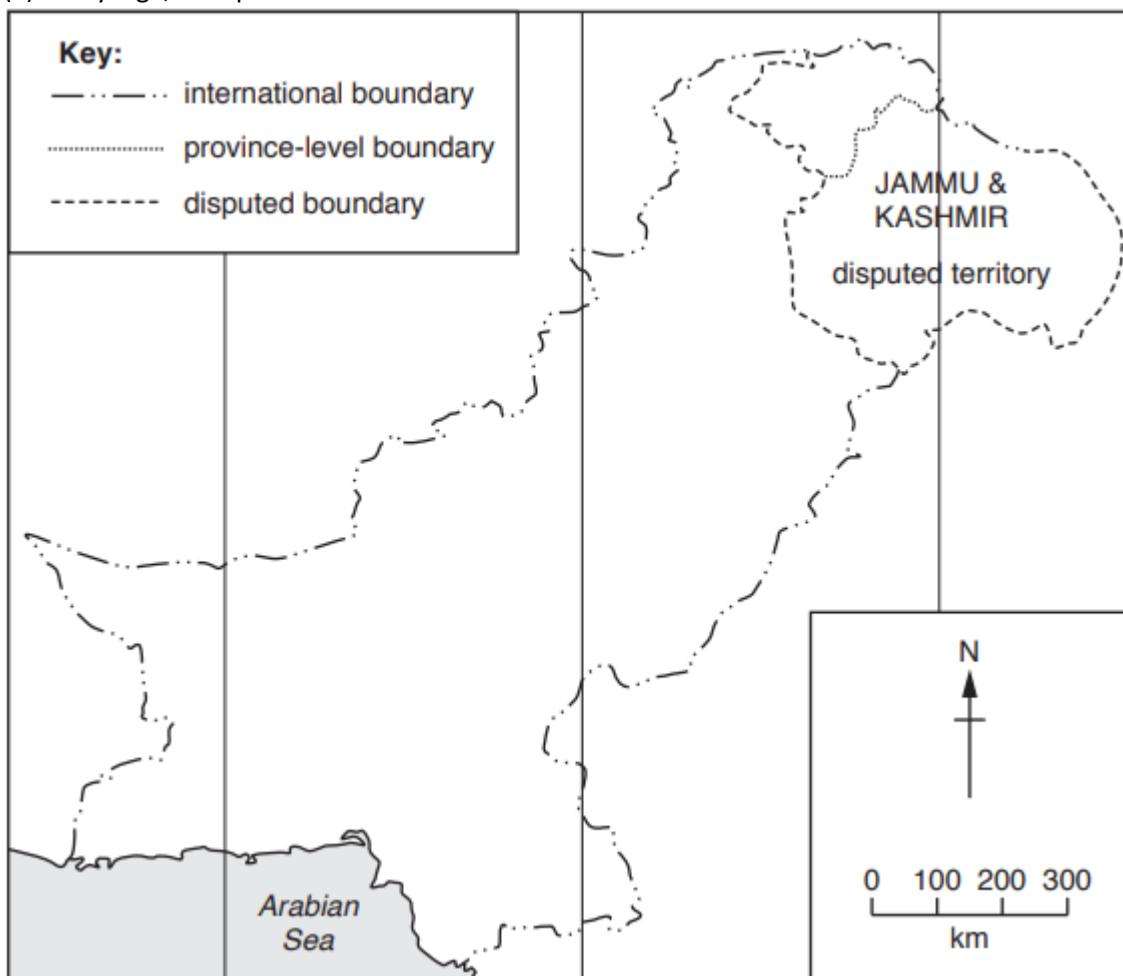
(iii) Give reasons why the Indus River floods. [2]

Markscheme:

- Heavy (high) rainfall / monsoon rainfall;
- Monsoon winds (strong wind) / SW monsoon / weather pattern from India / Arabian Sea;
- Rapid snow melt (in Himalayas / Karokoram / Hindu Kush / Tibet);
- Melting of glaciers (in Himalayas / Karokoram / Hindu Kush / Tibet)

[May/June 2018]

(a) Study Fig. , a map of Pakistan



(i) On Fig. , label the following: Afghanistan; India; Line of longitude 70°E

You should write the name in the correct location on the map. [3]

Markscheme:

- Afghanistan – to west of Pakistan;
- India – to east of Pakistan;
- Longitude 70 °E – middle line of the three on map.

(ii) On Fig. , draw and label the Tropic of Cancer. [2]

Markscheme:

- Accurately drawn line for position of Tropic of Cancer;
- Accurate label.

(iii) Describe Pakistan's location in relation to other countries in South and Central Asia. [3]

Markscheme:

- Western part of South Asia;
- India to the East / South East / North East;
- China to the North / North East;
- Afghanistan to the North West / West;
- Iran to the West / South West;
- Between / shares border with / neighbouring country with China / India / Afghanistan / Iran;
- Compass direction to any of the following non-conjoining countries in South and Central Asia ONLY: Nepal / Tajikistan / Kyrgyzstan / Turkmenistan / Uzbekistan / Sri Lanka / Bangladesh / Maldives / Burma (Myanmar);
- Distance to any the following non-conjoining countries in South and Central Asia ONLY: Nepal / Tajikistan / Kyrgyzstan / Turkmenistan / Uzbekistan / Sri Lanka / Bangladesh / Maldives / Burma (Myanmar).

(b) (i) Study Fig. . Describe the main features of the desert area shown in the photograph. [3]



Markscheme:

- Sand / sandy;
- Sand dunes / ridges / hills / hilly;

- Large area / expanse / plain / plains;
- Sparse / scant vegetation / not much greenery / few trees / lack of trees;
- Small bushes / thorny bushes / scrub / rakh / shrubs;
- Barren / bare / dry;
- Oasis.

(ii) Explain the challenges of living in a desert area, such as that shown in Fig. . You should develop your answer. [4]

Markscheme:

Challenges such as:

- High temperatures / hot (during day) / cold at night / uncomfortable living conditions;
- Lack of / little / unreliable rainfall;
- Difficult to grow crops / carry out agriculture;
- Difficult to rear animals;
- Lack of water / travel long distance to find water / low water table;
- Dust / sandstorms;
- Infertile soils / lack of nutrients / lack of humus produced;
- Reliable food supply;
- Isolated / far from urban areas / remote;
- Inaccessible / poor / lack of roads;
- Wild / poisonous animals.

(d) Evaluate the extent to which the natural topography of Pakistan limits human activity and economic development in the north of the country. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer. [6]

Markscheme:

Description of the topography in the north of Pakistan compared to other areas.

Limits to human activity and development

Availability of flat land;

Impact of topography on climate;

Restrictions to developing named examples of industry / farming / other named examples of human activity and economic development;

Restrictions to developing named examples of infrastructure, e.g. roads / telecommunications / internet / other named examples of human activity and economic development.

Encourages human activity and development

Transhumance;

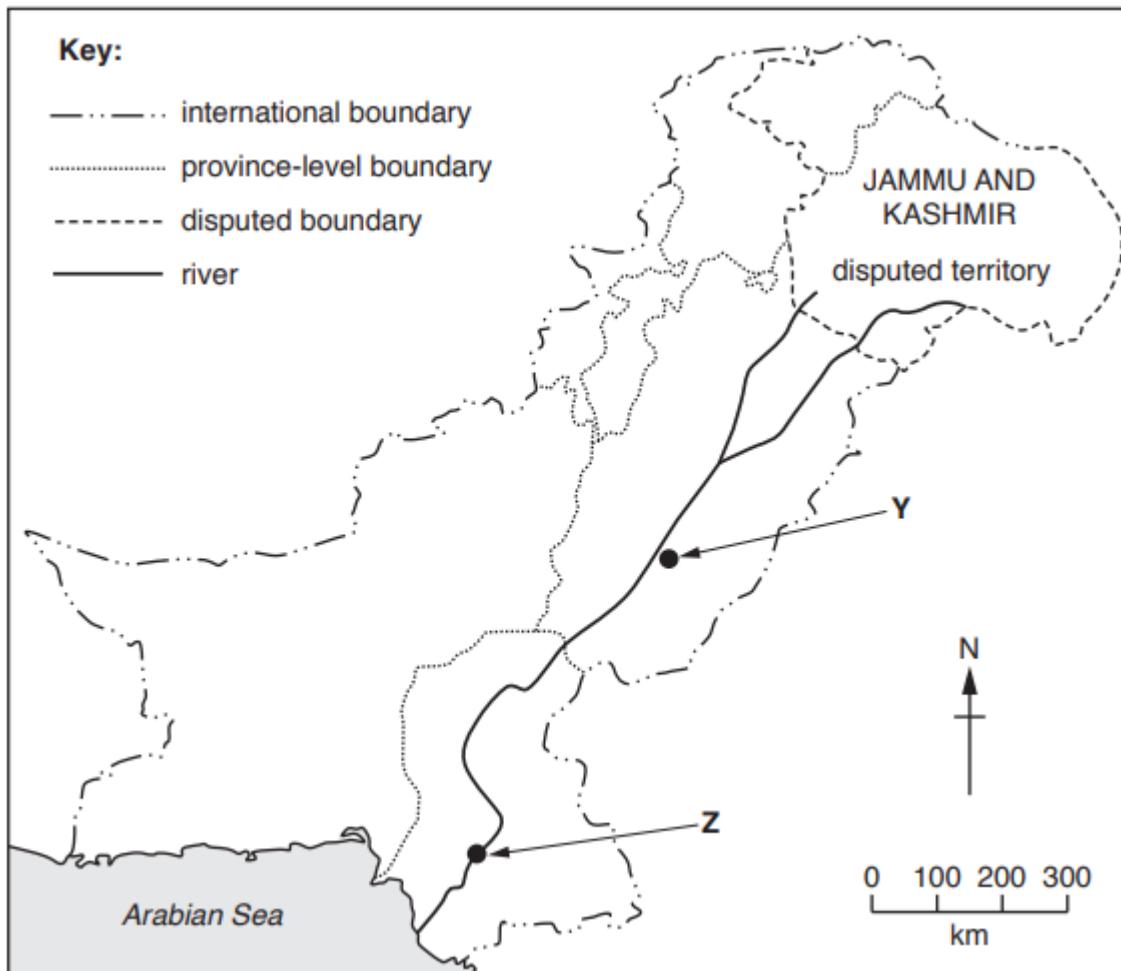
HEP / Hydel / dams;

Cottage industries;

Tourism.

Etc.

Study Fig. , an outline map of Pakistan.

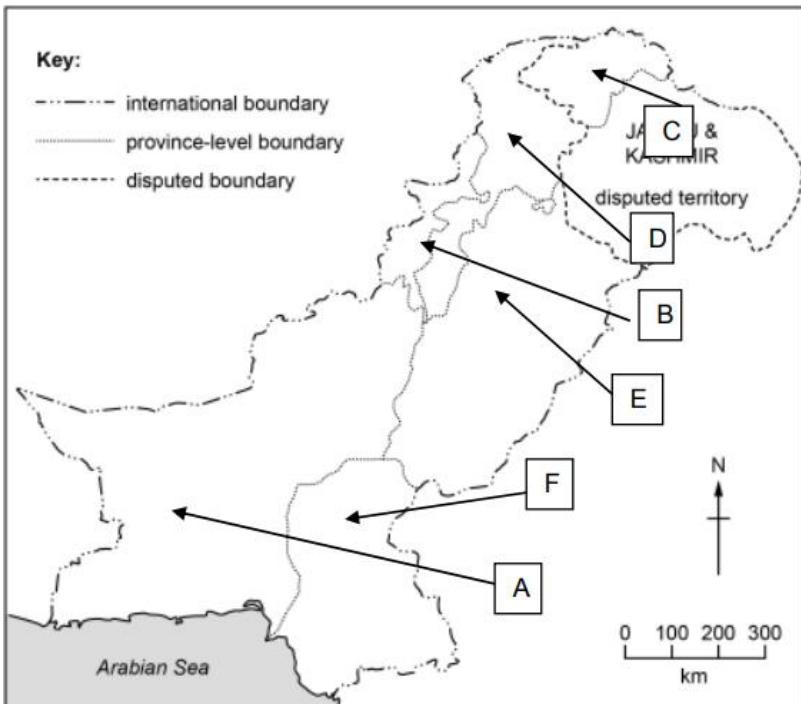


(i) Label on Fig. the province-level areas in the correct locations using the letters from the list below.

letter	province-level area
A	Balochistan
B	FATA
C	Northern Areas/Gilgit-Baltistan
D	Kyber Pakhtunkhwa (KPK)
E	Punjab
F	Sindh

[3]

Markscheme:



(ii) Name the cities Y and Z.[2]

Markscheme:

Y = Multan

Z = Hyderabad

(b) (i) Describe the characteristics of a floodplain.[3]

Markscheme:

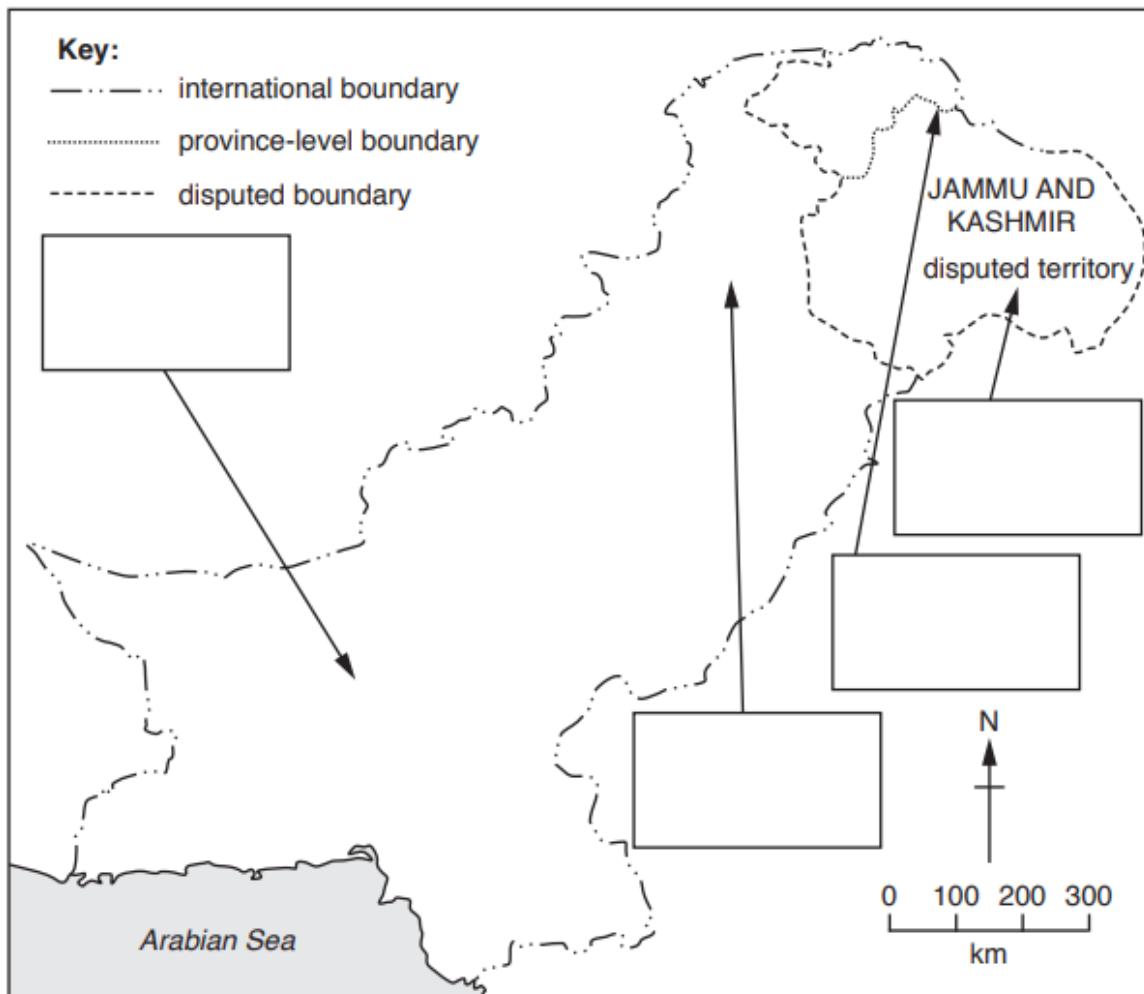
- Flat / gentle slope / gentle valley side / doab;
- Wide;
- Boggy / marshy / water meadows / waterlogged;
- Fertile / rich soil or minerals / alluvial terraces / alluvium / silt / gravel;
- Levees;
- Oxbow lakes / meanders / braiding.

(ii) State two ways that land on a floodplain is used.[2]

Markscheme:

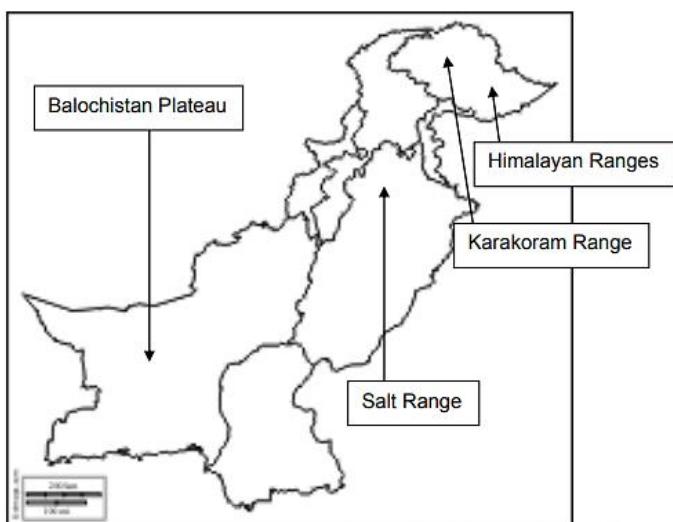
- Farming / farmer's fields / growing crops / agriculture / cultivation;
- (Cattle) grazing / rearing buffalo;
- Fish farms / fish breeding / aquaculture;
- Industry;
- Transport or examples, e.g. roads / railways;
- Settlement / building / housing / homes;
- Irrigation / canals / drainage ditches.

(a) Study Fig. , an outline map of Pakistan.



(i) On the map name the following landforms in the boxes provided: Balochistan Plateau; Himalayan Ranges; Karakoram Range; Salt Range. [4]

Markscheme:



(ii) Study Fig. . Identify the mountain feature labelled A in the photograph. [1]



Markscheme:

- peak
 - horn
 - summit
 - arêtes
- (b) (i) Define the term 'topography'.[1]

Markscheme:

(The study or description of) features of the landscape, (which includes both natural and artificial features) / natural characteristics of land / structural features of landscape.

(ii) Describe the natural topography of the northern regions.[3]

Markscheme:

- V shaped valleys / deep valleys / narrow valleys / gorges;
- U shaped valleys;
- Cirque / corrie / arête;
- High altitude (6000 m+) / snow-capped or high peaks / hilly / mountainous;
- Steep slopes / uneven / rugged;
- Scree;
- Bare rocks / rocky / barren;
- Snowfields / glaciers;
- Parallel ranges;
- High passes (Khunjerab / Shandur / Lawarai);
- Rivers / streams / rapids / waterfalls.

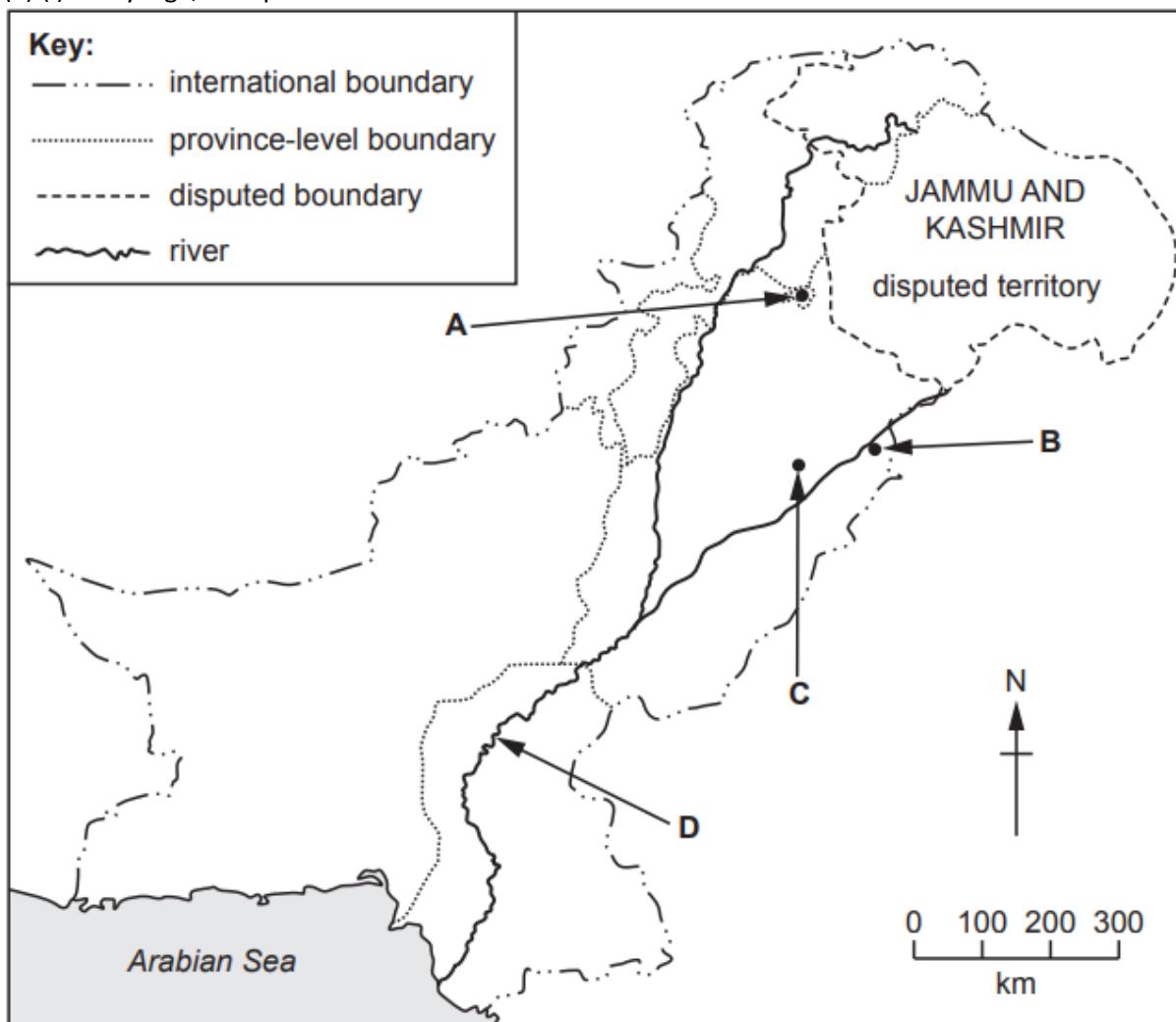
(iii) Describe the importance of the Northern Mountains to Pakistan.[4]

Markscheme:

- Snow-capped peaks melt during summer to drain water into rivers;
- Provides water from high rainfall;
- Provides water for hydel power / energy;
- River water used for irrigation / agriculture;
- Historical passes connect Pakistan to China and Afghanistan;
- A natural border (to China and the Central Asian Republics);
- Provides a land /trade route through Karakoram Highway;
- Source of valuable minerals, timber and fruits;
- Provides raw material to several industries or examples: furniture / paper / chipboard / industry / chemical industry;
- Mountain peaks provide protection to Pakistan against the cold winds from Central Asia;
- Scenic beauty promotes tourism / named landmarks, e.g. K2;
- Provision of National Parks or named examples, e.g. Chitral National Park / wildlife preservation;
- Source of income from tourism / tourists / contribute to economy.

[May/June 2020]

(a) (i) Study Fig. , a map of Pakistan.



Name the three cities labelled A, B and C on Fig.[3]

Markscheme:

A = Islamabad

B = Lahore

C = Faisalabad

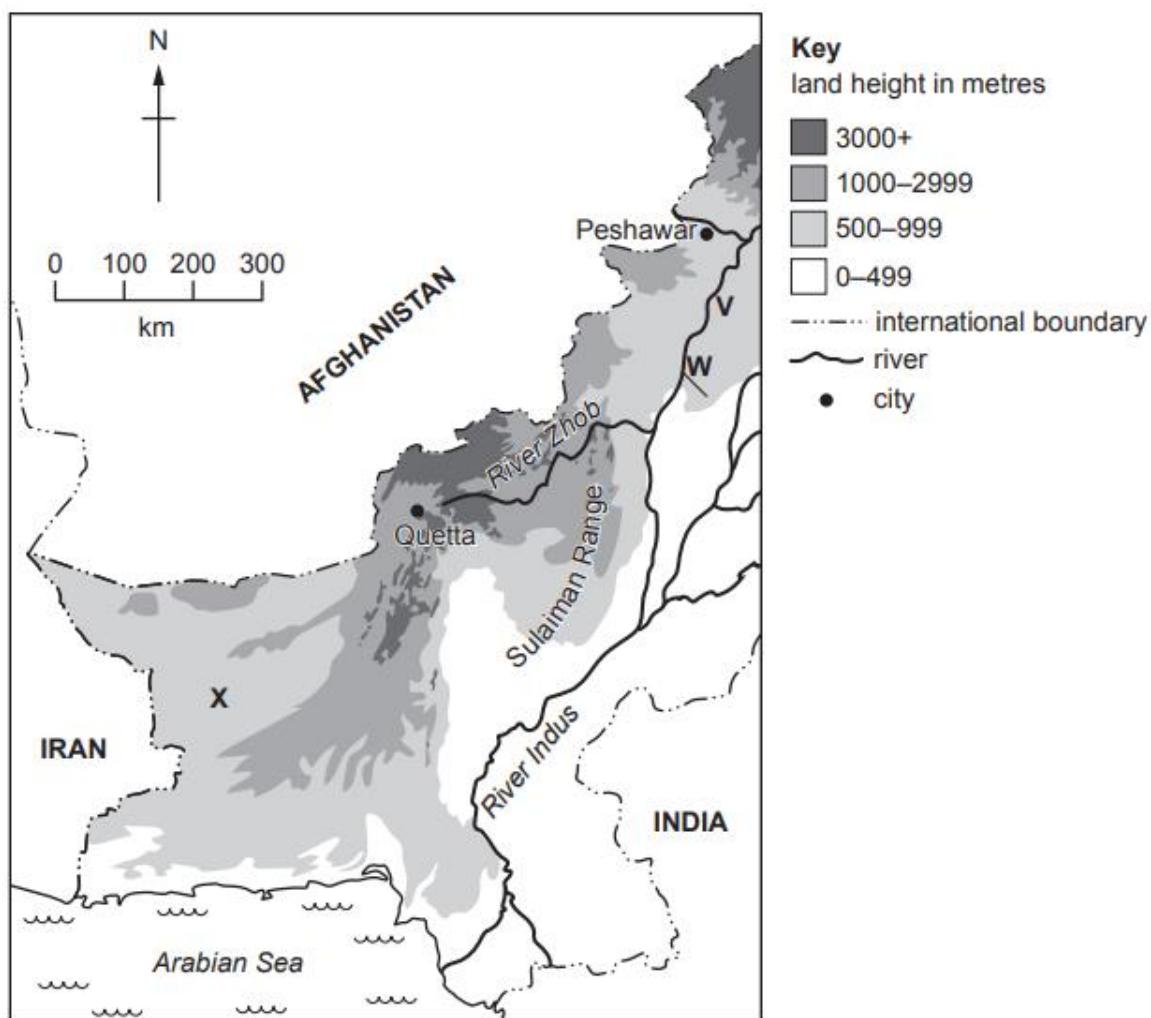
(ii) Name the river labelled D on Fig.[1]

Markscheme:

D = River Indus

[October / November 2021]

Study Fig. , a map showing the natural topography of southern and western Pakistan.



(a) For the landforms labelled V, W and X on Fig. 1.1, circle the correct answer below:

(i) V
Balochistan Plateau Potwar Plateau Salt Range [1]

Markscheme:

V = Potwar Plateau

(ii) W

Balochistan Plateau Potwar Plateau Salt Range [1]

Markscheme:

W = Salt Range

(iii) X

Balochistan Plateau Potwar Plateau Salt Range [1]

Markscheme:

X = Balochistan Plateau

(iv) Using Fig. only, describe the location of the Sulaiman Range.[3]

Markscheme:

- east of Quetta;
- south/south-west of Peshawar;
- west of river Indus;
- south/south-east of/near to river Zhob;
- near to confluence of rivers Indus and Zhob/between the two rivers;
- south-east of Afghanistan/north-east of Iran/north-west of India;
- in centre of Pakistan/inland/far away from international border/Arabian Sea/coast;
- any appropriate distance from/to a named feature measured from the scale e.g. Quetta 220–260 km.

(b) (i) Study Fig. a photograph of the Salt Range. Using Fig. 1.2 only, describe two features of the Salt Range.[2]

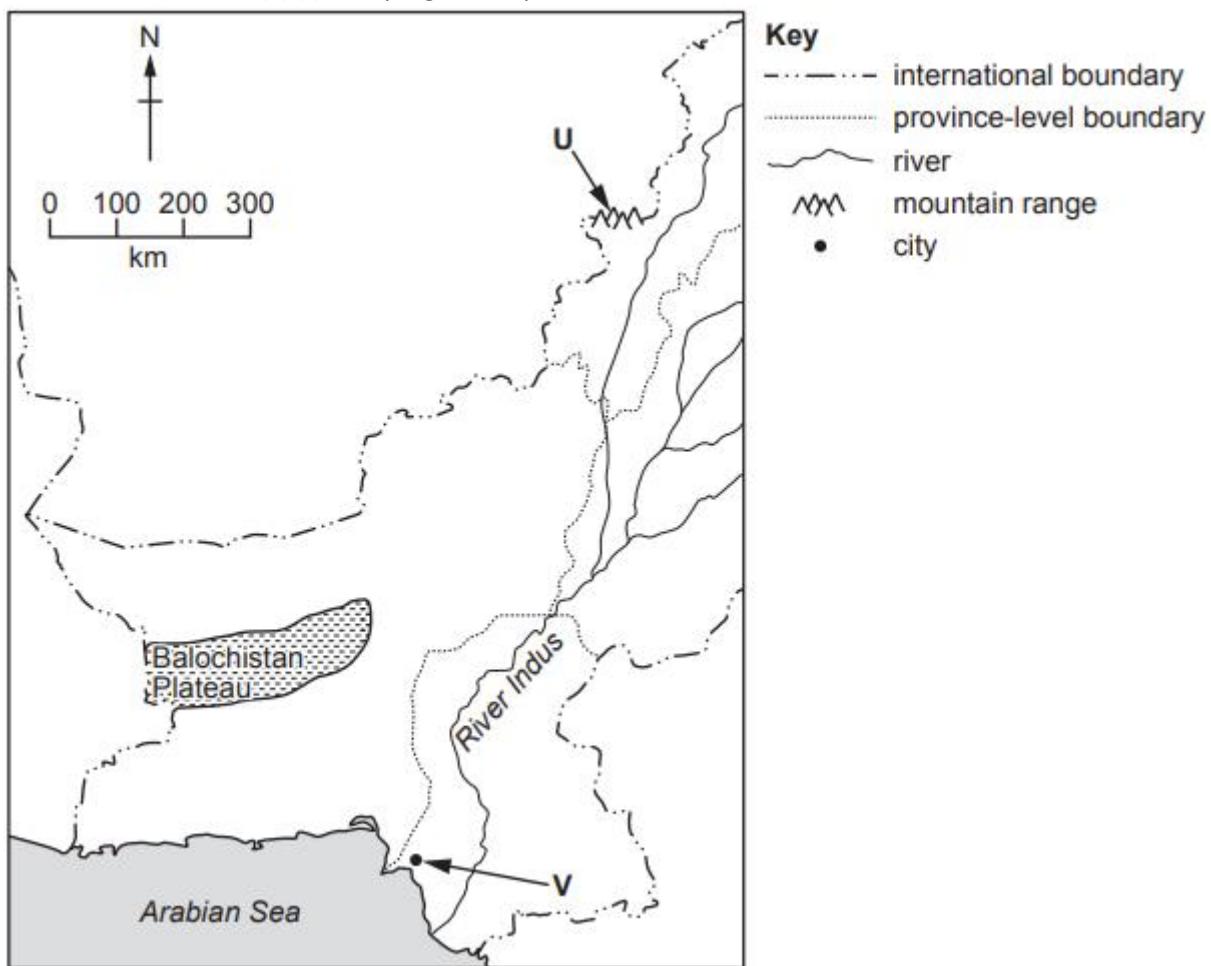


Markscheme:

- badland topography/dissected/rugged;
- steep slopes/high land/mountainous/hilly;
- sharp peak/peaks;
- ridge/ravine/gullies/rills;
- sparse vegetation/greenery/shrubs/scrub/bushes;
- bare rock/rocky/gravel/barren/small rocks/scree/sandy/stony;
- red/orange/brown rocks;
- rocks in layers;
- dry/arid.

[May/June 2022]

(a) (i) Study Fig. , a map of southern and western Pakistan.



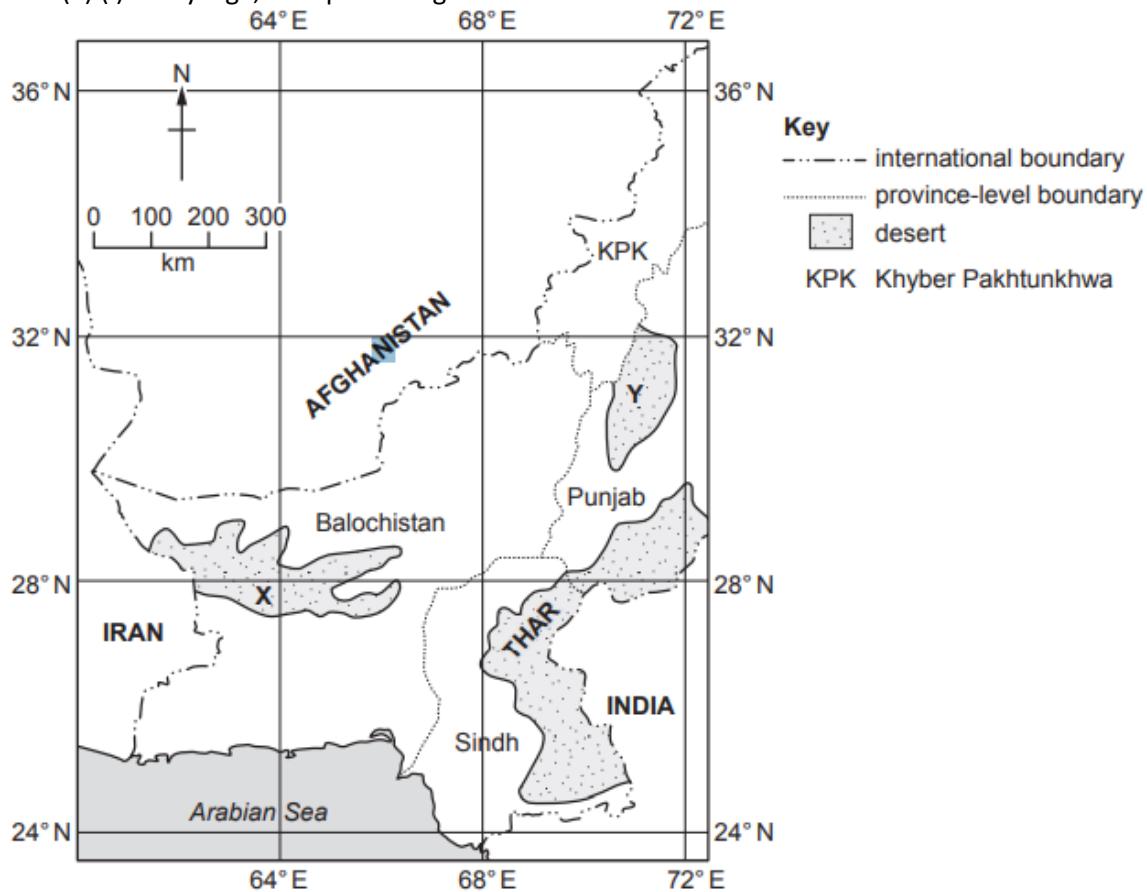
Name landform U and city V shown in Fig. [2]

Markscheme:

U = Safed Koh/Spin Ghar/Waziristan Hills

V = Karachi

(a) (i) Study Fig. , a map showing three desert areas in southern and western Pakistan.



Name either desert X or desert Y.[1]

Markscheme:

X Kharan

or

Y Thal

(ii) Using Fig. only, describe the location of the desert named in (a)(i) above.[3]

Markscheme:

X (Kharan desert):	Y (Thal desert):
in Balochistan	in Punjab
in the west/south-west of Pakistan	in central Pakistan
(close to) border with Afghanistan/Iran	not near an international border/on KPK border
north of Arabian sea west of Thar desert/south-west of Thal desert west/north-west of Sindh/south-west of KPK/west of Punjab east of Iran/south of Afghanistan/west or north-west of India	north-east of Arabian sea north of Thar desert/north-east of Kharan desert north or north-east of Sindh, south or south-east of KPK, north-east or east of Balochistan north or north-east of India/east or south-east of Afghanistan/north-east of Iran
27 – 30°N and 61 – 66°E	29 – 32°N and 71 – 72°E

(iii) Study Fig., a photograph of part of the Thar desert. Using Fig. only, state two features of the desert shown.[2]



Markscheme:

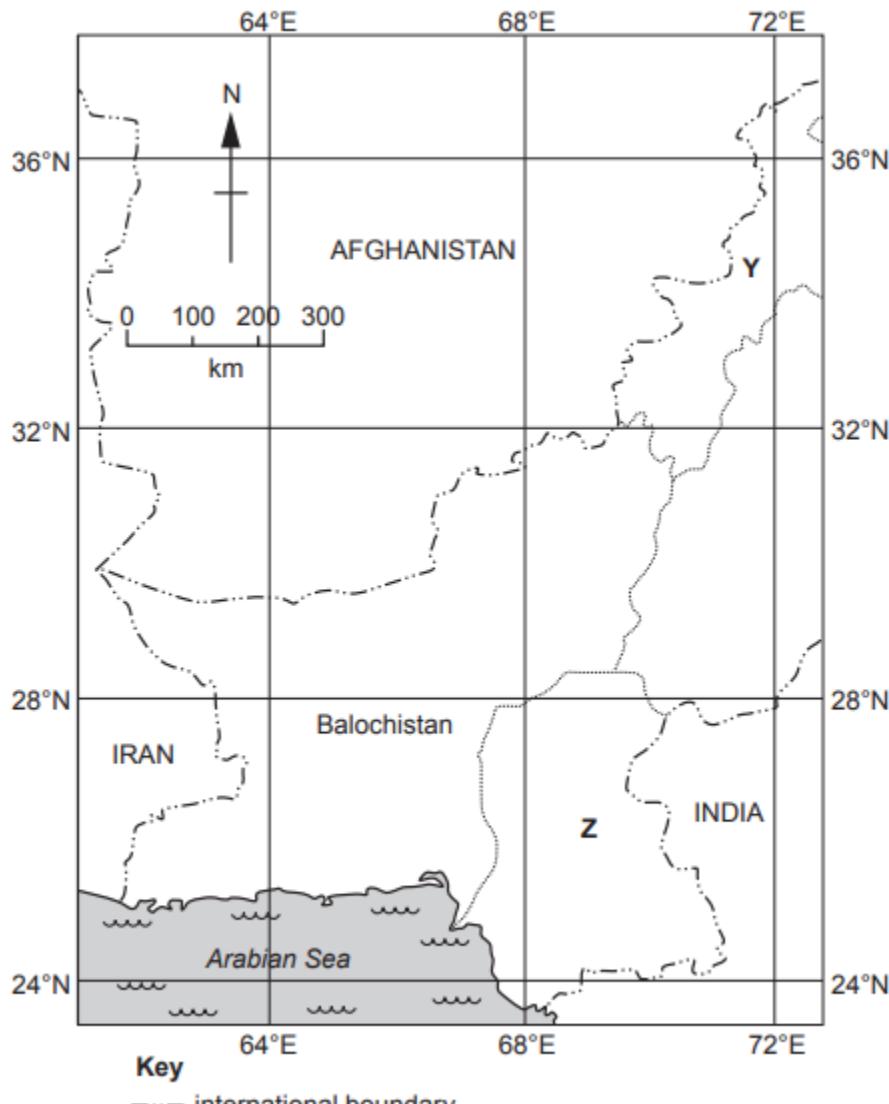
- sandy soil/sand/sand dunes
- ridges/depressions/undulating/rolling/uneven/crescentic dunes/curved dunes
- flat land in distance
- dry/arid/barren/infertile land/lack of rain/water
- sparsely vegetated/low/lack of vegetation/scanty vegetation
- bushes/shrub/scrub/trees
- large/vast area
- (small) settlements/village/houses

(b) Explain how desert areas influence the development of road networks in Pakistan. You should develop your answer.[4]

Markscheme:

- large/vast areas; need to transport materials long distances/makes construction expensive
- uneven/rough terrain/sandy; unstable land/difficult to build on/hard to operate machinery/uncemented roads common
- sparsely populated areas/few settlements/remote; lack of nearby construction workers/low demand for road use/not cost effective to build
- lack of investment in desert areas; due to lack of demand/lack of businesses
- lack of power supply/electricity; costly to set up work operations/poor worker accommodation
- extreme heat/very hot; causes heat exhaustion/ workers need regular breaks/may demand higher pay
- dust/sandstorms; can hinder building work/can block/cover roads when built/difficult to navigate
- very dry/barren/lack of water supply; water must be transported in for workers and machinery

(a) Study Fig. , a map of southern and western Pakistan.



(i) Name province-level areas Y and Z shown on Fig.[2]

Markscheme:

Y = Khyber Pakhtunkhwa/KPK

Z = Sindh

(ii) Using Fig. only, describe the location of Balochistan.[2]

Markscheme:

- south/south-west/west part of Pakistan
- border with Afghanistan/Iran/Arabian sea (coast)
- has borders with 3 other provinces
- it is 100–500 km from India
- west/north-west of India
- south/east/south-east of Afghanistan
- east of Iran

north of Arabian Sea

- between 25-33°N and 61–71°E

one accurate pair within the above range, e.g. 28°N and 65°E

(iii) Using Fig. only, estimate the total area of Balochistan. Circle the correct answer.

350km²

35000km²

350000km²

3500000km²

[1]

Markscheme:

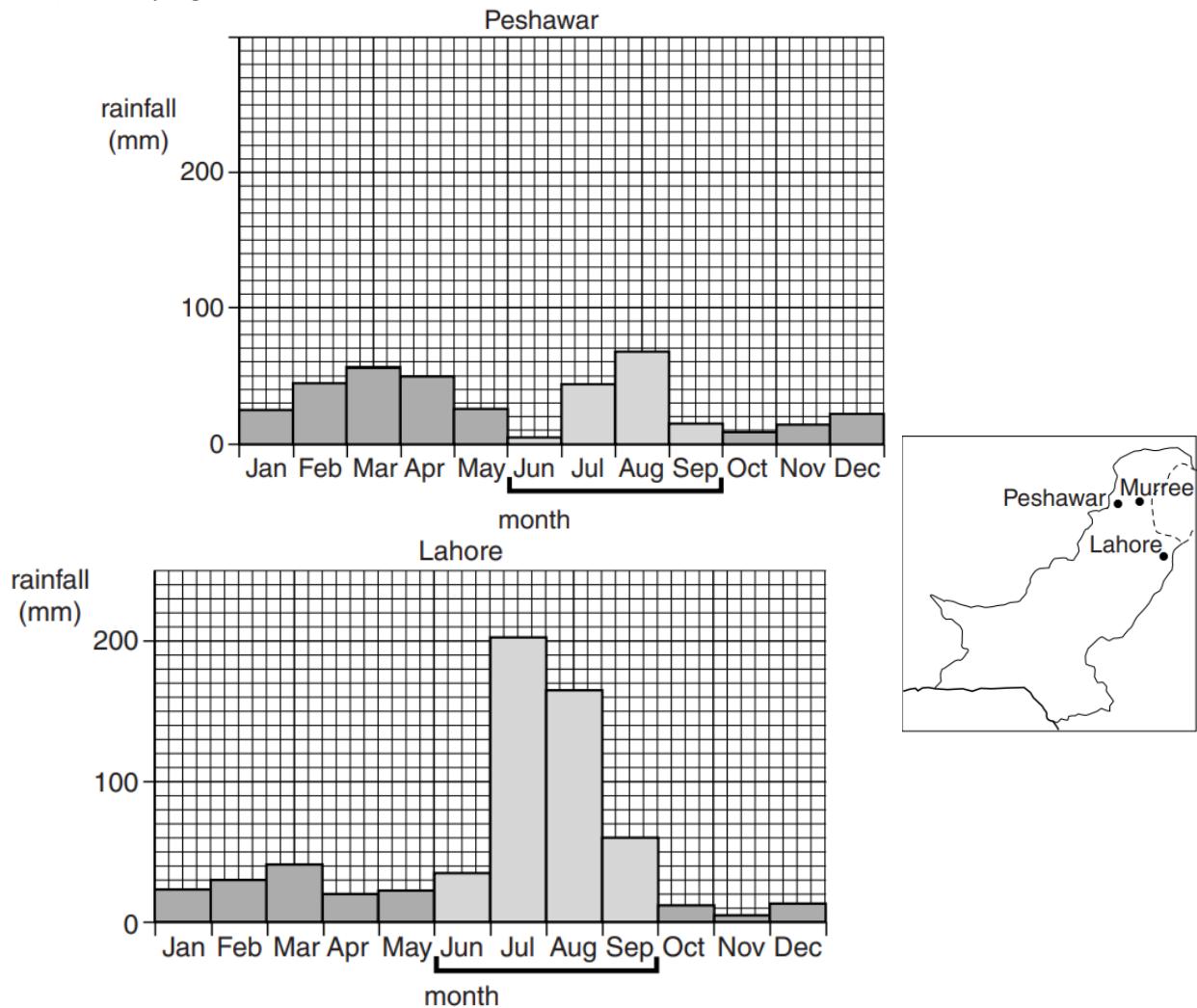
347 190 km²

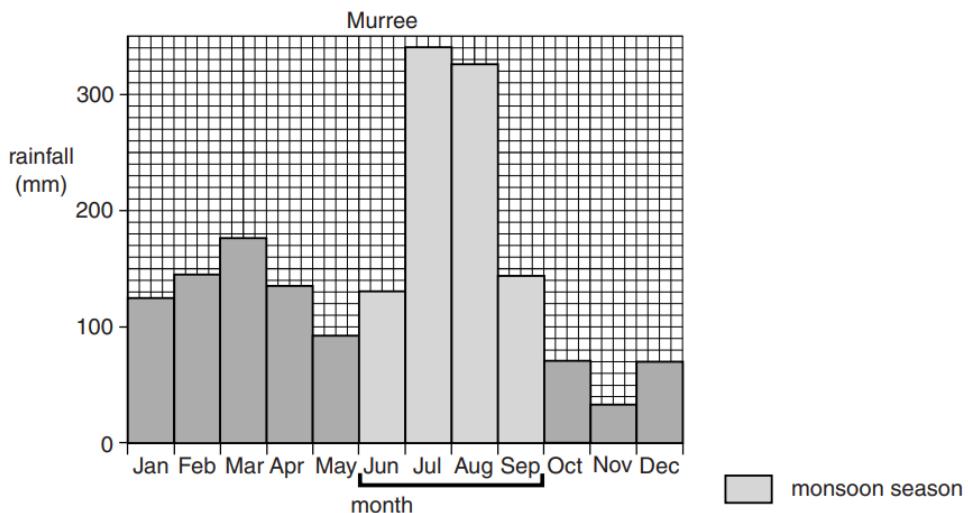
350 000 km² is the nearest answer

Climate

[May/June 2013]

(a) Study Fig. , which shows the rainfall of three cities in northern Pakistan.





(i) For each of the following cities state the maximum rainfall and the month in which it falls.

Peshawar rainfall month

Lahore rainfall month

Murree rainfall month [3]

Markscheme:

Peshawar 68/69mm, August

Lahore 201/202mm, July

Murree 340 mm, July

(ii) Compare the amount and pattern of rainfall in Lahore and Peshawar during the monsoon season. [3]

Markscheme:

Lahore

more rain/higher maximum

increase then decrease

earlier maximum/max in July

tails off more slowly

comparative figures (other than those from (i))

Peshawar

Credit comparison of above

(iii) Explain how the monsoon winds bring rainfall to northern Pakistan. [4]

Markscheme:

from the sea/Bay of Bengal/Indian Ocean

this increases the moisture content

rise over land

air cools

condensation

(iv) Suggest two reasons why Murree has a higher rainfall than Lahore and Peshawar. [2]

Markscheme:

higher altitude/mountainous

more thunderstorms

more western depressions

windward slope
more vegetation/forests

(b) (i) Circle three of the phrases below that describe a semi-arid climate.

HIGH EVAPOTRANSPIRATION	HIGH HUMIDITY
HOT DAYS AND COLD NIGHTS	RELIABLE RAINFALL
THUNDERSTORMS	LOW EVAPOTRANSPIRATION

[3]

Markscheme:

HIGH EVAPOTRANSPIRATION
HOT DAYS AND COLD NIGHTS
THUNDERSTORMS

(ii) Study Photograph A



Explain how the ground surface and the vegetation show that this is an area of low rainfall. [4]

Markscheme:

Ground (res. 1)
bare/barren ground
sand
small stones

Vegetation (res. 1)
scattered, e.g. sparse/scanty
lack of greenery/pale brown/not green
low bushes/shrubs/scrub/not tall
adaptations seen in photograph, e.g. thorns/thin leaves etc.

(c) Explain the benefits and problems of high rainfall on either farming or road travel.

Circle your choice. FARMING

ROAD TRAVEL

[6]

Markscheme:

FARMING

Benefits (res. 2):

- increased water supply/less need for irrigation
- alluvium from floods
- reduces salinity
- better plant growth
- higher yield/income
- benefit to animals

Problems (res. 2):

- flooding
- waterlogging
- water is not absorbed
- soil erosion/gullyng
- leaching
- risk of pests/disease
- damage at harvest, e.g. cotton, wheat
- intensity can damage plant
- loss of income (do not credit twice)

ROAD TRAVEL

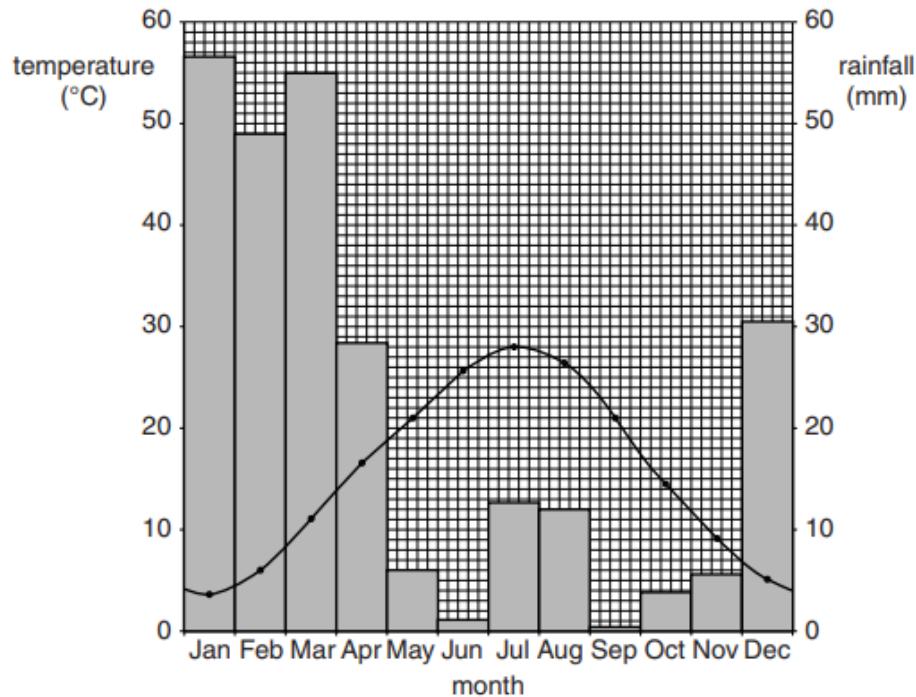
Benefits (res. 2):

- lays the dust
- water to cool engine

Problems (res. 2):

- flooding blocks roads/restricts access
- washes away surface
- destroys bridges
- danger of lightning
- danger to driving, e.g. slippery

(a) Study Fig. , which shows the climate of Quetta.



- (i) Describe the annual distribution of rainfall at Quetta. [3]

Markscheme:

winter maximum

most from December to April

second max in July and August

none in September

- (ii) State two causes of rainfall at Quetta and name the months when each occurs. [4]

Markscheme:

western depressions December to April

monsoon July and August

- (ii) What are the maximum and minimum temperatures at Quetta, and when do they occur?

Maximum..... Month.....

Minimum..... Month..... [2]

Markscheme:

maximum 28 °C July

minimum 4 °C January

- (iii) Give two reasons why temperatures are higher in the summer than in the winter at Quetta.

[2]

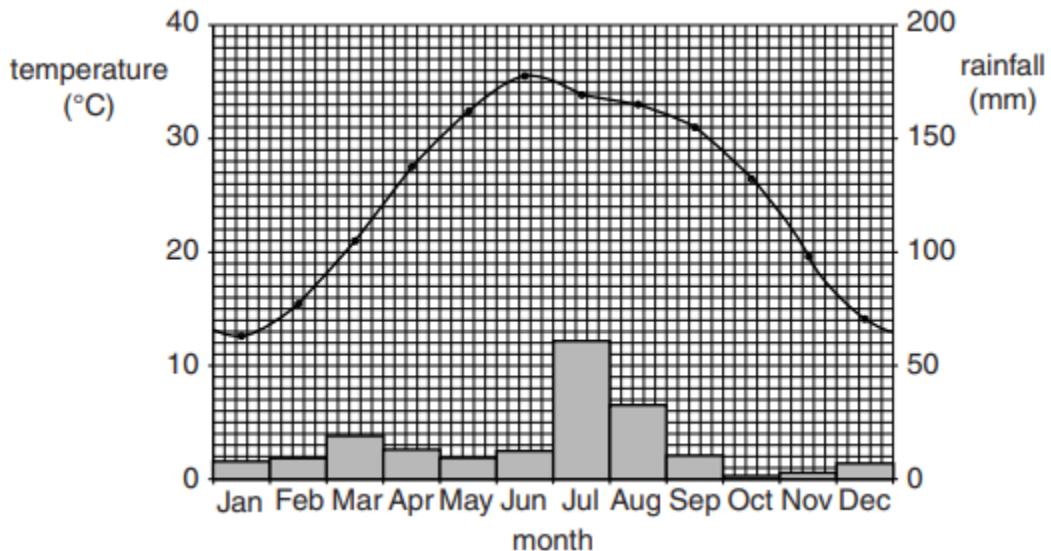
Markscheme:

Sun higher in the sky / higher angle of insolation

Longer hours of daylight

Less cloud

(a) Study Fig. , which shows the climate of Multan.



- (i) In which months is the temperature above 25 °C? [1]

Markscheme:

April–October

- (ii) What is the maximum rainfall and when does it occur? maximum rainfall month [1]

Markscheme:

61 mm July

- (iii) Cotton is the major cash crop grown in Pakistan. Label on Fig. :

- the month of sowing
- the months of growth
- the month of harvest [3]

Markscheme:

A April and/or May

B all months between A and C

C October and/or November

- (iv) Explain why the months you have marked for growth have the best climatic conditions for cotton. [4]

Markscheme:

Temperature above 25 °C

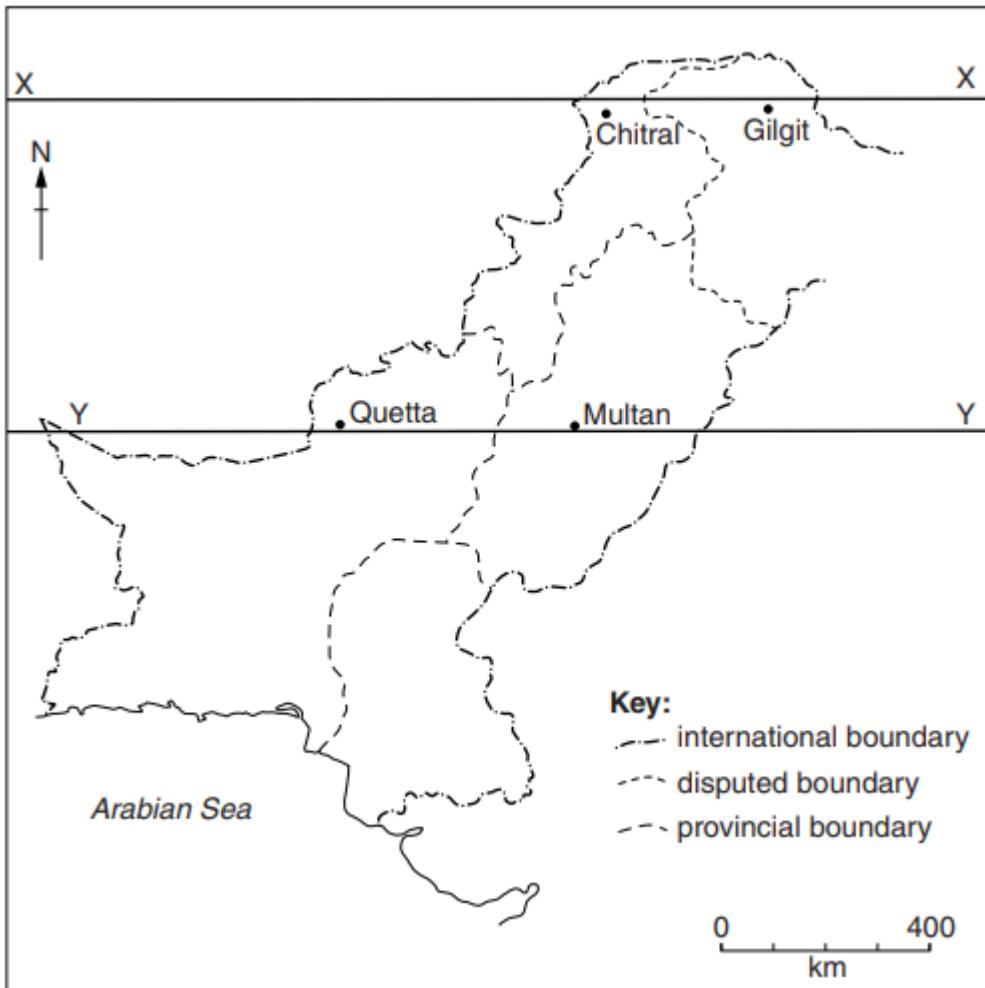
Mild night temperatures / no frost

Less rain for harvest

1000 mm rainfall

[October/November 2013]

- (c) Study Fig. , a map of Pakistan.



(i) Give the latitude of the lines X – X and Y – Y. [2]

Markscheme:

X – X 36° N

Y – Y 30° N

(ii) Explain the effect of latitude on

Temperature

Day length [4]

Markscheme:

Temperature

Greater heating/warming effects lower latitudes/nearer equator/lower heating/cooling effect higher latitudes

Lower latitudes more direct rays of the sun (Accept converse)

Higher or lower angle of the sun/high latitude lower angle of sun/low latitude higher angle of sun

High latitudes less insolation/more rays absorbed by the atmosphere/rays spread over larger area(Accept converse)

Day length

High latitudes days shorter in winter and longer in summer/the higher the latitude the shorter the days in winter/low latitudes days and nights more equal in length

Earth is tilted on its axis

Hemisphere experiencing summer points towards the sun / N hemisphere points toward sun in summer and away from sun in winter

[October/November 2014]

(b) What is meant by a link canal, a perennial canal & an inundation canal? [3]

Markscheme:

A: a link canal

Diverts / transfers / moves water from / links barrages / syphons to rivers / canals

Diverts / transfers / moves water from / links [western] rivers to other [eastern] rivers / canals

Diverts / transfers / moves water between / links rivers / river and canal

B: a perennial canal

Supplies water throughout the year

Supplied from dams / barrages

C: an inundation canal?

Supplies water in the rainy season

Taken from rivers / when rivers high / flood

(c) Explain the importance of the Indus Water Treaty to Pakistan. [4]

Markscheme:

Ensures that India does not restrict Pakistan's water supply / water supply in Pakistan is maintained

Ensures an effective / dependable irrigation system in the Indus Plain

Pakistan has exclusive rights to waters of the rivers Indus, Jhelum, and Chenab

Maintains agricultural production

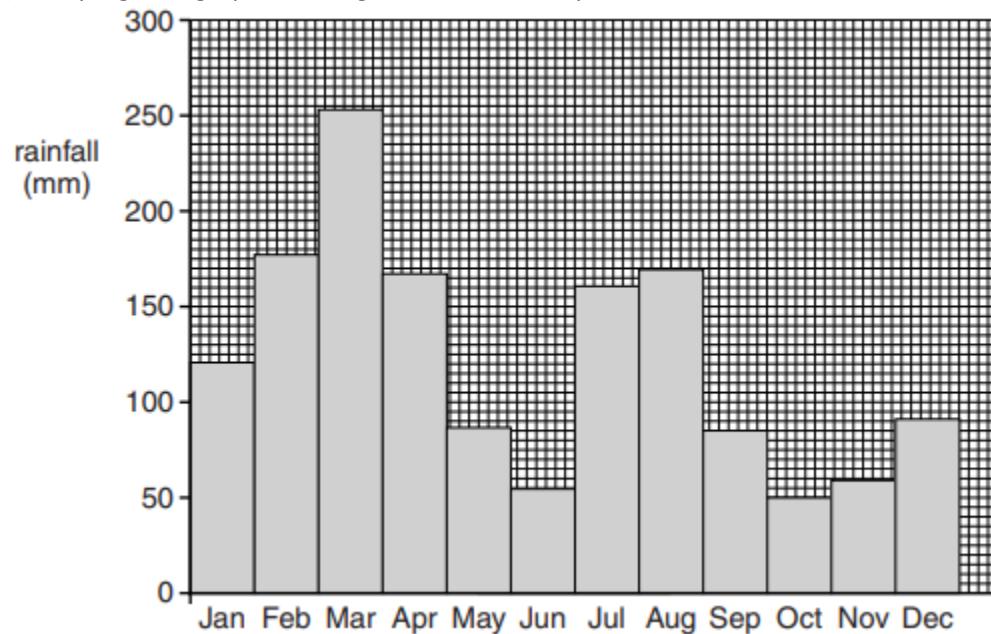
Tarbela and Mangla dams built [to store water]

Barrages / syphons / link canals built [to distribute water]

Enabled construction cost of works to be shared with Western countries and India

[October / November 2014]

(a) Study Fig. 3, a graph showing rainfall in Dir, Khyber Pakhtunkhwa.



(i) What is the minimum rainfall, and when does it occur? [2]

Markscheme:

50–52 mm

October

(ii) What is the maximum rainfall, and when does it occur? [2]

Markscheme:

253 / 254mm

March

(iii) For how many months between October and June is the rainfall above 80mm? [1]

Markscheme:

6

(iv) Give two causes of high rainfall between October and June at Dir. [2]

Markscheme:

Western / winter depressions / disturbances

Relief rainfall

Convectional rainfall / currents

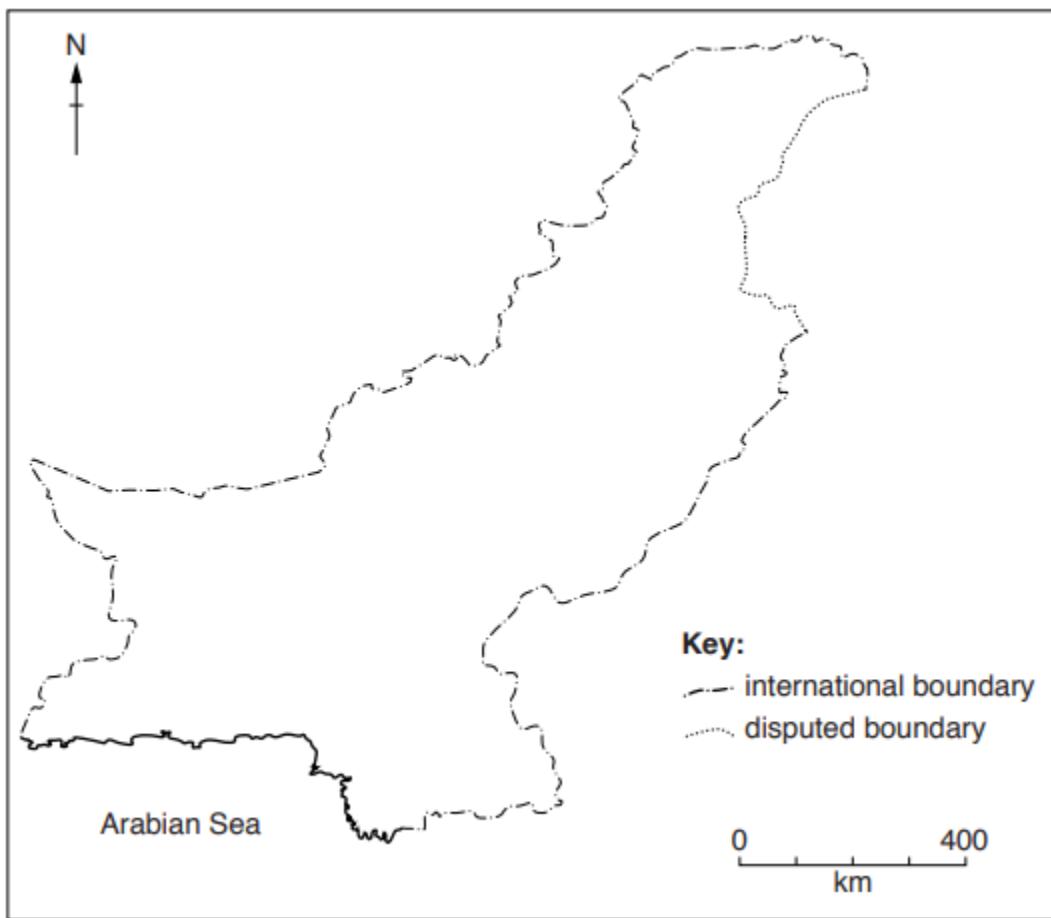
Thunderstorm

(v) What is the main cause of summer rainfall at Dir? [1]

Markscheme:

Monsoon

(a) (i) On the outline map of Pakistan Fig. mark and shade two areas which experience low annual rainfall (125 mm or less). [2]



Markscheme:

Any two separate regions within the overlay provided. Shaded areas may touch lines but not go outside lines.

(ii) Name the crop which is mainly grown in these areas of low annual rainfall. [1]

Markscheme:

Dates

(iii) Explain the difficulties for people living in areas of low rainfall. [3]

Markscheme:

Very little pasture/have nomadic lifestyle with livestock

Very little arable area limited to oases/valley floors or where Karez underground irrigation/limited crops/shortage of food

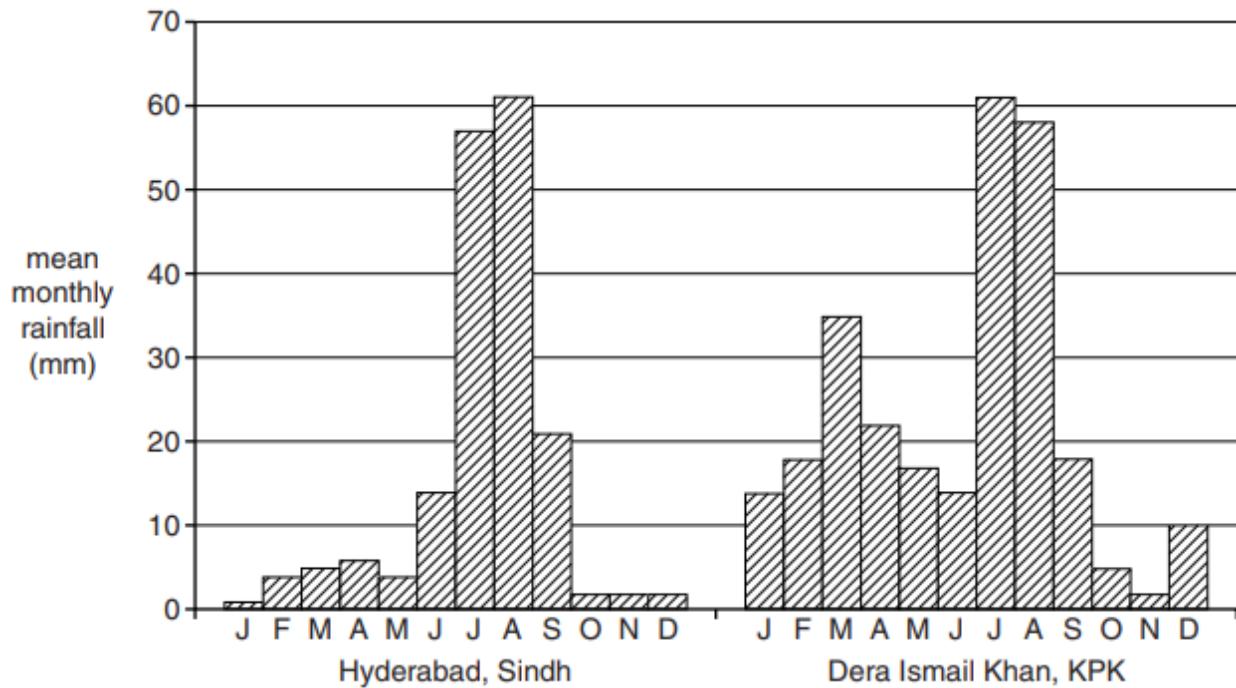
Few rivers/water has to be supplied from great distances/lack of water for irrigation/irrigation needed

Lack of water for cleaning/hygiene/domestic use/drinking

Lack of water for industries

Problems associated with an arid climate, e.g. dust storms/extreme temperatures/seasonal drought

(b) (i) Study Fig. which shows rainfall data for two cities on the River Indus.



A Compare the amount and pattern of monthly rainfall in Hyderabad with that of Dera Ismail Khan. [3]

Markscheme:

Amount

Both high Jul and Aug

Both identical Jun/Nov

Both low Oct/Nov

For Dera Ismail Khan (accept converses for Hyderabad)

Greater total

274mm as opposed to 179mm

Higher in all months except Aug and Sep/any named month / lower in

Aug/Sep

A pair of stats to illustrate for any month (e.g. May H – 4mm, DIK –17mm)

Max 1

Tolerances: $\pm 1\text{mm}$

Pattern

Both maximum Jul–Aug

For Dera Ismail Khan (accept converses for Hyderabad)

Has double maximum Jul–Aug and Mar (H – one maximum)

Has more evenly distributed rainfall over the year (H – more variable)

B Give three reasons for any similarities or differences in the two patterns of rainfall. [3]

Markscheme:

Both experience monsoon rainfall [Jul–Sep]

Dera Ismail Khan experiences rainfall from western depressions [Dec–Mar]

Dera Ismail Khan experiences some thunderstorm rainfall [Apr–Jun]

Accept converses for Hyderabad

(ii) Explain the effect of flooding on the local economy and transport links in communities along the River Indus. [4]

Markscheme:

Local economy

Livestock/crops/farm equipment/fisheries lost (causing loss of income)

Factories/workplaces temporarily closed (causing damage/unemployment/loss of production/income/profit)

Electricity supply disrupted (factories closed)

Build up of silt behind dams (less water storage/effect on HEP production)

Alluvium/nutrients deposited by flood water (fertilises soil)

Transport Links

Bridges washed away (limiting ability to trade)

Roads/railways destroyed/damaged/flooded (making journeys longer/slower/more dangerous)

Rivers become unnavigable (communications cut/villages cut off)

[May/June 2016]

(ii) Explain the causes of high rainfall at Murree. [4]

Markscheme:

Receives rainfall in all seasons /throughout year

Monsoon (from Bay of Bengal) (via N India)

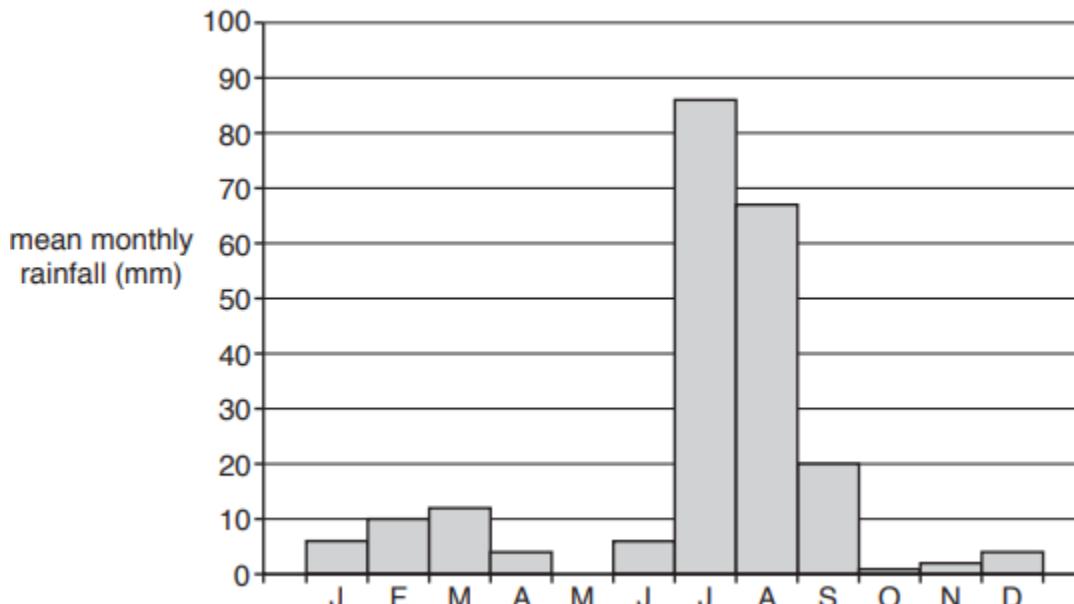
Western depressions (from Mediterranean) (from Afghanistan/Iran)

Relief rainfall (air rises over mountains and cools/condenses)

Thunderstorm/ convection/ convectional rain/currents (hot air rises [in summer] and cools)

[October / November 2016]

Study Fig. which shows the distribution of monthly rainfall in Karachi.



(i) A For how many months does Karachi experience less than 10mm rainfall?

B Estimate the total rainfall in Karachi for the period July to September. [2]

Markscheme:

A 7 (may simply list the 7 months)

B 173 mm Tolerance 171–175 mm

(ii) Describe briefly the climatic region in which Karachi is located. [1]

Markscheme:

Arid / coastal (maritime) / warm summer, mild winter

(iii) What is the main source of rainfall in Karachi? From which direction do the rainbearing winds come? [2]

Markscheme:

Source: [Secondary] monsoon

Direction: SW

(iv) Describe the effects of tropical cyclones on cities such as Karachi. [4]

Markscheme:

Widespread / great / huge / much / many / a lot of – damage

[Flash] floods / blocked drains / sewers

Lives lost / injuries / people missing

Damage to / loss of homes / belongings / slums

Damage to named transport – e.g. roads, railways, ports, airports so people unable to get to work

Damage to named services – e.g. schools / hospitals / clinics

Damage to workplaces / industry - e.g. the fishing industry destroyed so no source of income or loss of income / disrupts exports

Loss to local economy – e.g. through damaged industry / cost of rebuilding / loss of jobs

Damage to transmission lines / power stations / lack of power

Damage to communication – e.g. lack of telecommunications / telephone lines / internet / social media

Shortage / contamination – drinking water / food causing disease to spread

[May/June 2017]

(b) (i) Describe two ways in which the atmosphere in Pakistan can be polluted. [2]

Markscheme:

- Smoke/fumes/gases/named gases/harmful gases from factories/tanneries/industries/chimneys/power stations;
- Smoke/fumes/gases/named gases from vehicle exhausts;
- Burning fossil fuels;
- Clearing forests by burning;
- Release of gases/methane from livestock/rice/paddy fields/landfill;
- Burning domestic rubbish/incineration;
- Air pollution/dust from mineral extraction/mining/ quarrying.

(ii) Explain how the use of chemical fertilisers on farms damages the natural environment.

You should develop your answer. [4]

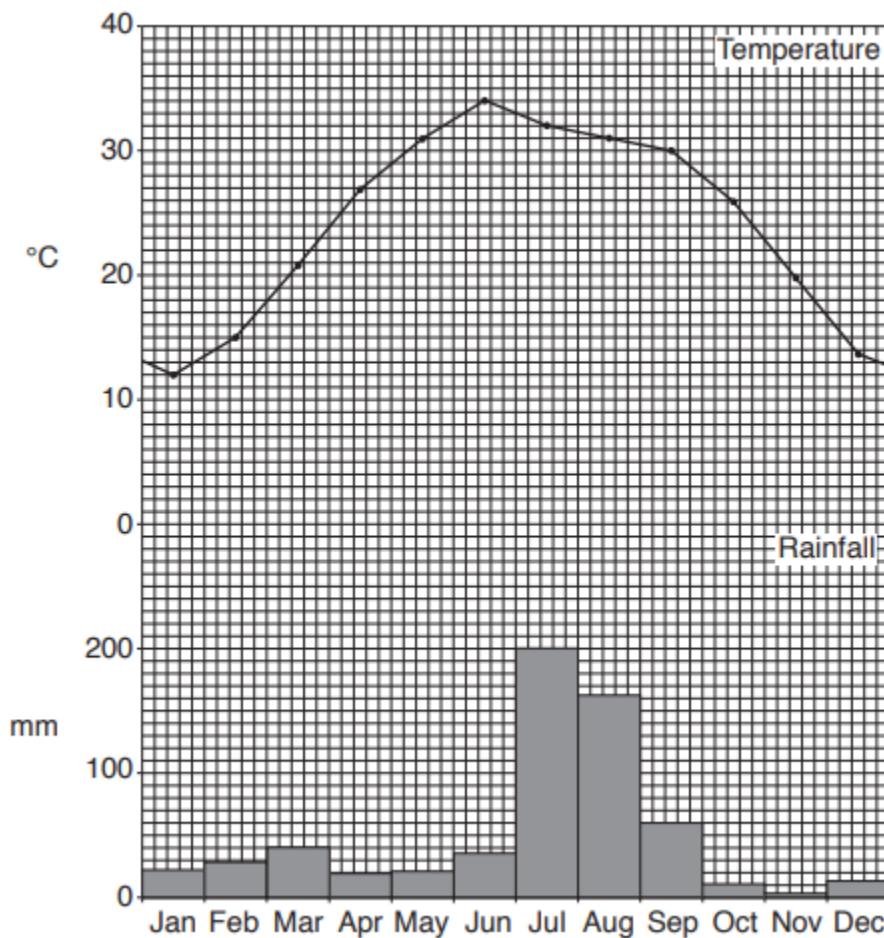
Markscheme:

- Cause pollution of rivers/watercourses (runoff from farmland containing chemicals washes into them);

- Pollution of groundwater (from infiltration eventually entering rivers, polluting them);
- Eutrophication in rivers (nitrates/phosphates cause algal blooms which increase CO₂/reduce O₂)/(killing fish/aquatic animals/destroy aquatic life);
- Causes ecosystem to be unbalanced (through loss/ extinction of species) (through disruption to food chains/ food webs);
- Overuse of fertilisers (damages soil/makes soil infertile/ poisons/damages natural vegetation)

[October/November 2017]

(a) Study Fig. , which shows climate data for Lahore, Punjab. Lahore has a monsoon climate.



(i) What is meant by the term 'monsoon'? [1]

Markscheme:

- Season / seasonal;
- Seasonal wind / weather pattern;
- Short period of heavy rain / a wet season (Jul to Sept)

(ii) How does Fig. show that the climate in Lahore is typical of a monsoon climate? [2]

Markscheme:

- Rainfall concentrated in Jul–Sept / wet season Jul–Sept;

- Little rainfall Oct–Jun / dry season Oct–Jan / Apr–May;
- High annual temperature / 30 °C–34 °C;
- Highest temperature in Jun just before wet season starts.

(iii) Give reasons why Lahore has more rainfall in July than in December. [2]

Markscheme:

- July low pressure on land / central Asia. December high pressure on land / central Asia or July lower pressure on land / central Asia than December;
- July moist air / rain bearing winds from sea / Indian Ocean / Bay of Bengal: December dry winds blow from land to sea / winds reverse from July SW to December NE;
- July tail end of monsoon winds reach northern / north-eastern Pakistan / December little moisture reaches eastern / north-eastern Pakistan;
- July has high (higher, warmer) temps with more humidity / December has low (lower, cooler) temps with less humidity.

(i) A provincial capital city regularly has the lowest temperatures in Pakistan. Name this city. [1]

Markscheme:

Quetta / Gilgit

(ii) Describe four impacts of low temperatures on people who live and work in mountain areas. [4]

Markscheme:

- Difficulty with cost of obtaining heating fuel / gas;
- Unable to farm / grow crops / less income from agriculture / transhumance;
- Difficulty travelling by road / rail / air due to named adverse weather, e.g. snow / fog / landslides / ice / slippery roads;
- Loss of telecommunications / electricity due to heavy snowfall;
- Isolated / cut off from lowland areas;
- Danger of death from cold / hypothermia, especially for elderly / children;
- Requires adaptations to clothing / housing;
- Income from named tourist opportunities, e.g. mountaineering, rock climbing;
- Fewer mosquitoes / biting insects / diseases, e.g. malaria;
- Encouragement of small-scale cottage industries.

(iii) Study Fig. State two features of the climate typical of the environment shown in the photograph. .[2]



Markscheme:

- Cold / cool / low temperatures / freezing temperatures;
- Relief rainfall;
- Snow (capped peaks) / blizzards;
- Ice / hail;
- Windy;
- Dry;
- Sunny / bright / clear skies OR few sunny days / cloudy.

(c) Suggest two ways in which latitude affects the climate of Pakistan. .[2]

Markscheme:

- The further north (from the equator) the cooler it is / north is cold;
- The closer to the equator the warmer it is / southern Pakistan is warmer / south Pakistan is hot;
- In the south / the closer to the equator the more convectional rainfall / more thunderstorms;
- More concentrated / direct rays of sunshine / higher angle of sun nearer equator (so higher temperatures).

(c) (i) Complete the passage below about monsoon rainfall in Pakistan. Choose the correct words from the list and place them in the spaces provided.

Monsoon blow towards the heart of the in They blow towards the sea in

autumn continent ocean spring
summer winds winter [2]

Markscheme:

Monsoon winds blow towards the heart of the continent in summer. They blow towards the sea in winter.

(ii) Describe the causes of the south west monsoon.[3]

Markscheme:

- Coming from sea / Arabian Sea / Bay of Bengal;
 - Sun heats up in (tropical) continents (land) faster or more quickly than the surrounding oceans (water);
 - Warm air rises;
 - Low pressure;
 - Attracts cool, moist air from the sea;
 - Rain bearing winds push further inland causing (heavy) rain / brings (heavy) rain.

(iii) Explain two impacts of a heavy monsoon. You should develop your answer.[4]

Markscheme:

- Floods (any idea from below for development);
 - Heavy rain; causes poor visibility and accidents (dev);
 - Roads become rivers; cannot travel to work or school / towns and cities cut off (dev);
 - Flights cancelled; negative impact on trade / tourism / business (dev);
 - Crops destroyed; which causes food shortages / can lead to famine (dev);
 - Water level in reservoirs or dams rises; leading to more water for irrigation / domestic / industrial use / no water shortages / HEP (dev);
 - Businesses / markets are closed; leading to loss of income / produce / jobs disrupted (dev);
 - Homes washed away / flooded / buildings destroyed; loss of possessions / people are homeless (dev);
 - People are injured / killed; pressure on healthcare services / impact on mental health / impacts on business and economy (dev);
 - Stagnant water; causes diseases (dev);
 - Waterlogging: impacts on the economy as Pakistan is an agriculturally based country (dev);
 - Brings rainfall to desert areas; desert blooms (dev);

- Replenishes groundwater; reduces water shortages (dev); Etc.

(d) Rivers are an important resource for human settlement and economic activity, but flooding is an increasing problem which can hinder development. Read the following two views about ways to manage flooding in Pakistan:

A

More flood management schemes are needed along rivers to prevent floods.

B

Flooding brings benefits so rivers should be allowed to flood naturally.

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 and View B in your answer.[6]

Markscheme:

Building more flood management schemes

- So many people are affected;
- Many people killed / injured;
- Homes / farms / businesses destroyed;
- Cost of clear up and losses on economy;
- Floods hinder development as constantly having to rebuild / replace infrastructure;
- Loss of days at school affects literacy rates / skills base;
- Loss of days at work has an impact on revenue and tax collected;
- Tax changes to cover cost of damage;

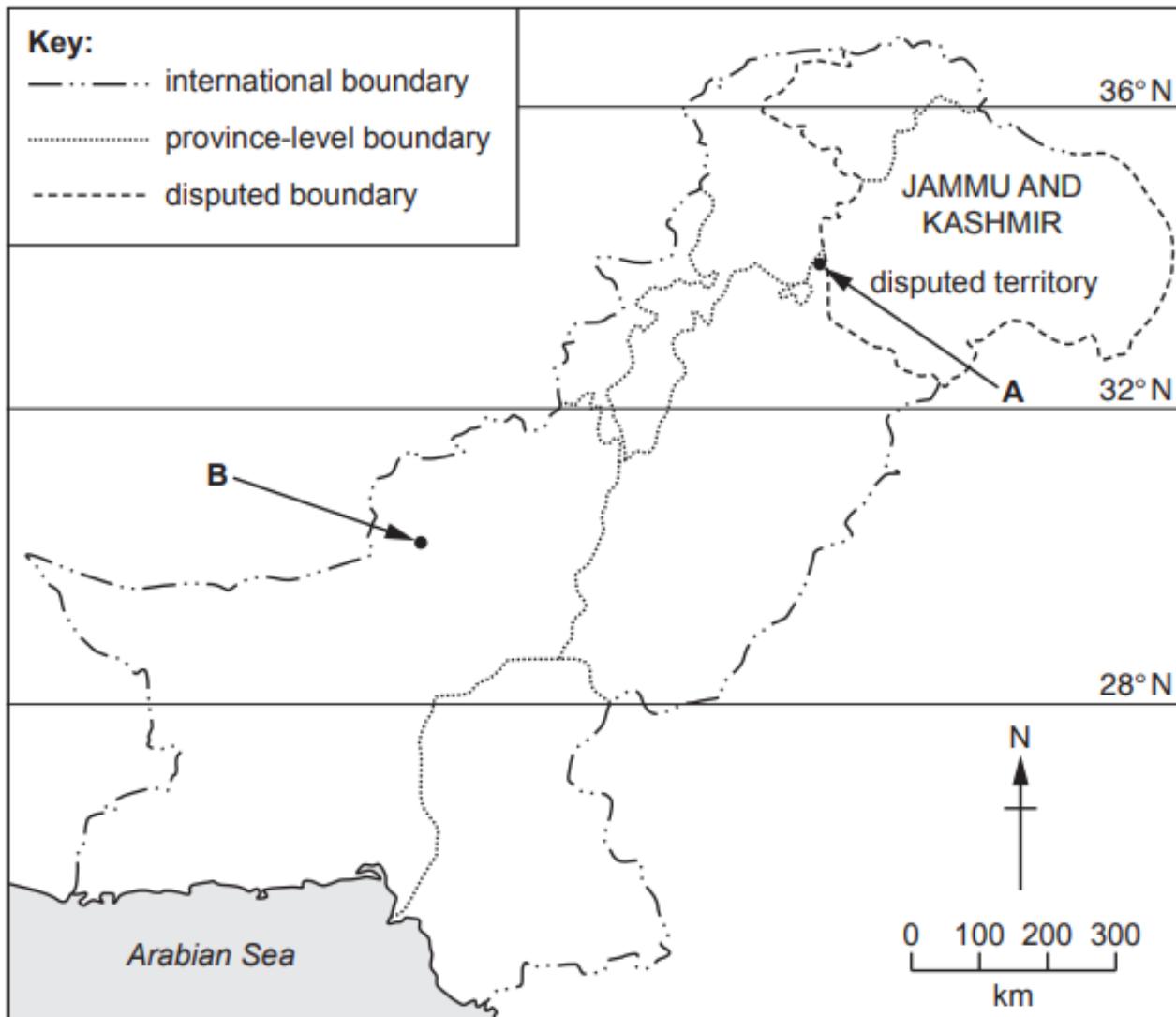
Etc.

Allowing rivers to flood naturally

- Rivers provide nutrients to soil, so good for farming;
- Should not build on flood plain;
- Cost of management / flood protection is high;
- Flood management needs to be maintained and updated, incurring ongoing costs;
- Money is better spent on developing infrastructure, e.g. services, transport and industry;
- Flood plains can be used for fish farming;
- Flood plains can be used to channel water for irrigation;

Etc.

(a) (i) Study Fig. , a map of Pakistan.



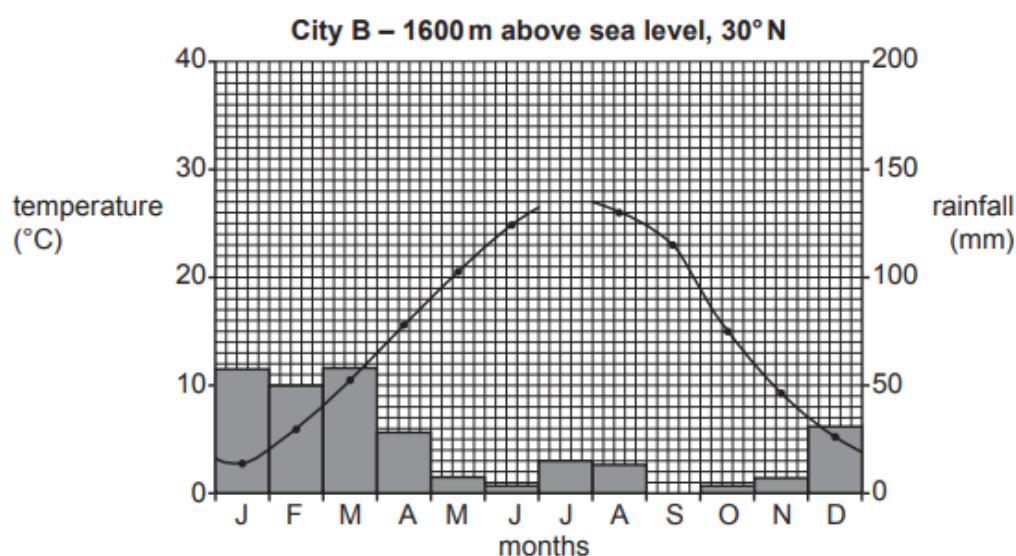
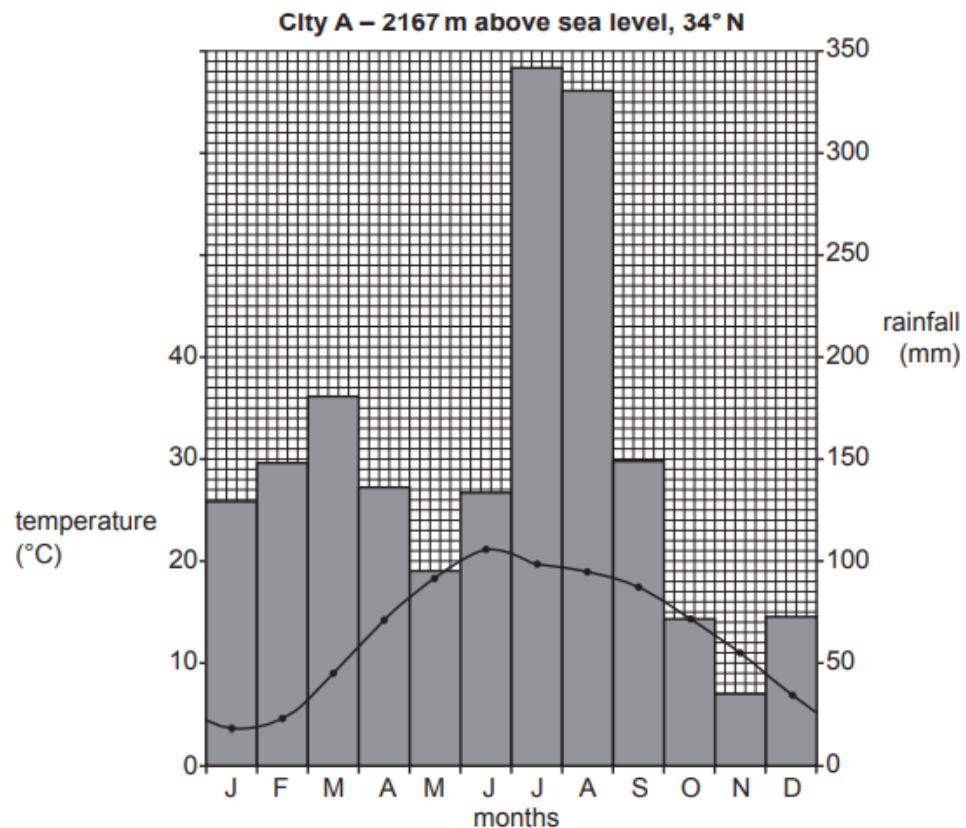
Name the two cities labelled A and B on Fig. [2]

Markscheme:

A = Muree

B = Quetta

(ii) Study Fig., climate graphs showing rainfall and temperature for cities A and B.



Complete the climate graph for city B using the information below.

month	temperature (°C)
July	28

[2]

Markscheme:

City B plot and line completed accurately on climate graph

(iii) Using Fig. only, compare the rainfall and temperature for city A and city B.[3]

Markscheme:

Ideas such as:

A has more rain than B;

B has higher summer temperatures than A;

Both have low winter temperatures;

A has a rainy season during summer months whereas B has a rainy season during the winter months;

Total rainfall is higher in A than B;

Annual temperature range in B is 24 °C whereas in A it is 16 °C;

Highest rainfall in A is 342 mm in July whereas in B it is 58 mm in March (could accept lowest);

Highest temperature in A is 21 °C in June whereas in B it is 28 °C in July (could accept lowest); etc.

(b) Explain how the altitude and latitude affect temperature in cities A and B. You should develop your answer.[4]

Markscheme:

Ideas such as:

Altitude

Temperatures decrease as altitude increases– or vice versa; (City A/Muree at higher altitude/2167 m so has cooler temperatures than city B/Quetta at lower altitude/1600 m which has higher temperatures); etc.

Latitude

Temperatures decrease with distance from the equator as latitude increases – or vice versa; (City A/Muree is at a higher latitude/34 °N so has cooler temperatures than City B/Quetta at lower latitude/30 °N)/(low angle of the sun brings lower temperatures in winter/high angle of sun in summer brings warmer temperatures in both cities); etc.

(c) (i) Which three statements about thunderstorms in Pakistan are correct?

Tick (✓) three boxes below

Thunderstorms are most likely to occur:	Tick (✓)
during the pre-monsoon season	
during the post-monsoon season	
in northern and north western areas	
in southern and south western areas	
in the summer	
in the winter	

[3]

Markscheme:

During the post-monsoon season;

In northern and north west areas;

In the summer.

(ii) Thunderstorms are one source of rainfall. State three other sources of rainfall in Pakistan. [3]

Markscheme:

Monsoon Winds/Arabian Sea;

The Western Depressions;

Convectional currents;

Relief rainfall;

(Tropical) Cyclones.

(iii) Other than flooding, describe two problems experienced by people as a result of thunderstorms. [2]

Markscheme:

Ideas such as:

Destroys crops/orchards/or named examples;

Roofs of houses can be damaged;

Electricity can be cut off;

Telecommunications can be disturbed; etc.

(d) Floods are a normal occurrence in Pakistan. However, every seven to eight years there are severe floods.

Assess the extent to which the problems of severe flooding can be managed in Pakistan.

Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Severe flooding can be managed

Afforestation;

Enlarging river channel;

Building embankments;

Building extra channels to remove floodwater from cities;

Building reservoirs

Not building on flood plains;

Publicizing flood warnings;

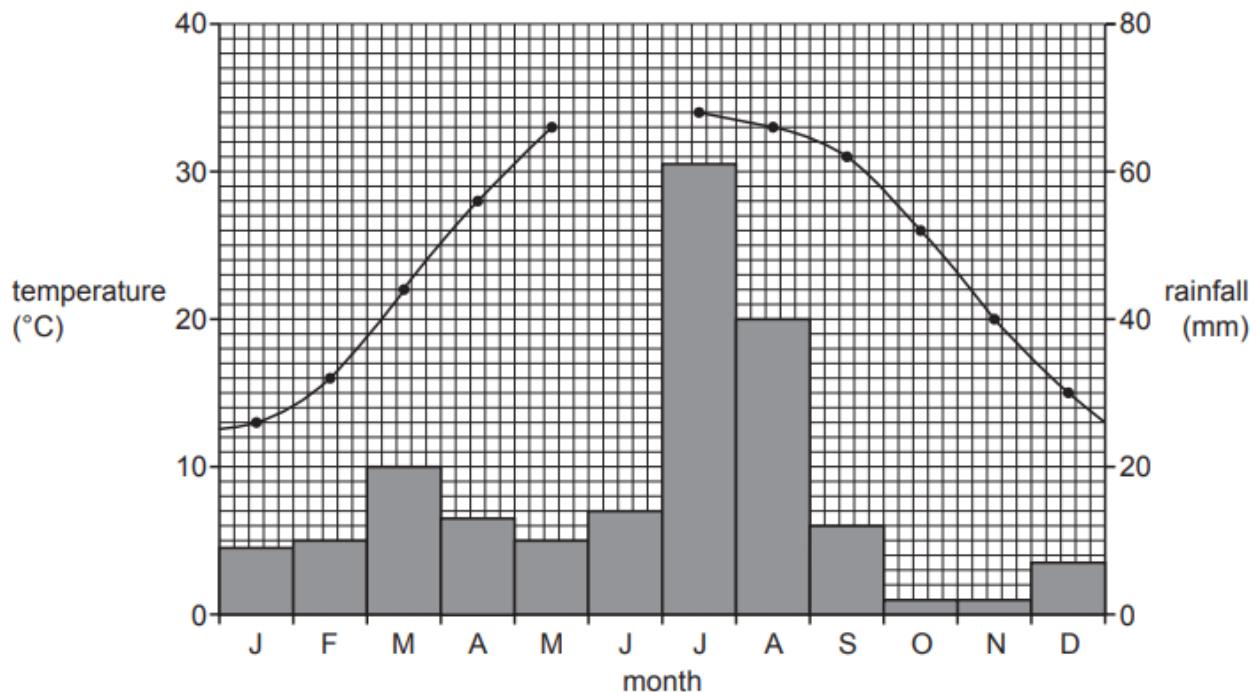
Evacuation procedures; etc.

Severe flooding can be difficult to manage

Very expensive to introduce man-made structures;
Can only be done in certain areas;
One off extreme events cannot always be planned for;
Flood prevention measures for every eventuality is not cost effective;
Cannot always accurately predict areas that may be affected by flooding;
Land is sometimes needed for other uses so cannot always be used for
afforestation/reservoirs; etc.

[May/June 2021]

(b) (i) Study Fig. , a climate graph showing rainfall and temperature for Multan.



Complete Fig. using the information below.

month	temperature (°C)
June	36

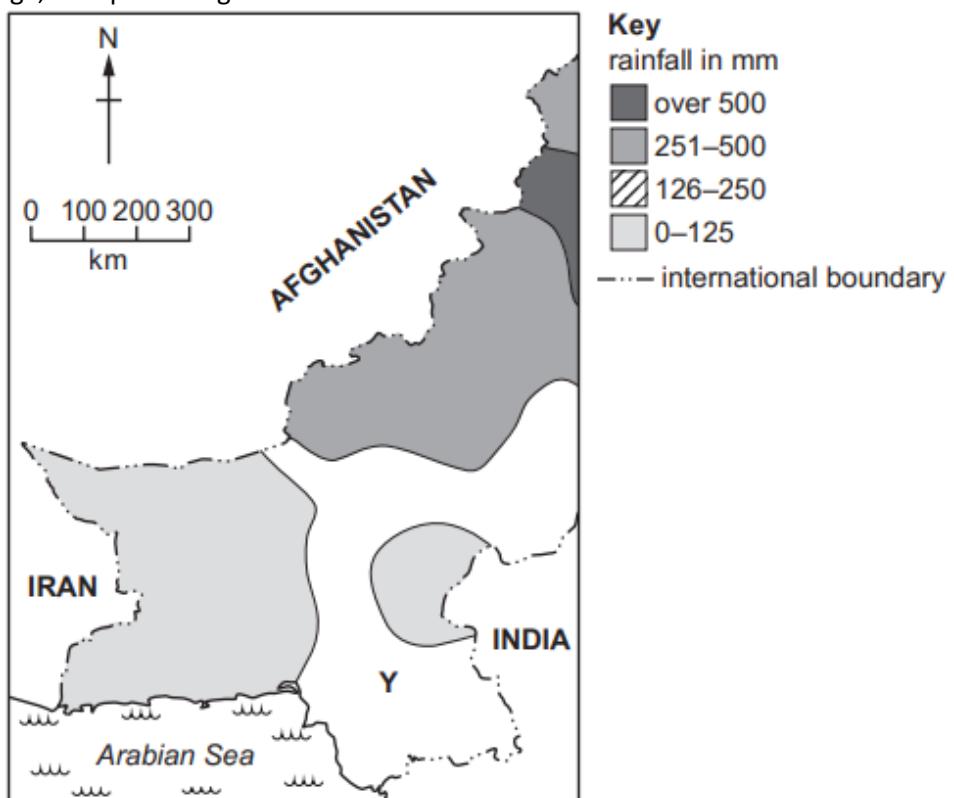
[2]

Markscheme:

- accurate location of the point 36 °C = 1 mark;
- line joined up accurately = 1 mark.

[October / November 2021]

(a) Study Fig. , a map showing annual rainfall in southern and western Pakistan.



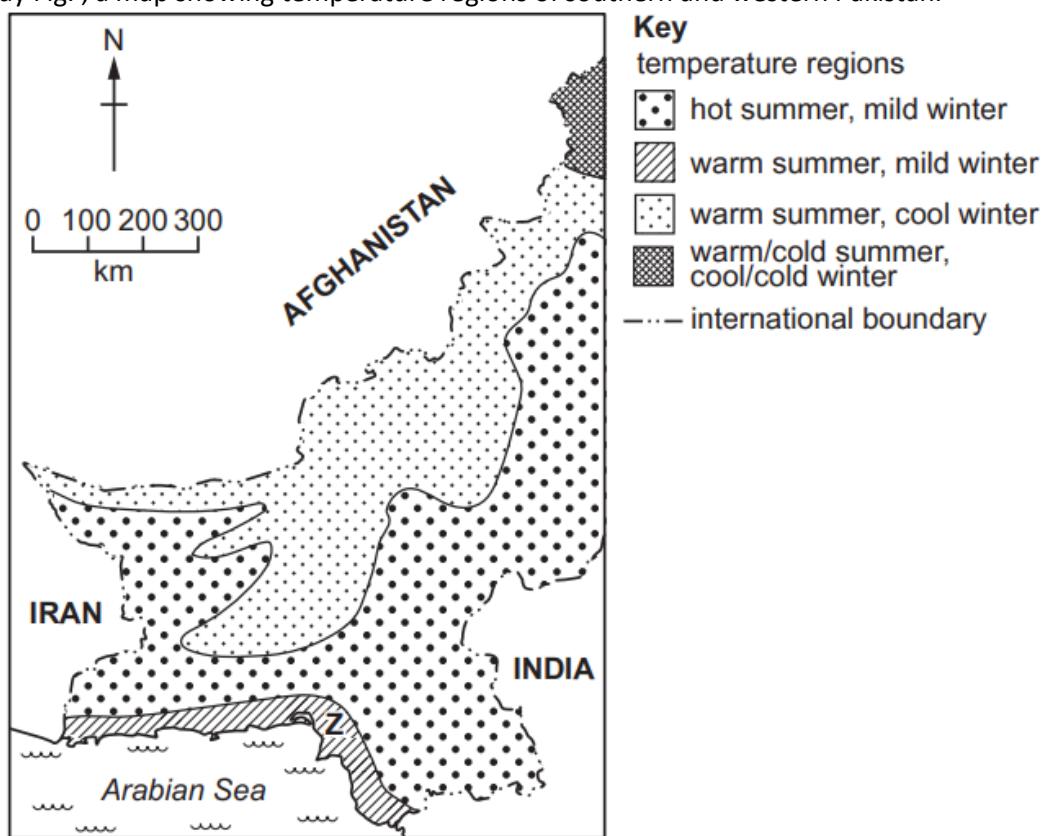
(i) Complete Fig. by shading area Y using the information below and the key.

$Y = 126\text{--}250\text{mm}$ of annual rainfall [1]

Markscheme:

Whole area shaded on map according to the key (diagonal) for 126–250 mm of annual rainfall.

(ii) Study Fig. , a map showing temperature regions of southern and western Pakistan.



Identify temperature region Z shown on Fig[1]

Markscheme:

Warm summer, mild winter.

(iii) Using information from Figs. and only, 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.

Cold	cool	high	hot	low
mild	strong	warm		weak

There is a relationship between the pattern of annual rainfall and temperature regions. The majority of the areas with 0–125 mm of rainfall experience summers and winters, whereas areas of rainfall experience cooler summers and winters.

[3]

Markscheme:

There is a weak relationship between the pattern of annual rainfall and temperature regions. The majority of the areas with 0–125 mm of rainfall experience hot summers and mild winters, whereas areas of high rainfall experience cooler summers and winters.

(b) (i) Describe how the Western Depressions affect the pattern of rainfall in western Pakistan.[3]

Markscheme:

- Western Depression brings rain to the north-western areas of Pakistan/Peshawar/northern Pakistan;
- Western Depression causes the rainfall from December-March/in winter;
- Quetta dry for rest of year/only/most rain received is from Western Depressions;
- Quetta has its highest rainfall/49 mm in February;
- Peshawar has its highest rainfall/78 mm in March;
- as winds move towards Balochistan there is no/little moisture left/little/no rainfall.

(ii) Explain two factors that affect temperature in Pakistan. You should develop your answer. [4]

Markscheme:

- 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;
- 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;
- 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;
- 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);

- 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; Etc.

(c) (i) Define 'drought'.[1]

Markscheme:

A long period of no/low/very little rainfall.

(ii) State two effects of drought on the natural environment of Pakistan.[2]

Markscheme:

- desertification/extension of desert areas;
- soil erosion;
- ground/soil dries out/cracks/soil becomes less fertile/infertile/barren;
- animals/aquatic life harmed/die/lose habitat;
- vegetation/trees/plants die;
- drying up of rivers/lakesstreams/water shortage/aridity;
- drop in water table/less groundwater available to plants;
- salt concentrations in water can increase.

(iii) Describe the benefits and problems of cold climates for people in Pakistan.[4]

Markscheme:

benefits:

- brings tourism e.g. skiing/glacier hikes/holidays/boost jobs/economy/scenic beauty attracts tourists;
- frozen water bodies can be used for ice skating;
- (glacial) meltwater in summer is essential for irrigation;
- (glacial) meltwater/plentiful water helps to power hydel schemes;
- cold climate reduces evaporation from reservoirs;
- can grow (temperate) fruits in summer/boost jobs/economy;
- lower need for/cost of air conditioning;

problems:

- seasonal movement of livestock to lower areas/transhumance-difficult to rear animals;
- snow/cold can trap people in homes/people have to move to other areas;
- increased need for/cost of heating buildings;
- roads can become blocked by snow/avalanches, cuts off communities;
- increased chance of frostbite/hypothermia;
- 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;
- lakes/rivers freeze over, prevent fishing/scarce water supply;
- avalanches may cause injuries/death;
- seasonal tourism - fewer summer jobs.

(d) Pakistan experiences extremes of climate which can have many effects on people's lives.

Read the following two views:

A

Storms and heavy rainfall have the most severe impacts for people in Pakistan.

B

Droughts have the most severe impacts for people in Pakistan.

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 and View B in your answer. [6]

Markscheme:

agree with View A:

- storms and heavy rainfall can destroy crops very quickly;
- animals/cattle can be washed away/drown/be frightened;
- livelihoods/houses/businesses can be washed away;
- flooded roads create travel problems for business/industry; heavy rain increases soil erosion removing the top fertile layer;
- fields become flooded which can create problems with waterlogging;
- floodwaters from heavy rains can become polluted and spread disease;
- cyclones make it unsafe for boats to go to sea, disrupting fishing;
- winds blow down power lines and phone lines; businesses are left without power or communications.

Etc.

examples include:

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.

disagree with View A:

- flood protection schemes can protect homes and businesses;
- reservoirs and dams control the flow of water in rivers/hold back water;
- buildings designed to withstand flooding/storm shelters can be built;
- flooding spreads alluvium increasing the fertility of the land for farmers.

Etc.

agree with View B:

- droughts can cause starvation/famine leading to illness and death;
- results in crop failure and death of livestock;
- people suffer from malnutrition and fatigue, so they are unable to work;
- food supplies and fresh water has to be imported;
- shortage of raw materials for industry reduces exports.

Etc.

examples include:

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.

disagree with View B:

- droughts can be overcome by using irrigation or named examples e.g. karez/perennial canals/use of sea water through desalination
- drought resistant seeds can be used e.g. water efficient varieties of wheat developed by Pakistan Agricultural Research Council (PARC);
- transhumance can be practiced moving animals to areas with water;
- belongings/buildings/homes are not ruined by drought.

Etc.

evaluation may argue:

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.

[May/June 2022]

(c) (i) Describe the effect of latitude on day length and temperature in Pakistan.[4]

Markscheme:

day length:

- (Pakistan is in the northern hemisphere so) it is tilted towards the sun; therefore has long(er)/more daylight hours during summer
or
(Pakistan is in the northern hemisphere so) is tilted away from the sun; therefore has short(er)/fewer daylight hours during winter

temperature:

- southern Pakistan is closer to the equator; so has higher temperatures than northern Pakistan
or
northern Pakistan is further from the equator; so has lower temperatures than southern Pakistan
- southern Pakistan/areas closer to the equator receive more concentrated/direct/intense rays/of the sun; resulting in higher temperatures
or
the sun's rays are dispersed/spread over a larger surface area in the north; so northern Pakistan is cooler than the south
- the sun's rays are at a higher angle of incidence in southern Pakistan; making temperatures higher
or
the sun's rays are at a lower angle of incidence in northern Pakistan; making temperatures lower
- the sun's rays travel a longer distance through the atmosphere at higher

latitudes; making temperatures lower or vice versa

(ii) Which of the following factors cause seasonal variations in Pakistan's climate? Tick (3) two boxes in the table below:

factor	tick (✓)
air pressure	
land use	
rainfall	
soil type	
temperature	
water quality	
wind direction	

[2]

Markscheme:

- air pressure
- wind direction

(iii) Describe the characteristics of an arid climate in Pakistan.[3]

Markscheme:

- hot/extreme heat/high temperatures/30°C+
- cool nights
- dry/high evaporation rate
- winds/windy/sand storms/dust storms
- winds from May – September (accept months in between)
- scanty/little/low rainfall/<250 mm per year
- (only) rainfall in winter/little monsoon rainfall (in summer)
- mild winters

(d) In 2019, more than 1.2 million people experienced food shortages in the south of Pakistan due to drought.

Evaluate the extent to which extremes of climate influence the lives of people and the economy in Pakistan. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer. [6]

Markscheme:

extremes of climate negatively/have great impact on the lives of people

and the economy such as:

e.g. extreme cold/rainfall/storms/flooding:

- can result in many deaths
- amount of monsoon rain cannot be predicted
- homes on or near to floodplains washed away by flood waters, people lose possessions
- some people unprepared/without evacuation plans
- flooding caused by storms leaves destruction e.g. power lines down
- repairs are expensive, may increase debt/lower GDP
- injuries lead to increased costs for healthcare provision

- loss of jobs/income when industry/crops destroyed

e.g. lack of rainfall/high temperatures/droughts:

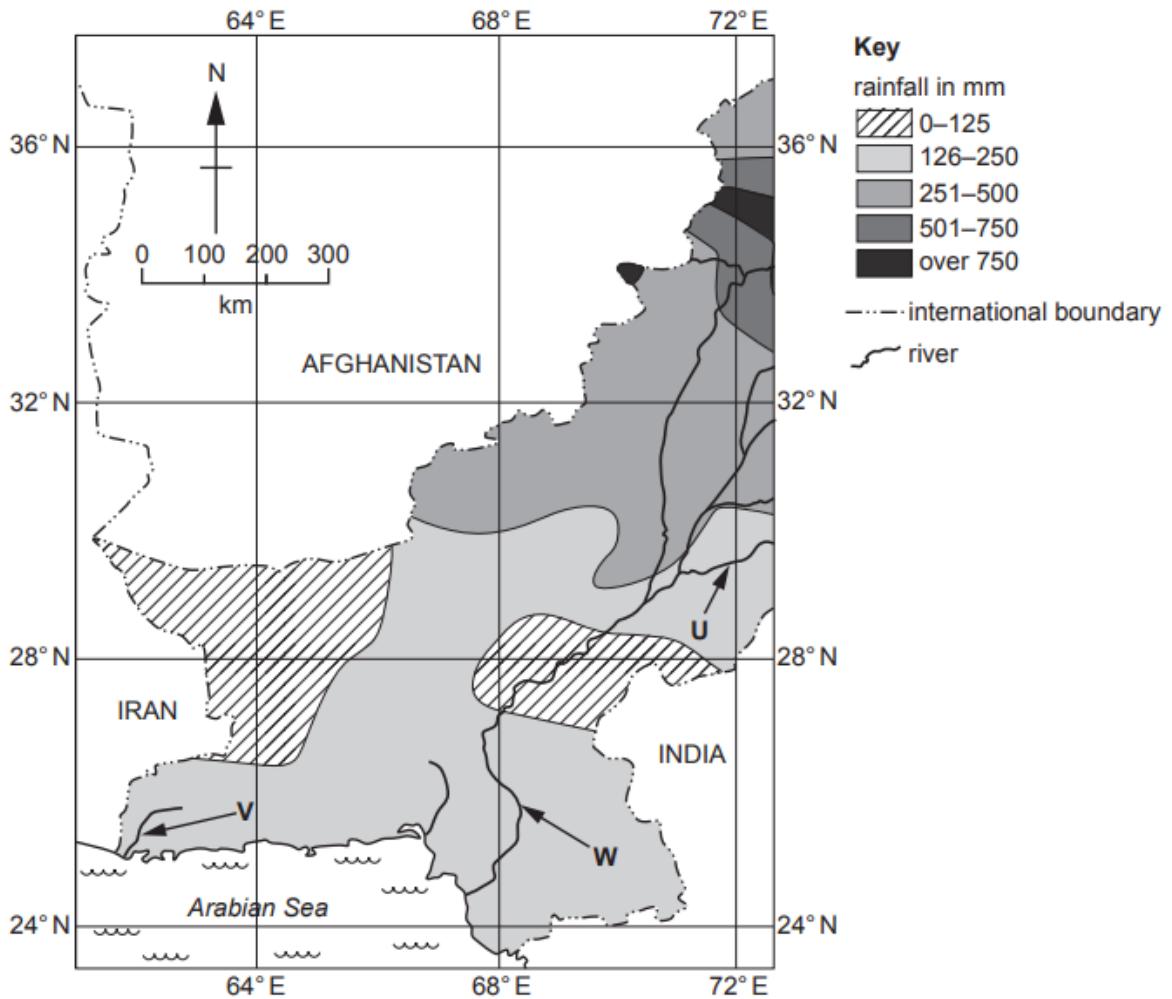
- can affect many people over a widespread area
- can happen slowly over a period and the effects are not felt until much later
- cost of supplying irrigation to drought areas
- destroys food supply leading to famine
- can cause loss of life to many millions of people and to livestock and crops
- can cause out-migration and increase population pressure in urban areas
- increased cost to house displaced people

extremes of climate have benefits/have little impact on the lives of people and the economy such as:

- flood water can be stored in reservoirs for use at a later date for irrigation
- flood waters bring alluvium which can increase fertility of soils
- hotter climates can allow new varieties of crops to be grown
- most storms such as cyclones and floods occur near the coastal areas and much of Pakistan's industry is located further inland
- Pakistan can build flood defences to prevent loss of life and to protect buildings and industries
- Pakistan can provide education and emergency action plans to help protect people from storms
- new farming techniques/seeds can resist drought
- agriculture is affected but other industries can continue during most extreme climate events

[October / November 2022]

(a) Study Fig. , a map showing annual rainfall in southern and western Pakistan.



(i) Using Fig. only, describe the pattern of annual rainfall.[3]

Markscheme:

- uneven/varied
- high/er rainfall/more rainfall in north/north-east/rainfall increases further north
- low/er rainfall/less rainfall in the south/south-west/south-east/rainfall decreases further south
- largest region has 126–250 mm annual rainfall
- north/north-east of Pakistan/small area on Afghanistan border has highest/750 mm+ rainfall
- (two areas) in south-west and east/south-east have the lowest/0–125 mm rainfall
- areas bordering India/Iran/southern Afghanistan/Arabian Sea are drier/lower rainfall
- highest rainfall 501 mm+ is only found at latitude 33° N or higher
- lowest rainfall 0–250 mm is only found at latitude 30° N or lower
- accurate use of scale to describe size of an area within the pattern (max 1)

(ii) Name rivers U, V and W shown on Fig.[3]

Markscheme:

U = River Sutlej

V = River Dasht

W= River Indus

(b) (i) State four natural features of a floodplain.[4]

Markscheme:

- flat land/plain land
 - fertile soil/alluvium/silt
 - wide
 - active (floodplain)/khaddar/old (floodplain)/bhangar
 - meanders
 - (natural) levees
 - point bars/bars
 - alluvial terraces/escarpments/cuestas/scarp/bar uplands/scalloped interfluves
 - piedmont plains/alluvial fans/tidal flats
 - ox-bow (lake)
 - dry channel/abandoned channel/former channel/braided channel/distributaries
 - doab
 - area where channel overflows/likely to be flooded/waterlogged/waterlogging/marshy/swamp
- (ii) Explain two ways that floodplains influence human activity. You should develop your answer.[4]

Markscheme:

- flood plains have alluvium/silt/fertile/nutrient rich soil; good locations for (named) crops/(arable) farming/agriculture
- floodplains have the river close by; which provide water for industry/for irrigation (to bridge the gap)/domestic purposes
- floodplains are wide/flat areas; so there is space to grow crops/use machinery/to install irrigation canals/build on
- (active) flood plains are flooded every year; this enables crops that require flooding/rice to be grown on them/this can make them unsuitable for urban/industrial development
- (natural) levees alongside the river; provides a natural barrier against floods/prevents floods/protects people's land or property from flood damage/can be used for transport
- alluvial terrace is higher land; so is safe for building on as it won't flood/is good for building settlements/transport links/industry

(c) (i) Which of the following statements about monsoons in Pakistan are correct? Tick (3) three boxes in the table below.

	tick (✓)
During winter a low-pressure area is created over the Tropic of Cancer.	
Monsoons are seasonal.	
Monsoon winds are seasonally reversed and driven by temperature differences between the land and sea.	
Monsoon winds blow towards the centre of the subcontinent during winter and towards the sea in summer.	
Summer winds are called north-west monsoons.	
Winter winds are called north-east monsoons.	

[3]

Markscheme:

- monsoons are seasonal
 - monsoon winds are seasonally reversed and driven by temperature differences between the land and sea
 - winter winds are called north-east monsoons
- (ii) Study Fig. , a photograph of a recent cyclone in South Asia.



Using Fig. only, describe two impacts of the cyclone shown.[2]

Markscheme:

- strong winds
- trees being bent/blown/damaged
- clothes blowing in wind/people struggling to walk
- big/high waves
- heavy rain
- air is full of moisture/spray/misty
- reduced visibility
- streetlights/vehicle lights on (in daytime)

- people having to wear waterproof gear/ponchos
- flooding (of coastal area)/flooded road/street
- difficult/dangerous to drive/use vehicles/use transport
- people cannot travel by moped/motorcycle/motorbike/bike have to push them

(d) Scientific evidence suggests that cyclones are likely to continue to increase in severity and frequency across South Asia due to climate change.

Evaluate the influence of storms such as cyclones on secondary and tertiary industries in Pakistan. Give reasons to support your judgement and refer to examples you have studied.

You should consider different points of view in your answer.[6]

Markscheme:

Likely to influence secondary & tertiary industries negatively because:

- industries may be flooded/damaged
- high cost of repairs/clean-up operations to the industry
- industries, e.g. shops may lose trade/have to close down
- loss of jobs which will lead to reduction in wealth
- communications infrastructure, e.g. internet/phone lines to offices/call centres/factories cut off, stopping work
- roads/railways damaged causing disrupted transport of goods to market
- power lines damaged; leading to delay in production in factories/power cuts mean shops/restaurants, etc. can't operate
- ports closed; so imports/exports have to stop during the storm leading to lack of imported raw materials for secondary industries
- tourists will be put off visiting coastal areas
- hotels damaged/destroyed
- flights stopped or delayed

Influence will be limited because:

- storm management schemes can protect coastal areas from the impacts of storms, e.g. planting mangroves along the coastline
- building coastal defences can protect nearby industries, e.g. embankments/sea walls
- flood warnings/warning system for employees and tourists to follow
- practicing evacuation procedures/building evacuation shelters
- weather forecasting/shipping forecast
- set up of early warning systems to warn ships/fishing boats prevents damage to equipment
- flood proofing businesses/shops/hotels/factories
- industries, e.g. factories have emergency power generators

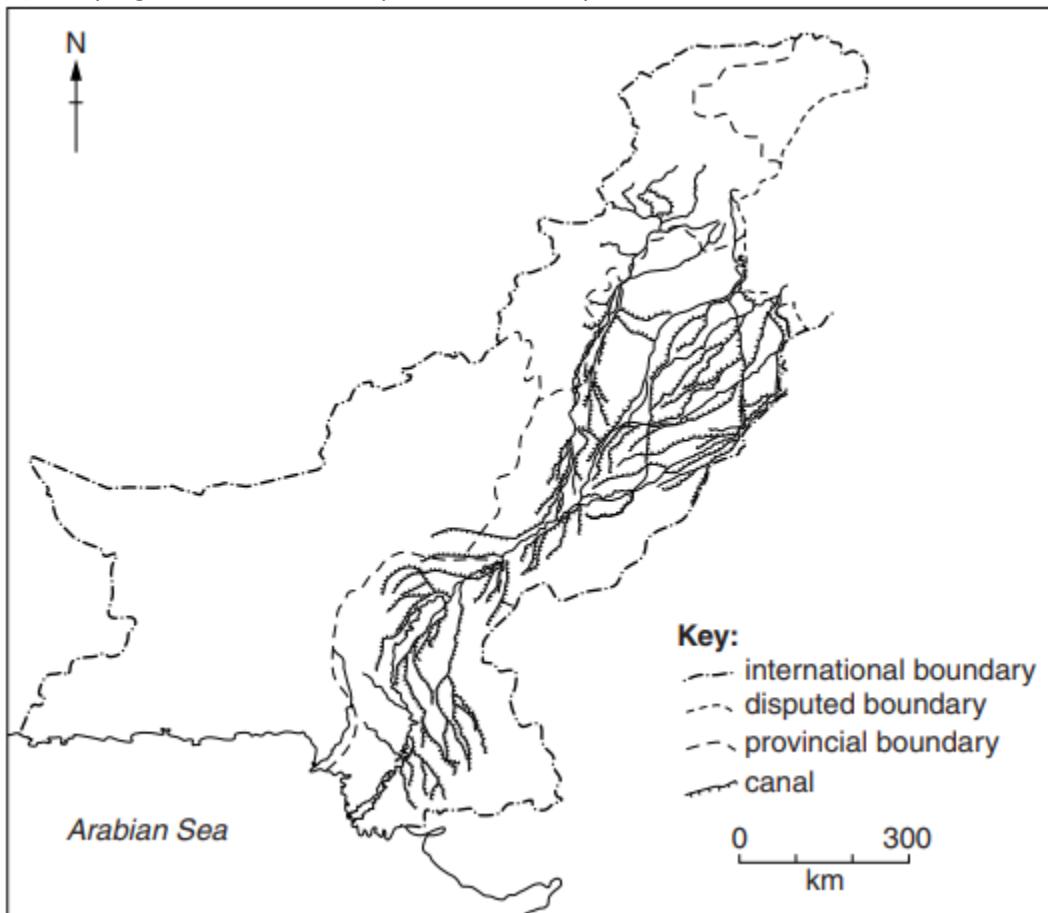
Evaluations could include ideas such as:

- although the severity and frequency of storms is increasing in south Asia, Pakistan is rarely badly affected by them
- it is only coastal areas that are affected so the majority of industries and communications will remain unaffected by cyclones
- tourists will still visit Pakistan and many tourists visit places with extreme weather
- storms do not last long so disruption is just for a short time

Natural Resources - an issue of Sustainability of Water

[May/June 2013]

(a) Study Fig. , which shows the perennial canal system in Pakistan.



Describe the distribution of the perennial canals. [4]

Markscheme:

- mainly on Plains/Indus Plain/by the rivers
- most widespread in Punjab
- only from Indus in Sindh
- mostly NE to SW in Punjab and Upper Sindh
- mostly NW to SE in Lower Sindh
- south/east of highlands
- no canals in SE area/Balochistan/north/west/mountains
- some in KPK

(b) Name three types of irrigation, other than perennial canals, used in Pakistan. Explain briefly how each type works. [6]

Markscheme:

- Allow one mark for a brief description and the second mark for more detail
- inundation canals from rivers + details
- tubewells from groundwater + details
- Karez from foothills + details

others including ponds, tanks, charsa, shaduf and modern methods, e.g. sprinkler, tanker

(c) Explain how a perennial supply of water can damage farmland. [4]

Markscheme:

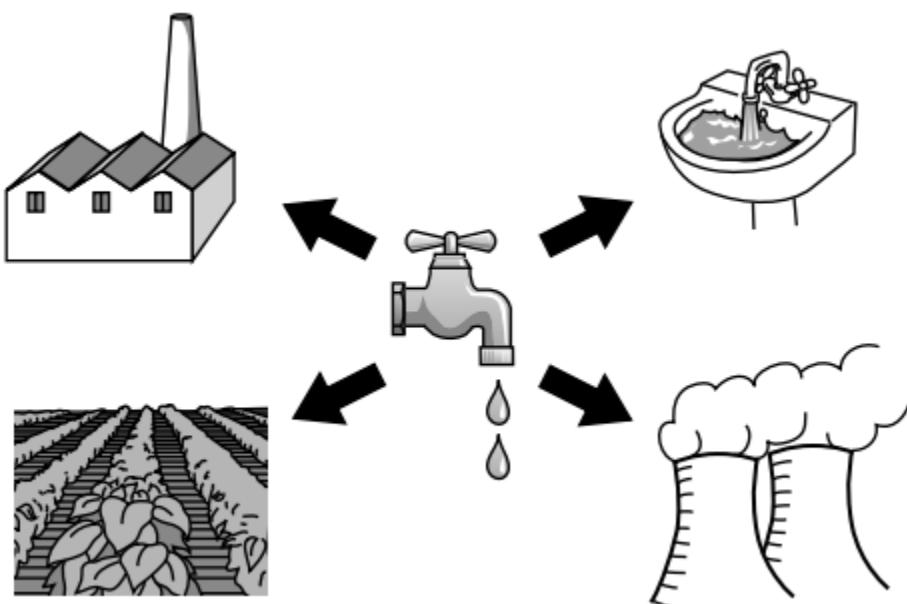
too much water/waterlogging

watertable rises

evaporates

causes salinity/salts accumulate on surface/surface crust

(d) Study Fig. , which shows the main users of water in the Punjab.



Name two conflicting users of water supplies in the Punjab shown on Fig. . Explain briefly why each user thinks that they should have more water. [5]

Markscheme:

2 conflicting users (one mark), e.g. farmer, industrialist, home-owner, power industry

Reasons for wanting more water (two marks each)

e.g. farmer wants it for higher yields – more food for growing population, income for himself, irrigation, example of high usage, e.g. rice and sugarcane.

e.g. industrialist wants it for bigger/better output – increase trade, exports, income for himself, example of high usage, e.g. drinks, chemicals.

e.g. home owner wants it for domestic use – better hygiene, food preparation, healthy living, example of high usage, e.g. washing, drinking.

(e) To what extent is it possible to increase water supply in Pakistan? [6]

Markscheme:

Possibilities (res. 2)

Indus river system + details

rainfall in mountains

melt water from mountains

groundwater

flat land for canals

cleaning dirty water/desalination

reduce losses, e.g. more storage, less leakage, ration usage (max. 2)

control misuse, e.g. by education

Problems (res. 2)

not enough river water

not enough rain

loss by leakage, siltation

Indus Water Treaty restricts water in reservoirs/rivers

evaporation in hot climate

pollution

demands always increasing

some places remote (e.g. Baluchistan)

lack of funds/government will

(b) Explain how underdevelopment and disease can be made worse by water shortages. [6]

Markscheme:

underdevelopment (res 2)

effect on agriculture, livestock, industrial production,

disease (res. 2)

Lack of cleanliness, sanitation and other hygiene, risk of water-borne disease, malnutrition

[October/November 2013]

(a) Study Photograph



Name the irrigation system shown in the photograph and explain briefly how it works. [4]

Markscheme:

Name Tubewell

How it works

Tube to groundwater/aquifer

Water pumped up
By tractor/(diesel) motor/generator
Water flows into pond/reservoir/tank
Distributed to fields by canals/pipes/sprinklers etc.

[May/June 2014]

(c) Why are waterlogging and salinity called 'the twin menaces for farmers'? [2]

Markscheme:

- 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]

Markscheme:

- 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)
-

[October/November 2015]

(i) Describe two ways in which water supplies can be polluted. [2]

Markscheme:

Sewage discharged into rivers

Domestic waste thrown in rivers

Pesticides/fertilisers runoff from agricultural fields in groundwater/rivers/eutrophication

Industrial waste/chemicals/toxic waste/metals/ waste from ships discharged into rivers

Leakage of oil from ships

'Sea'/'ocean' = 0

(ii) For one of these ways explain how the problem caused by pollution can be solved. [2]

Markscheme:

Investment in sewerage systems/ infrastructure/treatment of sewage

Improve sanitation facilities in poor quality housing/slums/squatter settlements /katchi abadis

Improve/more regular domestic refuse collection

Treatment of/improving disposal of industrial waste

Open up roads into squatter settlements to allow refuse lorries

Alternatives to chemical fertilisers/pesticides 'Reduce' = 0

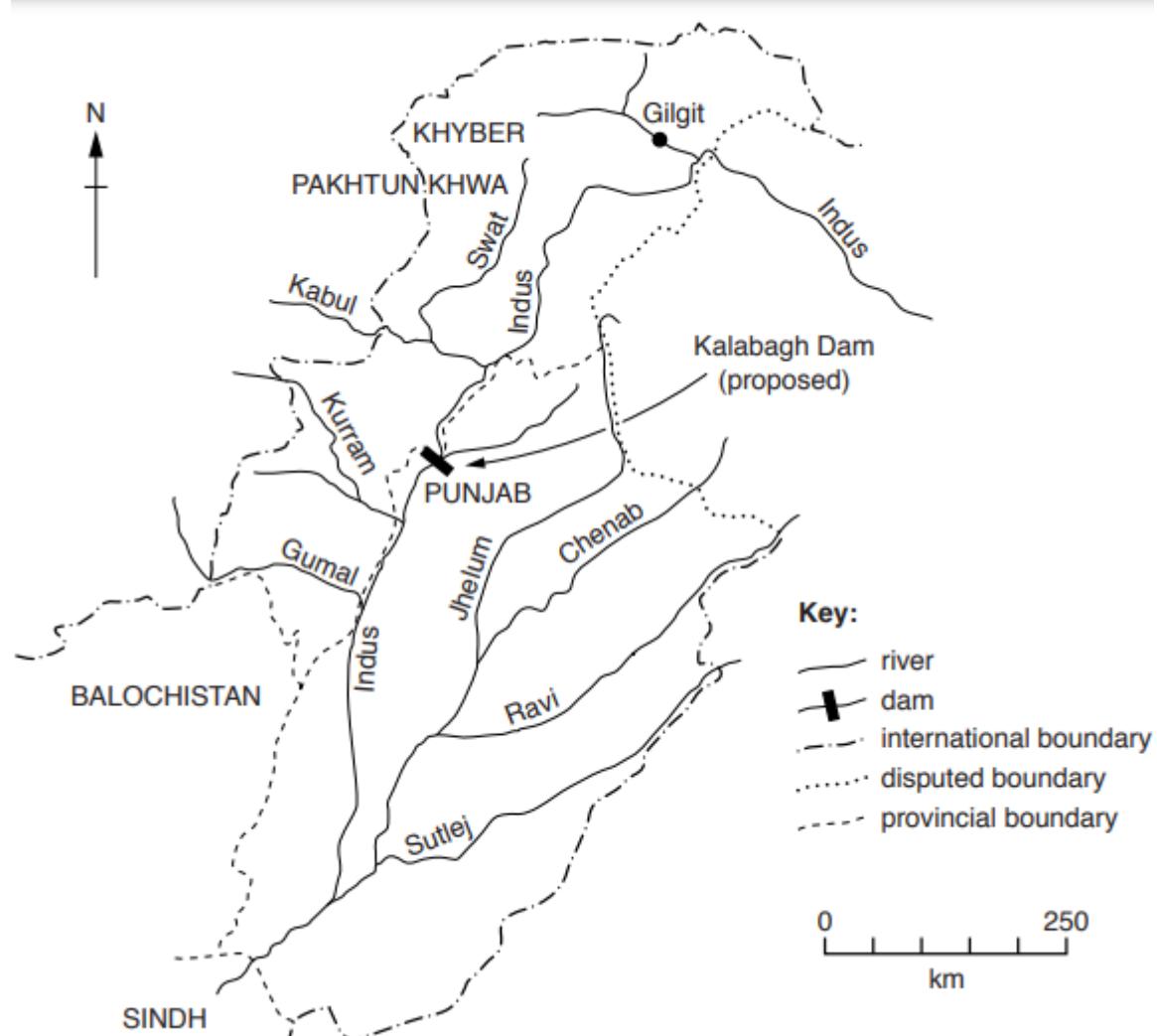
Organic farming

Fines for industrial polluters

More investment by industries to prevent pollution incidents

Maintenance of ship/checking for leaks in ship

(b) Study Fig. , a map showing the major rivers of Pakistan.

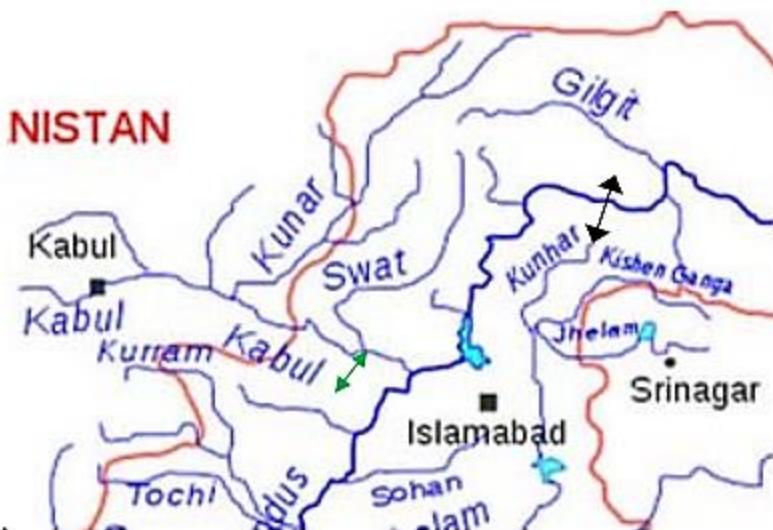


(i) Locate the following two dams on the map:

- Warsak (W);
- Diamir Bhasha (under construction) (D). This dam is 150 km downstream of Gilgit.

Mark their positions using the appropriate symbol from the key and label each with the correct letter. [2]

Markscheme:



W On R. Kabul between confluence with R.Swat and Afghan border RED OVERLAY SHOWS TOLERANCE

D On R. Indus GREEN OVERLAY SHOWS TOLERANCE

(ii) What are the advantages of building a dam at the Diamir Bhasha site? [4]

Markscheme:

HEP

Electrification of/supplies electricity to the region/for local industries

Only floods agriculturally barren land/small amount agricultural land flooded

Will extend life of Tarbela Dam

Controls/reduces/prevents flooding [downstream]

For irrigation

Drinking water/water supply for industries

New transport infrastructure/development in region

Possibility of tourism/watersports

Possibility of freshwater fishing

Provides employment in named sector /for local people

Location factor e.g. narrow/steep-sided valley/high speed of water/high precipitation/large amount of meltwater from glaciers 'Flow' = 0

(iii) Read the following article about the proposal to build a new dam, the Kalabagh, on the River Indus at the point indicated on the map, Fig. .

Kalabagh Dam – A Controversial Issue

Punjab wants the Kalabagh Dam to be built, but there is opposition to the project from a section of the population in Sindh, Khyber Pakhtunkhwa and Balochistan.

Those who are opposed to the dam argue that it might be beneficial for Punjab and harmful for the other provinces.

The Kalabagh Dam issue is difficult to resolve at this stage.

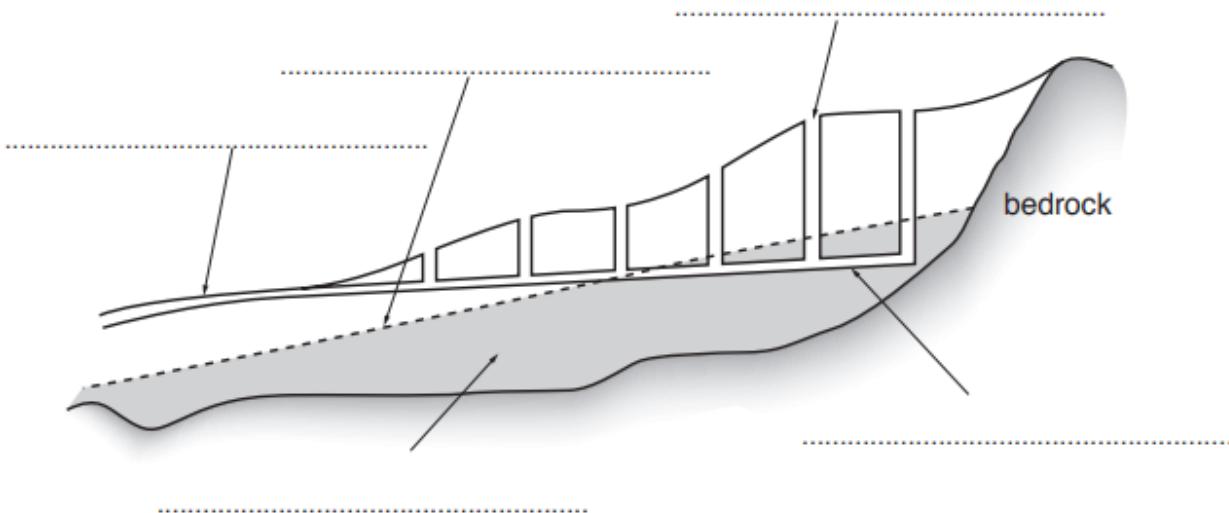
Describe the disputes over water availability and use which can arise from proposals to build dams at sites such as this. [4]

Markscheme:

One province receives greater share of water/unequal division of water
Dam in Punjab/one province but much of flooded area in Khyber Pakhtunkhwa/another province
Loss of water supply downstream/to Sindh for agriculture
Risk of flooding downstream by release of water/opening dam
Less silt deposited on floodplains of lower course/lower Indus
Evaporation of lower course/lower Indus
[Indus] delta/coastal area [of Sindh] less fresh water/water more saline
Disturbance to ecosystem/mangrove forests/fishing
NB: not limited to Kalabagh case study
'Loss of land'/'evacuation' = 0

[May/June 2017]

(a) (i) Study Fig. , which shows a diagram of the karez system of irrigation.



Choose three terms from the list below and use them to label the diagram in three of the spaces provided.

maintenance shaft

aquifer

canal

tunnel

water table [3]

Markscheme:

Any three of (L to R):

canal, aquifer, water table, maintenance shaft, tunnel

(ii) Give an example of a barrage in Pakistan and name the river it is on. [2]

Markscheme:

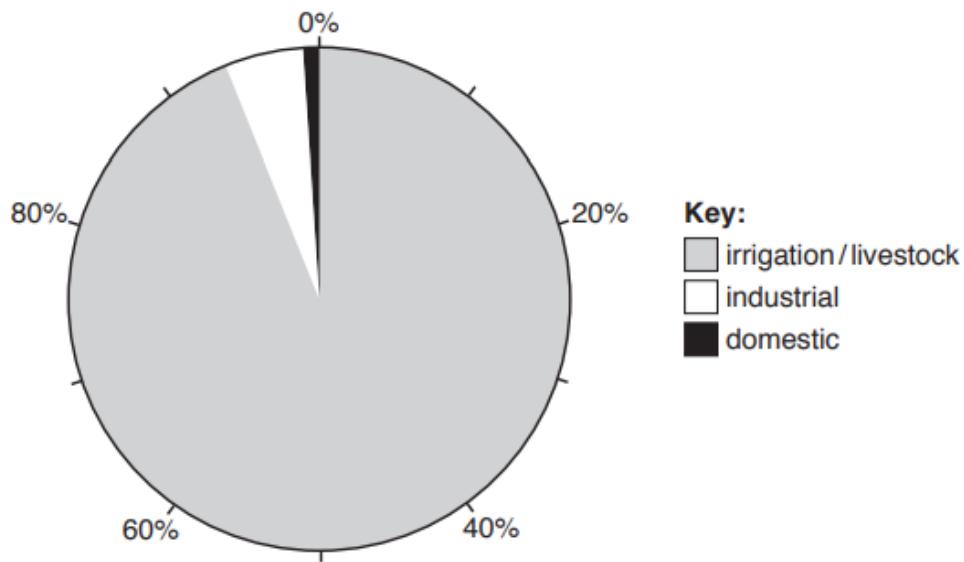
Barrage	River
Marala/Khanki/Qadirabad	Chenab
Jinnah/Chashma/Taunsa/Guddu/Sukkur/Kotri	Indus
Rasul/Trimmu	Jhelum
Panjnad	Panjnad
Balloki/Sidhnai	Ravi
Islam/Sulaimanke	Sutlej
Munda	Swat

(iii) State why barrages are needed in Pakistan. [2]

Markscheme:

- Irrigation/release water for irrigation;
- Provide water supply to perennial canals/link canals;
- Flood control;
- Flow of water controlled;
- To stimulate economic development/industry/settlement.

(c) Study Fig. , which shows water use by sector in Pakistan in 2008.



(i) A Which sector used least water?

B How much water was used by the irrigation/livestock sector? [2]

Markscheme:

A Domestic

B 94% (allow 93–95%)

(ii) Name a type of industry that uses large amounts of water. [1]

Markscheme:

One of:

Beverages/soft drinks/juice industry/dyeing/tanning/printing/
iron/steel/nuclear/textiles/chemical/pharmaceutical/hydel/
HEP/paper/tourism/leisure/inland fish farms.

(iii) About 60% of irrigation water is lost before it reaches crops. Give three reasons why

irrigation water is lost in this way. [3]

Markscheme:

- Seepage from beds of canals/absorbed into the soil/land/no canal lining;
- Evaporation/evapotranspiration from surface of canals/tanks/flooded land;
- Excessive runoff of water immediately into streams/rivers;
- Theft of water/theft from canals;
- Water drawn up by vegetation on side of canal;
- Mismanagement.

(d) Read the following two views about water shortages in Pakistan:

A

The best way to prevent water shortages in Pakistan is to build more dams and other infrastructure projects. These will store or supply more water.

B

The best way to prevent water shortages in Pakistan is to educate people about different methods of saving water. These methods could be carried out in agriculture, industry, and in homes.

Which view do you agree with more? Give reasons to support your answer and refer to examples you have studied. You should consider both View A and View B in your answer. [6]

Markscheme:

For infrastructure

- Prevents loss of water downstream into sea
- Collects rainfall/snowmelt
- Reservoirs feed perennial canals
- Can store large amounts of water

Against infrastructure

- Source of conflict between countries and provinces
- Social issues
- Loss of fresh water at Indus Delta
- Water intrusion into Sindh
- High initial investment
- Little use in Balochistan where rivers dry up
- Mismanagement by provincial/national government
- Siltation occurs

For water saving

- Planting trees
- Lining canals
- Careful monitoring/regulation of amount of water used
- Better forms of water storage in homes
- Water meters in homes/industries

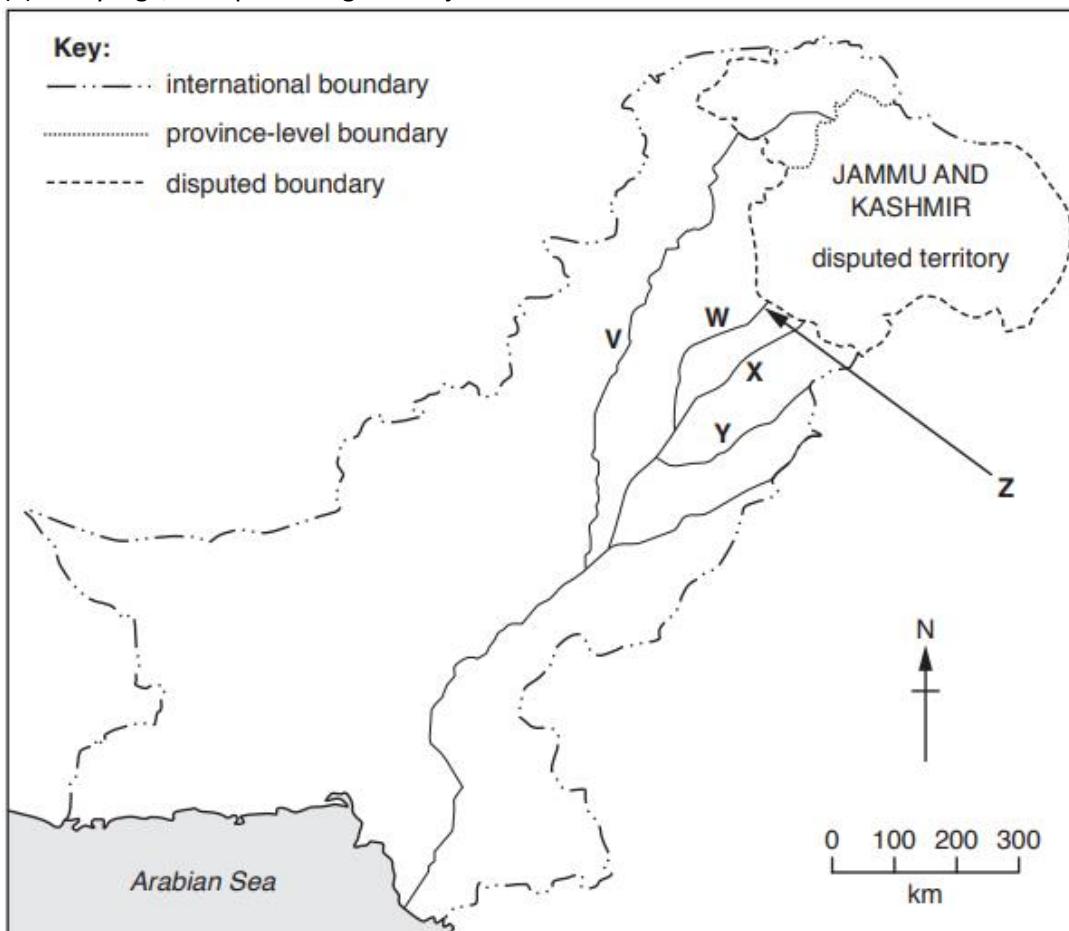
Against water saving

- Long time scale required to educate sufficient number of people
- Resistance to education
- Water a valuable raw material in industry

- Growing population with increasing demand for drinking water
 - Development goal to increase availability of water
- ETC

[October / November 2019]

(a) Study Fig. , a map showing the major rivers of Pakistan.



(i) Name rivers V, W, X and Y.[4]

Markscheme:

V = Indus

W= Jhelum

X = Chenab

Y = Ravi

(ii) Name dam Z shown on Fig.[1]

Markscheme:

Z= Mangla Dam

(b) (i) Name two examples of barrages.[2]

Markscheme:

- Amandarra
- Balochi
- Chasma
- Guddu
- Islam
- Jinnah
- Kotri
- Kurrangarhi
- Marala
- Panjnad
- Qadirabad
- Rasul
- Siddha
- Sukkur
- Sulaimanka
- Taunsa
- Trimma

(ii) State the differences between barrages and dams.[4]

Markscheme:

- Dams store water / barrages control flow of water;
- Barrages can supply little / small amounts / no electricity (dams are major suppliers of hydel power);
- Silting is a problem for dams (but not barrages);
- Maintenance cost is lower for barrages (more expensive for dams);
- Construction and or maintenance time is quicker for barrages (longer for dams);
- Construction cost is lower for barrages (more expensive for dams);
- Fewer or no people have to be evacuated for barrages;
- Barrages have less environmental impact than dams;
- Barrages can be built on flat land (dams require steep slopes);
- Dams have multiple uses whereas barrages do not;
- Dams provide water for a larger area than barrages;
- Barrage to deviate channel to an area where there is no river;
- Do not need to excavate a large area for barrages.

(iii) Suggest four problems caused by siltation.[4]

Markscheme:

- Reducing water supply / less water available / water becomes silty / pipes blocked / reduces capacity of reservoir / less water stored;
- Blocking the flow of water / blocks canals or rivers / chokes or blocks irrigation canals or pipes / water cannot get through / floods may occur;
- Weakens foundations of dams / have to be emptied or strengthened / flow of flood water is hampered and can damage dam / damage to turbines or machinery;
- Not enough water for irrigation / industry / domestic use;
- Reduces water available for hydel power / generation of hydel power stopped;
- Encourages growth of algae / eutrophication.

(c) Explain why rivers are important to Pakistan. You should develop your answer.[4]

Markscheme:

- Scenic beauty; for tourism / picnic / leisure (dev);
- Provides water; especially to areas where rainfall is low/named; examples / sustains life or drinking water (dev);

- Helps to generate hydel power / electricity; which reduces power shortages / reduces need to import coal or oil / reduces need to use fossil fuels (dev) / one of main sources of electricity;
 - Adds alluvium to soil; so, improves the fertility of the soil / aids crop growth (dev);
 - For fishing industry / subsistence fishing; provides income or food supply to local areas / people (dev);
 - Provides water for domestic use / in the home; named examples, e.g. cooking / cleaning (dev);
 - Provides water for industries; named examples, e.g. cement, brick making, cotton (dev);
 - Provides water for irrigation / agriculture / farming; used to irrigate / water crops / feed livestock / or named examples, e.g. wheat / cotton / sugar cane (dev);
 - Transport; for trade / avoid using roads or rail / access to ports (dev);
- Etc.

(d) Read the following two views about providing solutions to the challenges of water supply in Pakistan:

A

B

Small dams are the best way to solve water shortage problems and assist development.

Large dams are the best way to solve water shortage problems and assist development.

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 and View B in your answer.[6]

Markscheme:

Small dams

- Cheaper to construct;
- Less technical expertise needed;
- Can be built more quickly;
- Minimal disruption to people and environment;

Etc.

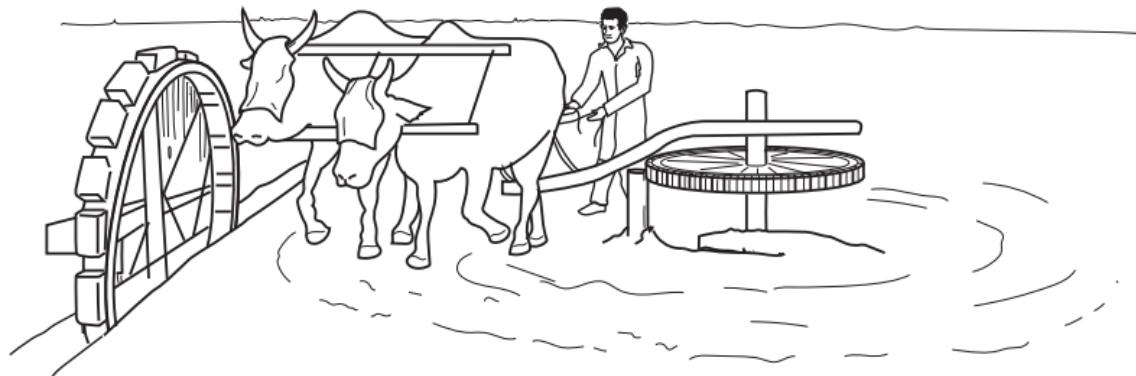
Large dams

- More people will benefit;
- Can produce HEP which is good for developing the country;
- Provides employment opportunities;
- A bigger area is utilized;

Etc.

[October/November 2020]

(ii) Study Fig. , a diagram showing a type of lift irrigation.



Describe how water is obtained for irrigation using this method.[4]

Markscheme:

- Persian wheel;
- animals are used to turn/moves a wheel;
- the animals are blindfolded;
- turns a horizontal/smaller wheel;
- attached/geared to a vertical/larger wheel;
- buckets or pots attached to the wheel;
- the pots raise water from the well;
- pots spill contents into the channel to fields/irrigate field.

(iii) What is waterlogging? Tick (3) one correct answer from the list below:

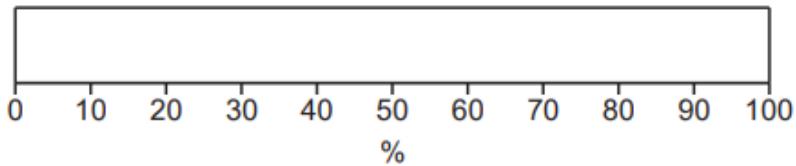
	Tick (✓)
Dams trap water in rivers.	
The water table rises to the surface.	
There is a lack of salt in the soil.	
Water dissolves the salts in the soil.	[1]

Markscheme:

The water table rises to the surface.

[May/June 2021]

(a) (i) Study Fig. showing a blank divided bar graph.



Complete Fig. to show the percentage share of each source of surface water in Pakistan. Use the information in the key. [5]

Markscheme:

- each correct division showing percentage share of each source of surface water = 1 mark – max 2 marks;
- each correct labelling or shading of each source of surface water = 1 mark – max 3 marks.

(ii) State three ways water is obtained for domestic purposes in Pakistan.[3]

Markscheme:

- directly from rivers/glaciers/lakes/pond;
- from wells/groundwater/from aquifers;
- via pipelines/water tankers/from reservoirs/taps;
- collecting rainwater (in tanks on the roof);
- using desalination.

(b) (i) Explain how water is used in two different secondary industries in Pakistan. You should develop your answer.[4]

Markscheme:

- thermal power stations; to produce steam to move the turbines;
- mineral water industry; for bottling water this is the only input;
- iron and steel industry; to cool the furnace;
- HEP stations; pressure of water from a height or steep slope to move the turbines;
- pharmaceutical industry; in the manufacture of drips, syrups, injections etc;
- tanning industry; for washing/dyeing etc;
- food processing/beverages; for preparing juices/squashes/syrups/beverages etc;
- chemical industry; for manufacturing acids/bleach/other solutions etc;
- textile industry; for washing/bleaching/ blueing/dyeing/printing etc;
- cement industry;

Etc.

(ii) Define 'irrigation'.[1]

Markscheme:

It is the artificial supply of water to the land.

(iii) Name and describe one type of conventional irrigation system used in Pakistan.[2]

Markscheme:

- shaduf; water is drawn from a well, river or canal by a bucket.
- charsa; animal power is used to pull water from the well.
- Persian wheel; powered by a bullock which turns a wheel with a series of pots attached to raise the water from well and tip it into the channels that lead to the field.
- karez; horizontal underground canal in the foothills and brings the underground water to the surface where it can be used.
- inundation canals; long canals taken off rivers. They fill when the river is high enough and when it is in flood.
- diversion canal; a narrow version of an inundation canal and are often used in steep areas so that they can take water to small terraced fields.
- tank irrigation; mud banks are constructed across small streams to make a small reservoir to collect water in the rainy season.

(c) Outline two advantages and two disadvantages of using irrigation on small-scale subsistence farms.[4]

Markscheme:

Advantages:

- can produce higher yields;
- extends farming seasons/can cultivate all year round;
- more land used for cultivation/can cultivate marginal land;
- can control the amount of water used;
- can grow a wider range of crops;
- can use over a wide area;
- saves time;
- more reliable than rainfall;
- can be cheap to install e.g. Persian wheel;

Etc.

Disadvantages:

- cost of installation/maintenance;
- difficult to build;
- inundation canals only flow during rainy periods or when glacial/snow melt enters the rivers;
- waterlogging of soil;
- can increase salinity of soil;
- can cause siltation of barrages;
- unlined canals lead to seepage;

Etc.

(d) The United Nations has predicted that Pakistan may become a 'water scarce' country by 2025.

To what extent can effective management of its water supply help Pakistan to avoid becoming a 'water scarce' country in the future? Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Effective management of the water supply may help because:

- Pakistan has enough water but it is not evenly spread throughout the

country;

- much water is lost through existing irrigation systems using traditional methods;
- water is polluted through industrial and domestic waste/limited environmental regulation;
- Pakistan needs to educate the people further about conserving water/reusing grey water;

Etc.

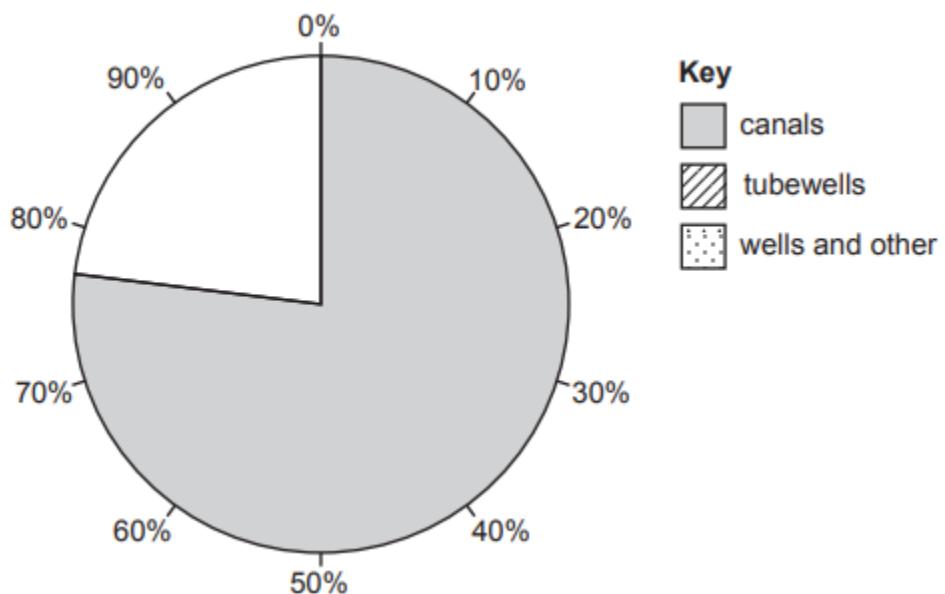
Effective management of the water supply may not help because:

- population growth is leading to water scarcity and this should be tackled first;
- Pakistan is suffering the consequences of climate change and this is an international issue that requires multi-national agreements;
- the Indus Water Treaty causes many issues and needs to be updated;

Etc.

[October/November 2022]

(c) (i) Study Fig. , a pie chart showing the percentage share of Pakistan's total irrigated area by method of irrigation.



Complete Fig. to show the percentages of Pakistan's total irrigated area which are irrigated by tubewells and by wells and other. Use the information below and the key.

irrigation method	percentage (%)
tubewells	20
wells and other	3

[2]

Markscheme:

Point accurately plotted and line drawn

Shading completed accurately using the key

Note: sections can be plotted in either order. 1 mark for line drawn at 80% or at 97%/1 mark for shading both sections accurately.

(ii) Explain two ways in which a karez irrigation system is operated to grow dates and vegetables in a desert oasis. You should develop your answer.[4]

Markscheme:

- it is usually owned by a group of people in the village (rather than an individual); they share responsibility for its operation/share the water/share the costs of building/maintenance
- a (mother) well is dug down to the watertable/ground water; to access water underground/(using gravity) a tunnel brings water to the surface
- the tunnel is dug/starts from the base of a hill or mountain; this allows water to be transported from underground to dry areas where it is needed
- a tunnel/narrow underground canal; minimises evaporation (in the hot desert climate)
- the tunnel can run for a long distance/<10 kms/emerges at ground level; water is then taken to/used to irrigate/water the crops/fields (of dates and vegetables)
- where the tunnel reaches the surface/emerges trees are planted; this provides shade/reduces evaporation
- the karez is dotted with vertical shafts; this allows for cleaning/repairs to prevent blockages in the tunnels (and if completed regularly the karez can last for a century or longer)

(iii) Suggest two disadvantages of using the karez system of irrigation.[2]

Markscheme:

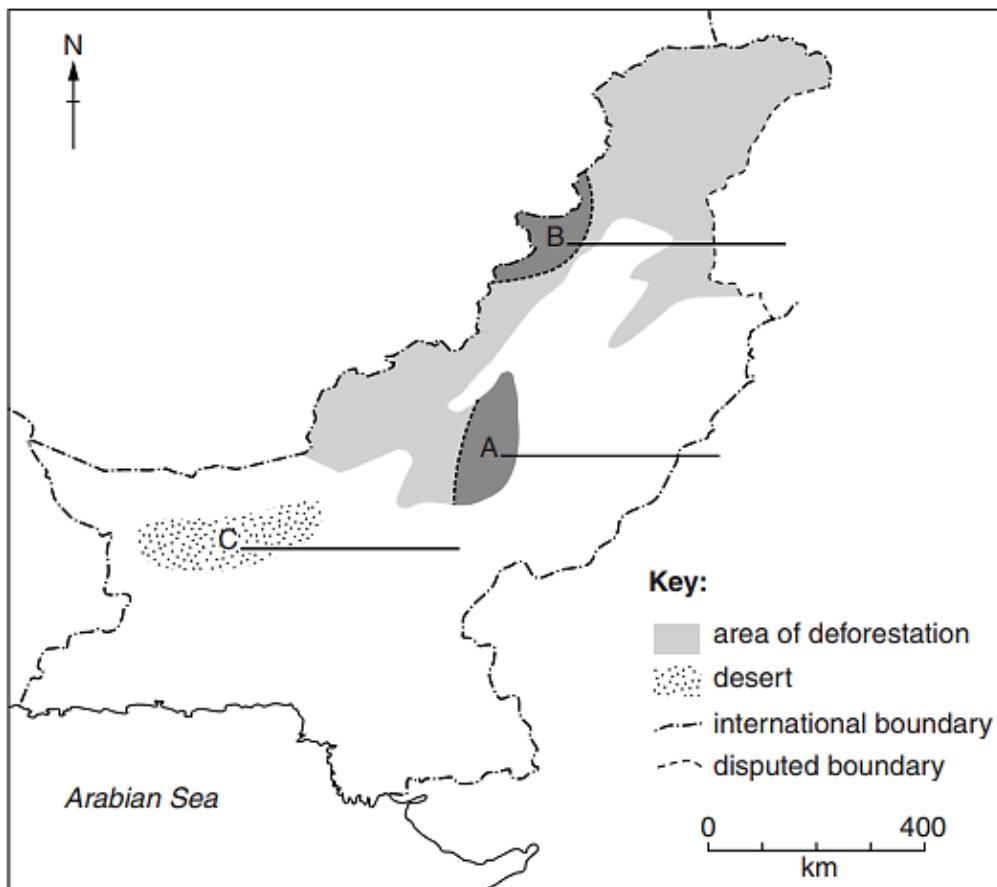
- (traditional skilled) labour is needed to dig/maintain the tunnels/not many people with this knowledge/skill
- digging/boring/maintenance takes a lot of workers/time/is hard manual work/is dangerous work/requires machinery
- is expensive to build/lining the tunnels with (pvc/plastic) pipes is expensive
- machinery used to bore/dig causes air pollution/harmful gases
- owned by a co-operative/many owners/different percentage shares/can cause conflict/disagreements over sharing/not enough to go around
- water flowing through a karez cannot be stopped/water can be wasted/it is inefficient/tunnels can leak/water is absorbed into the ground/supplies too much water/can spoil crops
- have to use the water as soon as it flows (any time of day)

- need frequent maintenance/repairs/cleaning
- water is drying up/use of tubewells has lowered the water table/wells and tunnels must be dug deeper
- water is not (always) taken directly to the crops/(often) has to be transported to the crops/only irrigates a small area
- only feasible in specific geological landscapes

Forests

[May/June 2014]

(a) Study Fig. , a map of deforestation in Pakistan.



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

Markscheme:

A – Sulaiman Range

B – Safed Koh / FATA

(ii) Name the desert C. [1]

Markscheme:

Kharan desert

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

Markscheme:

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 4th, 2011.

Pakistan has the highest annual deforestation rate in Asia.

The forests only cover 2.5% of the country's land. At the time of independence they covered 33%. If deforestation is not more strictly controlled, the country will not be able to meet its commitment under the UN Development Goal. This goal is to increase its forest cover to 6% by 2015.

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

Markscheme:

30.5%

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

Markscheme:

3.5%

(c) State and explain three effects of deforestation in mountainous areas. [6]

Markscheme:

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

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

Markscheme:

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 forestry'? [1]

Markscheme:

A definition such as

Sustainable means renewable resource or able to be continued without damage to the environment.

'Sustainable forestry' means that forests are utilised in such a way that they may remain productive for a long time. When mature trees are cut, new saplings are planted. If this is not done forests will be depleted Map exposing the soil for soil erosion. Therefore re-afforestation is necessary for sustainable forestry. This will ensure supplies of natural wood will be available for a long time in future.

Q Explain the importance of forests for the conservation of the environment in Pakistan? [2]

Markscheme:

- Forests prevent soil erosion and floods.
- Forests add oxygen to the air and reduce air pollution.
- Forests provide habitats for wildlife.
- Forests reduce the overall temperature and attract rainfall.
- Forests add to the natural beauty of Pakistan.

Q What is the difference between afforestation and reforestation? [1]

Markscheme:

Afforestation means to grow a forest on an area where there was no forest before.

Reforestation means growing a forest on a deforested area, or an area that had forests that were cut down.

(d) Study Photograph



(i) Name the type of forest shown. [1]

Markscheme:

Coniferous / alpine / montane

(ii) Suggest three reasons why these forests are being cut down. [3]

Markscheme:

Sale of timber

For fuel / heating

Cleared for: Farming

Mining / mineral exploration

Setting up industries / factories

Housing / urbanisation / resorts / hotels

Roads / other named infrastructure

(iii) Explain the effects of this deforestation. [4]

Markscheme:

Soil erosion because no roots to hold soil / soil exposed / no interception

Soil becomes infertile / loses nutrients because of leaching / top layer of soil eroded / no humus formation from leaves

Soil becomes unfit for agriculture

Siltation in reservoirs because soil [exposed and] washed into rivers

Siltation in reservoirs leads to reduction in capacity of reservoirs / dams become silted up / reduces HEP production

Siltation in reservoirs leads to reduction in capacity of canals / irrigation / water supply

Flooding because increased surface runoff / less interception
Flooding leads to destruction of buildings / infrastructure / farmland
Landslides / avalanches because slopes / rocks / snow not held by trees
Landslides / avalanches lead to blocked roads / buildings destroyed
Loss of scenery / beauty / shade leads to decrease in tourism
Loss of habitat so species lost / extinctions / animals move away / disturbed
Air pollution from burning
Decrease in rainfall due to less transpiration
Fewer trees to take up of CO₂ and effect on global warming / climate change
(e) To what extent is it possible to save and even increase the area of forests in Pakistan?
Explain your answer. [6]

Markscheme:

Possibilities

Legislation / action on illegal logging / fines / penalties
Government protection of forest areas / national parks / reserves
Restrict logging / quotas / licences / selective cutting
Education / public awareness campaigns
Use of alternative fuel / natural gas instead of burning wood
Planting trees / named afforestation / re-afforestation projects / irrigated / commercial plantations / plantations for firewood
Providing alternative grazing areas
Action against pollution [which affects mangroves]

Problems

Cost / lack of finance
Security issues
Lack of government will / government priorities
Demand for timber / firewood / wood for construction / named products
Land needed for housing / industry / agriculture / roads
Very long term project

[October/November 2015]

(c) Study Photographs , which show typical scenes of deforestation.



(i) State one use of timber from forests that have been cut down. [1]

Markscheme:

Construction/buildings
Furniture
Sports goods
Chipboard/hardboard/plywood
Paper
Boxes
Matches
Fuel/firewood/charcoal
Veneer

(ii) Using the photographs and your own knowledge, describe the effects of deforestation on the natural environment. [4]

Markscheme:

Soil washed into rivers
Siltation of rivers
Soil blown away
Increased surface run off / risk of flooding
Loss of forest habitat/mangroves/ecosystem
Loss of species/extinction
Air pollution from burning
Less take up of CO₂ / increase in global warming/climate change
Soil eroded / coarse layers of soil/bare rock/infertile soil left behind / gullyling / landslides
Less transpiration/rainfall
Decrease in humus formation
Loss of scenic beauty/visual pollution

(d)

Pakistan is rapidly losing its trees. Over the period 2000–2007 the country's forests decreased at a rate of 2.2% per year, the ninth highest rate among the world's nations.

What actions can be taken to reduce deforestation? To what extent are these actions possible in Pakistan? [6]

Markscheme:

Actions
Government protection of forest areas/national parks/reserves
Sustainable forestry (selective cutting/helilogging/horse logging)
Planting trees/afforestation/reafforestation (of fast growing trees/replacement forests planted where areas cleared for housing/industry/roads)
Plantation (of commercial/irrigated forests/forests for firewood/planting on roadsides and open spaces/fruit/nut trees)
Improve distribution of alternative fuel sources to avoid need for fuelwood (e.g. natural gas/CNG to mountainous or remote areas)
Government action on illegal logging
Restrict logging (quotas/licences)

Education/awareness programmes

Possible/greater extent

Successful afforestation projects (of badlands in catchment areas) (Tarbela/Mangla

Watershed Project) (Rachna Doab Afforestation Project) (Baltistan 1995 onwards

afforestation programme by Agha Khan Rural Support Programme – 830000 trees planted)

Named forest reserves/national parks/plantations

Awareness programmes about value of forests (run by NGOs)

Not possible/lesser extent

High cost

Projects difficult to manage (in remote/mountainous areas)

Security issues (in FATA/border areas)

Growing population/demand for timber/firewood/land (for housing, industry, agriculture, roads)

Government priorities

[May/June 2016]

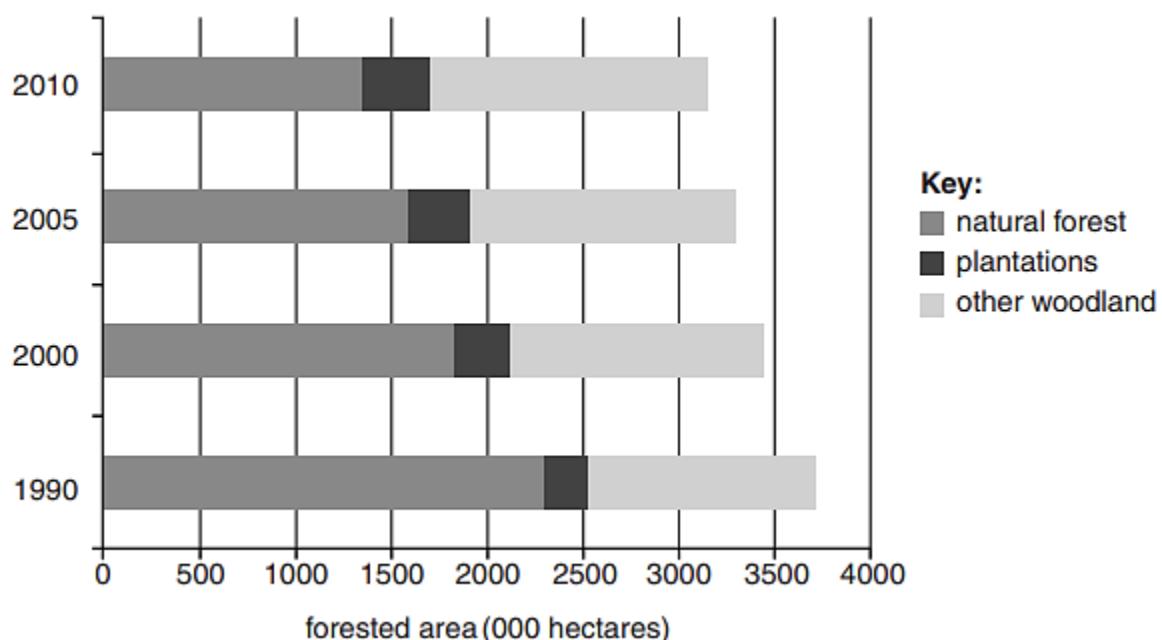
(b) (i) Study Photograph ,identify the type of forest vegetation shown in the photograph.



Markscheme:

Subtropical dry / subtropical scrub/ dry thorn scrub /subtropical thorn

(ii) Study Fig. which gives information about different types of forested area in Pakistan.



Describe one main change in forested area over the period shown. [1]

Markscheme:

Overall decreased

Natural forest decreased

Plantations increased

Other woodland increased

(iii) State the main difference between natural forest and plantations. [1]

Markscheme:

Natural forests are not planted by man: plantations are planted by man/man-made

Natural forests have greater variety of species/greater biodiversity

(iv) In 2014 about 4.2% of the land area of Pakistan was covered in forest. Explain why more forests need to be planted in the Indus Plain. [5]

Markscheme:

Pakistan has one of the lowest proportions of its total area under forest in the world

To meet a target for % total area covered in forest (20–25%)

To replace trees cut down/to meet the needs of future generations from forests

For firewood (thereby conserving natural forest)

For commercial use/timber/wood-based industries (using timber as a raw material e.g. furniture making) /fruit trees/medicines

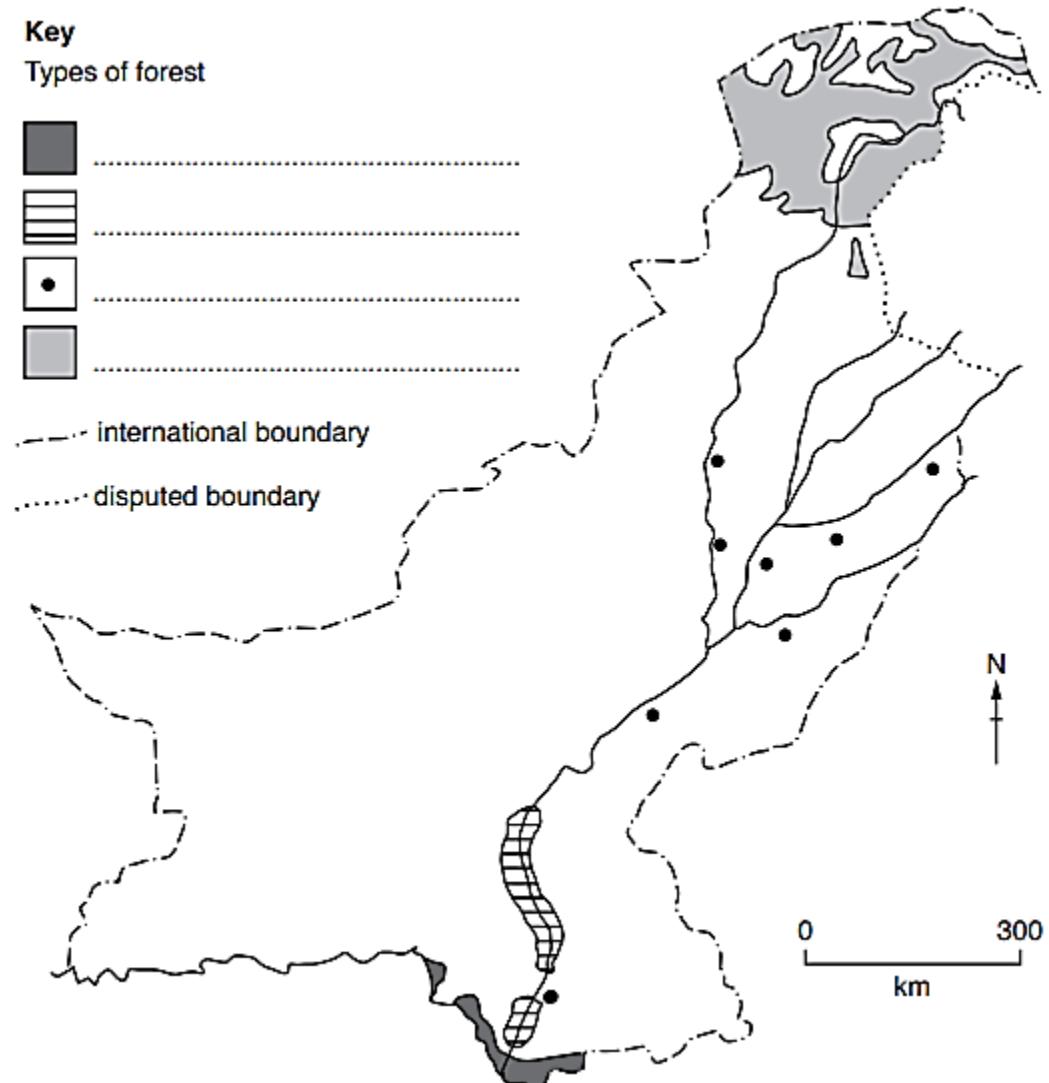
To prevent siltation in rivers/canals, to decrease surface runoff, to prevent soil erosion/landslides (preserves top layer of fertile soil for agriculture) /landslides, to increase rainfall

To create habitat (to conserve animals /wildlife)/ to create scenic beauty (to boost tourism)/to create shade/cooler temperatures

To purify air/produce O₂/ to absorb CO₂ (which will help prevent global warming)

To prevent/ control flooding

(c) Study Fig. which is a map showing different forest types in Pakistan.



(i) In the key, name the types of forest shown on the map. [2]

Markscheme:

(Top to bottom) Mangrove, Riverain / Bela, Irrigated, Coniferous / Alpine

(ii) For one of the forest types you have named in (i):

- Describe the features of the forest.
- Explain the uses or purpose of the trees that grow there.

Markscheme:

Description: 2 Marks	Uses / Purpose: 2 Marks	General points: max 1 Mark
MANGROVE <ul style="list-style-type: none"> • Leaves – broad / drip tips / leathery / pointed • Low / 3–8 m / do not grow tall / general height 3 m • Grow on mudflats • Survive in sea water / salt tolerant • Roots bend into water • Roots filter salt from water 	<ul style="list-style-type: none"> • Firewood • Breeding ground for fish / shrimps • Leaves food / nutrition for fish • Fodder for camels / livestock • Protects from coastal erosion • Furniture • Thatching material • Barrier against floods, tsunami, storms / intensity of earthquakes 	<ul style="list-style-type: none"> • Reduce surface run-off • Prevent floods • Prevent soil erosion • Protect against air pollution • Purify air • Protect soil (conserve soil) • Humus to increase soil fertility • Increase rainfall • Timber • Habitats / breeding and conserving areas for birds and wildlife
RIVERAIN / BELA <ul style="list-style-type: none"> • Shishum / • babul / willow / dhak • Commercial hardwoods 	<ul style="list-style-type: none"> • For furniture / agricultural instruments / construction • Firewood 	
IRRIGATED <ul style="list-style-type: none"> • Blocks of same species shishum / babul / eucalyptus / jhand • Dense / compact 	<ul style="list-style-type: none"> • Firewood • Shade • For construction / fencing 	
CONIFEROUS / ALPINE <ul style="list-style-type: none"> • 30 m • Spruce / fir / deodar / kail / chir • Evergreen • Conical shape / downward sloping branches • Leaves small / narrow / needle-shaped / leathery • Roots wide-spreading / shallow • Survive in low temps 	<ul style="list-style-type: none"> • For furniture / boxes / crates • For paper and pulp • Protection from landslides • Tourism • For scenic beauty • For construction • Firewood 	

(c) (i) Name one type of tree grown on plantations in Pakistan. [1]

Markscheme:

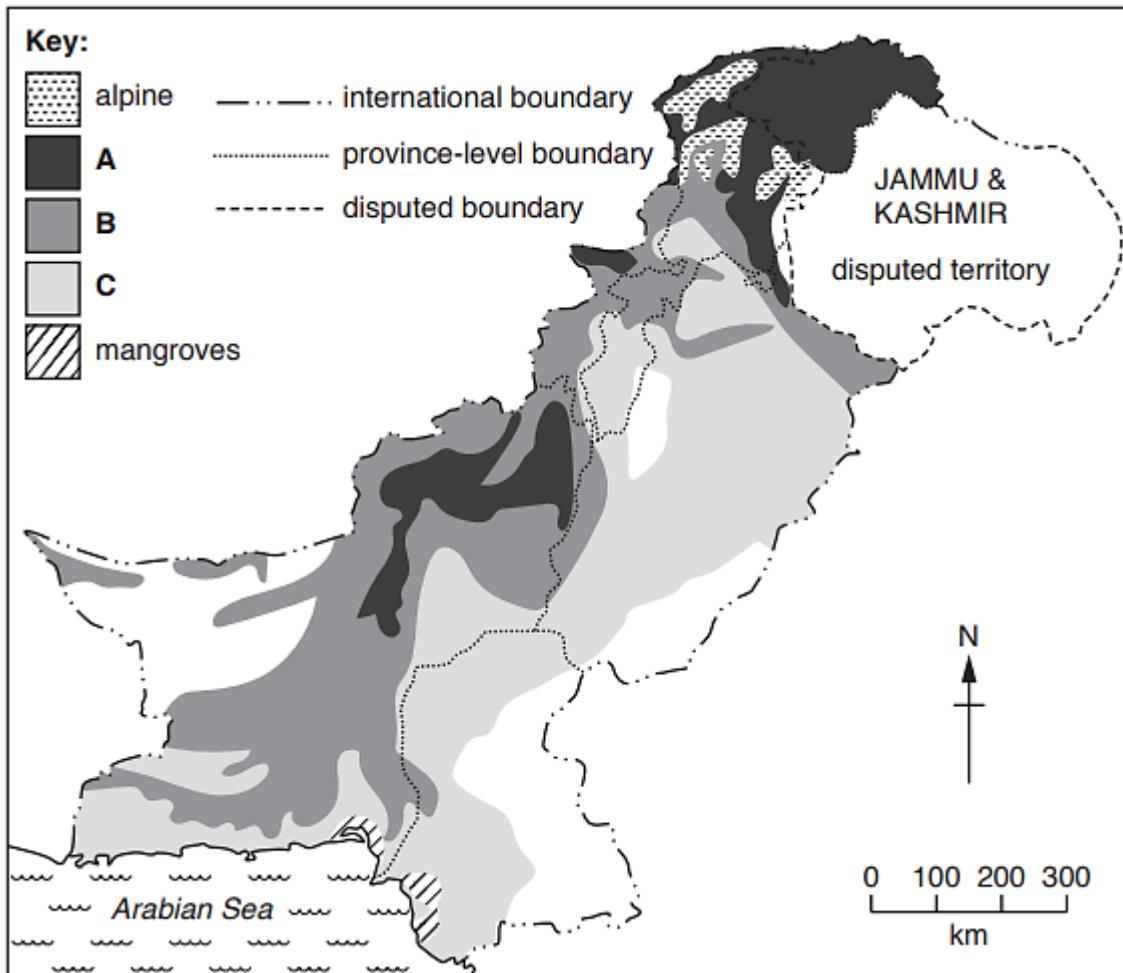
babul, shisham, acacia, coniferous / spruce / fir, eucalyptus, jhand, tamarisk, fruit trees.

(ii) Describe three physical factors which influence the distribution of forests. [3]

Markscheme:

- Rainfall – in sufficient quantity / distributed throughout the year / arid areas only thorn or scrub / wetter areas for evergreen / broad-leaved;
- Temperature – mild / warm for non-coniferous / cool / cold for coniferous;
- Extent of water supply other than rainfall – oases / aquifer at surface, river banks, sea / estuary / delta for mangroves / tolerates salt;
- Soil – alluvium for mangrove / riverain / soil type influences density of forest;
- Altitude – types of forest vary with altitude / only up to treeline at 4000 m / coniferous 1000–4000 m / thorn / scrub / riverain below 1000 m.

(a) (i) Study Fig. , a map showing forest types in Pakistan.



Name the forest types shown at A, B and C: [3]

Markscheme:

- Forest type A – Coniferous;
- Forest type B – Subtropical scrub / subtropical dry / subtropical thorn / dry thorn scrub;
- Forest type C – Tropical thorn / rakh.

(ii) Using Fig. , name two areas in Pakistan where mangroves grow [2]

Markscheme:

- Coastal areas of Sindh / Indus Delta;
- Coastal areas of Balochistan / Sonmiani Bay;
- Along the coastline of / near the Arabian Sea.

(b) (i) Describe two natural characteristics of mangrove forests. [2]

Markscheme:

- Broad / big leaves / leaves have drip tips;
- Leaves are leathery / have reduced number of stomata;
- Low trees and shrubs;
- Height 3–8 m;

- Can survive in salty water;
- Roots filter salt / have aerial roots / have prop roots / roots stick up out of water;
- Prefer clean / unpolluted water.

(ii) Describe two functions of forests.[2]

Markscheme:

- Protect soil from erosion / being blown away;
- Lower the temperature / provide shade / create a more pleasant environment;
- Provide humus to fertilise the soil;
- Provide raw materials / named example, e.g. timber (for industry) / furniture / medicines / firewood;
- Many jobs depend on forests / examples of jobs;
- Recreational value / promote tourism / provide scenic beauty;
- Prevent floods;
- Take in CO₂ / release O₂;
- Provide habitat for wildlife;
- Increase / encourage rainfall / create transpiration;
- Help with desalination (Eucalyptus trees).

(iii) Suggest three physical factors which determine the type and density of forests.[3]

Markscheme:

- Altitude, e.g. high altitude = fir / spruce / alpine;
- Precipitation, e.g. dry areas = thorny bushes / scrub;
- Precipitation, e.g. high precipitation = coniferous / evergreen forests;
- Soil type / edaphic factors, e.g. salty areas = mangroves / fertile soil = high density;
- Temperature, e.g. low / cold = alpine;
- Temperature, e.g. high / hot / warm = tropical scrub;
- Presence of rivers = riverain / bela;
- Presence of oases = individual trees / palms.

(c) (i) Study Fig. , which shows a coniferous tree.



Explain how this type of tree has adapted to the climatic conditions it grows in. You should develop your answer. .[4]

Markscheme:

- Evergreen – no need to renew leaves / short growing season;
- Compact conical shape – stabilises the tree in windy conditions / releases snow / prevents snow accumulation;
- Needles instead of leaves – reduces moisture loss;
- Tall / straight trunk – in order to grow straight towards sunlight;
- Cones – protect seeds during cold months;
- Downward pointing branches – allows snow to easily fall off;
- Shallow root system – as soils are thin / subsoil is frozen for most of the year;
- Long / wide spreading roots – helps to anchor the tree against strong winds;
- Thick bark – protects from cold winds.

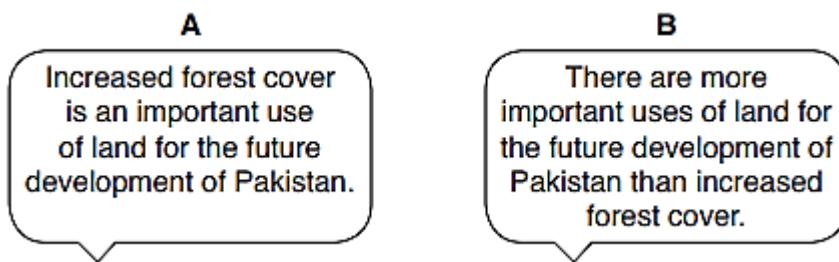
(ii) State three causes of deforestation in Pakistan. [3]

Markscheme:

- For farming / agriculture / growing crops / irrigation;
- Urbanisation / growth of settlements;
- Construction of roads / railways;
- Industrialisation / growth / spread of industries;
- Use of wood in industry / to sell / examples of use of wood, e.g. timber / furniture;

- Mining / extraction of raw materials;
- For fuelwood / cooking / heating;
- Overgrazing causes more trees to be cleared for cattle;
- Fire;
- Flooding;
- Reservoirs for dams.

(d) Around 5 per cent of the land area of Pakistan is forested. To meet sustainable development targets the amount of land covered by forest needs to increase to 25 per cent by 2030. Read the following two views about possible uses of land in Pakistan:



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 and View B in your answer. [6]

Markscheme:

Importance of forests

Protect against soil erosion important for the future of agriculture;
 Protect areas against flooding important for settlements and industry;
 A valuable resource for industry;
 Without forests other industries / example(s) of industries will not succeed;
 Help to regulate the climate / carbon sink;
 Mangroves protect against tropical cyclones / without mangroves industry and housing can be lost;
 Development of tourism / ecotourism / sustainable tourism.

Importance of other uses of land

Needs to be used for developing industry / land too valuable for growing trees;
 Land is limited;
 Growing population needs new settlements / construction of settlements;
 More food needs to be grown for growing population and for export;
 Trees take a long time to grow so have to wait for a capital return on them;
 For named infrastructure development, e.g. roads / electricity grid.
 Etc.

[October/November 2019]

(c) (i) State two reasons why deforestation has occurred in the Northern Mountains. [2]

Markscheme:

- Road / rail building;
- Demand for firewood / fuel;
- To graze / feed livestock;
- Build houses / settlements / hotels;

- Industry / furniture / timber / paper;
- Develop hydel power / power stations / building reservoirs.

(ii) Explain two impacts of deforestation in the Northern Mountains on the natural environment. You should develop your answer. [4]

Markscheme:

- Soil erosion; due to minerals being leached (washed) through the soil / soil blown away / soil washed away downhill (dev);
- Increased number of landslides; because no roots to hold the soil together / in place / rain saturates soil and washes it downslope (dev);
- Habitats lost; means species are endangered / at risk of extinction / land barren (dev);
- Ecosystems destroyed; food-chains are broken / disrupted / animals forced to move to other areas / animals or species die (dev);
- Soil washed into rivers; raises the water level of rivers / causes more flooding / causes siltation (dev);
- No trees to stop flow of water or run off; leads to flooding / increased run off (dev);
- Patches of salt left behind; leads to infertile land (dev);
- Evaporation reduced; changes to rainfall pattern (dev);

Etc.

(d) Reducing the impacts of deforestation is more achievable in the northern regions than in other areas of Pakistan.

To what extent can the problems caused by deforestation in the northern regions of Pakistan be solved? Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer. [6]

Markscheme:

Ways of reducing impact of deforestation

- Soil can be more readily protected from erosion in the Northern areas than other areas due to the wetter climate / afforestation on steeper slopes / hedgerows planted / strip cultivation / contour ploughing / terracing on steep slopes;
- Supplying irrigation facilities to the deforested areas;
- Planting commercial species of trees which grow rapidly;
- Reserving land for fuel wood plantation only, saving valuable species of trees;
- Education amongst the people about the importance of trees;
- Creation of non-governmental agencies to promote afforestation and campaign against deforestation;
- Supply natural gas to Northern Regions to ease the pressure on trees for fuelwood;
- Improved techniques of raising nurseries and planting trees so deforested areas can be regenerated in a shorter time;
- Ensuring that forestry and forest management is more sustainable, e.g. use of selective logging / restricting use of bulldozers / strict

enforcement of forest laws / enforcement of village / farm forestry programmes / urban forestry programmes;

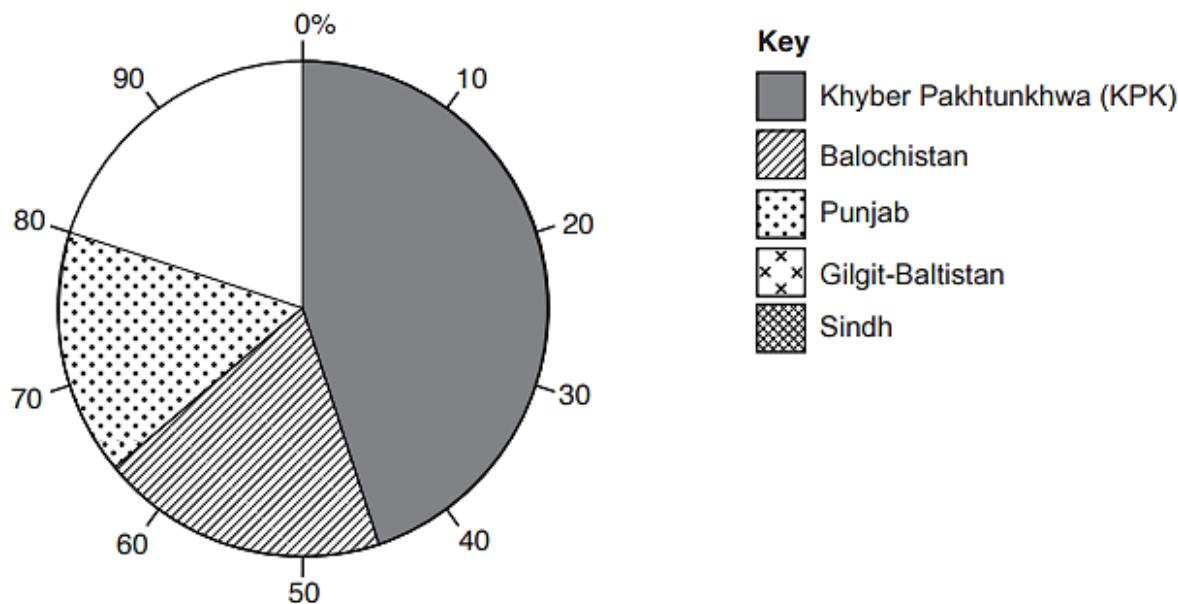
- Planting fruit trees on the slopes of hills to provide food for the local people;

Etc.

Acceptable alternative approaches include: arguing that the impacts can be reduced in other areas more easily due to greater accessibility and availability of named resources, etc.

[October/November 2020]

Study Fig. , a pie graph showing the percentage share of Pakistan's total forest cover by province-level area.



(a) (i) Complete the pie graph in Fig. 4.1 to show the percentage of total forest cover found in Gilgit-Baltistan and Sindh. Use the information below and the key provided:

province-level area	percentage (%)
Gilgit-Baltistan	11
Sindh	9

[3]

Markscheme:

1 mark for accurate completion of line on pie chart (11%/9% or vice versa),

1 mark for Sindh correctly shaded, 1 mark for Gilgit-Baltistan correctly shaded

(ii) Complete the passage below about reasons for the variations in the percentage share of forest cover shown in Fig., Choose the correct words from the list and place them in the spaces provided. [3]

KPK has the largest percentage share of forest cover in Pakistan because the
..... is more suitable for growing trees. There are fewer
trees in Punjab because the land is needed for
Some areas may have suffered more from than
others.

afforestation	altitude	climate
cultivation	deforestation	recreation

Markscheme:

KPK has the largest percentage share of forest cover in Pakistan because the **climate** is more suitable for growing trees. There are fewer trees in Punjab because the land is needed for **cultivation**. Some areas may have suffered more from **deforestation** than others.

(b) (i) State three functions of forests in Pakistan. [3]

Markscheme:

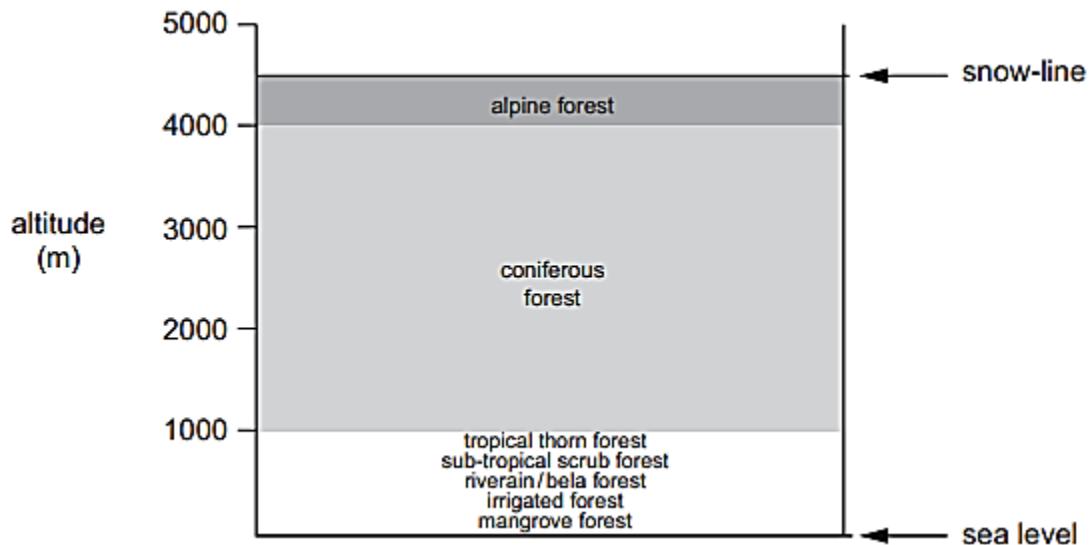
- provides shade/lowers temperature;
 - provides humus/fertilises soil;
 - prevent soil erosion/landslides;
 - reduces flooding/prevent silt/reduce surface runoff;
 - used for timber;
 - used for fuel wood/firewood/wood;
 - for making products e.g. furniture/boats/paper/trucks/bridges;
 - provide oxygen/reduce carbon dioxide/air pollution/purify air;
 - shelter for wildlife/habitat;
 - building houses;
 - for domestic use/cooking;
 - scenic beauty/recreation opportunities/tourism;
 - for medicinal purposes/in pharmaceutical industry;
 - provide moisture through evapotranspiration;
 - mangroves protect coastlines/provide breeding ground for fish;
 - provides food/fruit/nuts/herbs.

(ii) State one difference between productive forests and protection forests. [2]

Markscheme:

- productive forests are mainly natural/high tree density/forest canopy is closed/great commercial value/mostly used for extraction of timber/wood/firewood;
 - protection forests are mainly planted by people/man-made/often linear/along roads/railways/in parks/little commercial value/main function is to protect the soil/provide shade.

(iii) Study Fig. , a diagram showing how altitude affects vegetation type.



Using Fig. and your own knowledge, suggest how altitude affects the type and amount of vegetation in Pakistan. [4]

Markscheme:

- fewer trees grow as altitude increases/more trees grow at lower altitudes;
- more variety of trees/forests/grow at lower altitudes/named examples/altitude affects temperature lower altitudes are warmer which results in a wider variety of trees/forests;
- mangrove forests are along coastline/mouth of rivers/low altitude/sea level to 1000 m/irrigated/riverain/sub-tropical/tropical thorn;
- high/mid-altitudes only have evergreen/coniferous/alpine trees/types of leaves described/sloping branches;
- only coniferous grow 1000–4000 m;
- altitude affects temperature/temperature decreases with height which results in stunted growth of trees at 4000 m and above/alpine forests;
- 4000–4500 m only alpine grow/highest forest is alpine/alpine found just below snow line;
- no trees grow above the snowline/above 4500 m.

(c) Explain two effects of deforestation on the natural environment of Pakistan. You should develop your answer. [4]

Markscheme:

- exposure of soil (1); leads to soil erosion by wind or water (dev);
- no roots to slow down infiltration (1); leads to flooding (dev);
- habitat loss/less shade for animals (1); leads to extinction of animals/species (dev);
- breaks down the food chain (1) leads to extinction (dev);
- more CO₂ in the atmosphere/more pollution in the air (1); increased global warming/climate change/increased temperatures/because trees

act as filters/trees absorb pollutants (dev);

- increased surface runoff (1); due to lack of roots to slow down movement of water/which could lead to flooding (dev);
- amount of rainfall is decreased/water cycle disrupted (1); due to less evapotranspiration (dev).

(d) The United Nations environment programme supports Pakistan's initiatives with forest owners, the timber industry and forest-dependent communities to keep its forests alive and healthy by controlling deforestation and degradation.

To what extent can initiatives on forests encourage further sustainable development in Pakistan? Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer. [6]

Markscheme:

Forest initiatives can encourage further sustainable development

- there is a financial incentive for the government/country to protect their forests and reduce deforestation;
- it is an international initiative so likely to be implemented and monitored effectively;
- specific criteria clearly identified for governments/countries to adopt;
- examples of sustainable management strategies for implementation e.g. plant a tree for everyone cut down;
- use of LPG/CNG or other fuels will lead to less deforestation;
- education about the importance of trees and sustainable development of forests;
- local landowners given a financial incentive to plant trees rather than other uses/named examples;
- encourage eco-tourism;

Etc.

Ideas against

- individual landowners will still deforest areas if they need the land for other purposes or examples of what land is needed for;
- it is not clear how much will be paid to the government/country for their co-operation;
- the financial incentives may not be lucrative enough compared to the financial benefits of deforestation;
- long term project/investment as takes time for trees to grow;
- resistance to education about the importance of trees in some tribal areas;
- political/government changes can alter forest laws;
- initiatives may be mismanaged;
- illegal cutting of trees/cutting cannot be controlled;

Etc.

Named examples could include: The Tarbela/Mangla Watershed Management Project/Rachna Doab Afforestation Project/Billion Trees project/Agha Khan Rural Support Programme etc.

Mineral Resources

[May/June 2014]

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

Markscheme:

Quetta – coking coal / Sharig coal / sub-bituminous

Lower Sindh / Thar (desert) – lignite

Salt Range / Dandot Pidh – sub-bituminous / lignite

Makerwal – sub-bituminous

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

Markscheme:

High ash content

High moisture content

High sulphur content

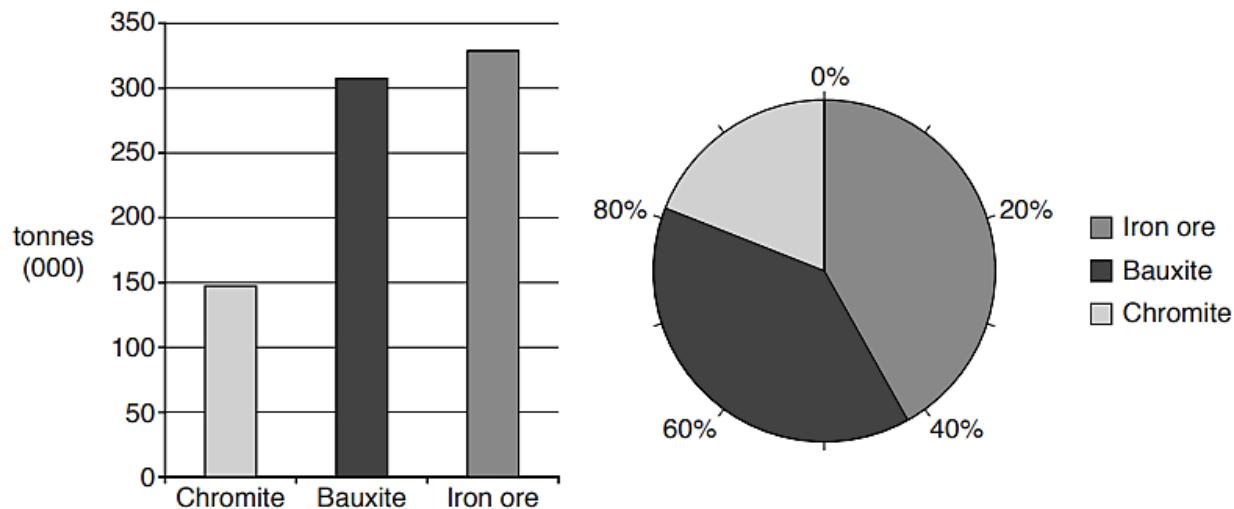
Low (hydro)carbon content

Gives off less heat / low heating value / low burning temperature

Crumbles easily / soft / not compressed

[May/June 2015]

(a) Study Figs . and . which give information about the extraction of three metallic minerals in Pakistan in 2010–11.



(i) How much iron ore was extracted in 2010–11? [1]

Markscheme:

320000 tonnes

(ii) State the difference between the type of information being provided in Fig. , compared to that in Fig. , [1]

Markscheme:

Fig. 3 shows quantities/amounts/tonnes whereas Fig. 4 shows proportions/share/percentages of the total amount (Bar v Pie alone = 0)

(b) (i) Give one use for the mineral chromite and name one area where it is extracted in Pakistan. [2]

Markscheme:

Used in steel/bridges/railway carriages/furnace linings/tools

Muslimbagh/Zhob (Valley)/Wad

(ii) What are the benefits of extracting mineral resources for local people and the national economy? [4]

Markscheme:

Local people

Employment opportunities

Higher/more stable incomes

Higher living standards/settled lifestyle

Business opportunities for local/ancillary industries/services

Improvement to local infrastructure such as roads/electricity (infrastructure alone = 0)

Local use of raw materials with example (do not double mark raw material in national economy)

National economy

Raw material for named sectors of economy, e.g. energy, construction, agriculture, industry

Named raw material

Industrialisation / industry developed

Revenue/taxes for government

Export earnings/contributes to balance of payments/source of foreign exchange/ exports increase

Reduces national debt/deficit

Reducing imports

(iii) Explain the effects of mineral extraction on the natural environment. [4]

Markscheme:

Deforestation to clear land

Destroys habitat/wildlife/plants

Land deformation/destruction/destroys land

E.g. holes/pits/depressions/tips/spoil heaps/flooding

Ash waste/ash ponds/toxic waste

Subsidence even after mining activity finished

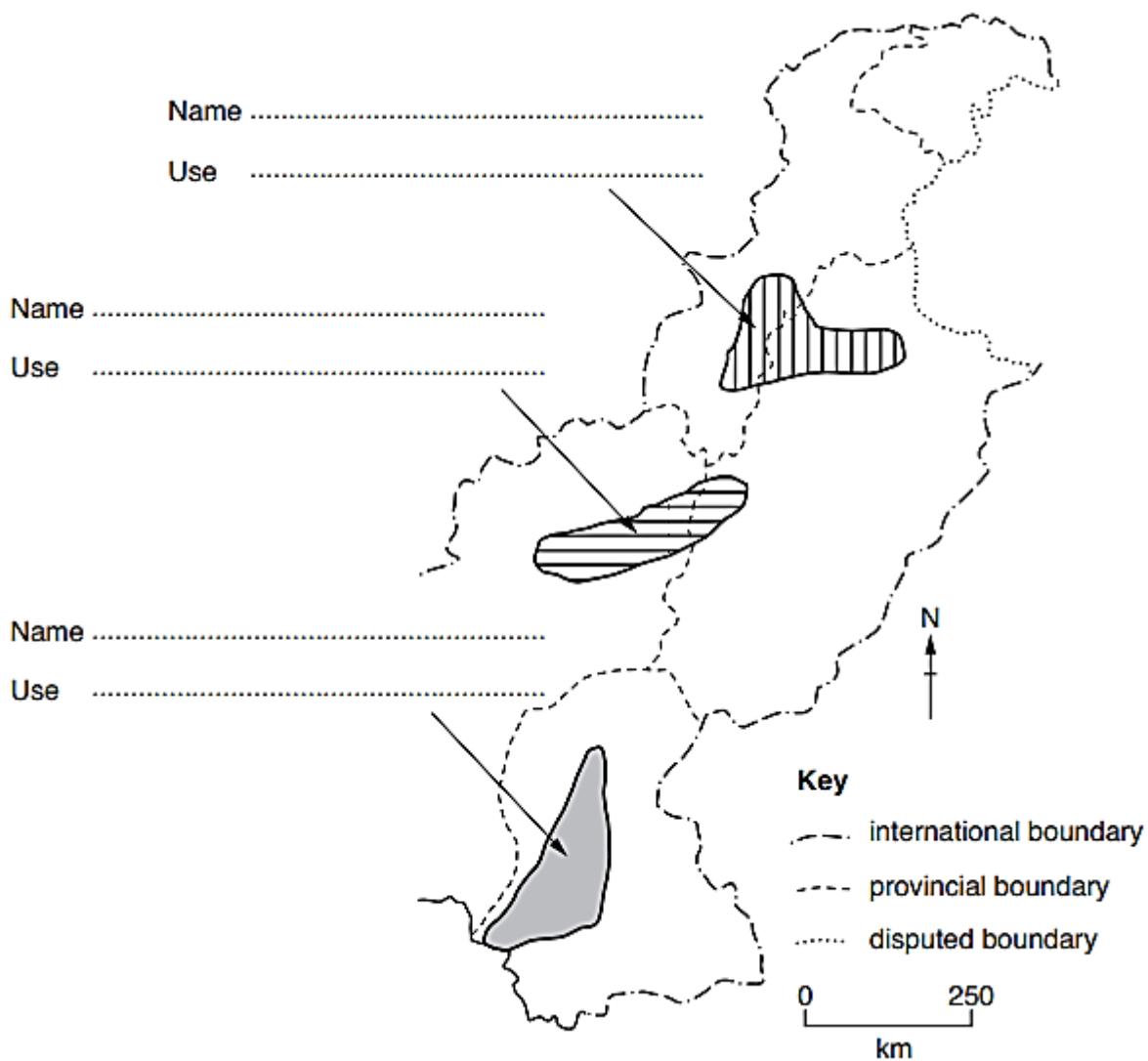
Noise pollution from machinery/blasting/scares/disturbs wildlife

Air pollution from dust and smoke

Water pollution – seepage into ground water/rivers/seas

[October/November 2016]

(a) Study Fig. which is a map showing the locations where three different non-metallic minerals are extracted in Pakistan.



(i) For any two locations, state the name of the mineral extracted and a use for this mineral.

Write your answers in the spaces provided on Fig. 3. [4]

You should choose from the following list:

gypsum

limestone

rocksalt

Markscheme:

Location

NW – rocksalt / limestone / gypsum

Central – limestone / gypsum

S – limestone

Uses

Rocksalt: cooking / preservation / soda (used in laundries / textiles / tanning) flavouring

food

Gypsum: paints / fertilisers / boards / cement / to treat saline soil / plaster of paris

Limestone: for building / cement / bleach / glass / soap / paints / to treat saline soil / bleaching powder / paper

(ii) Using Fig. 3 and your own knowledge, suggest difficulties there may be in getting minerals to export markets. [3]

Markscheme:

Heavy / bulky commodities

Expensive to transport

Roads and railways from mining areas poorly developed / or not connected

Mostly extracted far inland / away from ports / Karachi / distance from markets / takes a long time / remoteness

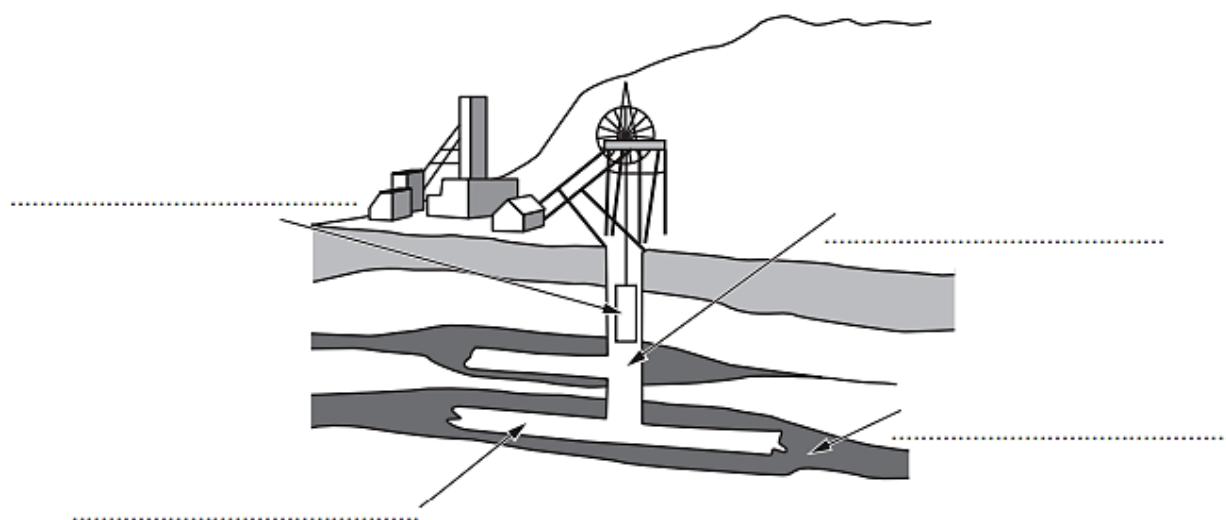
Mountainous / rugged terrain

Theft

Inappropriate / inadequate vehicles to transport minerals

(a) Study Fig. , which is a diagram of a coal mine

Type of mine



(i) Choose two terms from the list below and use them to label the diagram in any two of the spaces provided.

adit cage shaft open-cast seam tunnel [2]

Markscheme:

Any two of (left to right): cage, tunnel, shaft, seam, shaft, (type of mine)

(ii) Suggest two reasons for using this type of mine and one disadvantage of using it. [3]

Markscheme:

Reasons

To access seams deep below surface

To access seams of different depths

Can exploit further along the seams

Where seam does not appear at / near surface / hillside

Disadvantage

More expensive

Greater risk of accident / flooding / gas build-up – credit all reasonable ways that accidents can happen
Dependent on [power for] lift to the surface

(iii) What type of coal is imported by Pakistan and how is it used? .[2]

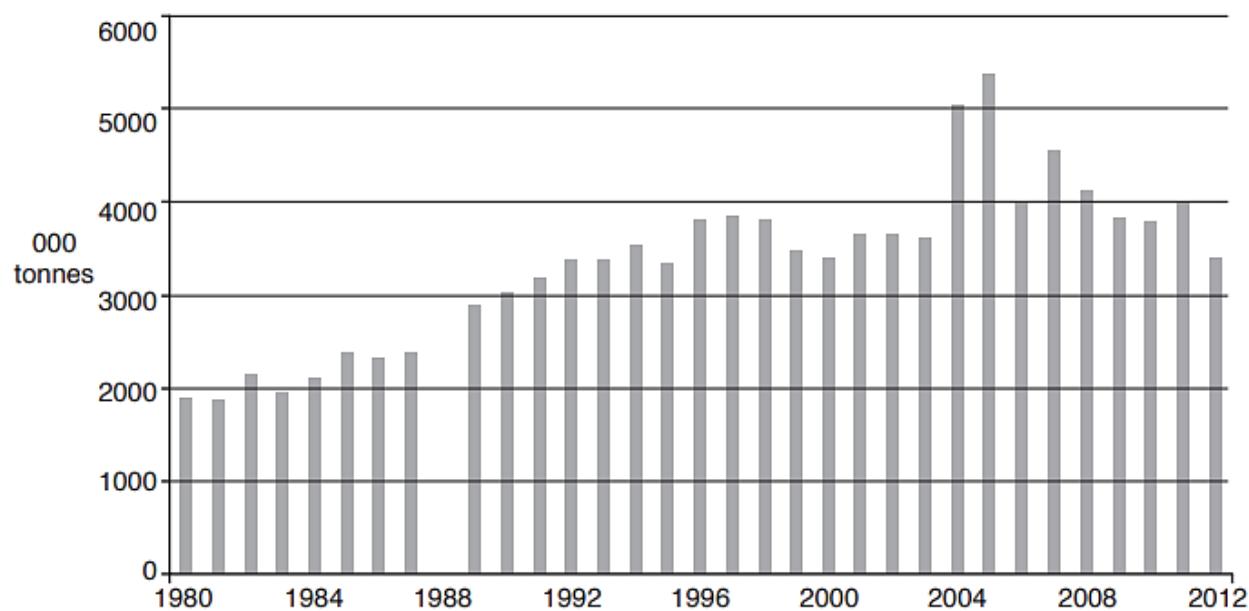
Markscheme:

Type: Anthracite / bituminous

Use: Steel industry / heavy engineering / smelting

[May/June 2017]

(b) Study Fig. , which shows the amount of coal produced in Pakistan over the period 1980–2012.



(i) Name two coal producing areas in Pakistan. [2]

Markscheme:

- Lower/S Sindh/Lakhra/Jhimpir/Sonda/Thar/Thar desert;
- N/NW Balochistan/Quetta/Sor/Mach/Degari/Khost/Shahrig/Harnal/Duki/Chamalang;
- Salt Range/Dandot Pidh/Potwar plateau;
- Makerwal.

(ii) A Complete Fig. , by drawing the bar for 1988. The amount of coal produced in 1988 was 3 million tonnes.

Markscheme:

Bar accurately drawn on Fig.

Note: Width within demarcations and height must touch the 3m line

B In which year did coal production peak?

Markscheme:

2005

C How has coal production changed since its peak? Circle the correct answer.
increased decreased stayed the same [3]

Markscheme:

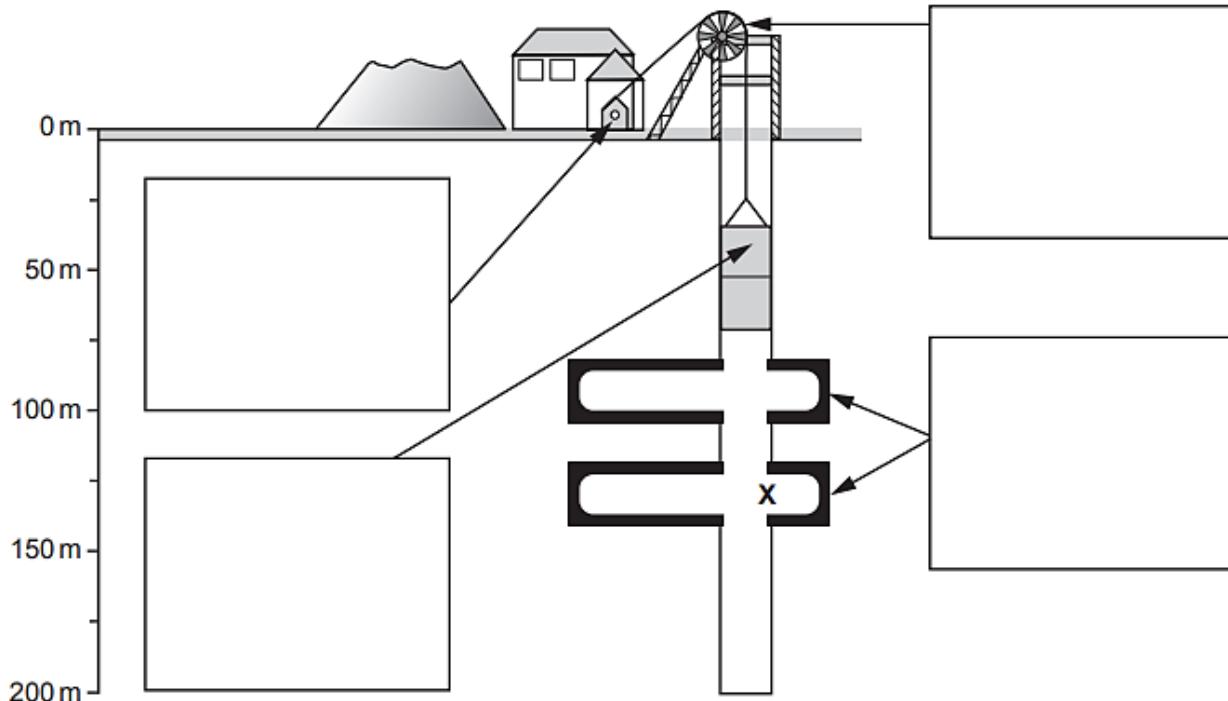
Decreased

(iii) Explain why the amount of coal being extracted in Pakistan has changed since its peak.
You should develop your answer. [4]

Markscheme:

- Existing coalfields becoming exhausted/existing coal measures becoming harder to access (therefore increasing cost of extraction);
- High cost of extraction/exploration/equipment/ technology (leads to indebtedness);
- Lack of government funding (which a developing country with high population growth cannot afford);
- Lack of/poor transport links to/from coal producing areas/potential coal producing areas (which discourages further investment);
- Lack of skilled/highly trained labour (therefore requiring expensive foreign expertise);
- Insurgency/lack of security (which discourages foreign mining companies from operating/investing);
- Decreased demand for fossil fuels/change to cleaner fuels/renewables (due to world agreements/targets);
- Coal from Pakistan is low grade (so has to be imported from other countries);
- Domestically replacing coal with gas (as Pakistan has many gas fields, e.g. at Sui/one of largest in world);
- Change from coal to oil/diesel for trains (due to partition).

(a) (i) Study Fig. 3.1, a diagram showing a method of coal extraction.



Complete the boxes on Fig. 3.1 by choosing the correct words from the list below.

cable	cage	coal	seams	head frame
tunnel		winch		wheel

[4]

Markscheme:

Cable;

Cage;

Coal seams;

Winch.

(ii) Using Fig. , state the depth of the mine at X [1]

Markscheme:

130 m

(iii) The method of coal extraction shown in Fig. is an example of:

open cast mining adit mining shaft mining

Circle the correct answer. [1]

Markscheme:

Shaft mining

(b) (i) Name two types of coal found in Pakistan and describe the characteristics of each. [4]

Markscheme:

Type

Anthracite;

Bituminous/steam coal;

Bituminous/coking coal;

Lignite.

Characteristics

Anthracite – best quality coal/hardest with highest hydrocarbon content/burns quietly with good heat;

Bituminous/steam coal – superior black, hard coal. Burns readily with great heat/less hydrocarbon content than anthracite;

Bituminous/coking coal – coking coal is burnt to produce coke/a hard grey porous material/used in blast furnaces for the extraction of iron from iron ore;

Lignite – lower quality coal/high moisture and ash content/low heating value.

(ii) State one major use of coal in Pakistan.

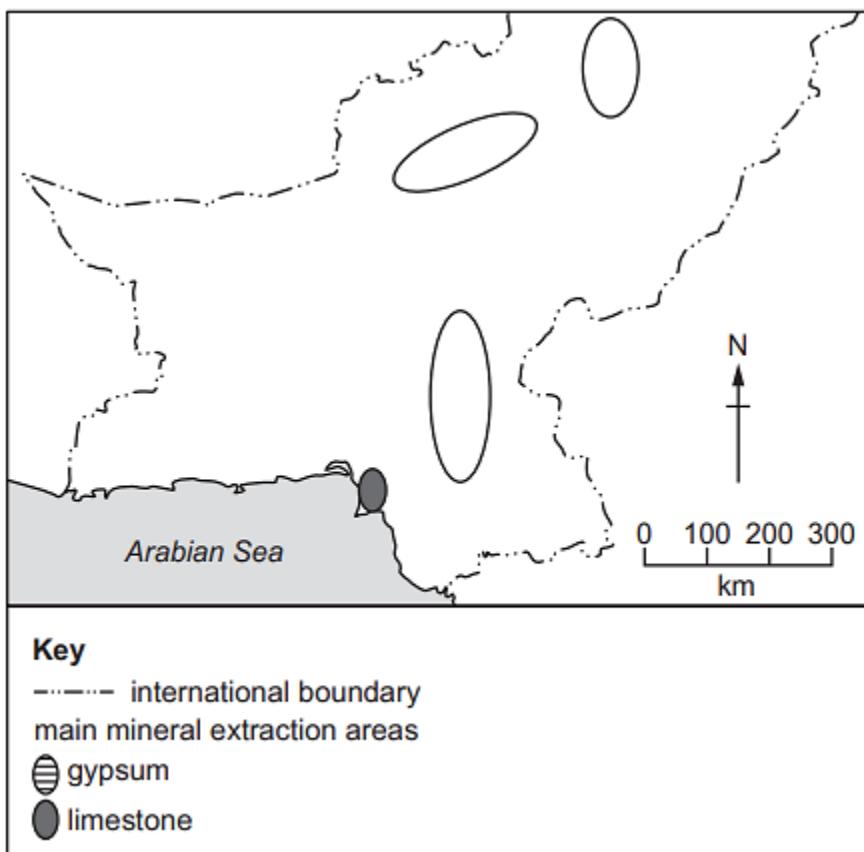
Markscheme:

Ideas such as:

Industrial processes or example e.g. cement or brick manufacturing/electricity generation/domestic heating; etc.

[May/June 2021]

(a) (i) Study Fig. , a map showing the four main areas of gypsum and limestone extraction in southern Pakistan.



Complete the shading of the oval shapes in Fig. to show the main areas where gypsum and limestone are extracted. Use the information in the key. One area of limestone has already been shaded for you. [2]

Markscheme:

- gypsum one area correctly identified (horizontal oval) and shaded = 1mark;

- limestone two areas correctly identified (both vertical ovals) and shaded =1 mark.

(ii) State two uses of each mineral in Pakistan.

Gypsum

Limestone [4]

Markscheme:

gypsum uses:

- cement;
- fertilisers;
- Plaster of Paris;
- paint;
- pre-fabricated construction boards;
- spread on saline soil/help reclaim land for farming/chemical industry.

limestone uses:

- bleaching;
- buildings;
- cement;
- glass;
- iron;
- lime;
- paint;
- painted on barks of trees/reduce pest attacks;
- paper;
- powder;
- produce alcohol/fuel;
- soap;
- to treat sugar cane waste.

(c) (i) Complete the passage below about limestone extraction in Pakistan. Choose the correct words from the list and place them in the spaces provided.

Building	equipment	excavation	explosives
Methods	minerals	mining	outcrops

When limestone at the surface it is extracted by quarrying.

Quarrying is an open from which stone is extracted for and engineering purposes. Quarrying is carried out by using different and such as hand tools, or power saws, depending on the final use of the limestone.

[3]

Markscheme:

When limestone outcrops at the surface it is extracted by quarrying. Quarrying is an open excavation from which stone is extracted for building and engineering purposes. Quarrying is carried out by using different methods and equipment such as hand tools, explosives or power saws, depending on the final use of the limestone

(iii) Define 'sustainable'. [1]

Markscheme:

Able to be maintained/will last a long time/will not cause damage/future generations not compromised.

(d) Evaluate the extent to which the extraction of Pakistan's mineral resources could be made more sustainable.

Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer. [6]

Markscheme:

Answers are likely to refer to:

- for mineral extraction to be sustainable it means that the current population must be able to meet their own needs without compromising the needs of future generations/not harm the environment or that the environment can be returned to its former state once extraction has ceased/the economy benefits etc.
- for mineral extraction to be sustainable all parts of the process need to be considered e.g. exploration/extraction/transportation of raw materials/disposing of waste etc.

mineral extraction could be made more sustainable because:

- there are large deposits of a variety of minerals in Pakistan so they can select which ones to use;
- can enforce strict environmental guidelines and laws or examples;
- increased use and availability of technology makes reserves more viable;
- can return the environment to its former state after extraction;
- use of renewable energy sources to exploit mineral deposits;
- availability and use of technology is limited in some areas and traditional methods are still used;
- profit is put before the environment;
- habitats and loss of wildlife cannot be restored fully;
- harmful to people e.g. vibrations from explosives/danger whilst working;
- cost of extraction is high/viability may be low;
- waste is harmful to the environment and may not be disposed of carefully;
- environmental laws/regulations may not be enforced;
- re-using and re-cycling may not be fully utilised;
- causes visual, noise, land, water and air pollution;

Etc.

[October/November 2021]

(ii) Name two minerals that can be obtained from the Salt Range and suggest one use for each. [4]

Markscheme:

- mineral: salt/halite
- use: for cooking/preserving/foods/soda/bicarbonate of soda/caustic soda/soda for laundry/textiles/tanning/bath salts/cosmetics/ (decorative) lamps.

- mineral: gypsum/anhydrite.
- use: cement/concrete/paints/fertilisers/plaster boards/plaster of Paris/spread on saline soil in farming.
- mineral: limestone
- use: 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.
- mineral: coal
- use: in brick kilns/to make coke/coal briquettes/in power generation/cement production/medicines/tars/(home and commercial) heating.
- mineral: bauxite
- use: to produce aluminium/utensils/tins/cans/furnace linings/abrasives.

(c) (i) Explain two ways in which the natural topography of the Salt Range makes mineral exploitation difficult. You should develop your answer. [4]

Markscheme:

- steep slopes/mountainous/rugged/uneven ground – so it is difficult to get (large) machinery into the area/can be landslides due to drilling/explosives;
- deep ravines – inaccessible as difficult to build roads to where minerals are found;
- loose rocks/rock falls/landslides – dangerous working conditions/risk of accidents;
- badland topography – more expensive to reach the minerals/ expensive to build roads;
- barren land – difficult to construct roads;

(ii) Describe three environmental problems caused by mineral extraction.[3]

Markscheme:

- vegetation cut down/deforestation as land is cleared for mining;
- soil erosion by exposure of soils to rains as land is cleared;
- habitats/ecosystem lost due to clearance of land;
- mining waste produces land pollution;
- water supplies polluted from mineral waste/chemicals from mining processes seep into groundwater and rivers/sea;
- air pollution from machinery/explosives/dust and smoke;
- noise pollution from machinery/extraction processes e.g. blasting;
- scarred landscape/deformed landscape from pits, tips, spoil heaps;
- subsidence due to collapse of underground tunnels;
- landslides due to explosions;
- depressions深深 holes which fill with rainwater

(d) Evaluate the benefits and problems of further developing the mineral extraction industry in Pakistan. Give reasons to support your judgement and refer to examples you have studied.

You should consider different points of view in your answer. [6]

Markscheme:

benefits:

- loans for equipment/hiring experts from abroad with technical expertise;

- sustainable mining techniques reduce environmental damage/allow safe disposal of waste;
- provides employment opportunities in remote rural regions;
- large mineral reserves - extraction allows long-term development;
- wages in mining often higher than in farming etc;
- transport and power infrastructure developed in remote areas
- encourages growth in industries using the minerals e.g. steel industry near coal and iron ore;
- improves the balance of payments/reduces imports and increases exports;
- producing more minerals means more income and increased GDP;
- more industrial development brings jobs, means increase in tax revenue for Pakistan can be spent on education/health;

Etc.

examples include:

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.

problems:

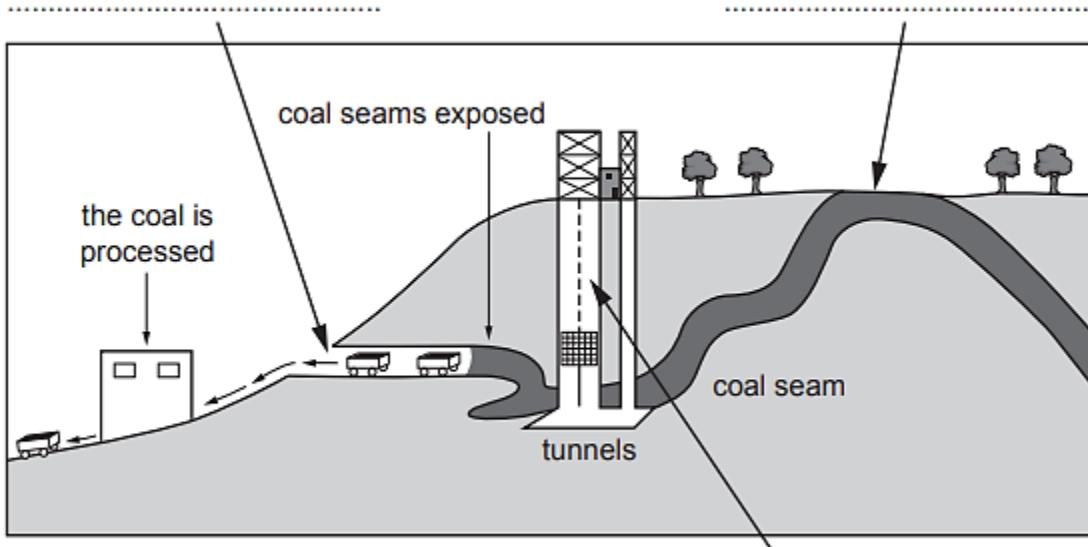
- environmental damage can be irreversible;
- better to develop other sectors of the economy e.g. agriculture to fulfil the demand from an increasing population;
- jobs may be low paid and dangerous;
- the financial cost of exploitation may not be fully recovered from the sale/use of the raw materials;
- cost of levelling the land after mining activity to avoid land deformation;
- cost of treatment of mining waste and fumes;
- cost of technology/machines/experts to make the industry competitive;
- some minerals are technically challenging/expensive to extract e.g. deep underground mining;
- limited pool of workers with skill to operate advanced mining technology;
- 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;
- cost of transporting minerals out/bringing workers in may discourage mineral extraction in remote areas e.g. deserts, mountain regions;
- oil pipelines are expensive to build/maintain

Etc.

examples include:

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

(a) (i) Study Fig. 3.1, a diagram showing three methods of coal extraction.



Name the three methods of coal extraction shown in Fig , in the spaces provided. [3]

Markscheme:

adit = top left open cast/pit/quarry = top right shaft = bottom right

(ii) Study Fig., a photograph of a mine in Pakistan. Using Fig. only, identify two features of the mine shown. [2]



Markscheme:

- tunnel/underground/passage
- rock/stone walls/rocky
- lights/dim light/poorly lit
- low ceiling/low roof
- nets/wire mesh on ceiling/roof
- rail(s)/track(s)/train track(s)
- (train/rail/mine) trucks/carts/trolleys
- orange/brown/grey colour rock/ground/walls
- flat ground/floor

(iii) Suggest how coal is extracted from the type of mine shown in Fig. in (ii). [2]

Markscheme:

Adit mine:

- coal/mineral seam is exposed on a hillside
- a tunnel/passage is made into the hillside/seam
- explosives/mining tools are used/coal is dug out
- tracks are laid/put down (through the tunnel)
- coal is put-loaded in trucks/carts/trolleys/tubs
- trucks/carts/trolleys/tubs run/are transported/pulled/pushed (on a track out of the mine)

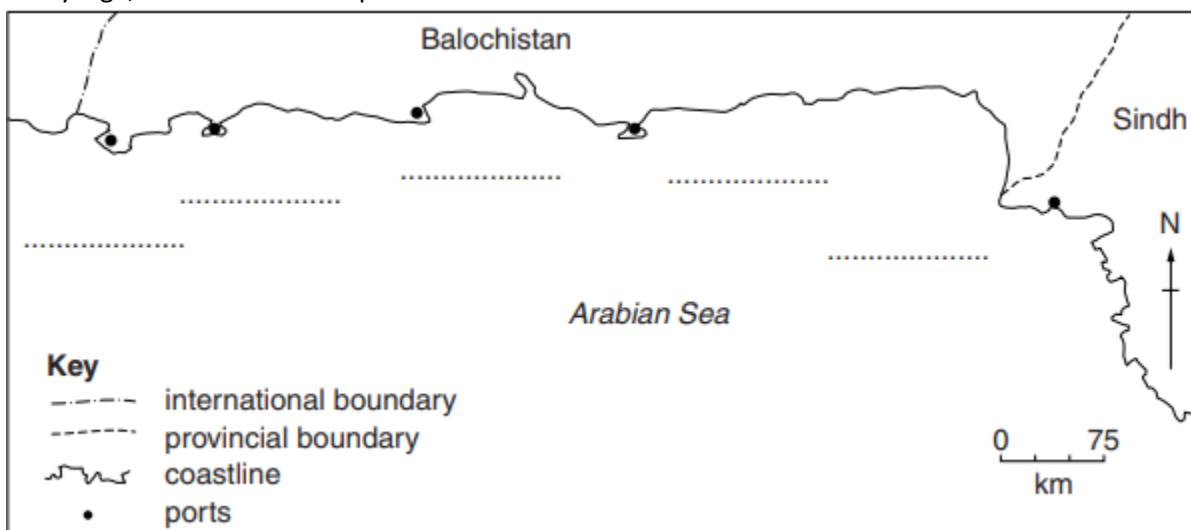
Shaft mine:

- a shaft is drilled down from the surface to reach the coal seam
- (underground)
- explosives/mining tools are used/coal is dug out
- tracks are laid/put down (through the tunnel)
- coal is put-loaded in trucks/carts/trolleys/tubs
- trucks/carts/trolleys/tubs run/are transported/pulled/pushed (on a track to the shaft)
- coal/trucks/loads lifted to the surface

Fishing Industry

[May/June 2013]

Study Fig. , which shows a map of the coast of Pakistan.



(a) (i) Name on the map, two of the ports shown. [2]

Markscheme:

Jiwani, Gwadar, Pasni, Ormara, Karachi (or Port Qasim) – from west to east

(ii) Name two types of fish caught in the sea near Pakistan. [2]

Markscheme:

shark, croaker, skate, drum, cat fish, rays, sardine (must be marine fish)

(iii) What is meant by 'over-fishing'? Why does it occur? [3]

Markscheme:

overfishing is when more fish are caught than replaced naturally

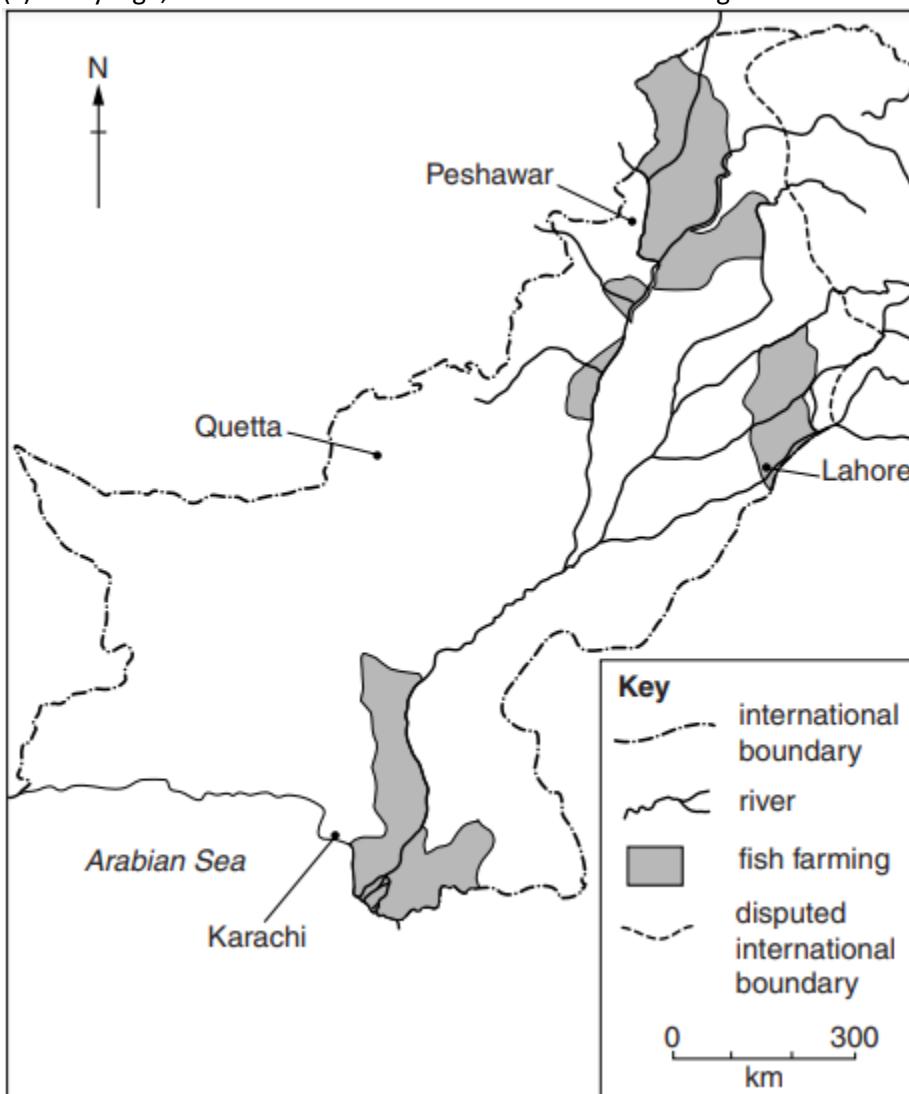
too many fish caught

small fish caught

too young to breed

caught in breeding season

(c) Study Fig. , which shows the main districts for fish farming in Pakistan.



(i) Describe the distribution of fish farming in Pakistan.[3]

Markscheme:

KPK(NWFP) by rivers from mountains / in foothills
Swat, Chitral, Dir, Malakand, Manshera, FATA
also Dera Ismael Khan, Kohat, Mardan, Swabi, Abbottabad
Punjab – in irrigated areas or where rainfall is sufficient
Sheikhpura, Gujranwala, Attock
Sindh – on the Indus foodplain
Thatta, Badin, Dadu

(ii) Describe how fish are reared on a fish farm. [4]

Markscheme:

clean water
fed
health care

separated according to size etc.

removed when big enough to sell

(d) Give an example of primary, secondary and tertiary employment in the fishing industry [3]

Markscheme:

fisherman / worker on a fish farm

factory worker / canner / freezer

lorry driver / office worker

(e) What are the benefits and problems of developing either marine fishing or inland fish farming in Pakistan? [6]

Markscheme:

Candidates must choose either marine fishing or fish farming

Advantages

more food

more work

higher incomes

more infrastructure

more exports (named)

reasons for sustainability

Disadvantages

Old methods / lack of investment

Poor infrastructure

Lack of education / skills

Overfishing

Reasons for unsustainability

Named pollution

Danger of marine fishing

[May/June 2016]

(c) (i) Name two fishing ports on the Makran Coast. [2]

Markscheme:

Any two of Jiwani, Gwadar, Pasni, Ormara, Sonmiani

(ii) Describe the methods used in commercial marine fishing. [3]

Markscheme:

Trawl/ gill nets

Mechanised boats / trawlers / gill-netters

Satellite navigation/use of radio for weather conditions/sonar/'fish finders'

Storage/refrigeration facilities on boat

Up to 60km from the coast

Remain at sea 5–15 days/weeks'

Throughout the year/10 months or more per year

(d) To what extent is it possible for marine fishing to be developed sustainably in Pakistan? Give reasons to support your answer. [6]

Markscheme:

Possible

By avoiding overfishing

By having quotas/government licences
Secure fishing grounds from foreign fishing boats/fines/policing
Limit number of months in year able to fish (to allow breeding)
Only catch adult fish (by using nets with larger mesh)
Laws to protect of mangrove forests
Laws/fines to prevent marine pollution/oil spills
Education in sustainable methods
Not possible
Mangrove forests are being cleared (reducing breeding/feeding areas for fish/shrimps)
Sea pollution (oil from ships/industrial/domestic waste from Karachi)(poisoning fish and spreading into food chain)
Not enough capital/investment
Lack of skills/training in sustainable methods
Lack of political interest/will (fishing only makes up about 0.5% of GDP)

[October/November 2016]

(i) Name a fishing port on the Sindh coast. [1]

Markscheme:

Karachi / Korangi

(ii) Describe activities that are involved in the secondary sector of the fishing industry. [4]

Markscheme:

Gutting / washing / cleaning (initial preparation of fish for other processes / ensure hygiene)

Freezing (preserve (freshness) / for export)

Canning (preserve / for export)

Converting to fishmeal (for domestic poultry feed)

Salting (so that the fish is preserved)

Curing (dehydrates the fish so it can last longer / preserve)

Smoking (preserves the fish and gives it a unique taste)

Storage (of fish in refrigerators allows maximum storage time) / refrigerating (keeps the fish in its original state for eating)

Packaging (preparing for transport / preparation for sale / protects the fish from contamination / prevents spoilage)

Boat making / making nets / repairing boats / repairing nets (preparing for the process of catching fish)

(d) To what extent is it possible to develop the fish processing industry further in Pakistan? Give reasons to support your answer and refer to places or examples you have studied. [6]

Markscheme:

Possible

Long undeveloped coastline (1050km / Makran Coast 750 km)

Gwadar being developed as a new port / fish harbour with modern facilities / EPZ (providing base for linkage to central Asian states)

Potential at Pasni / Jiwani / Sur Bandar / Ormara (allowing more fish to be refrigerated /

preserved for transport to Karachi)

Government support (provides essential facilities for a fishing port to allow sustainability)

Compliance with EU / international quality standards (to remove import bans / embargoes)

Increase local ice factories / refrigerated storage / packing / canning facilities (to reduce need to transport to Karachi)

Training / education (could provide employment of local educated youth)

Value added products made for export (make more foreign exchange)

Not possible

Limited private sector and/or government investment / expensive to expand / contributes little to exports / focus on other industries (meaning technology and skills are not upgraded)

Many processing plants under capacity / out of operation (showing that the future development is uncertain)

Few skilled workers

Coastline remote / poor transport links (e.g. no railway / small airports / delayed new road links)

Canning factories have been unhygienic and a cause for import bans (to EU / Saudi Arabia)

Unreliable export market (about 30% worldwide)

Low profits (6% of foreign exchange)

Foreign competition

Urban centres prefer fresh fish (so processed fish only to a few large department stores)

Per capita consumption is low (1.6 kg p.a.)

[October/November 2017]

(a) (i) **A** Name a species of fish reared on a fish farm.

B Give two uses for the products of fish farms.[3]

Markscheme:

A

- Trout: brown / rainbow / Palla / Thalla / Catfish;
- Carp: Mahseer (Mahasher) / rahu / grass / silver / catla / mrigal.

B

- Animal / poultry feed;
- Local consumption / sold in local markets / fulfil requirements / food supply;
- Source of protein;
- Fish oil extracted / used in medicine;
- Fish fertiliser / manure;
- Export;
- Breeding / saving species from extinction.

(ii) Describe the methods used to rear fish on fish farms[3]

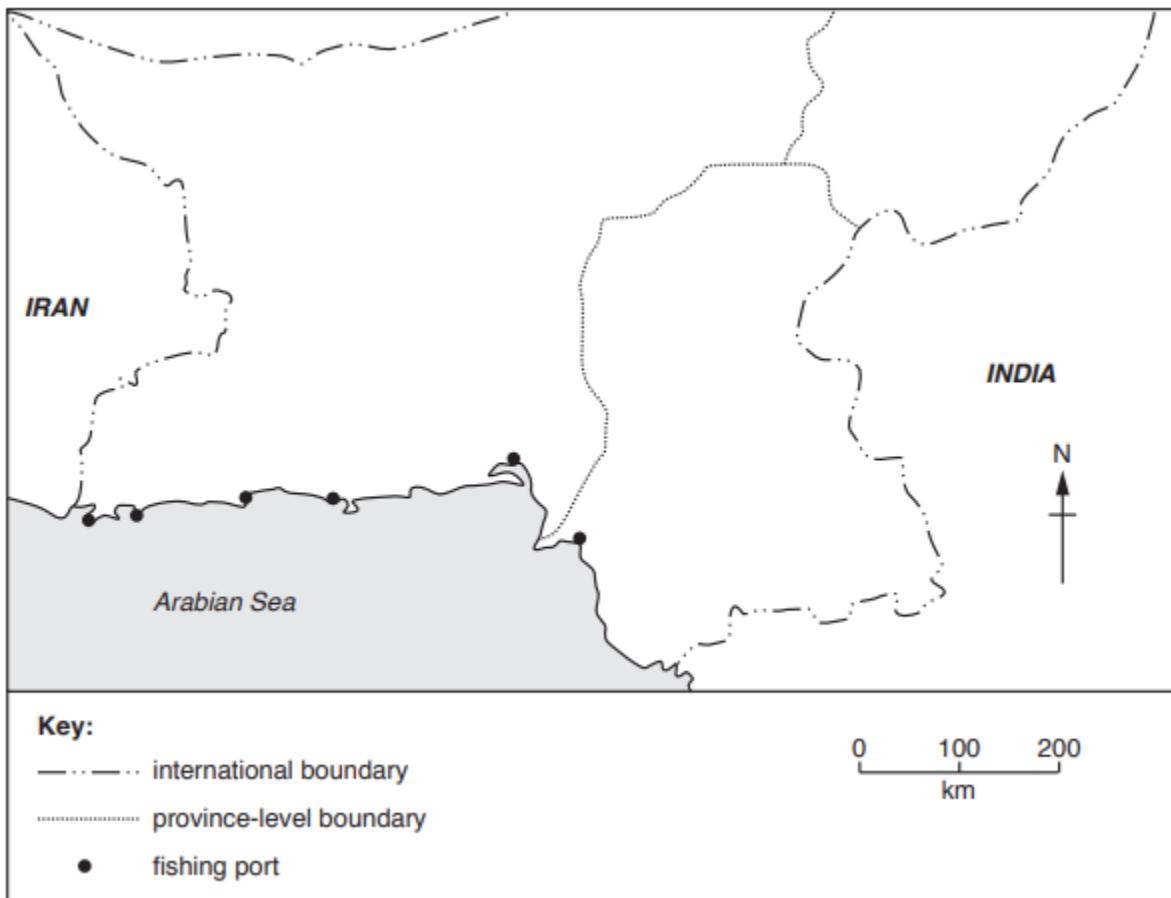
Markscheme:

- Rectangular / man-made ponds;
- Lined / concrete base / cemented endings;
- Fill pond with water;
- Add fish or stock / nursery/ different fry, juveniles, etc.;
- Selective breeding programme;

- Trees planted on farms [to prevent losses from evaporation / for shade];
- Water enriched with nutrients / fertilised with manure / from poultry droppings [for growth of plankton];
- Feed added to water / food provided;
- Water filtered / changed / refilled / health and hygiene checked or maintained / chemicals or medicine to prevent disease.

[May/June 2019]

(a) (i) Study Fig., which is a map of the southern coastline of Pakistan.



Name two fishing ports on this coastline[2]

Markscheme:

- Jiwani;
- Gwadar;
- Pasni;
- Ormara;
- Sonmiani;
- Karachi / Keamari.

(ii) State two uses of fish.[2]

Markscheme:

- Fish waste for fertiliser;
- Money / income / export / selling;

- Fish waste for poultry feed / livestock fodder;
- Oil / oil extracted (to provide a source of nutrition – vitamins A & D) / medicines;
- Food supply / white meat / consumption / eating / healthy food

(iii) Complete the passage about types of marine fishing in Pakistan. Choose the correct words from the list and place them in the spaces provided.

Fish that is caught and sold for profit is known as

fishing. Many families depend on this type of fishing for their main source of Fish that is caught by the family for their own consumption is known as fishing. Many people who live near the coast rely on fish as the main component of their

catch	commercial	diet	large	income
small		subsistence		traditional [2]

Markscheme:

Fish that is caught and sold for profit is known as commercial fishing. Many families depend on this type of fishing as their sole source of income. Fish that is caught by the family for their own consumption is known as subsistence fishing. Many people who live near the coast rely on fish as the main component of their diet.

(iv) Describe three fishing methods used in marine waters.[3]

Markscheme:

- Traditional sailboats / wooden sailboats / small sailboats;
- Traditional small (rope / hand crafted) fishing nets used cannot go deep / surface fishing only catch small amount of fish;
- Fishing rods / lines (with hooks) / fishing poles;
- Trawlers / gill netters / mechanised boats / boats with engines;
- Modern boats can go further out up to 50–60 kms from the coast;
- Stay at sea for 5–15 days / one to three weeks;
- Traditional sailboats do not go far from coast;
- Radar system / sonar / radios / navigation equipment / fish finders;
- Large (nylon / rope) nets which go deep into the sea and catch a large amount of fish / gill nets;
- Dynamite / bombs / explosives.

(b) (i) What is a fish farm?[1]

Markscheme:

A fish farm is a (rectangular) artificial pool / pond made for breeding / growing fish.

(ii) Describe the characteristics of a fish farm.[2]

Markscheme:

- Rectangular / square / circular ponds;
- Man-made / made by humans;
- Concrete or cemented impervious base;
- Side is edged with solidified mud / edged with concrete;
- Trees planted around the fish farm.

(iii) Classify the following fish into the correct category in the table below. An example has been done for you.

Marine fish	Inland or freshwater fish
<i>shark</i>	<i>manaseer</i>

Choose from:

Drum rahu croaker catfish skate
palla trout ray thalla grass carp [3]

Markscheme:

Marine fish	Inland or freshwater fish
Drum	Rahu
Croaker	Palla
Catfish	Trout
Skate	Thalla
Ray	Grass carp

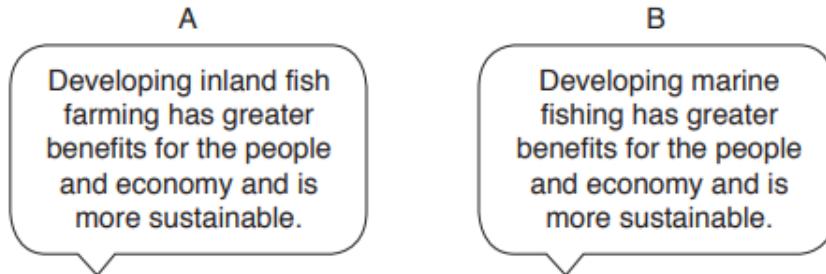
(c) Explain two problems caused by the fishing industry on the natural environment. You should develop your answer.[4]

Markscheme:

- Water pollution; from spillage of oil from the fishing boats (dev);
- Overfishing; removes young fish and causes a reduction in species (dev);
- Threat to mangroves; die in polluted water so breeding grounds for many fish are lost / habitats lost (dev);
- Damage to ecosystem / ecology; food chains disrupted / species become endangered / extinct (dev);
- Air pollution; from trawlers releasing fumes / named fumes, e.g. carbon dioxide into air (dev);
- Nets / anchors / dynamite fishing; damage / erode sea bed / corals (dev);
- Using illegal nets; removes young fish (dev);

- Fish farming; chemicals run off into soils / water leading to eutrophication (dev);
 - Propeller blades; damage / kill fish (near surface) (dev);
- Etc.

(d) Fishing is an important and growing economic activity in Pakistan. Read the following two views about ways to develop the fishing industry in Pakistan sustainably:



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 and View B in your answer.[6]

Markscheme:

Developing inland fish farming

- Greater return to fishermen / fishing industry;
- Increased employment;
- Use of technology and upgrading of skills will ensure increased fish production;
- Favourable impact on foreign exchange earnings;
- Reduces burden on crop and livestock;

Etc.

Developing the marine fishing industry

- Improved facilities are being developed along the coast for preservation and storage;
- Almost all communities along the coast of Balochistan depend on fishing for their livelihood;
- Infrastructure facilities provided at Gwadar, Ormara and Pasni;
- Ice factories and cold storage developed at Gwadar;
- One fish harbour has been constructed at Pasni;
- Could set up fish processing for further employment opportunities / potential to catch a lot of fish;

Etc.

Agricultural Development

[May/June 2013]

(a) (i) Study Photographs





Name the crops shown in each photograph and give a use of each within Pakistan. [3]

Markscheme:

rice – for food

cotton – for cloth, seeds for oil

sugar cane – for food, allow by products

(ii) With reference to one of the crops named in (a)(i), explain the meaning of the term cash crop farming.[2]

Markscheme:

growing a crop for sale (res. 1)

use of good quality inputs,

e.g. fertiliser, HYV/GM seed, modern machinery

(b) (i) Place the following processes in the correct order.

SOWING SEEDS

PLOUGHING

HARVEST

WEEDING [1]

Markscheme:

ploughing, sowing seeds, weeding, harvest

(ii) With reference to your answer to (b)(i) explain how rice is grown on small-scale farms in Pakistan. .[6]

Markscheme:

manual labour/little machinery/hand tools (max. 2)

animal/draft power

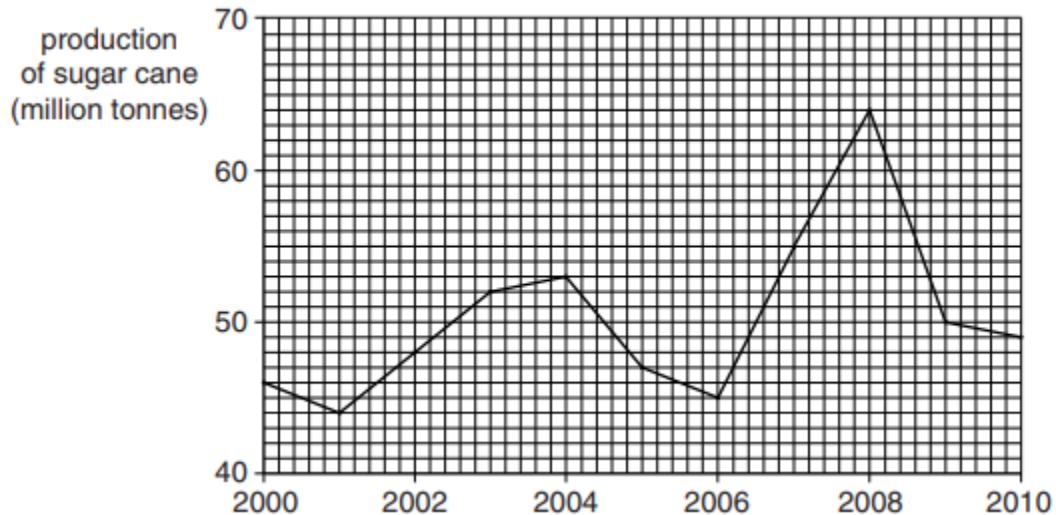
seeds planted in nurseries

transplanted into flooded fields

care during growth – weeds, pests, maintaining water levels etc. (max. 3)

water drained before harvest

(c) Study Fig. , which shows sugar cane production in Pakistan.



(i) What was the highest annual production, and in which year did it occur? [2]

Markscheme:

Production – 64 million tonnes, Year – 2008

(ii) By how much did production decrease between 2008 and 2010? [1]

Markscheme:

15 million tonnes

(iii) Explain why the production of agricultural crops varies from year to year. [4]

Markscheme:

temperatures vary

rainfall varies,

e.g. floods, drought, extreme events

irrigation water may be short

high winds

pests/disease/virus

quality of inputs depends on last year's profit

human factors, e.g. sickness

changes in government policies

(d) To what extent could the improvement of road, rail and air transport improve the distribution of food supplies in Pakistan? [6]

Markscheme:

Improvements (res. 2)

general comments, e.g. quicker, further, use for emergencies (max. 2)

air quick for perishable food

rail slow for bulky goods

road goes everywhere, door-to-door

Problems (res. 2)

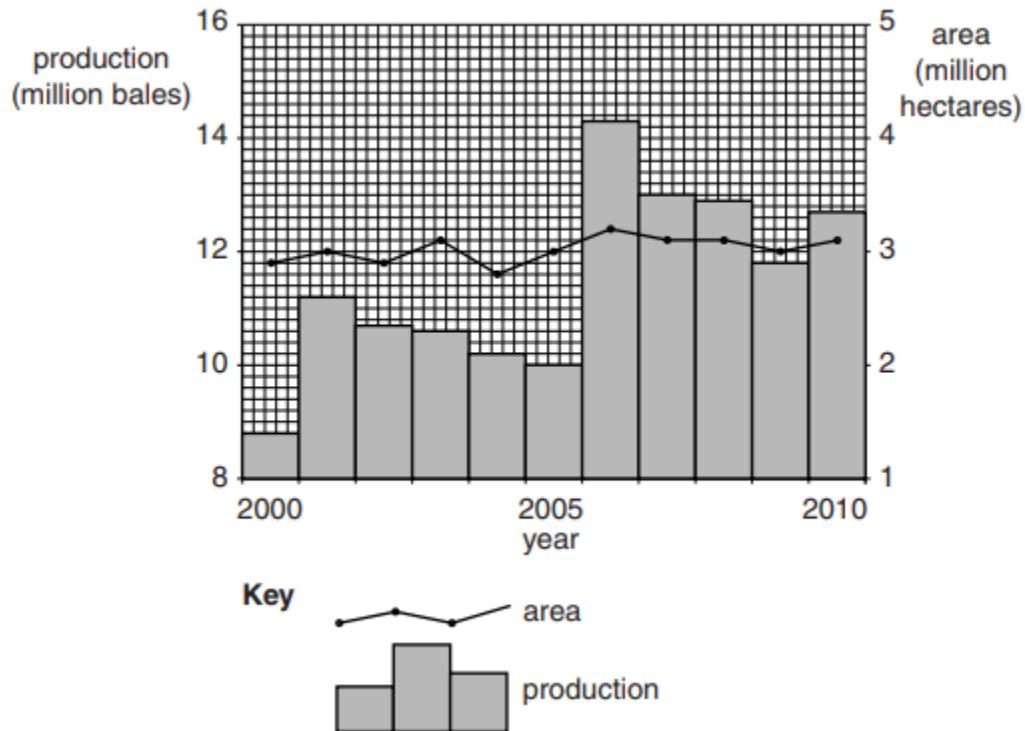
air expensive

roads congested

rail lack of maintenance, not door-to-door

general comments, e.g. lack of funding, difficult topography, poor maintenance (max. 2)

(b) Study Fig. , which shows the amount of cotton produced and the area used for this in Pakistan.



(i) What was the highest annual production, and in which year did it occur? [1]

Markscheme:

Production 14 million bales

Year 2006

(ii) Compare the change in cotton production with the change in area of land used between 2000 and 2010. [3]

Markscheme:

Production varies more

Area changes by 0.4 m.ha, production by 5.5 m bales

More detail

Other comparative figures / averages etc.

(c) How can the government help farmers to grow more cotton? [6]

Markscheme:

education

training

advertising

cheap loans

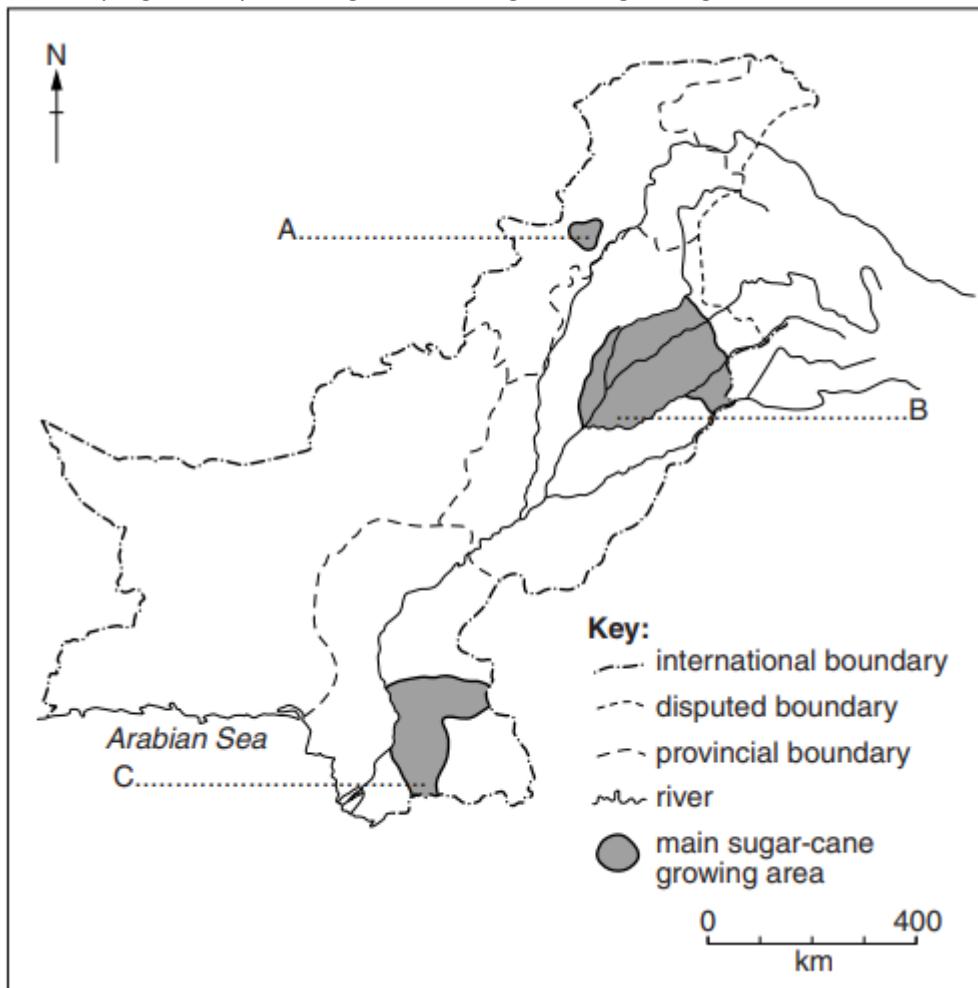
machinery on lease

co-operatives

land consolidation

[October/November 2013]

(b) Study Fig. , a map showing the main sugar-cane growing areas.



Name on the map one city, town or district in each of the areas A, B and C. [3]

Markscheme:

A Peshawar/Charsadda/Nowshera

B Faisalabad/Sargodha/Jhang/Kasur/Lahore/Gujranwala/Sheikupura

C Badin/Sanghar/Hyderabad/Mirpur Khas

(c) (i) What is meant by the following terms?

Subsistence crop

Cash crop [2]

Markscheme:

subsistence crop

a crop for the family to eat/use

cash crop

a crop that is grown to be sold/provides income/grown commercially

(ii) Describe the climate and soil conditions needed for growing sugar-cane. [4]

Markscheme:

Climate

Temperature 25–35 °C/warm/hot

Can tolerate short periods of frost

Rainfall at least 1500 mm/over 1500 mm per year

Soil(Silt) loams/(clay) loams best

Retain water

Allow infiltration/drainage of excess water

Fertile/rich in nutrients

E.g. alluvial

Rich in nitrogen/phosphates/potash

(d) (i) Give two reasons why sugar-cane factories should be built as close as possible to the fields where sugar-cane is grown.[2]

Markscheme:

Loses its sugar content after harvesting

Heavy/bulky to transport

Saves transport cost

(ii) Name two by-products from sugar-cane processing and give a use of each of them. [4]

Markscheme:

Bagasse

Paper/chipboard/baskets/animal feed/fuel

Molasses

Animal feed/bakers' yeast/synthetic rubber/packaging/chemical industry/citric acid/alcohol/fuel

(e) Name a cash crop, other than sugar-cane, grown in Pakistan. Explain the advantages and disadvantages of increasing its cultivation. [6]

Markscheme:

Name

Cotton, wheat, rice, tobacco, oilseeds

Advantages

Increased – farm income, exports, GDP, production of manufactured/processed goods/raw materials for manufacturing (max 2)

Reduction in imports

More jobs

Disadvantages

Less food crops grown

High cost of machinery/HYV/irrigation/etc.

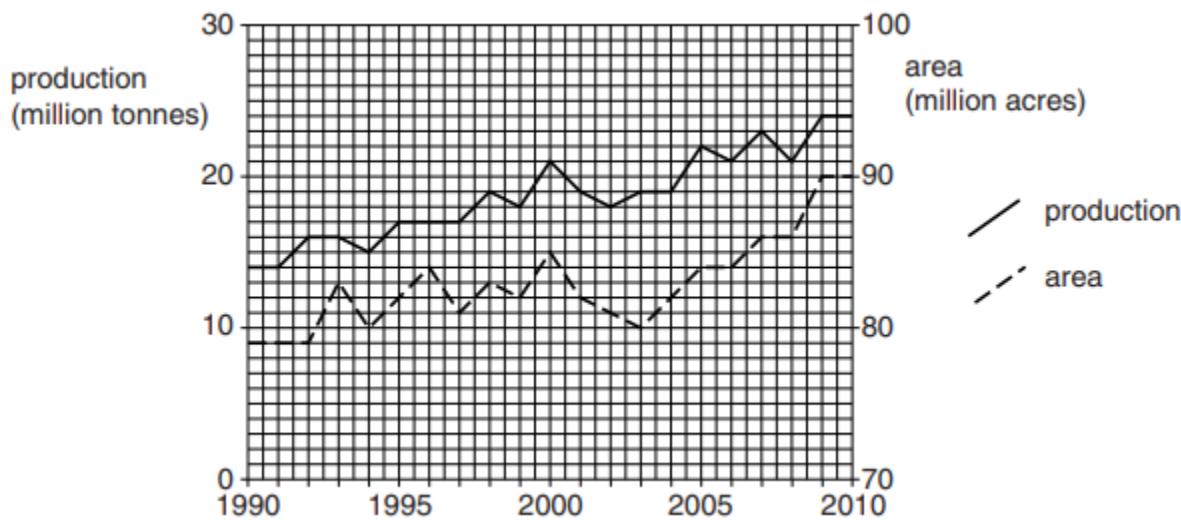
Lack of land, machinery, skilled farmers, water (max 2)

Greater losses if disease/storms/floods

Water pollution from pesticides/fertilisers

Vulnerable to competitors

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



(i) By how much did wheat production increase from 1991 to 2010? [1]

Markscheme:

10 million tonnes

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

Markscheme:

11 million acres

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

Markscheme:

Both increased

Both fluctuated (year to year)

For 1991–2000 Accept converse for 2001–10

Lower (average) production

Increased at a higher rate

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

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

References to figures need million

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

Markscheme:

- 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.

OCTOBER – MAY

JUNE – SEPTEMBER [1]

Markscheme:

October–May

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

Markscheme:

- 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

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

Markscheme:

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

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

Markscheme:

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

(ii) To what extent can agriculture be sustainable in Pakistan? [6]

Markscheme:

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

[October / November 2014]

(b) (i) In the list below circle three inputs used mostly for cash crop farming.

ANIMAL DUNG MANUAL LABOUR CHEMICAL FERTILISER HIGH YIELD SEEDS
DESI SEEDS MODERN TRACTOR WOODEN PLOUGH [3]

Markscheme:

Chemical fertiliser
High yield seeds
Modern tractor

(ii) Explain how each of the three inputs you have circled can increase crop yields. [6]

Markscheme:

Chemical fertiliser: Adds / replaces nutrients e.g. nitrogenous / nitrates, phosphates,
potassium / potash
Larger plants

High Yield Seeds: Increase in yield described / allows multi-cropping / shorter growing period
Resistant to disease / pests
Need less water / drought resistant
Larger plants

Modern tractor: Quick
Efficient
Can use better tools / implements / powers tube-wells
Allows multi-cropping

(c) (i) Explain what is meant by sustainable livestock farming. [2]

Markscheme:

To meet the food / animal product needs of the present generation while not
compromising the ability of future generations to meet their food / animal product needs
To meet the food / animal product needs of the present generation while protecting /
minimising damage to the natural environment

Not overstocking which causes soil erosion / desertification
Not polluting water supplies with farm waste
Protecting young trees from grazing

(ii) To what extent can livestock farming increase food supply in Pakistan? Explain

your answer. [6]

Markscheme:

Possibilities

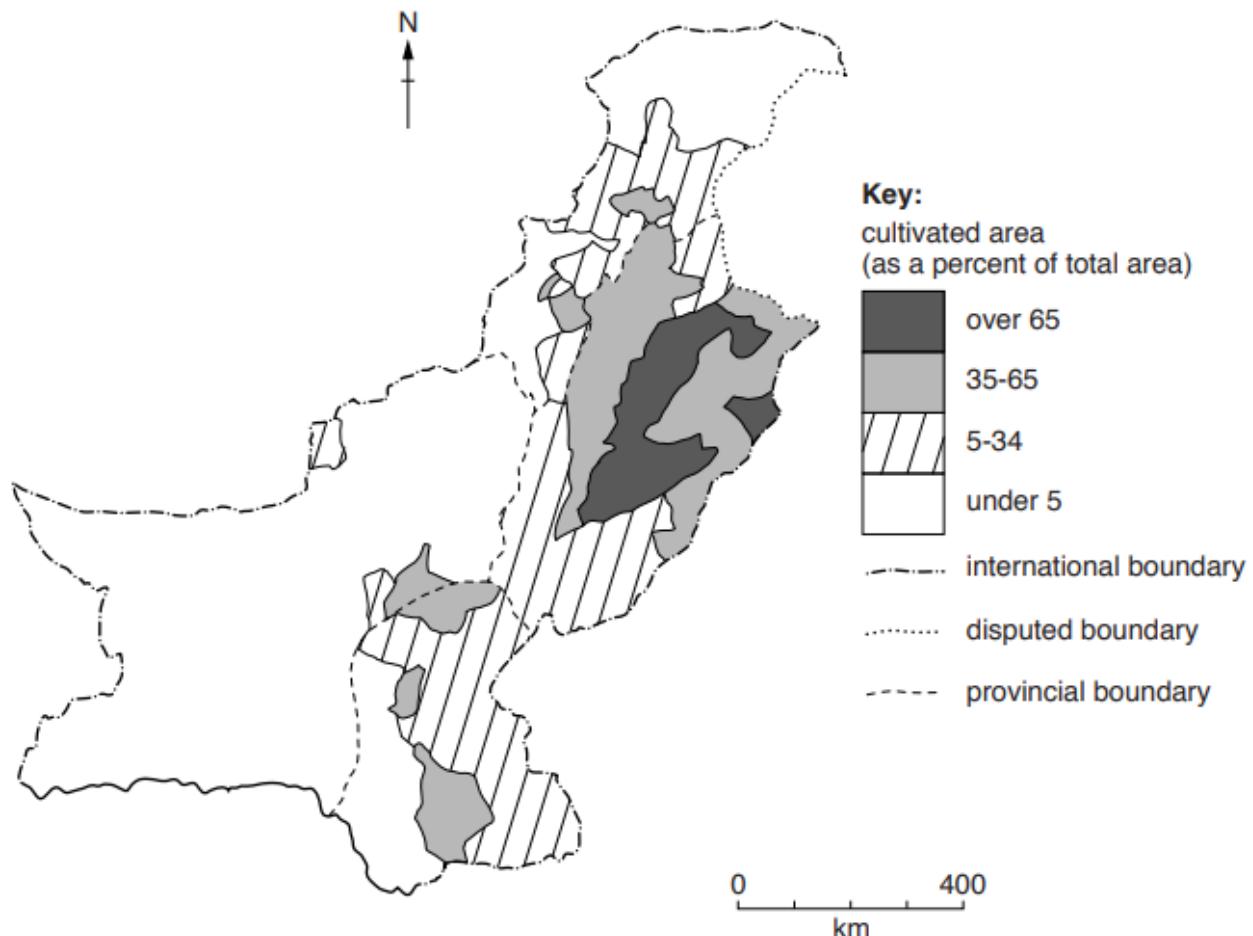
- Provides meat / milk / eggs / cheese / named food item
- Provides protein
- Provides raw material for food processing industry
- Through selective breeding / livestock research
- Higher quality fodder
- Through better husbandry / fattening programmes
- Cleanliness / hygiene / preventing disease
- Veterinary services / vaccinations

Problems

- Lack of land
- Cost of / lack of fodder / water
- Lack of education
- Lack of government support
- Cost of modern methods / facilities

[May/June 2015]

(a) Study Fig. which gives information about the area of Pakistan under cultivation.



(i) A Name a district that has a cultivated area of over 65%.

Markscheme:

Gujranwala/Jhang/Kasur/Khanewal/Lodhran/Mandi Bahauddin/Multan/Pakpattan/Sahiwal/Sargodha/Vehari

B How much of Faisalabad District is cultivated? [2]

Markscheme:

35–65%

(ii) Suggest reasons why so many districts of Pakistan have a cultivated area of less than 5%. [3]

Markscheme:

Too far from R. Indus/major rivers

Hilly/mountainous/rugged

Thin/poor/infertile soil/barren/badland topography

Deserts/too dry/low rainfall/high evaporation rate

Delta region/too marshy/area prone to flooding

Extreme temperatures (hot or cold)

(iii) Explain why agricultural land is no longer producing crops in many regions of Pakistan. [4]

Markscheme:

Waterlogging – over-irrigation/unlined canals which cause seepage of water into the ground causing a rise in water table to the surface/making land barren/uncultivable
Salinity – salts rise with water table and are left on the surface when water evaporates

making land barren/uncultivable

Overgrazing – too many livestock animals in too small an area/livestock not moved to different pastures causing land to become bare

Overtcultivation – crops not rotated or no fallow period or too little fertiliser and soil becomes exhausted

Floods – e.g. 2010, top soil washed away/nutrients leached away/soil erosion

Drought – land becomes too dry to support crops

Alternative use of land – e.g. housing/industries

Land fragmentation – farming becomes inefficient

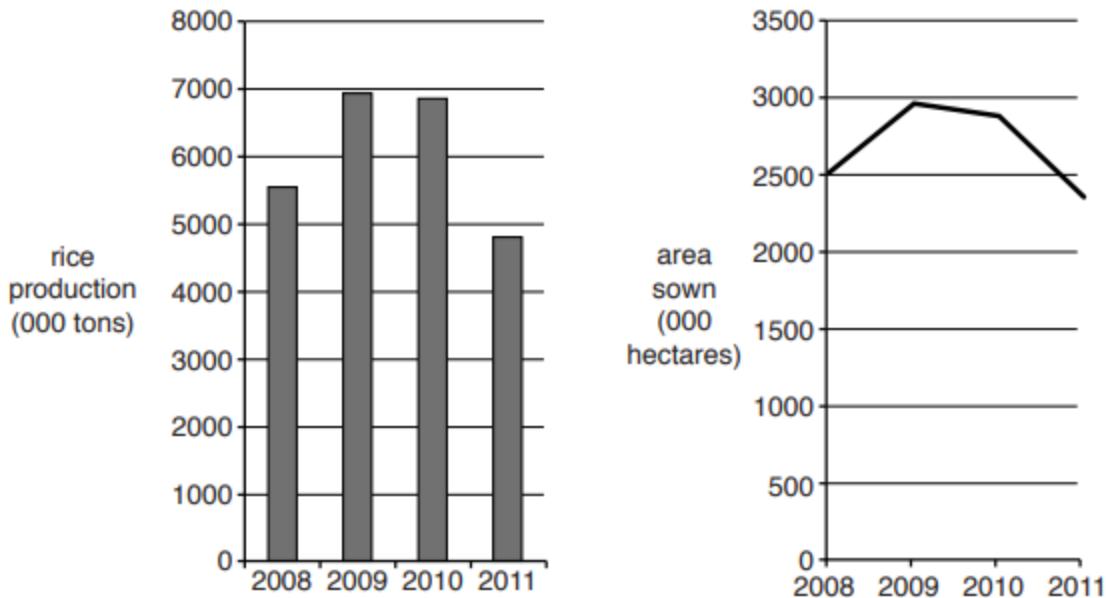
Zamindari system of Landlords – no incentive for farmers

Workforce migrates to urban areas/lack of skilled or unskilled workers – no one to work the land

Siltation in reservoirs, therefore reduces availability of irrigation water

[October/November 2015]

(a) Study Fig. and Fig. , which give information for rice production and the area over which it is sown during four years



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

Markscheme:

5600000 tons / 5.6 million tons Accept 5500000 – 5700000

(ii) What is the difference between the maximum and minimum area sown during these years? [1]

Markscheme:

600000 hectares Accept 570000 – 630000

(iii) Suggest two reasons why rice production varies from year to year. [2]

Markscheme:

Varies with area sown/direct correlation with area sown

In low years droughts/floods/too cold/rain too heavy/unreliable

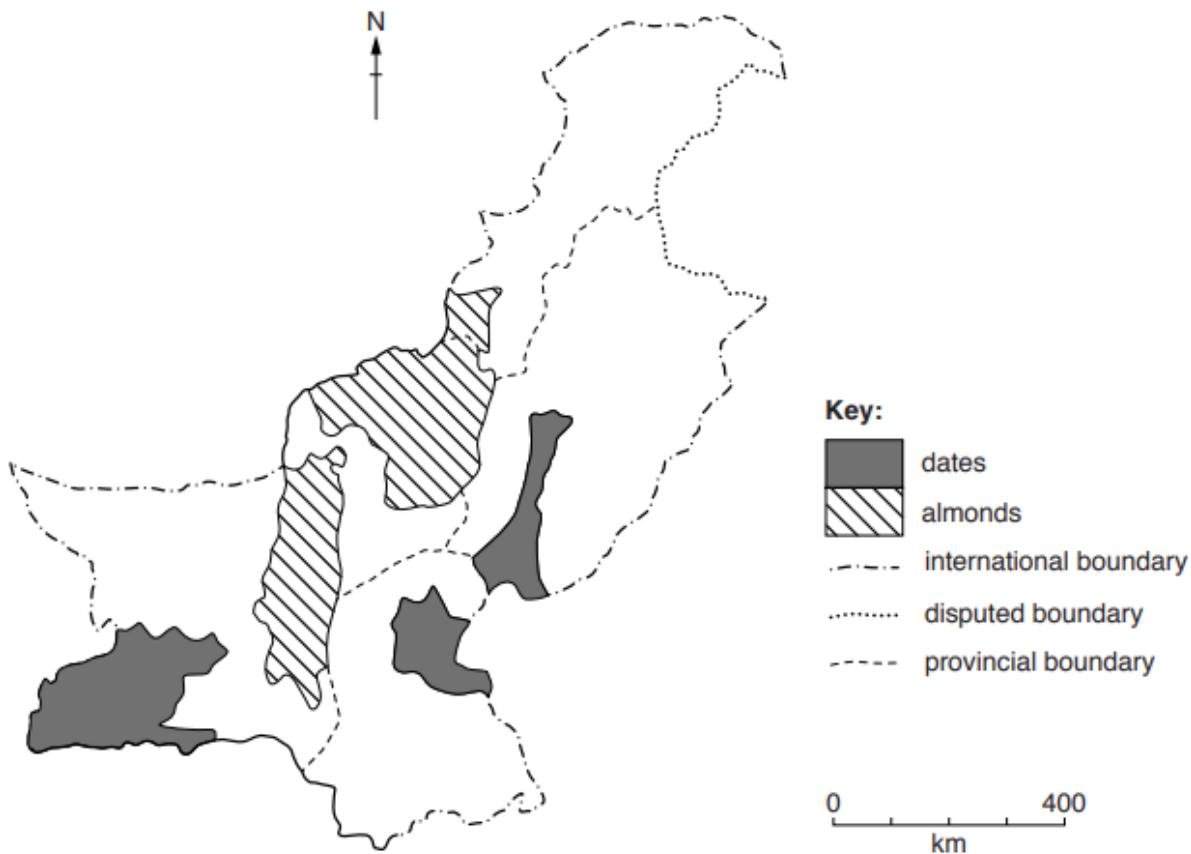
In high years favourable weather

If neither of above two lines accept: 'rainfall varies'

Pest attack

Rice price/whether support price

(b) Study Fig. which shows date and almond growing regions in Pakistan.



(i) Describe the distribution of the areas where almonds are grown. [3]

Markscheme:

Central Balochistan / Khuzdar/Kalat/Mastung

N/NE Balochistan / Pishin/Zhob/Qila Saifullah/Loralai/Kohlu/Barkhan/Musa Khel

S/SW KPK/FATA / S Waziristan

Near boundary of Balochistan and KPK/Waziristan/FATA

(ii) Why are the areas shown on the map suitable for growing dates? [3]

Markscheme:

Close to R. Indus in Punjab/Sindh

In oases [in Balochistan]

[In Balochistan] where irrigated by Karez from the foothills

If none of above three lines accept: 'close to a water source'

Can withstand dry conditions found in these areas/have deep roots/do not require much water/rainfall

Can be grown in hot regions/is a tropical fruit/where large temperature fluctuations/can withstand high temperatures

(iii) Explain the difficulties in finding and reaching markets for almonds, dates and other fruit grown in Pakistan. [4]

Markscheme:

Poor [cold] storage facilities (and fruit is a perishable good)

Poor named infrastructure e.g. roads/ports/transport system (causing delays and wastage of product))

Lack of processing/packaging facilities(therefore not accepted in international markets)

Lack of quality control (e.g. mangoes not treated for pests/insects) (limiting export markets)
Strong competition in export markets (e.g. mangoes from India/citrus fruits from China)
Used as subsistence crops (and therefore do not reach markets)
Long distance to market (increasing transport costs)
(c) (i) Describe what is meant by 'subsistence farming'. [2]

Markscheme:

Products consumed by family/ to meet needs of family
Not commercial/not for sale
Natural inputs/ example described e.g. dung used as fertiliser / traditional farming implements/tools / small output / small-scale Surplus = 0
(ii) Explain why some farmers are subsistence farmers. [3]

Markscheme:

Land is small size/marginal/infertile/fragmented (therefore unable to use machinery/tractors)
Poverty (therefore need to grow own food) (therefore cannot afford modern inputs/named modern input)
Lack of markets/access to market
Lack of named modern inputs e.g. HYVs / machinery/technology / artificial fertilisers
Lack of education/skills/illiterate
Power of landlords/Zamindari system
Remote from markets/shops (and therefore need to feed themselves)
(d) Explain why livestock is an important part of the agricultural sector. To what extent is it possible to develop livestock farming further in Pakistan? [6]

Markscheme:

Importance
Draft power/transport in rural areas (e.g. Persian Wheel)
Food /meat/milk/eggs (for fast growing population)
Dung as manure
Dung as a fuel source (domestic or biogas)
Source of raw materials/hides/skins/wool/hair/bones (especially for cottage industries/export potential/food processing industries)
Possible/greater extent (= current or potential agricultural developments)
Government farms/initiatives (scientific/cross breeding for better quality/higher fertility rates / better diets/early weaning diets for higher yields / training of vets for disease control)
Large scale multi-national/Australian dairy/poultry farms

Not possible/lessor extent

Poor systems of storage/marketing
High price of animal feed (especially if in or near cities, e.g. buffalo rearing)
Little access to vets/animal healthcare (and cannot be afforded by most poor farmers)
Poor drainage/waste disposal (e.g. much buffalo rearing still within cities causing lack of hygiene)
Shortage of funds

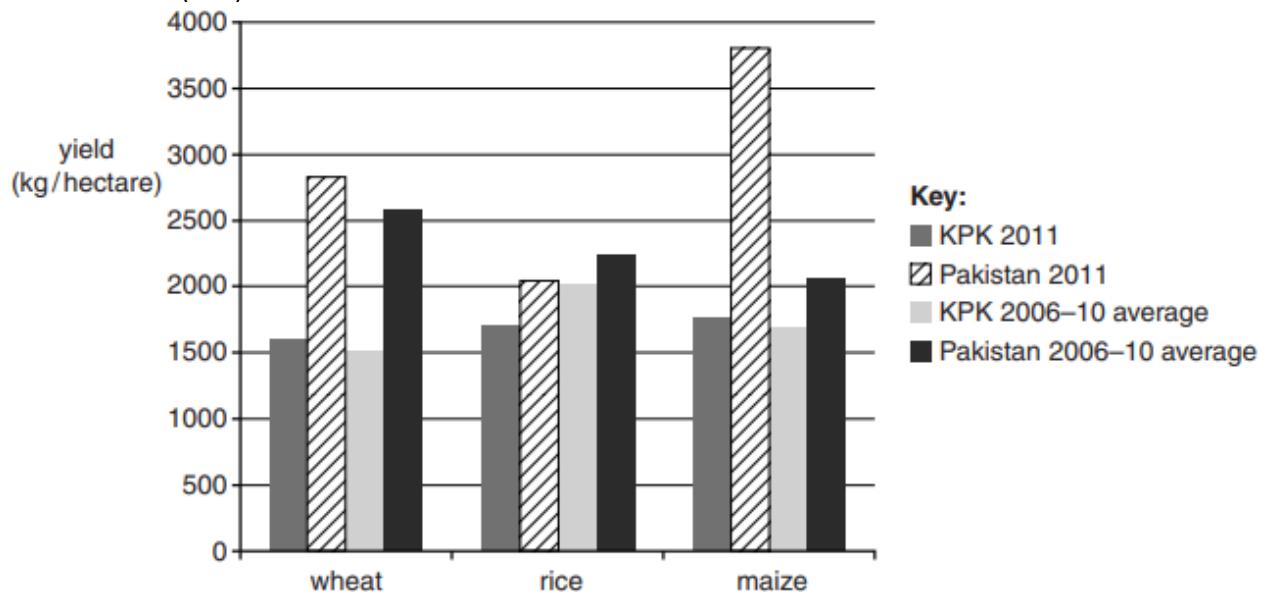
Dry for harvest

Warm temperature/ 20–35C/no cold season

Level/flat land

Loam/clay soil/ impervious sub-soil/water retentive

(c) Study Fig. which gives information about the yields of three crops grown in Khyber Pakhtunkhwa (KPK).



(i) A: Which crop had the lowest yield in KPK on average over the years 2006–10?

B: In 2011 what was the difference in maize yield between KPK and Pakistan? [2]

Markscheme:

A: Wheat

B: 2050 kg/ha/ accept 1950–2150 kg/ha

(ii) Using Fig. 4 and your own knowledge explain the problems for agriculture in (KPK) province. [4]

Markscheme:

KPK yields [always] less than for Pakistan [as a whole]/rest of Pakistan/other provinces

Too cold in winter [for growth]/ severe weather in winter/ frost damage

Too hilly/mountainous/terrain too rugged [for large fields]/ barren/ thin/infertile soils / prone to soil erosion (farm processes less efficient)

Terracing needed (high cost and much labour for construction/maintenance)

Irrigation difficult/few rivers

Remote from large centres of population/markets (making commercial farming difficult)

Poor infrastructure for transport of farm goods (kacha roads /passes blocked by landslides)

Terrorism/insurgencies

Lack of government interest (preventing access to modern techniques in agriculture)

[October / November 2016]

(b) Study Photographs A and B which show parts of the lower Indus valley. Using the photographs and your own knowledge, explain the advantages for agriculture in areas like this. [4]





Markscheme:

Near to river / lake / water source (for ease of irrigation / plentiful water for sugar cane or cotton)

[Active / old] flood plain (allows floods to spread over a large area)

River floods regularly / every 1–8 years (e.g. depositing alluvium / providing water and nutrients / which is useful for rice / suitable for Buffalo to wallow idea)

Alluvium / fertile soil (to increase crop yields)

Wide area / floodplain / space / up to 40 km wide (which provides large area of land for intensive cropping)

Flat (e.g. for ease of cultivation / easy to grow crops / easy to use machinery / easy for cattle to graze)

(b) Study Photograph



(i) Name the type of livestock shown in this photograph. [1]

Markscheme:

Goat (only)

(ii) Why is this type of livestock valuable to the farmer? [3]

Markscheme:

Goatskin / leather products

Meat / food

Dairy products e.g. milk, yoghurt, cheese,

Can survive in rugged areas / sparse grazing / costs little or nothing to feed / do not need much looking after / move goats around easily

Dung as manure / fuel

Source of income

Wool

(iii) What environmental problems can be caused by keeping this type of livestock? [2]

Markscheme:

Overgrazing / too many livestock animals in too small an area / livestock not moved to different pastures / land becomes more marginal

Soil erosion / desertification / land becoming barren

Damage to young trees / deforestation

(d) Chemical fertilisers to help increase agricultural production are one of Pakistan's main imports. These imports are expensive. Read the following two views:

A

Pakistan should manufacture more of its own chemical fertilisers to reduce the need for importing them.

B

Pakistan should rely less on chemical fertilisers and reduce the need for importing them by using natural alternatives.

Which view do you agree with more? Give reasons to support your answer and explain why it is important to reduce imports of chemical fertilisers. [6]

Markscheme:

Chemical fertilisers

Modern factories (e.g. Enven-Engro in Daharki, Sindh) are energy efficient / environmentally compliant

Cow dung is in insufficient amounts / used as a fuel in rural areas

Pakistan has large supplies of natural gas (the main raw material for fertiliser) (at Sui)

Natural alternatives

Fertiliser factories use large amounts of fuel (especially natural gas)

Ample source of manure from large livestock sector

Ample source of compost from agricultural waste

Alternative methods of improving soil quality are possible (crop rotation / nitrogen-fixing plants / beans / legumes / avoiding overcropping / multi-cropping)

Importance

The cost of imports (trade / balance of payments deficit / imports>exports) (fertilisers one of top 5 imports / 2% imports)

Chemical fertilisers cause water pollution (agricultural runoff containing chemicals goes into streams / rivers / causes eutrophication)

(a) (i) Describe two human inputs used in the cultivation of cotton. [4]

Markscheme:

Labour (people) – picking / ploughing / sowing, etc. / mainly women / paid at low rate

Machinery / appropriate example of machinery (e.g. tractors) – picking / quick process

Pesticides / insecticides – prevent disease and damage to the crop

Fertilisers – larger size of cotton boll / for high yields

Irrigation – 1 month and 3 months after sowing / when rainfall is lacking

HYVs – Nayyab / 78 / B-557 / 149-F / resistance to leaf-curl virus / humidity tolerant / less sensitive to temperature

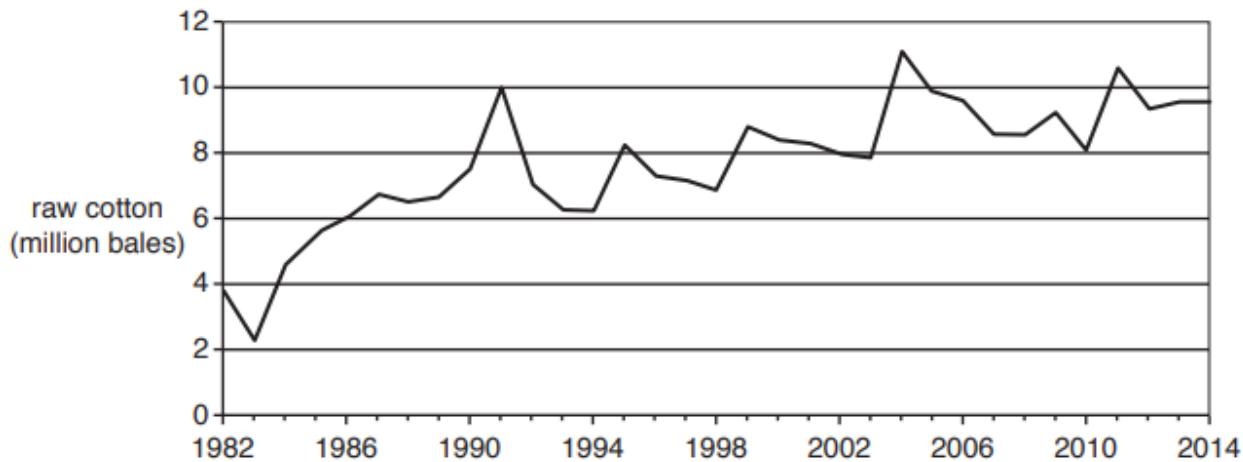
Capital / investment / finance – purchase machinery, seeds, fertiliser, pay labour

Government loans / subsidies – purchase of machinery, seeds, fertiliser

Knowledge – shape of the land, soil type, aspect, weather patterns

Traditions – farming methods handed down over generations

(ii) Study Fig. which is a graph showing the production of raw cotton in Pakistan over the period 1982–2014.



A Describe the main changes in the production of raw cotton between 1982 and 2014. [3]

Markscheme:

Overall increase

Overall fluctuation

Significant rises: 82/83 to 91/92 / 94 to 04

Significant falls: 91/92 to 94/95 / 04 to 07/10

B Suggest three reasons for the production levels seen in the years 1991, 2004 or 2011. [3]

Markscheme:

Ample / plenty of / no shortage of rainfall / irrigation

No / little rain at harvest, no flooding

No / little frost / mild night temperatures

No / few insect attacks / diseases

Greater use of fertilisers, HYVs

Greater use of insecticides and pesticides

Government incentives / policies e.g. need to produce more food, increased availability of loans

(b) Describe different ways in which governments can support farmers. [4]

Markscheme:

Providing / maintaining large irrigation schemes / dams / canals

Providing solutions for waterlogging and salinity, (such as SCARP, tubewell linings, etc.)

Developing HYV seeds (on government farms / collaboration with MNCs)

Plant protection programme / aerial spraying / advising on pesticides and treatment methods

Offering loans (for machinery / tubewells / fertilisers / pesticides / seeds / labour costs)

Veterinary care

Livestock research (on government farms)

Redress after flood / natural disaster

Land reform

Educating / training farmers (on use of HYVs / modern farming methods / sustainable methods / organic farming)

Further development / increased production of fertiliser industries

Providing weather forecasts

(c) Study Fig. which is a table giving information about agriculture in Pakistan over the period 1950–2010

Year	Agriculture % share in labour force	Total cropped area (million ha)
1950	66	13
1960	59	15
1970	58	17
1980	53	19
1999	47	23
2007	48	24
2010	45	23

(i) Describe the relationship between agricultural labour force and cropped area. [2]

Markscheme:

As labour force decreases, area increases / negative correlation / inverse relationship - 1 mark

Use any four statistics to illustrate above statement, e.g. 'Labour was 66% whereas area was 13 ha then later when labour was 45% the area was 23 ha' - 1 mark

(ii) Suggest reasons for the change over the period 1950–2010 for either labour force or cropped area, as shown in Fig. 7. [3]

Markscheme:

Labour force

Mechanisation of farms

Rural to urban migration

Alternative work / occupations / factory work / informal sector work in urban areas

Higher paid work in urban area

Education and learning more / wider skills

Cropped area mark

force and cropped area.

-2011.rs.gs on expensive imports of fuels.

Reclamation of desert

More areas irrigated

Deforestation

Soil improved by fertilisers

Greater demand for food crops / commercial crops

(d) Read the following two views:

A

Pakistan should plant more cash crops on its land to generate export earnings.

B

More land should be used to grow crops to feed the growing population of Pakistan.

Which view do you agree with more? Give reasons to support your answer and refer to examples you have studied. [6]

Cash crops

For

Income (balance of payments / trade deficit / debt / imports greater than exports)

Can bring high profits

Benefits from government incentives (e.g. support prices / development of new seeds)

Access to loans for modern / expensive inputs (e.g. fertilisers / pesticides / machinery / HYVs)

Examples: wheat, rice, cotton, sugar cane, tobacco, oilseeds

Economies of scale on large holdings / single crops

Against

Many farmers cannot afford cost of modern agricultural methods in cash crop farming

Cash crops are monocultures (vulnerable to disease / uses chemical inputs such as fertilisers / pesticides which can pollute water)

Food crops

For

Population growing rapidly (1.6% per annum)

Increasing demand for food

Fertile land becoming scarce (due to waterlogging and salinity / desertification / soil erosion / over cultivation)

Saves expensive imports of food / reduces import bill

Can be grown on subsistence farms / at low cost (using traditional methods / implements / family labour / small holdings)

Examples: rice, millet / bajra, sorghum / jowar, maize, fruit, vegetables

Against

Farmers growing only food crops / subsistence farmers do not make enough income / profit to invest in improving their farms for more output

Development may progress at a slow rate if subsistence farming increases – people will be occupied in providing food and not working in other sectors

Not all families may have access to fertile land

May not have the skills to grow own food

If adverse weather conditions affect many farms – could result in famine – if Pakistan imports food the population can still be fed

[May/June 2017]

(i) What is meant by each of the following terms?

A Subsistence crop farming

B Cash crop farming [2]

Markscheme:

A Crops grown for own consumption/use/for the farmer and his family/use it for themselves;

B Crops grown for sale/export/income/profit/grown commercially.

(ii) From the list below, choose one example of a crop that is mainly grown as a subsistence crop and one that is mainly grown as a cash crop.

rice sugar cane oilseeds vegetables cotton wheat

Subsistence crop

Cash crop [2]

Markscheme:

Subsistence: Rice/vegetables/wheat;

Cash: Rice/sugar cane/oilseeds/cotton/wheat

(iii) What are the advantages and disadvantages of using High Yielding Varieties of crops? [4]

Markscheme:

Advantages

- Yields increased/increased output/higher yields;
- Allows double/multi-cropping/can use smaller/less land so more productive/crops grow faster/faster growth;
- Increased income/can sell surplus for profit/higher profits;
- Consistent quality of crops/better quality/healthy growth;
- Meets requirements of international standards;
- Protects against/more resistant to pests;
- Protects against/more resistant to disease;
- HYV crops, shorter/stronger and can withstand strong winds (therefore less damage);
- Drought resistant.

Disadvantages

- Seeds have to be bought every year/cannot sow seeds produced from crops grown;
- Exhausts soil/can cause soil to lose its fertility/soil infertile;
- Expensive/poor farmers cannot afford them;
- Extra named input required, e.g. water/fertilisers;
- Not seen as a healthy crop/artificial/genetically modified;
- Lowers species diversity;
- Shortfall in skills/knowledge to use them/needs training.

(c) Study Photograph



(i) Describe the type of farming shown in the photograph. [2]

Markscheme:

- Nomadic herdsmen/farming/nomadism/have to keep on moving/transhumance/need to move constantly/moves from high to lowland for winter and in summer move back;
- Herds/flocks of animals/taking care of animals/livestock/sheep/goats/grazing/pasture/water.

(ii) How is the keeping of buffalo different from the type of farming in Photograph ? [2]

Markscheme:

- Kept singly for domestic use;
- Can be kept in urban areas/on the edge of urban areas;
- Kept in sheds/small yards;
- Need to remain in water/need large amounts of water/where water is available/need to be kept near water/near rivers/marshy land;
- Kept in canal/irrigated areas of Sindh/Punjab;
- Buffalo are kept in one place/settled livestock/requires a permanent

settlement.

(d) Read the following two views about increasing food supply in Pakistan:

A

Development of the livestock sector is the best way to increase the amount of food available in Pakistan.

B

Increasing crop production and cultivable area is the best way of ensuring there is enough food in Pakistan.

Which view do you agree with more? Give reasons to support your answer and refer to examples you have studied. You should consider both View A and View B in your answer. [6]

Markscheme:

For livestock

- Large multi-national farms
- Bigger source of protein
- Source of milk/ghee/meat
- Sheep/goats can survive on marginal land

Against livestock

- Insufficient land for fodder crops
- Inadequate storage facilities
- Lack of grazing land
- Overgrazing
- Lack of funds
- Unhygienic husbandry

For food crops

- More land can grow food for people
- Well-developed irrigation
- Multi-cropping
- Access to fertilisers/pesticides, etc.

Against food crops

- Mismanagement
- Overuse
- Of water/seepage from canals
- Over-cultivation

ETC.

[October/November 2017]

(ii) Describe the ways that human factors can improve the production of livestock farming in Pakistan.

Markscheme:

- Increase production of fodder crops;
- Provide more land for grazing;
- Improve feed / better food / healthy food / hygienic food;
- Improve veterinary facilities / number of vets;
- Vaccinations / vitamins / medicines / treatment;

- Provide shelter from elements / weather in winter / living in hygienic conditions;
- Government support / agricultural development funds / loans;
- Education for farmers on animal health/husbandry / disease prevention / selective breeding / cross breeding;
- Investment from multinational companies in poultry / milk processing;
- Introduction of machines, e.g. milking machines.

(b) Study Fig. , which shows changes in farm size in Pakistan between 1980 and 2010.

Farm size hectares (ha)	Percentage of farms			
	1980	1990	2000	2010
Under 5	74	81	86	89
5–20	24	17	13	10
21 and over	2	2	1	1

(i) In which year was the percentage of farms under 5 hectares (ha) the smallest? [1]

Markscheme:

1980

(ii) Identify the two main changes in farm size over the whole period 1980–2010.[2]

Markscheme:

Changes
Under 5 / (74 to 89) increases
5–20 / (24 to 10) decreases
21 and over / (2 to 1) decreases/halved

(iii) Suggest a reason for one of the changes you have identified in (b)(ii).[1]

Markscheme:

Reasons	
Under 5 / (74 to 89)	Increasing sub-division of family plots because of inheritance laws Increasing population causing pressure on land
5–20 / (24 to 10)	Redistribution of landlord holdings / land reform reducing landlord holdings / consolidation of holdings
21 and over / (2 to 1)	Continues to represent a minority of farms in Pakistan / agriculture in Pakistan primarily subsistence

(iv) Explain how farm size can affect production on farms in Pakistan. You should develop your answer. [4]

Markscheme:

For smaller farms: accept converse for larger farms:

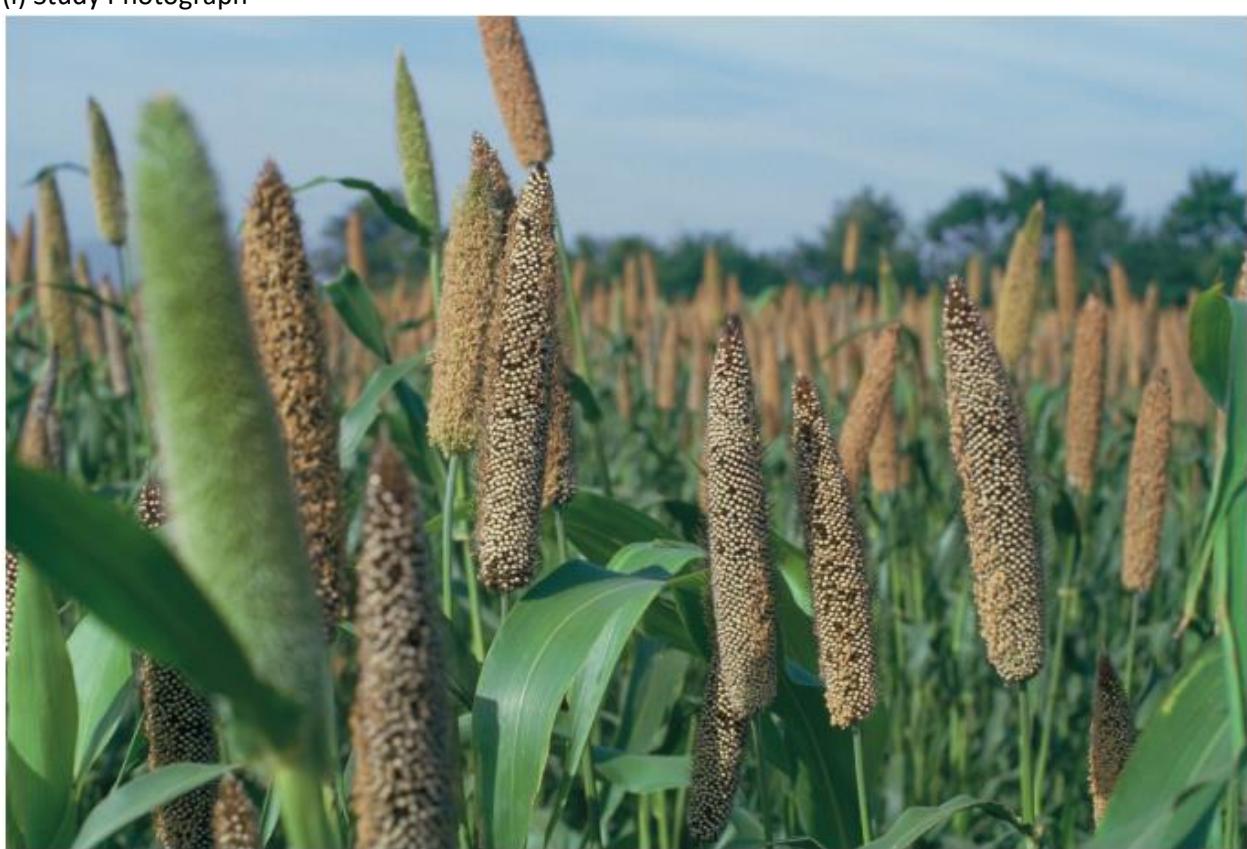
- Higher proportion wastage / longer time to harvest (since less able to use machinery / difficult to manoeuvre machinery);
- Shorter / restricted / reduced harvest time (as more likely to / can only afford to rent rather than buy machinery / tractors);
- Less able to grow crops for sale / less able to produce quality crops (as large land needed for monocultures / efficient / economic production);
- Less able to invest in development of farm (as less likely to be able to obtain loans);
- Crops less well irrigated and lower yields (as cannot afford / do not have modern irrigation / tubewells);
- Higher yields / output per ha (since farming is intensive / intensive use of labour);
- Small farms – smaller amount of crop produced than larger farms (mainly subsistence, so less for sale).

For larger farms:

- Farming inefficient or not all of land cultivated (Zamindari system provides less incentive as large landlords are absent / workers are landless);
- Larger farms – larger amount of crop can be produced than smaller farms.

ETC.

(i) Study Photograph



A Name the crop shown in this photograph.

B Give one reason why this crop can be grown in many areas of Pakistan.

C Describe one natural requirement for a high yield of this crop. [3]

Markscheme:

A Millet / jowar / bajra

B

- Will grow in dry / semi-arid / barani areas / few irrigation facilities;
- Will grow in poor / sandy soil;
- Has a short growing season;
- Flat land available / on marginal land.

C Soil – one of: well drained, light, sandy, alluvial, loamy, not waterlogged

Climate – one of: warm / 21–30 °C, frost free, low rainfall / 200–1000 mm

(ii) Sugar cane is an important crop grown in Pakistan. Suggest two reasons why there is an increased demand for this crop. [2]

Markscheme:

- Rapid increase in population;
- Increase in per capita consumption of sugar;
- Export of (raw) sugar;
- Raw material for other industries – waste material – Bagasse (cardboard / chipboard / paper animal feed) / molasses (cattle feed / citric acid)

(d)

A huge area, 4–7 million hectares or one-fifth to one-third of the total agricultural area of Pakistan, has seen yields decreased or crops lost completely due to waterlogging and salinity.

Evaluate whether it is possible to prevent agricultural land being damaged by waterlogging and salinity. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer. [6]

Markscheme:

Possible

- Leaving part of the land fallow;
- Line / temporary closure of canals;
- Install tubewells;
- Planting eucalyptus trees;
- Digging surface / sub-surface drains;
- Removing salts by adding gypsum;
- Salinity Control and Reclamation Project;
- Cultivating salt tolerant crops / use saline land for livestock.

Not possible

- Cost of maintaining / replacing tubewells / other measures;
- Farmers continue to over-irrigate;
- SCARP projects date from 1958 and large public tubewells deteriorating / reaching end of their life;
- Lack of access to / cannot afford water;
- Massive investment needed.

ETC.

[May/June 2018]

(a) (i) Define the term 'livestock farming'. [1]

Markscheme:

- The rearing / taking care / feeding / keeping of animals.

(ii) State two uses of livestock on farms. [2]

Markscheme:

- Pulling a cart / draught power;
- Ploughing / preparing field / threshing;
- Irrigation / Persian Wheel;
- Milking;
- Herding;
- Carrying loads / transporting goods / people;
- Breeding;
- Producing of manure / (natural) fertiliser.

(b) (i) Study Fig. 3.1 and Fig. 3.2 , photographs showing different types of livestock.

Identify and name the type of livestock shown in each figure. [2]





Markscheme:

- Fig 3.1 – Cows / cattle;
 - Fig 3.2 – Sheep / lambs.
- (ii) Name two products from the livestock shown in Fig. 3.1. [2]

Markscheme:

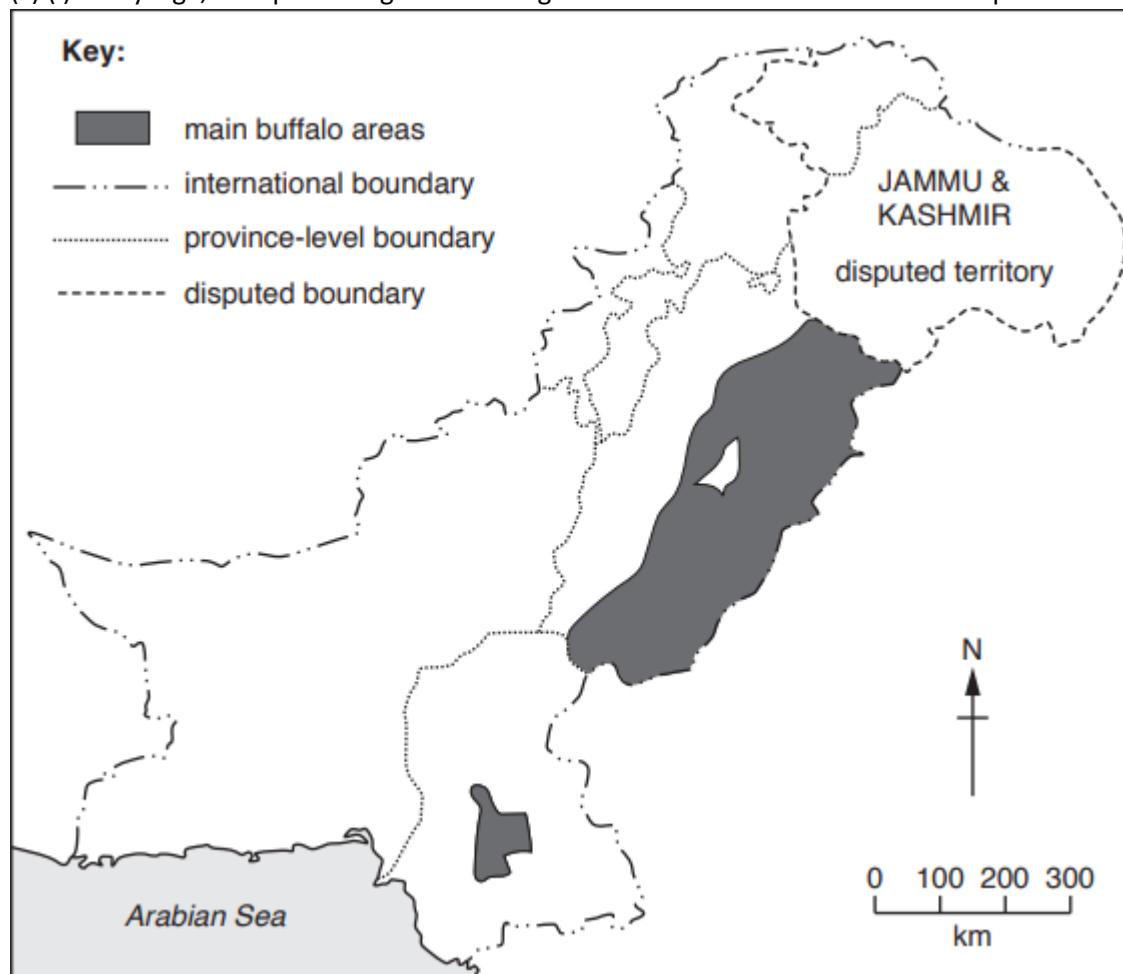
- Milk / cream / cheese / yoghurt / ghee;
- Meat / beef;
- Skin / leather.

(iii) Describe the benefits of rearing the livestock shown in Fig. 3.1 and Fig. 3.2. [3]

Markscheme:

- Cattle / cows seen as pride / prestige for farmers;
- Can be reared in most areas / in arid areas / in marginal areas;
- Food source / meat for families / subsistence;
- Wool used to make clothes / rugs / leather to make belts / shoes;
- Animal products sold for money / profit / contributes to GDP / export ;
- Waste / manure fertilises land / manure burnt as fuel;
- Sheep are sure footed and can survive in mountainous areas;
- Do not need large grazing fields;
- Can eat thin grass;
- Sheep preferred over goats / sheep less likely to overgraze;
- Nomadic people can travel with their sheep / cattle / can use in transhumance / easy to move;
- Can use products all year round.

(c) (i) Study Fig. , a map showing the main regions of Pakistan where buffalo are kept.



Using Fig. and your own knowledge, describe the distribution of buffalo in Pakistan. [3]

Markscheme:

- Only in Sindh and Punjab;
- Mostly in a line along the eastern border of Pakistan / mostly in Punjab / in eastern Punjab;
- One region in south east / Central Sindh / around Hyderabad;
- Upper Indus Plain;
- Along rivers / canals / near named rivers;
- On flatter land / where land not rugged.

(ii) Suggest two reasons why buffalo are kept in these regions [2]

Markscheme:

- Prefer to be in water most of the time / can cool down in water;
- Canal irrigated areas / areas where water plentiful;
- Lowland climate / mild temperature / where climate is not too extreme / cold / hot;
- Where higher demand for buffalo products / examples of products;
- Buffalo cannot climb hills / survive in mountainous / hilly areas / rugged landscape

(iii) Explain how natural factors can create problems for buffalo farmers. You should develop your answer. [4]

Markscheme:

Natural factors such as:

- Weather / climate – cannot tolerate cold weather so buffaloes die;
- Availability of water – like to spend most of their time in water, otherwise will dehydrate / give poor quality meat and milk;
- Topography – limits where buffalo can be reared;
- Poor soils – will produce poor quality grazing / buffalo become undernourished;
- Disease – cost of vaccination / vet fees;
- Flooding – results in drowning / loss of animals;
- Lack of tree cover – no shade for animals and farmer has to build sheds / plant trees.

Etc.

(d) The government has encouraged the growth of commercial poultry farming since 1964. There have been some challenges but different strategies have been introduced to further develop this type of farming in Pakistan.

Evaluate the extent to which commercial poultry farming in Pakistan has overcome its challenges and developed further. Give reasons to support your judgement and refer to examples you have studied. You should consider the challenges and the strategies used in your answer. [6]

Markscheme:

Challenges

Increased demand for poultry products – reasons for this, e.g. increased population / preference for white meat;

Diseases;

Air pollution / methane;

High production costs / feed;

High prices of meat / falling demand;

Power shortages;

Closure of farms;

Ban on poultry export to Afghanistan.

Strategies

Government help through;

Improving power supply;

Legislation / guidelines for rearing poultry;

Securing international markets / free trade agreements;

Vaccination programmes to prevent disease;

Incentives for farmers;

Lowering price of feed;

Use of poultry manure for fertiliser / in fish farms.

Etc.

[October/November 2018]

(a) (i) Study Figs. 1.1, 1.2, 1.3 and 1.4 , photographs showing different crops growing in Pakistan.





Identify the crops shown in each photograph[4]

Markscheme:

Fig. 1.1 = Rice

Fig. 1.2 = Sugar cane

Fig. 1.3 = Cotton

Fig. 1.4=Wheat

(ii) State what any two of the crops shown in Figs. 1.1–1.4 are used for [2]

Markscheme:

- Rice – used for exports / foreign exchange / food / flour;
- Sugar cane – making sugar / brown sugar / gur / fuel / by products or e.g. molasses / bagasse;
- Cotton – making clothes / soft furnishings / bed linen / making fibre / yarn / fabric;
- Wheat – making of bread and other baked products / feed for livestock / flour.

(b) (i) Explain the ideal natural growing conditions needed to produce cotton. You should develop your answer. [4]

Markscheme:

- Ideal temperature is 25–35 °C (e.g. so crop grows well / without these temperatures crop will not grow well);
- Mild (moderate) night time temperature / not too cold at night (e.g. so crop is not damaged or spoilt by frost);
- Dry sunny days (e.g. so harvest is productive / high yielding / ripening);
- 500–1000 mm rainfall / plenty (ample) of rainfall (e.g. to avoid extra irrigation / high yielding);
- (Medium) loam soil / loamy (e.g. fertile soil / high in nutrients / high yielding);
- Natural manure (e.g. cheaper / easily available / maintain fertility / avoid crop rotation / high yields);
- Flat land / level land / terraces (e.g. allows use of mechanisation / easy to plough, sow or harvest);

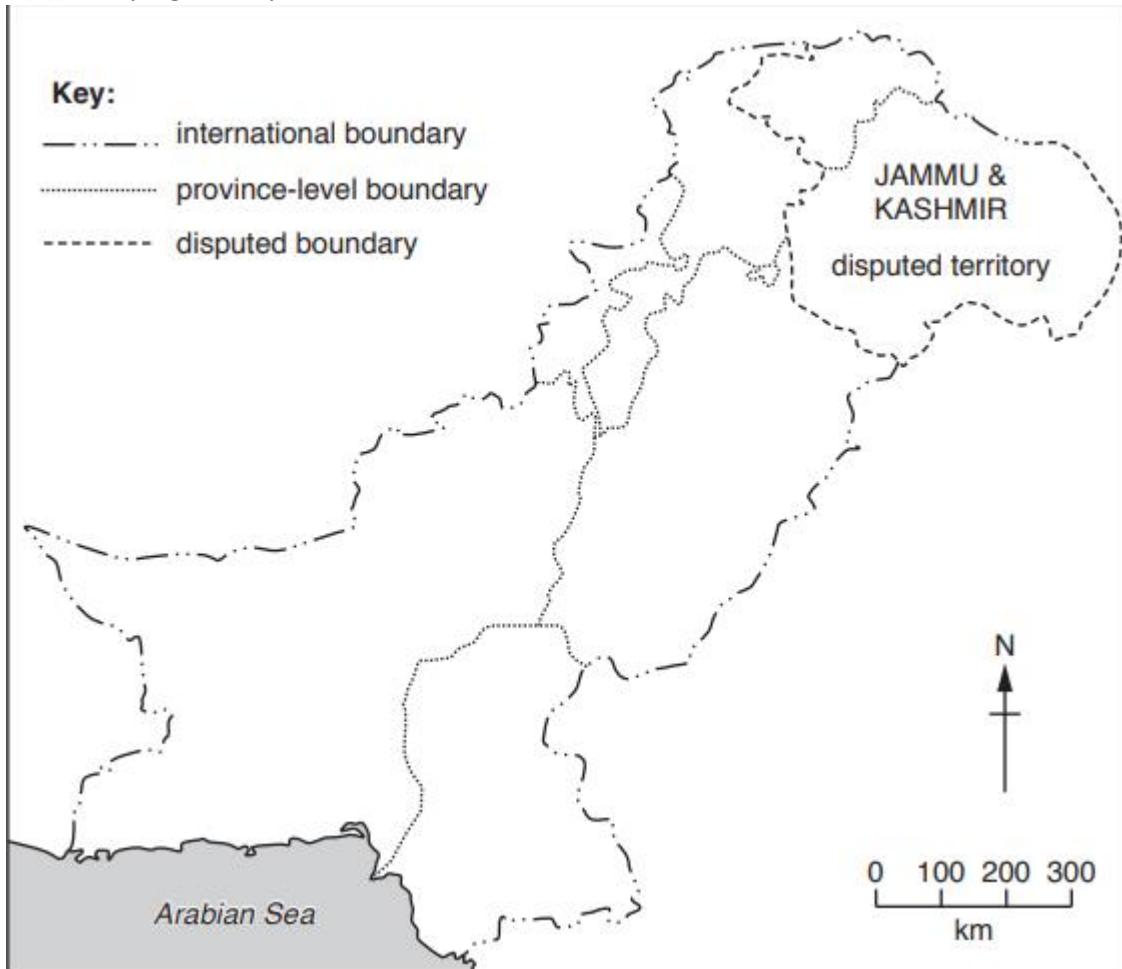
Etc.

(ii) Describe how environmental factors can harm the cotton crop. [4]

Markscheme:

- Rain at harvesting time (will spoil the boll);
- Sensitive to frost;
- Leaf curl virus;
- Drought / lack of rainfall / lack of water;
- Flood / heavy rainfall;
- Sudden changes in temperature / too hot / too cold;
- Pest or insect attack;
- Strong winds;
- Salinity / waterlogging.

(c) (i) Study Fig. , a map outline of Pakistan.



On Fig. shade and name the provinces where oilseeds are grown. [3]

Markscheme:

Shade on the map at least two of the following provinces:

Sindh, Punjab, KPK or Balochistan (must shade entire province)

Name any two of the named provinces above accurately, i.e. in the correct location.

(ii) State two reasons why oilseeds are grown in these provinces. [2]

Markscheme:

- Tolerant of a range of climate conditions / can grow in a wide range of different climates / fertile soil or nutrient rich soil / flat land;
- Time of year (Rabi crop) / grown over winter;
- Land needed for more high value crops in summer;
- Irrigation system / water from river Indus;
- Domestic market or example;
- Industrial uses or example;
- Animal fodder.

(d) Pakistan is an agricultural country, yet a recent United Nations report placed Pakistan on a list of countries facing food shortage in the future. Read the following two views about ways to prevent future food shortages in Pakistan:

A

The best way to prevent food shortages is to increase food production for the domestic market.

B

The best way to prevent food shortages is to increase food imports for the domestic market.

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 and View B in your answer. [6]

Markscheme:

Increase food production for the domestic market:

- Positive ideas for improving wheat production as a staple food source for the population of Pakistan;
- Food is more important than producing cash crops;
- Do not want to rely on other countries for food imports;
- Incentives for farmers;
- People able to work as have more energy;
- Imported food is more expensive than home grown food;
- Wider variety of products grown domestically;
- Improve balance of payments / reduces imports;
- May provide more jobs in farming;
- Provide incentives to farmers to grow the oilseed rather than import it;

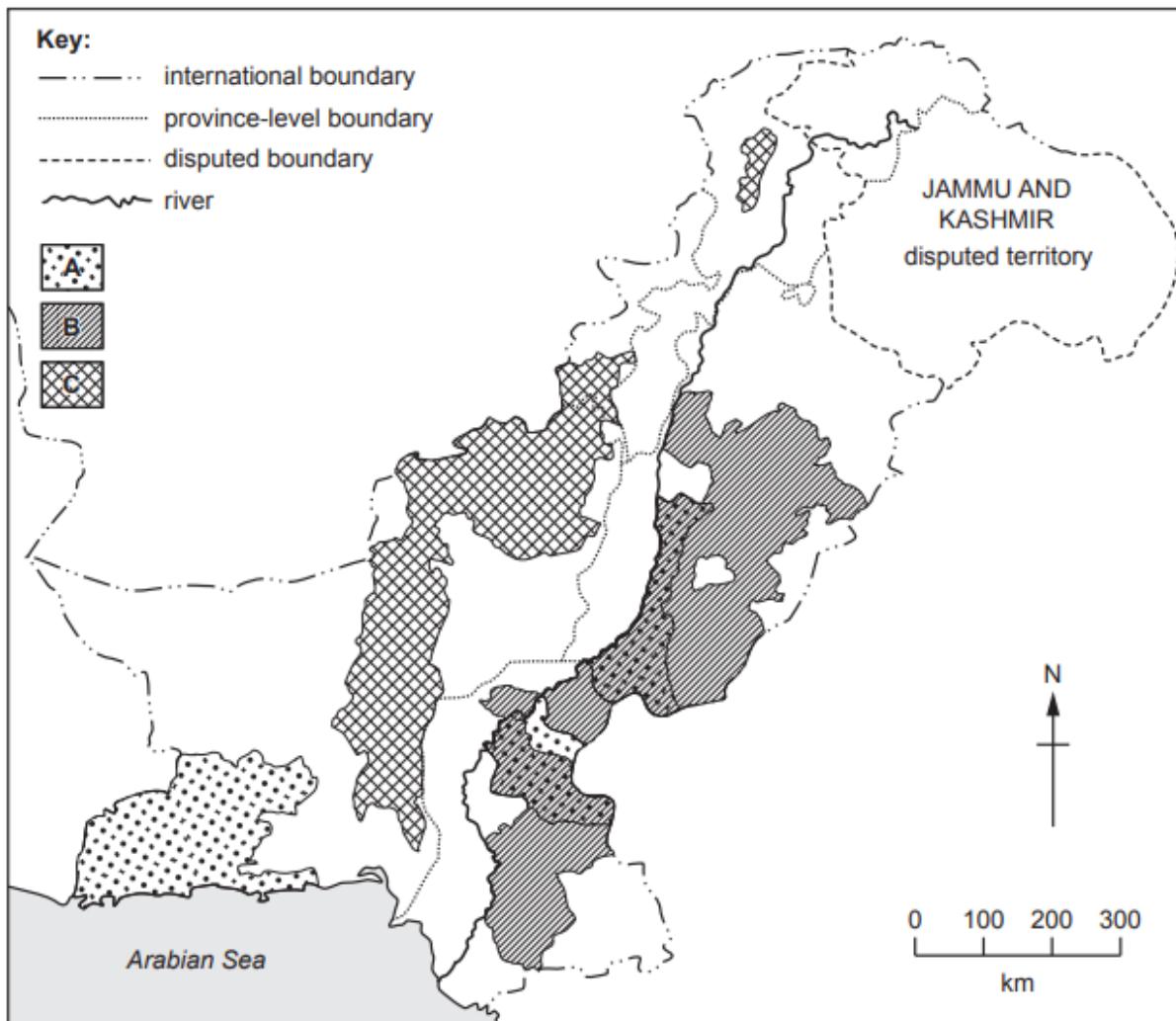
Etc.

Increase food imports for the domestic market:

- Increase number of trade partners;
- Can use the land in Pakistan for producing higher value goods / crops for export;
- Wider variety of foods can be imported;
- Wider / more varied diets available;
- Can eat foods all year round e.g. do not have to wait for them to be in season;
- People can work in manufacturing or service industries which are higher paying and less labour intensive;
- Fewer people will need to be subsistence farmers;

Etc.

(a) (i) Study Fig., a map showing the areas where three different types of fruit are grown in Pakistan.



Complete the key with the name of fruits A, B and C below.[3]

Key:

A	
B	
C	

Markscheme:

Fruit A = date

Fruit B = mango

Fruit C = apricot

(ii) Using Fig. only describe the distribution of the areas where fruit A is grown.[3]

Markscheme:

Ideas such as:

In east/central Sindh;

South west Balochistan;

East of river Indus etc.

- (iii) Using Fig. only, state two differences between the location of the areas where fruits B and C are grown. [2]

Markscheme:

Ideas such as:

B is in two provinces whereas C is in one/B is in Punjab and Sindh whereas

C is in Balochistan;

B is further north and south than C;

B is further east than C/C is further west than B;

C is located over the border in another country whereas B is not; etc.

- (b) Explain the ideal natural growing conditions needed to grow bananas in Pakistan. You should develop your answer.[4]

Markscheme:

Temperature; (frost-free/humid and hot/temperature range 27–29 °C);

Rainfall; (average annual rainfall 850–1050 mm required);

Soil; (deep/at least 50 cm/fertile/loamy/well-drained/high water holding capacity);

Sunshine; (high number of sunshine hours required).

- (c) (i) Define 'subsistence farming'.[1]

Markscheme:

Farming for own use/to meet the needs of the family/not for sale

- (ii) State two human and two natural inputs for subsistence rice farming. [4]

Markscheme:

Human inputs

Draft power;

Equipment/examples;

Fertiliser;

Irrigation;

Labour;

Seeds;

Natural inputs

Climate/examples;

Manure;

Seeds;

Soil type;

Topography/relief;

Water availability.

- (iii) Suggest two disadvantages of subsistence farming.[2]

Markscheme:

Ideas such as:

May not grow enough food to eat/only small amounts grown;

May not produce enough surplus crop to sell/earn money;

Labour intensive;

Reliant on the weather/crop could fail; etc.

- (d) Evaluate the extent to which different strategies used to increase agricultural production in Pakistan have been successful. Give reasons to support your judgement and refer to

examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Strategies to increase agricultural production

Ways waterlogging and salinity is being overcome/improved;

Irrigation systems;

Mechanisation;

Improved seeds/examples/HYVs;

Loans for farmers;

Education/training;

Modernisation; etc.

Strategies may not always succeed because

Programmes may be restricted to specific areas/not nationwide;

Climate/relief may reduce effectiveness of strategies in some areas;

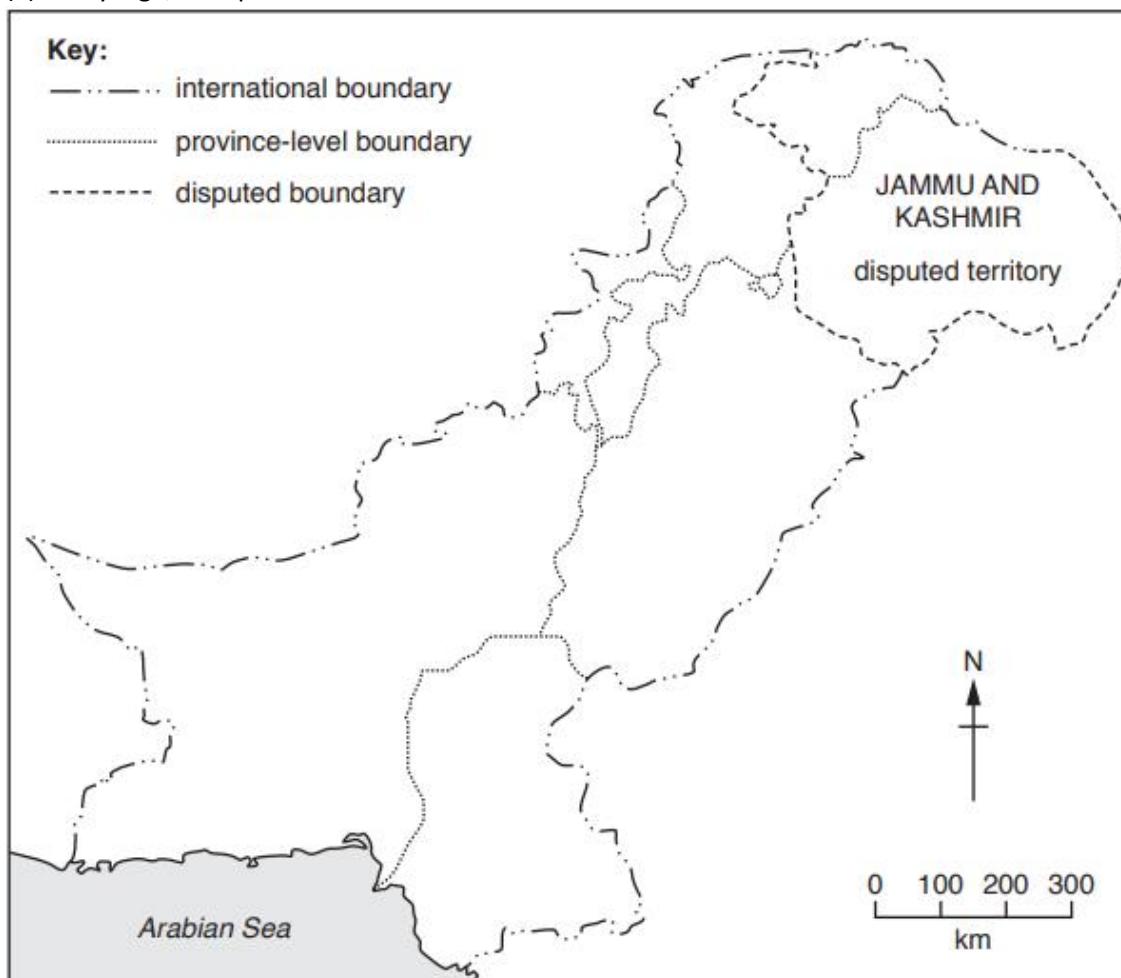
Many farmers use traditional methods;

Some farmers cannot afford to take loans;

Mechanisation may lead to unemployment; etc.

[October/November 2020]

(a) Study Fig. , a map of Pakistan.



(i) On Fig. , shade one area where apples are grown in Pakistan. [1]

Markscheme:

- northern border of Balochistan
- central Balochistan
- south-western border of Khyber Pakhtunkhwa (KPK)
- central northern KPK
- north-eastern border of KPK
- north-western border of Punjab/Islamabad Capital Territory

(ii) State one reason why apples are grown in this area and one important use of apples.[2]

Markscheme:

Reason: low(er)/cooler temperatures/can grow apples around the fields of other crops/major crops cannot be grown so apples grown instead/ climate moderate/mild temperature

Use: subsistence/to feed the family/important source of vitamins/part of a healthy diet/to sell/for profit/export/any of making juices or syrups or sauces or jams/to fulfil local demand for fruit/animal fodder or feed

(b) (i) Study Fig. , a photograph of livestock in Pakistan. Using Fig. only, identify the type of livestock shown.[1]



Markscheme:

cattle/bullock/bulls/cows

(iii) List two ways the livestock shown in Fig. can be used other than as draught power for irrigation.[2]

Markscheme:

- ploughing/threshing/harvesting;
- pulling carts;

- carrying heavy loads/raw materials/people/transport;
- for meat/milk/skin/hides/dung/or other product.

(c) (i) Explain two natural factors required for growing wheat. You should develop your answer.[4]

Markscheme:

Temperature:

- sowing in dry season (1); average temperature 15 °C/10–20 °C (dev);
- mild temperature/ideal temperature 10–20 °C / 15–25 °C (1); for growing (dev);
- 20–30 °C/sunny/warm/hot / (1) for ripening/harvesting (dev);

Rainfall:

- moderate/ample rainfall/250–1000 mm (1); growth of wheat stalk/ some rain just before the harvest swells the grain ensuring a higher yield (dev);
- only some areas are rain fed (1); Potwar plateau and some parts of Khyber Paktunkhwa/other areas are irrigated (dev);

Soil:

- moderately loamy/clayey soil/fertile soil (1); produces better quality crops/higher yields (dev);
- land must be well drained (1); otherwise wheat will not grow/does not thrive if there is stagnant water/waterlogged (dev);

Growing period:

- needs at least 90 days (1); for basic varieties to grow (dev)
- needs 120 days growing period (1); for better varieties/higher yield/ HYV (dev);

Relief:

- flat/undulating ground/gently sloping (1); to facilitate the use of machinery/examples e.g. combine harvester/easier to sow/plough/harvest (dev).

(ii) Contrast wheat production on a small-scale subsistence farm and a cash crop farm.[4]

Markscheme:

small-scale subsistence farm:

- land ploughed with traditional methods/wooden plough/bullocks;
- well irrigation/charsa/Persian wheel/karez/rainwater is used;
- (harvesting is done by) manual labour/by hand;
- (grain is separated from the chaff) by animal power;
- cow dung is used (as manure);
- for family use/only enough produced for the family;
- desi seeds;
- low yield/less production;
- mostly uses family labour;
- little/no investment;
- small area/amount of land used.

cash crop farm:

- tractor/machinery used for ploughing;
- normally canal irrigation/water/tubewells used;
- reapers and or combine harvesters used;

- threshing machines used;
- chemical fertilisers/pesticides used;
- for selling/export;
- use HYV's;
- workforce employed/hired;
- large amount of land used;
- large capital investment.

(d) Read the following two views about initiatives that have been implemented to improve agricultural production in Pakistan.

A

B

Land reforms have had the most impact on agricultural production.

The use of chemicals has had the most impact on agricultural production.

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 and View B in your answer.[6]

Markscheme:

Agree with View A more

- aimed at increasing productivity in some areas/for some crops;
 - reduced power of a few landlords therefore more people able to increase output and earnings;
 - larger areas of land are available to cultivate rather than many individual small holdings therefore able to mechanise/use machinery;
- Etc.

Agree with View A less

- lack of will to implement this strategy;
 - some Barani lands have incomplete land records so difficult to redistribute;
 - land is traditionally passed from one generation to the next without legal documentation;
 - wealthy landlords could use their influence to avoid land reform;
 - most land remained in the hands of a few wealthy landlords;
- Etc.

Agree with View B more

- the production and use of fertiliser and/or pesticides is actively encouraged;
 - chemical fertilisers are used to improve agricultural production by increasing soil fertility, and are popular with farmers as many soils lack nitrogen/are infertile;
 - use of pesticides helps the crop to grow healthy and protects it against insects/bugs/diseases/named examples. Popular with farmers as yield is better quality and makes more profit;
- Etc.

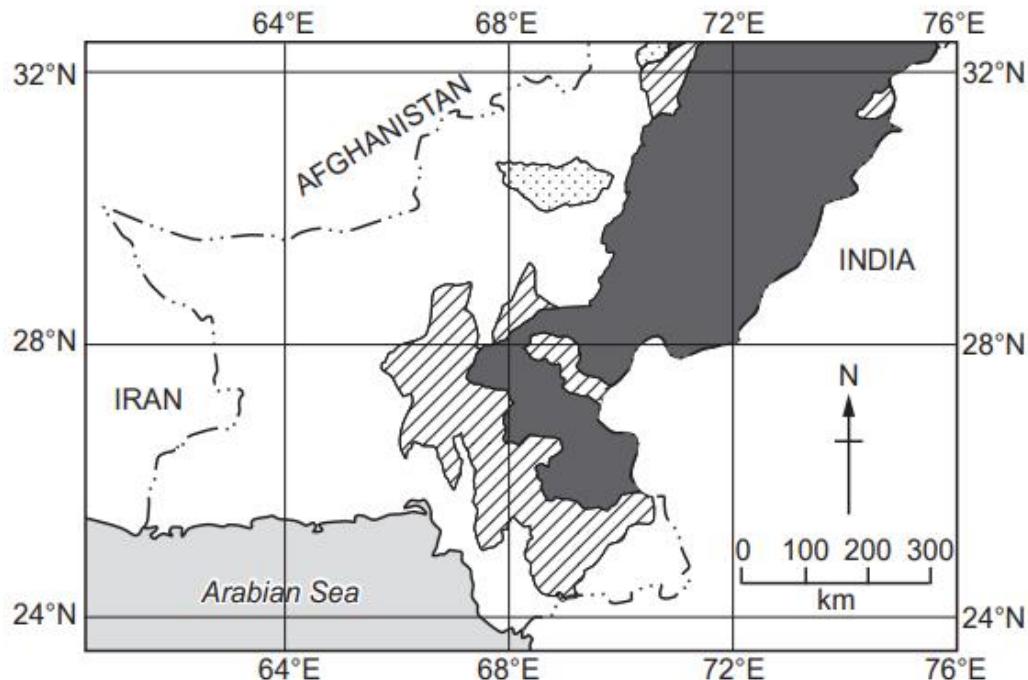
Agree with View B less

- use of chemical fertilisers and/or pesticides has led to environmental degradation/land or water pollution;
- chemicals draining into rivers/water bodies causes algae growth using up oxygen/causes eutrophication fish and plants die;
- water pollution affects towns and cities that are supplied by rivers, human health and other livestock;
- pesticides can remain in the crop which is then eaten causing illness - gastro-intestinal infections/tuberculosis etc;
- use of chemicals causes more problems than it solves;

Etc.

[May/June 2021]

(a) (i) Study Fig. , a map showing wheat-growing areas in southern Pakistan.



Key

- international boundary
- wheat-growing areas
 - main
 - secondary
 - minor

Using Fig. only, describe the distribution of the main wheat-growing area.[3]

Markscheme:

- not evenly spread throughout Pakistan;
- most on the eastern side of Pakistan/on or near to the border with India;
- lots in the east/less in west;
- reference to latitude/longitude;

Etc.

(ii) State two uses of wheat in Pakistan.[2]

Markscheme:

- as a staple food;
- flour;
- manufacture of bread/roti/chapati;
- in a variety of other baked products;
- (low grade used as) feed for livestock;

Etc.

(ii) Complete the passage below about conditions required for growing wheat. Choose the correct words from the list and place them in the spaces provided.

50	90	dry	heavy	light	rainfall
sunshine	wet	5–10°C	15°C	25–30°C	35°C

Wheat is sown during the season from October to December when is low and the average temperature is Wheat needs at least days to grow with a mild temperature of 10–20 °C. A warmer temperature of is needed for ripening to take place. rain is also needed just before the harvest to swell the grain and ensure a high yield.

[3]

Markscheme:

Wheat is sown during the dry season from October to December when rainfall is low and the average temperature is 15 °C. Wheat needs at least 90 days to grow with a mild temperature of 10-20oC. A warmer temperature of 25–30 °C is needed for ripening to take place. Light rain is also needed just before the harvest to swell the grain and ensure a high yield.

(iii) Describe the methods used to cultivate wheat on a small-scale subsistence farm.[4]

Markscheme:

- land is ploughed with a traditional wooden plough and bullocks/draught power;
- well irrigation is used e.g. charsa/Persian wheel or rainwater is used.
- sowing/harvesting/examples done by hand/work done by hand/family/no machinery used;
- grain is separated from the chaff using animal power;
- cow dung used as manure;
- desi seeds are used;

Etc.

(c) (i) What type of crop is wheat? Circle one of the following:

kharif rabi zaid

[1]

Markscheme:

rabi

(ii) Explain how two human factors can increase the production of wheat under the cash crop farming system. You should develop your answer.[4]

Markscheme:

- loans/more money invested; from the government to buy machinery or named examples;
- machinery is required; as areas of land are too large to cultivate by hand;
- HYV's can be used; the yield per hectare is approximately twice that of local or desi varieties;
- chemical fertilisers are used; to speed the growth so that two crops can be cultivated per year;
- pesticides are used; to prevent crops being ruined by pests/locusts or named examples;
- irrigation installed; e.g. replacing traditional methods with new modern methods such as sprinkler systems or tubewells;
- land reforms; fields are larger so can use machinery;

Etc.

(d) Wheat contributes around 2 per cent to Pakistan's GDP with 80 per cent of farmers growing wheat on approximately 40 per cent of Pakistan's total cultivated land.

Assess the extent to which the large amount of land currently used to grow wheat should be used to grow other higher-value crops. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Agree because:

- wheat does not contribute very much to the economy but almost half of the cultivated land area is used for wheat;
- still need to import wheat as unable to meet current demand;
- environmental factors affect the production of wheat so in some years production is low;
- high value crops will earn more money for the economy/increase GDP;
- would have to import less high value crops;

Etc.

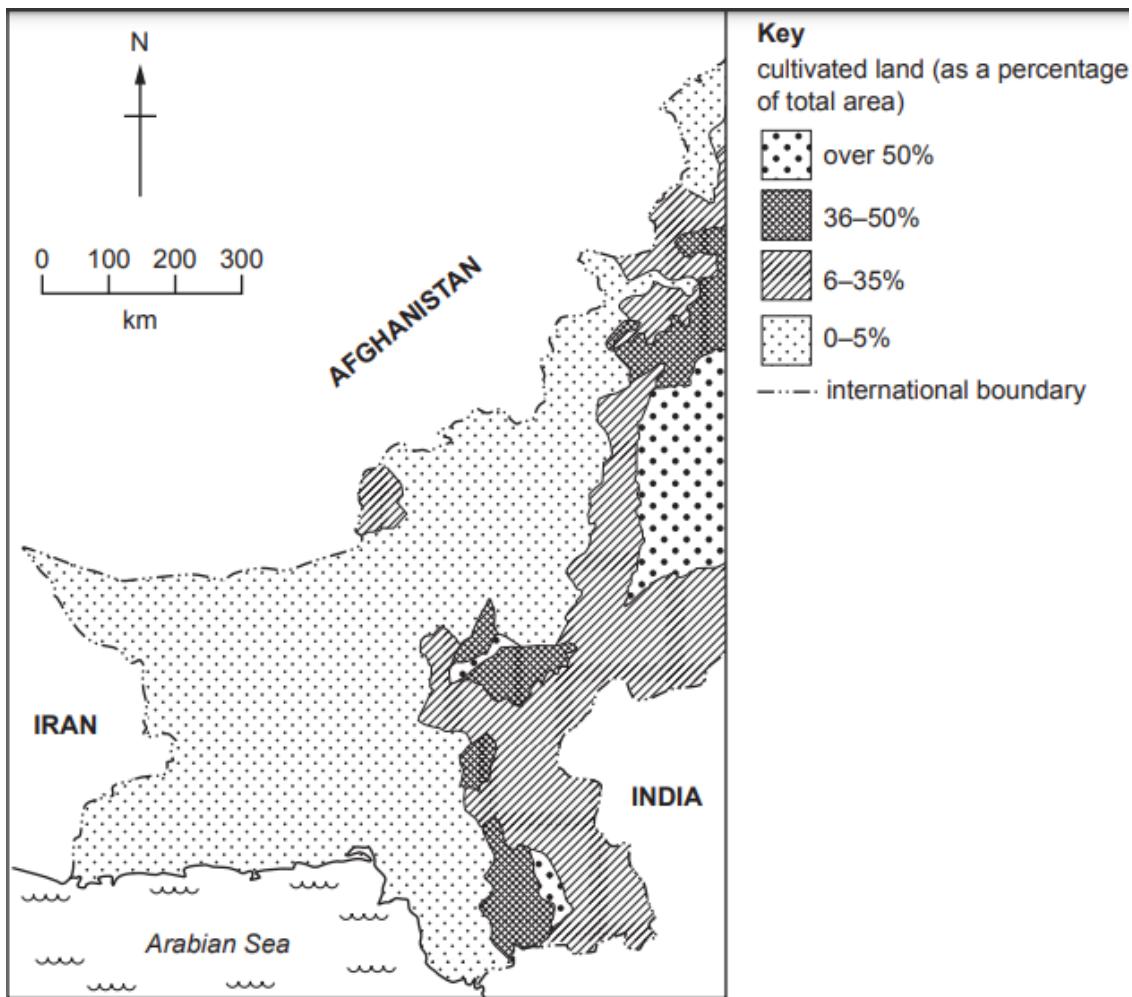
Disagree because:

- land reforms have not always been effective in some parts of Pakistan;
- much of the land is used by small scale subsistence farmers which limits what the land can be used for;
- high value crops such as cotton require more water which Pakistan is short of;
- costly to grow more high value crops;
- additional education and training needed to grow more high value crops;
- some farmers reluctant to grow different crops/traditional methods v modern methods;
- may contribute to food shortages/wheat is a staple;
- high value crops may not be food e.g. could be palm oil etc;
- growing more high value crops may benefit big organisations over individual farmers;

Etc.

[October / November 2021]

(a) Study Fig. , a map showing the percentage of land under cultivation in southern and western Pakistan.



(i) Using Fig. only, describe the distribution of areas with over 50% of land under cultivation.[3]

Markscheme:

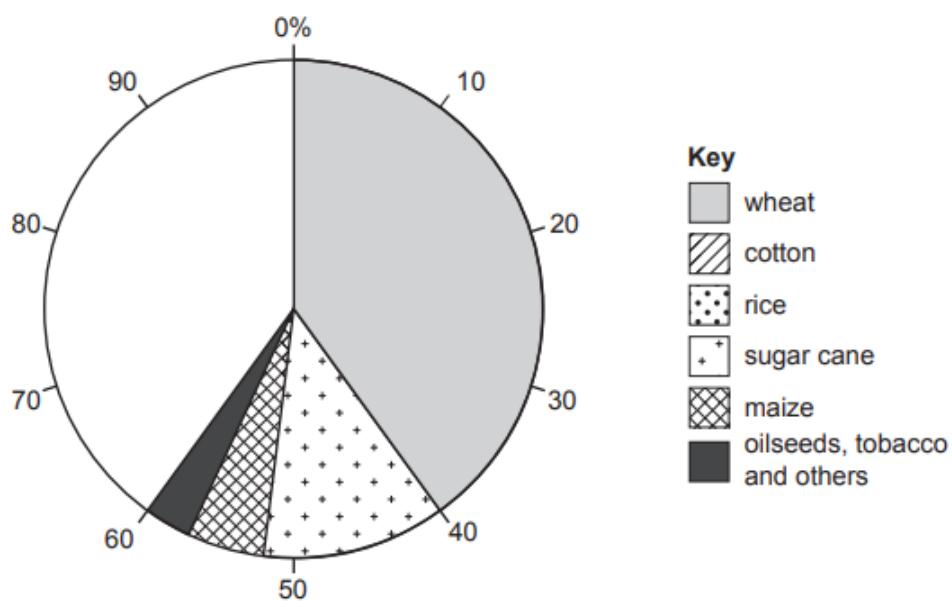
- uneven distribution;
- in three areas;
- mostly in north-east;

- small amount in south-east/centre;
 - predominantly in the east/none in the west/ close to Afghanistan/Iran;
 - inland/none on the coast/not close to Arabian Sea;
 - largest area close to India;
- (ii) Define 'cultivation'.[1]

Markscheme:

To prepare land and grow crops on it.

- (b) Study Fig. , a pie graph showing the percentage share by value of each of the main crops grown in Pakistan.



- (i) Complete Fig. 3.2 to show the percentage share by value of cotton and rice. Use the information below and the key.

crop	percentage (%)
cotton	25
rice	15

[2]

Markscheme:

- accurate drawing of line at either 75% or 85% (1)
 - correct shading (diagonal) to match the key (1)
- (ii) State two reasons why wheat is the main crop grown in Pakistan.[2]

Markscheme:

- it has many uses/bread/roti/variety of baked products;
- it is a staple food/main part of (local) diet;
- low grades of wheat and by-products used for animal feed;
- rise in local demand due to increasing population;
- use of subsidies to encourage farmers to grow wheat;

- suitable climate/weather/temperature/soils/relief;
- short/fast/90–120 day growing season;
- requires less water/irrigation/rain than other crops;

(c) (i) Complete the passage about growing rice in Pakistan. Choose the correct words from the list and place them in the spaces provided.

Balochistan	commercial	large	northern
Sindh	southern	subsistence	terraced

Rice is normally grown on a scale for
 purposes in Punjab and Small-scale
 farming is practised in the regions where rice is grown on
 fields.

[3]

Markscheme:

Rice is normally grown on a large scale for commercial purposes in Punjab and Sindh. Small-scale subsistence farming is practiced in the Northern regions where rice is grown on terraced fields.

(ii) Describe the processes involved in the growing of rice.[4]

Markscheme:

- rice seeds are sown/grown/planted in beds/nurseries;
- bunds and terraces are repaired to ensure water stays in the field;
- fields are prepared by ploughing/weeding;
- fields are flooded (to a depth of 37 cm/14–15 inches);
- water is diverted from rivers or irrigation canals;
- when the plant is big enough/23 cm/9 inches it is planted in the fields;
- fertiliser/manure is added, giving plants more nutrients for better growth;
- the fields are kept full of water/flooded until the rice is ripe;
- the water is drained off (by making holes in the bunds).

(iii) Explain how two natural factors affect rice production. You should develop your answer. [4]

Markscheme:

- temperature; mean temperature of 20-30 oC /warm/hot temperatures needed/cold temperatures would harm the crop/dry period/warm/sunny period needed for harvesting;
- 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;
- humidity; high during the 4–6 months growing period; leads to the best quality/highest yields of rice;
- land; level/flat/plain land for flooding/ease of irrigation/to facilitate the use of machinery/easier to sow/plough/harvest;
- 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;
- pest attacks/diseases; can destroy the whole crop/ decrease yields

especially during hot spells e.g. leaf curl virus.

Etc.

(d) To what extent are climatic challenges the biggest threat to Pakistan increasing its agricultural production? Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

climatic challenges:

- increased temperatures threaten agricultural production; reduce crop quantity and quality due to the reduced growth period e.g. wheat/maize;
- increased risk/consequences of drought;
- seasons are changing e.g. monsoon season coming later/earlier/ shorter/unreliable; means farmers can no longer rely on the rain;
- climate change cannot be prevented;
- expensive to mitigate against the impacts of climate change;
- increased risk of storms/severity/ frequency impacts on harvesting;
- climate change causes drier areas and the spread of locusts which eat crops;
- increase in temperatures encourage the spread of leaf curl virus in cotton crops;

Etc.

other factors:

- water logging and salinity;
- traditional farming techniques; manual labour is slow and inefficient;
- environmental degradation/pollution;
- limited investment in farming practices/machinery/seeds/training;
- landownership/fragmentation; fragmentation causes farming processes to take longer and can't be mechanised;
- most farming is subsistence, which has low yields;
- literacy/education levels mean farmers may lack knowledge of how to improve yields;
- some traditional varieties of field crops give low yields and are not disease resistant;
- traditional irrigation methods are not always reliable;
- overgrazing causes soil erosion and lack of food for animals;
- variable availability of veterinary care makes animals prone to disease;

Etc.

[May/June 2022]

(a) (i) Complete the table to define the three main types of farming in Pakistan.

type	definition
.....	farming is the growing of crops for sale.
.....	farming is the production of food and raw materials from animals.
.....	farming is the production of food mainly for personal consumption.

[3]

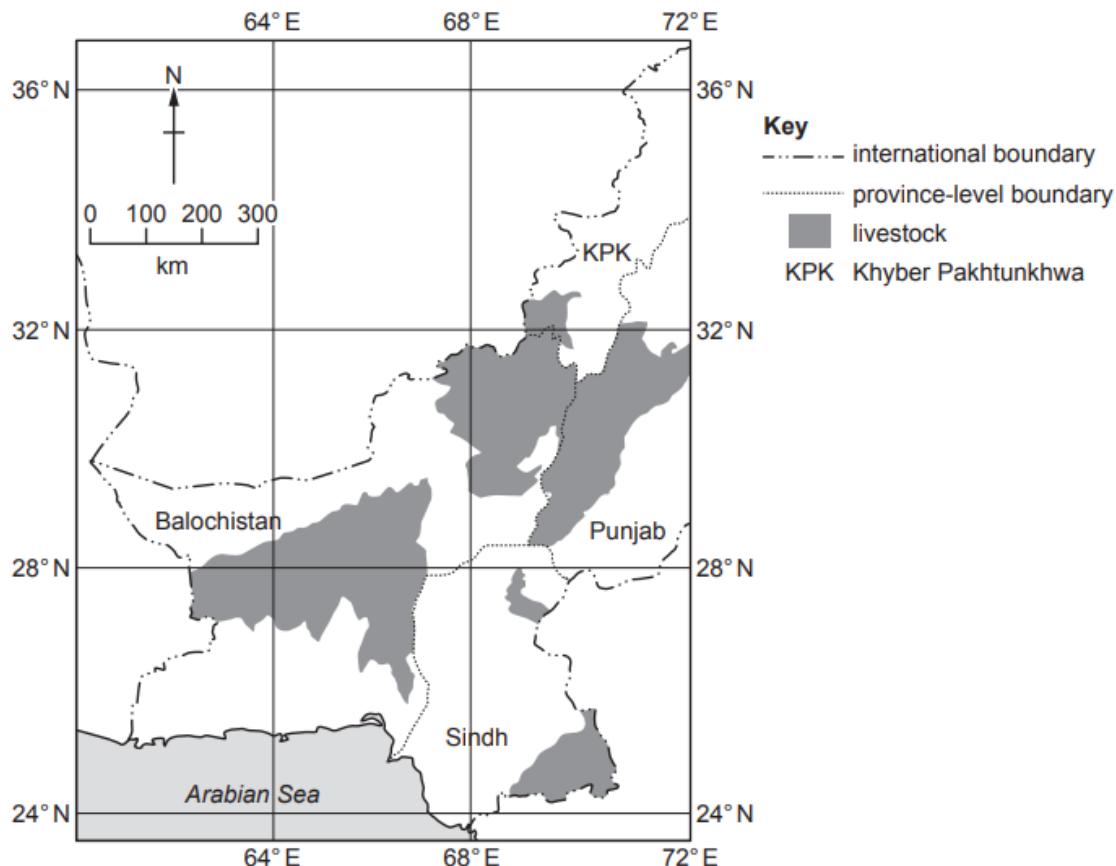
Markscheme:

cash crop/commercial/arable

livestock/pastoral

subsistence/small-scale subsistence

(ii) Study Fig. , a map showing the areas in southern and western Pakistan where one type of livestock is mainly kept.



State the type of livestock mainly kept in the areas shown in Fig. [1]

Markscheme:

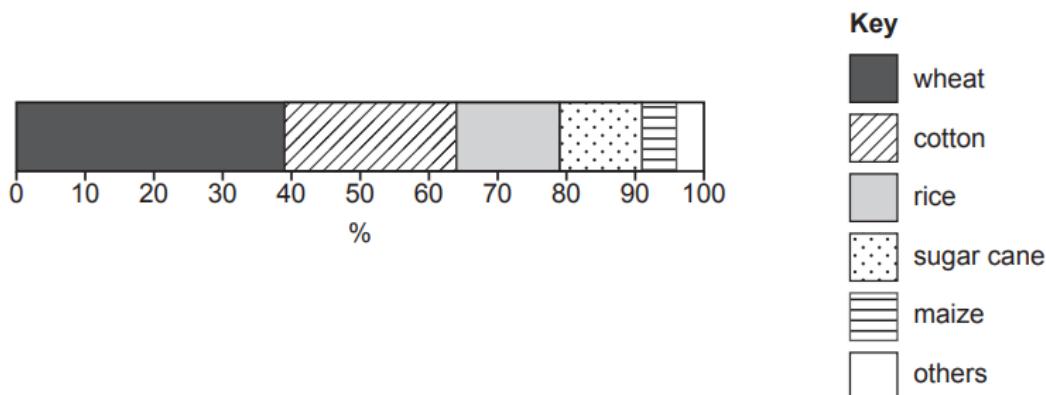
sheep/goats

(iii) Using Fig. only, describe the distribution of the areas within southern and western Pakistan where the livestock is mainly kept.[3]

Markscheme:

- throughout the country/widespread
- in all provinces (on the map)
- mainly in Balochistan
- between 24°–33°N and 62°–72°E (accept data within given range)
- on international boundary/boundaries/border
- (small) area in south-east Pakistan
- (large) area of central Pakistan
- west/south-west area of Punjab
- south-west area of KPK
- south-east area of Sindh/small area in north-east Sindh
- north/north-east area/band (west to east) across/in central Balochistan

(b) (i) Study Fig. , a divided bar graph showing the percentage share by value of major crops grown in Pakistan.



Using the information in Fig. only:

– which crop accounts for a quarter of the value of major crops?[1]

Markscheme:

Cotton

– what is the percentage share of sugar cane?[1]

Markscheme:

12%

(ii) State one major use for each of the crops below:

cotton

rice

tobacco [3]

Markscheme:

- cotton: making clothes/garments/furnishing fabrics/bed linen/industrial fabrics/textiles/yarn/wearing
- rice: (staple) food/diet/nutrition/animal fodder/eating/consumption
- tobacco: recreation/cigars/cigarettes/pipes/medicine/pharmaceuticals/smoking/chewing

(c) (i) Explain how the natural factors of soil and climate affect the growth of cotton. You should develop your answer.[4]

Markscheme:

soil:

- should be fertile/alluvial/black/loam/loamy/clay; for the crop to grow well/so the soil is well drained
- the pH of the soil should be neutral/pH5.8-8.0/neither very acid or alkaline; cotton is very sensitive to/does not grow well in alkaline soil
- impervious sub-soil is needed/essential; because it retains water/so soil stays moist
- needs manure/dung/animal waste; to improve/maintain fertility of the soil

climate:

- ideal temperature for cotton is hot/25–35°C; is needed for high yield/crops cannot survive in cold/best for ripening/harvesting
- mild night-time temperatures are needed/not too cold at night; for the development of the bolls/is sensitive to frost
- dry days are best for harvesting; rain will spoil the bolls at harvest time
- ample/sufficient/moderate/regular rainfall is needed/500–1000 mm; frequent showers with sunny periods in between/to prevent crops withering/optimal growth
- when rainfall is less than 500 mm it is too dry; (crop fails/die/water/irrigation is needed)
- flooding/heavy rainfall; (will destroy the crops/causing them to rot/breaking down the stalks)

(ii) Complete the passage below about tobacco farming in Pakistan. Choose the correct words from the list and place them in the spaces provided.

Azad Jammu & Kashmir (AJ&K)	Balochistan	domestic
export	Gilgit-Baltistan	import
Khyber Pakhtunkhwa (KPK)	Punjab	Sindh

Tobacco is mainly grown in and The varieties of tobacco grown on fertile soils with irrigation facilities are for the market.

[3]

Markscheme:

Tobacco is mainly grown in Khyber Pakhtunkhwa and Punjab. The varieties of tobacco grown on fertile soils with irrigation facilities are for the export market.

(d) Water is a valuable resource for development, yet Pakistan faces acute water shortages. 2600–5300 litres of water per day are needed to grow enough food for one person compared with 50 litres of water being needed per person per day for domestic use.

Evaluate the extent to which the use of water in agriculture in Pakistan can be made more sustainable. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

water use in agriculture can become more sustainable:

- water losses from leaking pipes/unlined canals can be repaired/reduced/preventing waterlogging and salinity
- water saving devices/sprinklers/drip irrigation can be implemented to reduce water wastage
- install water meters so that farmers are aware of their usage
- clear dams/dykes to reduce waterlogging and salinity
- use of seeds/high-yielding varieties that require less water/drought resistant varieties
- education/training of farmers about water use and conservation
- restrictions imposed on farmers to constrain water usage
- modernisation of irrigation equipment

Etc.

water use in agriculture cannot become more sustainable:

- some farmers will not be able to afford water meters or other water saving devices/installing tubewells requires huge investment
- some farmers use inefficient farming practices cause waterlogging and salinity
- some farmers are resistant to using modern techniques as they prefer their traditional practices
- growing population requires more food which means more water will be used to grow crops
- groundwater supplies are being used at a rate faster than they can be replenished
- there are too many problems with irrigation systems it would be impossible to fix them all, leakage from canals reduces water availability

Etc.

[October/November 2022]

(a) (i) Study Fig. , a photograph of a type of livestock kept in Pakistan. Using Fig. only, name the type of livestock shown.[1]



Markscheme:

poultry/chickens/hens/broilers

(ii) Using Fig. only, describe three features of this type of livestock farming.[3]

Markscheme:

- large number/amount of birds/poultry/chicken/hens/broilers
- large scale/large/long hen house/room/barn/factory/building
- densely packed/crowded/close together/squashed
- cages/pens/partitions/nesting boxes/shelters spaced apart
- (artificial) feeders/feeding points/stations/(red) boxes/pots/containers of food
- (grey) pipes/water pipes
- industrialised/intensive/factory style production/mass production/commercial scale
- man-made/non-natural environment/indoor
- (metal) slated/grate floor/waste collects/falls through (to be collected)

(iii) State one product and one use of the livestock shown in Fig.[2]

Markscheme:

Product

eggs/meat/chicken/waste/excrement/feathers/bones/feet

Use

food/cooking/baking/to eat/consumption/for protein/diet
waste/crushed chicken bones as fertilisers/manure/fish food
feathers as filling for pillows and duvets

(b) (i) Define 'subsistence farming'.[1]

Markscheme:

(small scale) farming (that produces food/raw materials)
for the farmer's own use/to meet the needs of the family/
where produce is not for sale/any surplus is a bonus not an expectation

(ii) Describe how a subsistence farm operates as a system. You should refer to inputs, processes and outputs in your answer.[4]

Markscheme:

Inputs:

- manual labour/(mainly)family members working
- (mainly) depend on nature/climate conditions/soil/land/relief/rainfall/underground water/flooding/sunshine
- inherited/passed down/traditional knowledge (of farming)
- some inputs are obtained during the process of farming, e.g. natural manure/seeds/animal offspring
- small scale/small amount of land/area
- tools/named examples, e.g. plough

Processes:

- manual labour/(mainly)family members working
- any given example of work done on the farm, e.g. ploughing/sowing/weeding/fertilising/irrigating/harvesting/etc.

Outputs:

- outputs are small/little amount
- output varies/depends on climate and pests
- waste products generated/can be used on the farm
- (rarely) there is produce to sell
- (rarely) small profits are made to re-invest in the farm
- crops/animal products or named example, e.g. rice/milk

(d) To what extent can agricultural practices and water management be improved to prevent waterlogging and salinity? Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

It is possible to improve agricultural practices and water management

to prevent waterlogging and salinity by:

- leaving parts of the land fallow – preventative measure
- building more dams/reservoirs to store more water
- lining/temporary closure of canals to reduce water leakages
- installing tubewells to flush the salt out of the soil/so flow of water for irrigation can be controlled
- planting eucalyptus trees to take in excess water when land is badly waterlogged
- digging surface/sub-surface drains
- removing salts by adding gypsum/by reducing fertiliser use
- Salinity Control and Reclamation Projects (SCARP)
- government legislation, e.g. water quotas
- cultivating salt tolerant crops
- using high-yielding varieties which require less irrigation
- using saline land for livestock farming

It is not possible to improve agricultural practices and water management to prevent waterlogging and salinity due to:

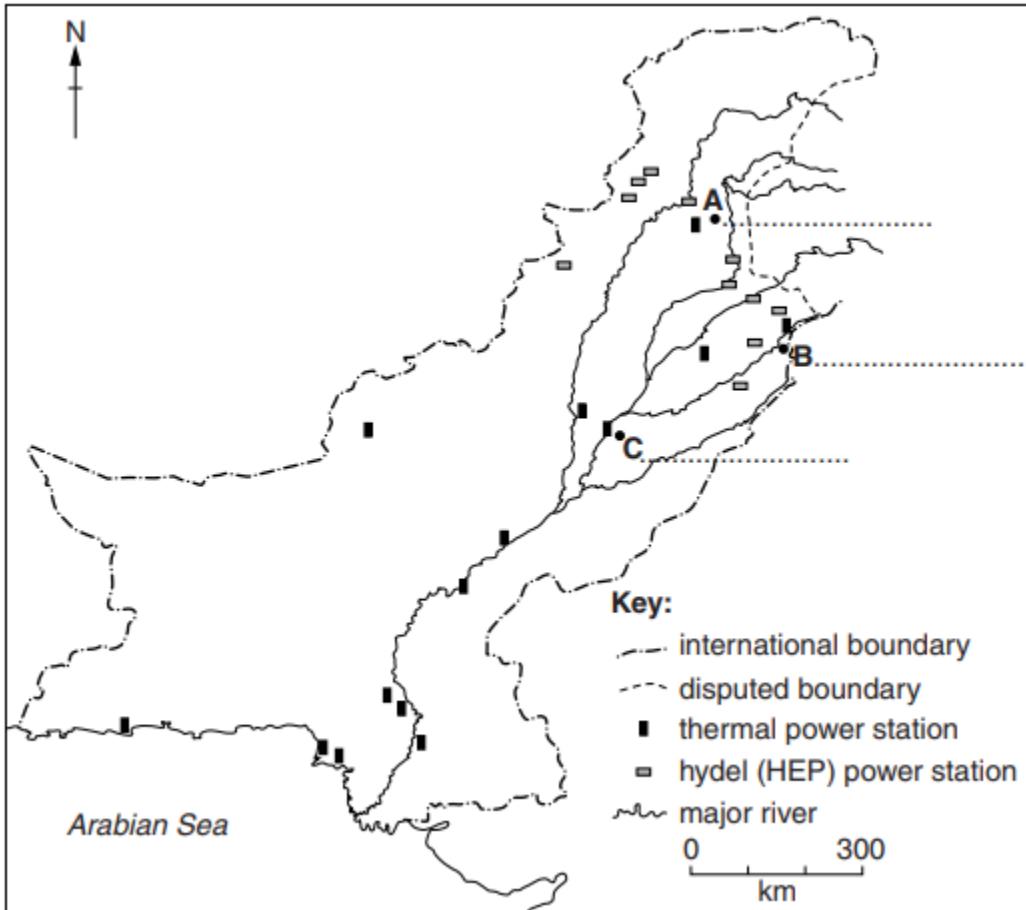
- cost/time taken for farmers to maintain canals/tunnels

- lack of investment in methods
- replacing traditional methods with tubewells lowers the water table and provides water for fewer farmers
- literacy/education levels may mean some farmers continue to overirrigate
- SCARP projects date from 1958 and large public tubewells are deteriorating/reaching end of their life
- lack of access to/cannot afford high yielding varieties
- traditional irrigation systems are communally owned, change requires agreement/may generate disagreement

Power Resources

[May/June 2013]

(a) Study Fig. , which shows thermal and hydel (HEP) power stations in Pakistan.



(i) Name the cities A, B and C. [3]

Markscheme:

A Islamabad or Rawalpindi

B Lahore

C Multan

(ii) Compare the distribution of thermal and hydel (HEP) power stations. [4]

Markscheme:

Both near rivers

Credit any relevant comparison from the list below

Thermal (res. 1)

in cities/towns/urban areas

along River Indus in Sindh

more widespread

Hydel (res. 1)

away from cities/towns/urban areas

on River Indus in Punjab, KPK (accept NWFP)

in Northern part of the country

none in Sindh/Balochistan

(iii) Explain why these two different types of power station are built in different areas in Pakistan. [4]

Markscheme:

Thermal

built where fuel is locally available,

e.g. coal at Quetta, Potwar plateau

oil/gas at Sui, N Punjab

oil/coal imported at Karachi

near demand in cities/towns

Hydel

needs large volume of water in river

high rainfall

deep/steeep-sided valley

only available in North/in mountains

(b) Explain why the supply of electricity is not reliable in many parts of Pakistan. [4]

Markscheme:

shortage due to lack of oil, gas, coal

less water in reservoirs due to silting, less melting of glaciers

damage to grid/transmission

long transmission lines

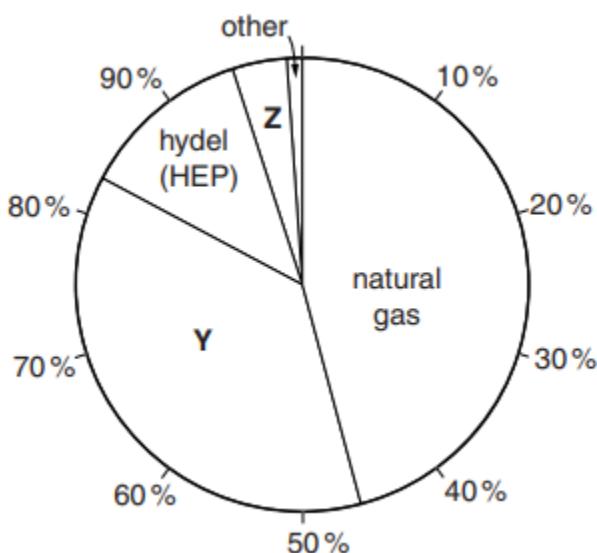
theft

poor maintenance/old machinery/breakdowns

demand exceeds supply/increasing demands/load shedding

lack of investment in new power stations/alternative energy

(c) Study Fig. , which shows the percentages of fuels used for electricity supply.



(i) Use Fig. 6 to state the percentage of electricity generated from natural gas. [1]

Markscheme:

46–47

(ii) Name the two other fossil fuels Y and Z, and explain why each is used less than natural gas. [3]

Markscheme:

coal – poor quality, small reserves, remote/in Balochistan, heavy to carry
oil/petroleum/diesel – small reserves, unexplored, expensive.

(d) To what extent can the development of renewable energy resources improve the reliability of electricity supply in Pakistan? [6]

Markscheme:

Reliability (res. 2)

available everywhere

free after installation

possibilities, e.g. sunshine for solar, exposure for wind, coast for tidal or wave (max. 3)

Problems (res. 2)

costly to install

lack of technology

lack of skills

low output

variable output, e.g. wind, sun

(a) (i) State what is meant by 'renewable energy' and give an example. [2]

Markscheme:

does not run out

e.g. wind, solar, HEP, wave, etc.

(ii) Name a fossil fuel, and explain why it is non-renewable. [2]

Markscheme:

coal, oil, natural gas

formed millions of years ago, taken out of ground

(iii) Explain how fossil fuels cause:

air pollution

land pollution [2]

Markscheme:

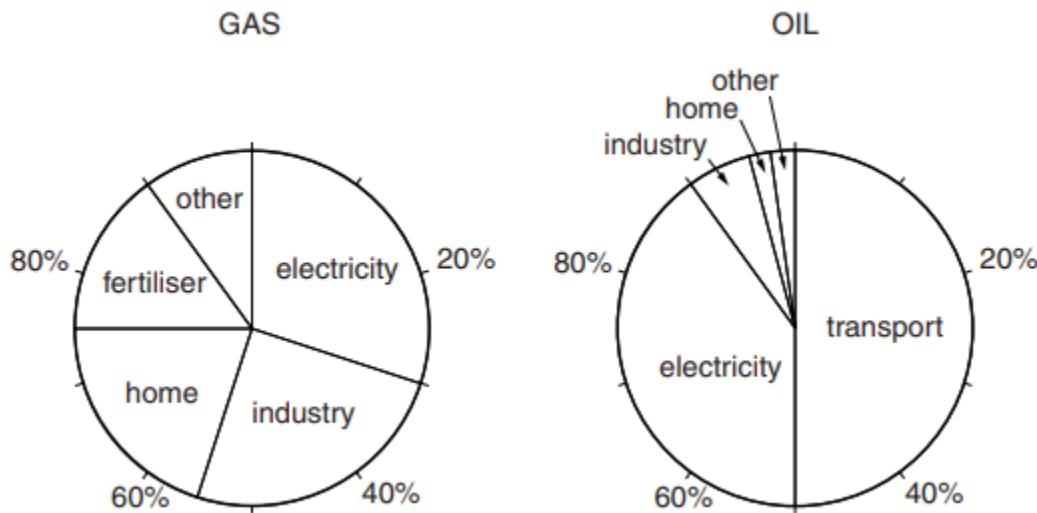
A air pollution

Create CO₂, smoke, smell

B land pollution.

Mining, quarrying, oil spills

(b) Study Fig. , which shows gas and oil usage in Pakistan.



(i) State the percentages of gas and oil used for electricity production. [2]

Markscheme:

A gas 30

B oil 40

(ii) Which user takes 15% of gas? [1]

Markscheme:

fertiliser

(iii) Which user takes 50% of oil? [1]

Markscheme:

transport

(iv) Explain why a larger percentage of gas than oil is used in the home. [3]

Markscheme:

cheaper

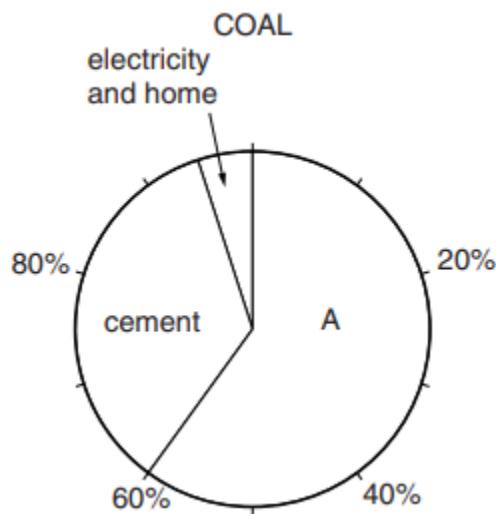
more in Pakistan

transported in pipes

reaches other areas in cylinders / compressed gas

less needed for other uses e.g. Transport

(c) Study Fig. , which shows the usage of coal mined in Pakistan



(i) Name the industry A which uses a large amount of coal produced in Pakistan [1]

Markscheme:

brick making

(ii) Why is only a small percentage of coal used for electricity generation? [1]

Markscheme:

low quality

(d) Name one type of renewable energy. Explain where the most suitable areas in Pakistan would be for its development. [4]

Markscheme:

Solar – deserts, sunshine, lack of cloud

Wind – coast or mountains, stronger winds

HEP – mountains, deep valleys, more rainfall

Biomass – e.g. bagasse from sugar cane factory, other farm waste e.g. straw

Wave – along coast

Tidal – "

(e) Explain why it is important to supply electricity to rural areas. Consider to what extent it is possible. [6]

Markscheme:

Tubewells

Agricultural machinery / processing eg. milling

Small scale industries

Standard of living

Information technology

Education

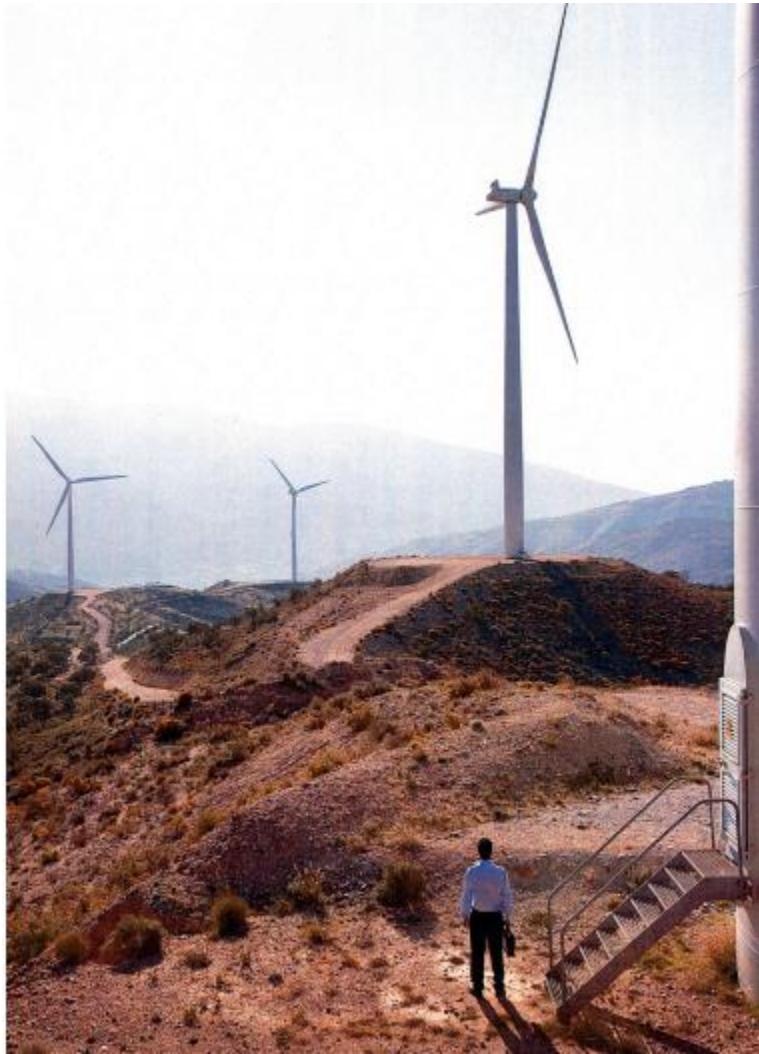
Healthy living

(see Sethi p. 136)

potential of renewable sources

BUT cost of technology, maintenance, need?

(a) Study Photographs





(i) Name the type of renewable energy being generated. [2]

Markscheme:

D wind

E solar

(ii) Give three advantages of renewable energy. [3]

Markscheme:

Will not run out/does not deplete natural resources

Clean/do not pollute (environment)

Free at source

Can be small scale

(iii) Give three disadvantages of generating energy by either D or E [3]

Markscheme:

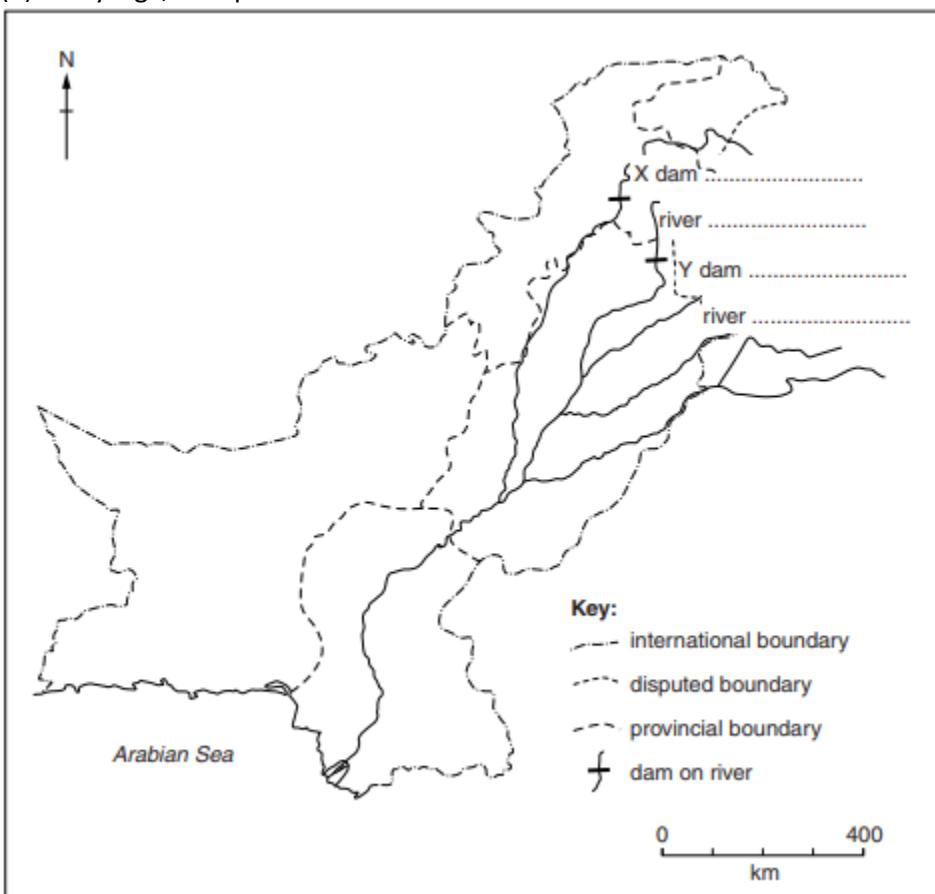
Wind

Not constant, ineffective if wind speed too low/too high, unsightly, noisy, expensive to build, small output, can harm wildlife e.g. birds

Solar

Not constant, needs clear skies, not at night, less in winter, expensive to build, small Output

(b) Study Fig. , a map of Pakistan.



On the map name the two dams shown, and the rivers on which they are situated. [4]

Markscheme:

X Tarbela, Indus

Y Mangla, Jhelum

(c) (i) With reference to water supply and relief (topography) explain why it might be possible to build more HEP (hydel) power stations in areas such as that shown in

Photograph [4]



Markscheme:

Water supply

High rainfall, melting glaciers, melting snow, low temperatures/evaporation, continuous supply from rivers/rain (max 2)

Relief (topography)

Deep valleys, narrow valleys, steep slopes/steep-sided valleys, waterfalls, high altitude (max 2)

(ii) Give three reasons why it is difficult to develop more HEP (hydel) power stations in Pakistan. [3]

Markscheme:

(Climate change so) less rainfall

(Climate change so) higher temperatures and more evaporation/glaciers smaller

Liable to siltation in reservoirs

High cost

No investment/government support/changing government policies

Opposition from tribal areas (in mountains)/security issues
Lack of skilled labour/expertise
Opposition to loss of land (for reservoir)
Dispute over share of water (between provinces)

(d) To what extent is it possible to increase the electricity supply to rural areas? [6]

Markscheme:

Possibilities

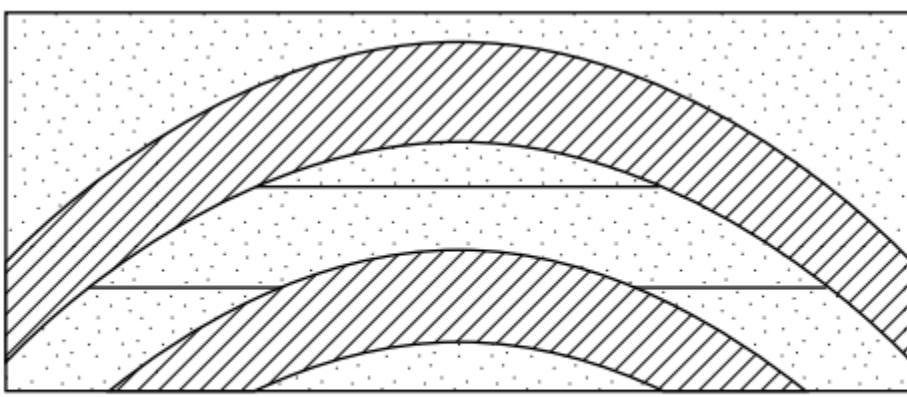
Extend national grid
Increase (national) power generation/nuclear power
More/good potential for renewable schemes, wind, solar, HEP (max 2)
(allow dev to further max 2 for details)
More small-scale power generation schemes
E.g. biogas using animal/plant waste/molasses (dev)

Problems

High cost of technology/fuel/maintenance
Theft
Damage/energy loss...
...Due to long transmission lines/siltation in reservoirs for HEP
Distance from grid stations/remoteness of some rural areas
Tribal opposition
Insufficient power generation...
...So urban needs met first
Lack of government support/loans/investment/policies
Difficult construction in rugged/mountainous terrain
Lack of named skilled personnel, e.g. engineers

[May/June 2014]

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

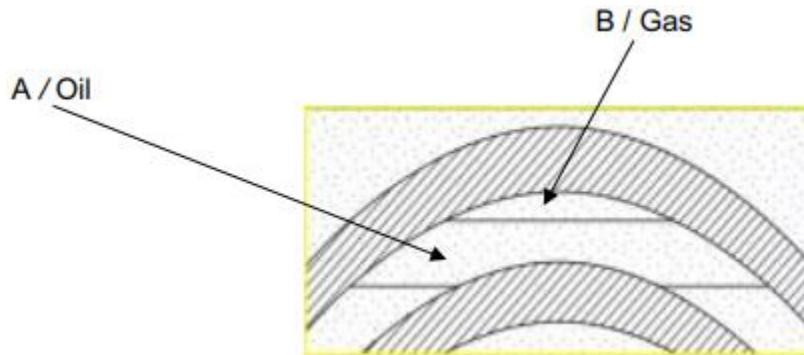


Key:

	porous rock
	non-porous rock

- (i) Label on the diagram
A the layer of rock containing oil.
B the layer of rock containing gas. [2]

Markscheme:



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

Markscheme:

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

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

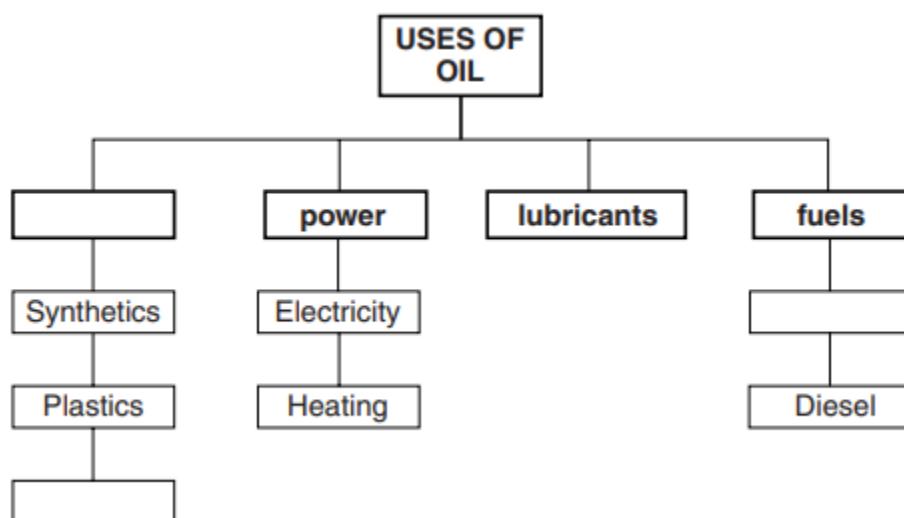
Markscheme:

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. which shows the uses of oil.



Choose three of the following terms below to complete Fig. .

by-products

raw materials

pesticide

petrol

biogas

bagasse

[3]

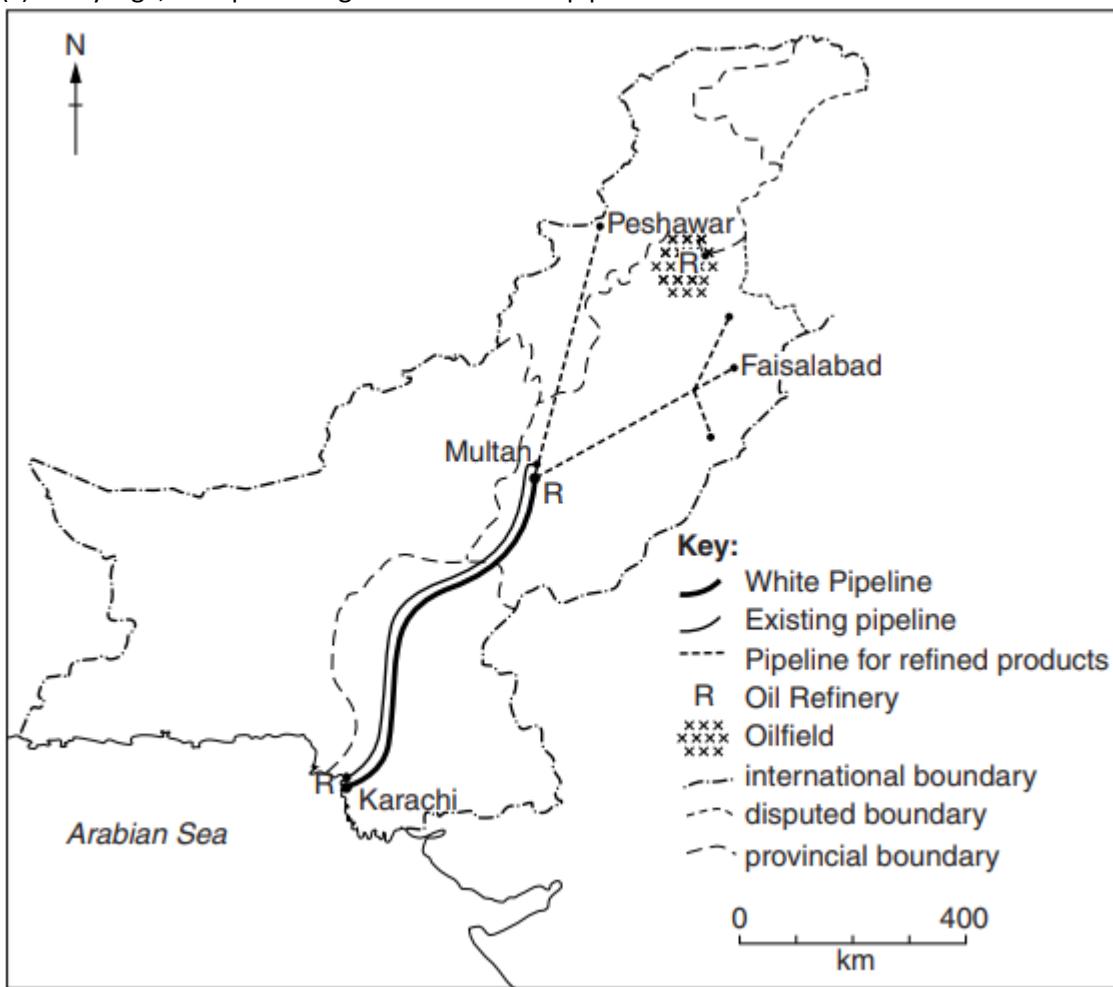
Markscheme:

by products – in the LHS heading box

pesticide – below plastics

petrol – below fuels

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



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

Markscheme:

Attack (oil refinery)

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

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

Markscheme:

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

(iii) Explain the importance of the White Pipeline, and other pipelines to the development of Pakistan. [4]

Markscheme:

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)

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

Markscheme:

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

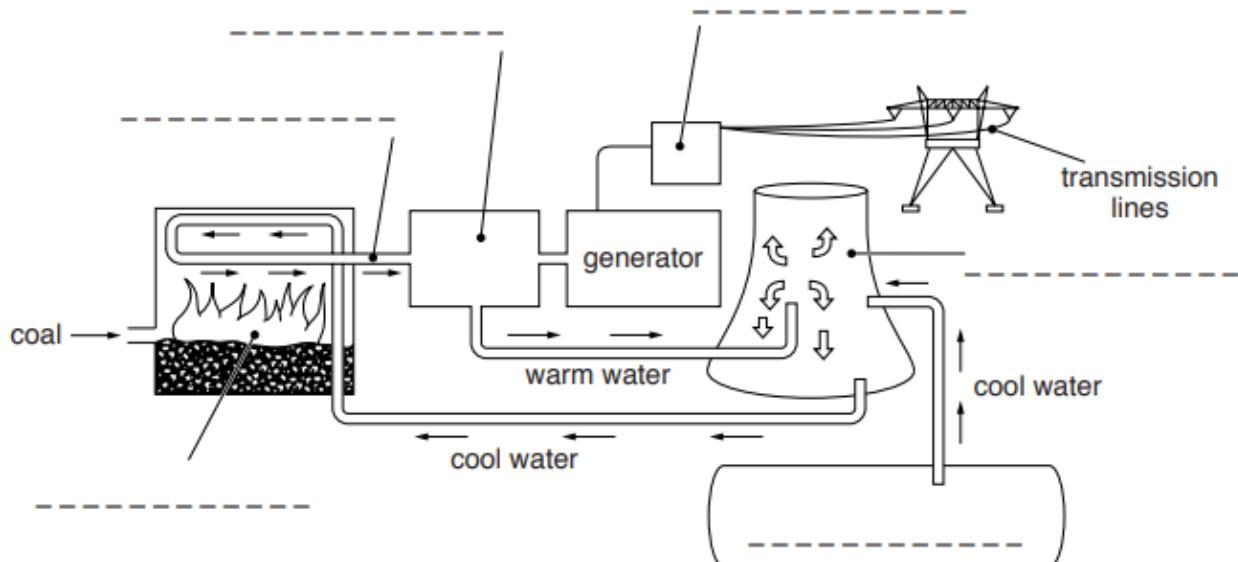
Gas is difficult to transport / explosive

Fossil fuels expensive to import

Because becoming inaccessible / higher cost of production / exploration / extraction / rising world prices

[May/June 2015]

(c) (i) Fig. is a diagram of a thermal power station.



Choose three terms from the list below and use them to label the diagram in three of the spaces provided.

reservoir transformer boiler turbine cooling tower steam [3]

Markscheme:

(L to R): boiler, steam, turbine, transformer, reservoir, cooling tower

(ii) Explain why burning fossil fuels in power stations is unsustainable. [4]

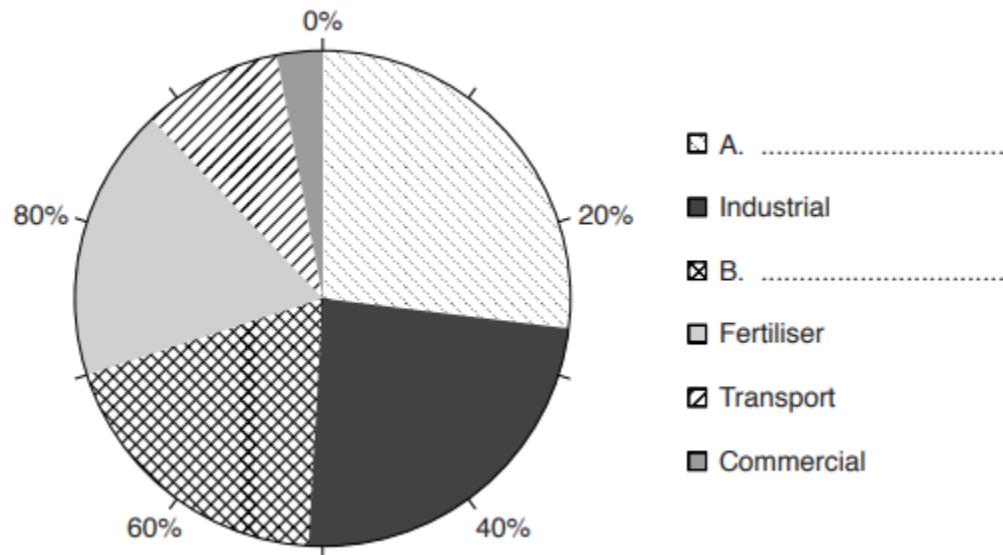
Markscheme:

Releases carbon dioxide/contributes to global warming/climate change

Will exhaust/run out eventually/non-renewable/cannot be replaced
Having to be extracted from increasingly inaccessible/inhospitable places, e.g. Arctic/deep sea
Named environmental damage other than air pollution, e.g. oil spills from tankers/pipelines
Becoming expensive
Production/prices controlled by cartels, e.g. OPEC
Many countries, e.g. Pakistan, have few deposits and have to import

[October/November 2015]

(i) Study Fig. , which shows the usage of natural gas in Pakistan in the year 2010–11.



In the key, name the activities A and B which are two of the main users of natural gas in Pakistan. [2]

Markscheme:

A Power [stations]/electricity [generation] 1 mark

B Household/domestic/residential 1 mark

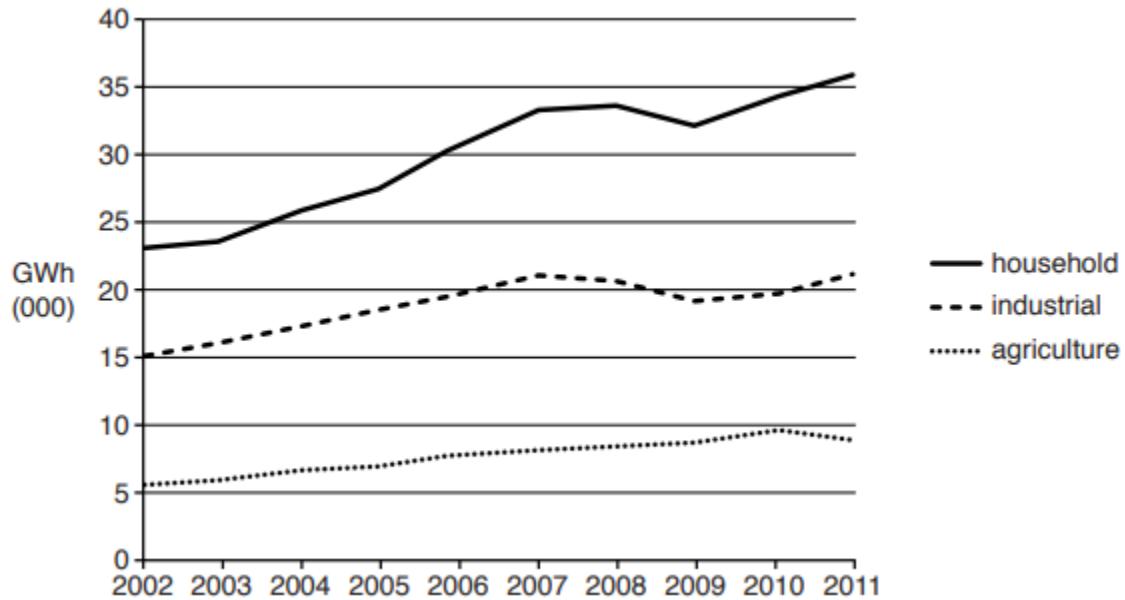
(ii) State two ways in which gas is transported to homes in Pakistan. [2]

Markscheme:

By pipeline [to major cities]

In cylinders / as LPG / by tanker

(b) Study Fig. , which is a graph showing usage of electricity in Gigawatt-hours by three different sectors over a ten-year period.



(i) What was the industrial usage of electricity in 2004? [1]

Markscheme:

17400 GWh/Gigawatt-hours Accept 17000–18000 ‘17.4 (000) GWh’ = 0

(ii) To what extent are the changes over the ten years similar for the three sectors? [3]

Markscheme:

All/overall increase

Not much/little/some fluctuation

Steady/gradual increase

Similar rate of increase

Agriculture increases least

Household increases most

(iii) Loadshedding is the deliberate, temporary reduction in supply of electricity from a power station. Explain the effect of loadshedding on industry and business. [4]

Markscheme:

Interrupts/loss of /delays in production / work stops (increasing costs)

Loss of orders/cannot meet deadlines (which will lose customers)

Loss of income/profit (preventing further investment in the business)

Lower quality of products (leading to fewer exports)

Machinery/ computers/IT likely to get damaged (increasing costs to the company)

Labour idle

Difficult working conditions (due to lack of air conditioning/lights/computers/IT)

Cost of using generators (increasing costs of production)

Email communication / communication with other businesses disrupted/hindered

Loss of reputation/customer confidence (which deters investors)

(c) (i) A. From the list below, circle one place which regularly experiences the highest temperatures in June in Pakistan.

Quetta Karachi Jacobabad Abbottabad Larkana Zhob

Markscheme:

Accept either Larkana or Jacobabad

B. Which range best describes the highest temperatures recorded? Put a tick in one of the boxes below.

Temperature (°C)	TICK
46–48	
49–51	
52–54	

[2]

Markscheme:

52–54 C

(ii) Explain why the place you have named in (i) is the hottest place in Pakistan. [2]

Markscheme:

Does not have the cooling effect of altitude

Far from moderating effects/maritime influence from sea

Lack of cloud cover/clear skies

High angle of sun

References to equator = 0

(iii) Describe the effects on people of living in extremely hot climates. [3]

Markscheme:

Difficult working conditions

People have to stay indoors / stay in shade /cannot stay outdoors too long

Heat-related deaths

e.g. heatstroke/heart attack/sunstroke/skin cancer/dehydration

Difficulty storing water

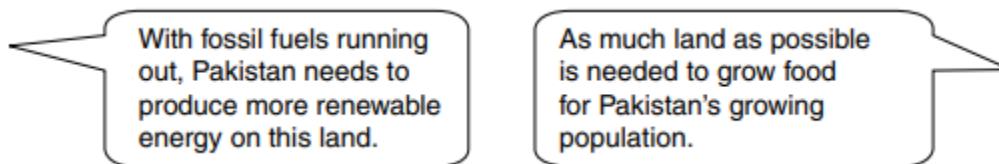
Need to avoid dehydration by drinking more water

Requires adaptations to clothing to keep cool

References to nomadism = 0

(d) It has been suggested that a power station to harness solar energy should be built in Bahawalpur District, Punjab. The solar panels and associated access roads and buildings will cover 25 km².

Read the following two views about this proposal:



Which view do you agree with more? Give reasons to support your answer. [6]

Markscheme:

Renewables

For

Large areas of open land are needed to produce renewable energy (since each unit e.g. one wind turbine or one solar panel does not generate much electricity)

Need to have alternative sources of energy to fossil fuels (which will run out/exhaust

eventually/cannot be replaced/are not sustainable)

Fossil fuels becoming expensive (because of scarcity/costs of production from increasingly inaccessible/inhospitable places/prices controlled by cartels e.g. OPEC)

Bahawalpur District is largely desert and suitable for solar power generation (because of lack of cloud cover/high number of sunny days per year)

Against

There are sufficient deposits of fossil fuels (as well as the funds/expertise to extract them)

Agriculture

For

Population growing at a fast rate (nationally about 1.6% per year)

Increasing demand for food

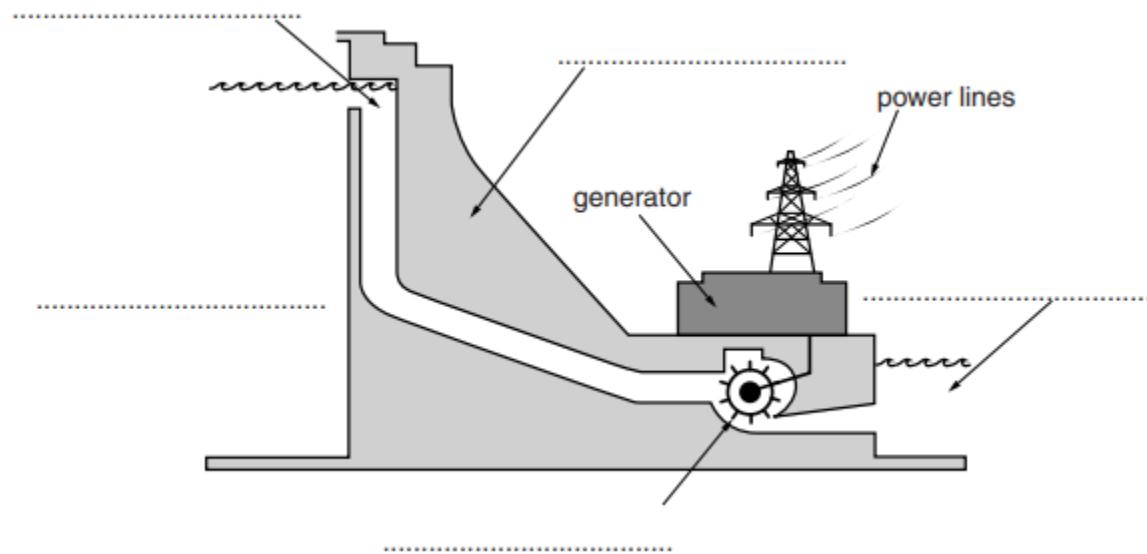
Although a desert area land can be reclaimed for agriculture by irrigation (from R. Panjnad and R. Sutlej)(and crops such as wheat/edible oil seeds /citrus fruits/apricots/mangoes can be grown)

Against

Desert areas of Bahawalpur District unsuitable for agriculture (due to requirement for expensive irrigation systems)

[May/June 2016]

(a) (i) Study Fig. 7 which is a diagram of an HEP (Hydel) power station.



A: On the diagram place an arrow or arrows to indicate the direction of movement of water through the power station.

B: Choose two terms from the list below and use them to label the diagram in two of the spaces provided. [3]

Markscheme:

A: Arrow(s) drawn downwards through channel

B: From L to R: reservoir dam turbine outflow

NB: 'water intake' top left space not used

(ii) Name one multi-purpose dam in Pakistan. [1]

Markscheme:

Tarbela/Mangla/Warsak

(iii) Give two uses for a dam such as the one you named in (ii). [2]

Markscheme:

HEP/electricity [generation]

Irrigation

Water supply / stores water [for industrial/domestic use]

Controlling floods

Recreation/named recreational use/tourist attraction

Fishing

[October / November 2016]

(b) Explain what the fuel CNG is and state the main reasons for using this fuel. [4]

Markscheme:

Definition – Reserve 1 mark

Compressed natural gas

Gas compressed to 1% volume it has at normal pressure

Methane under high pressure

Reasons – Reserve 1 mark

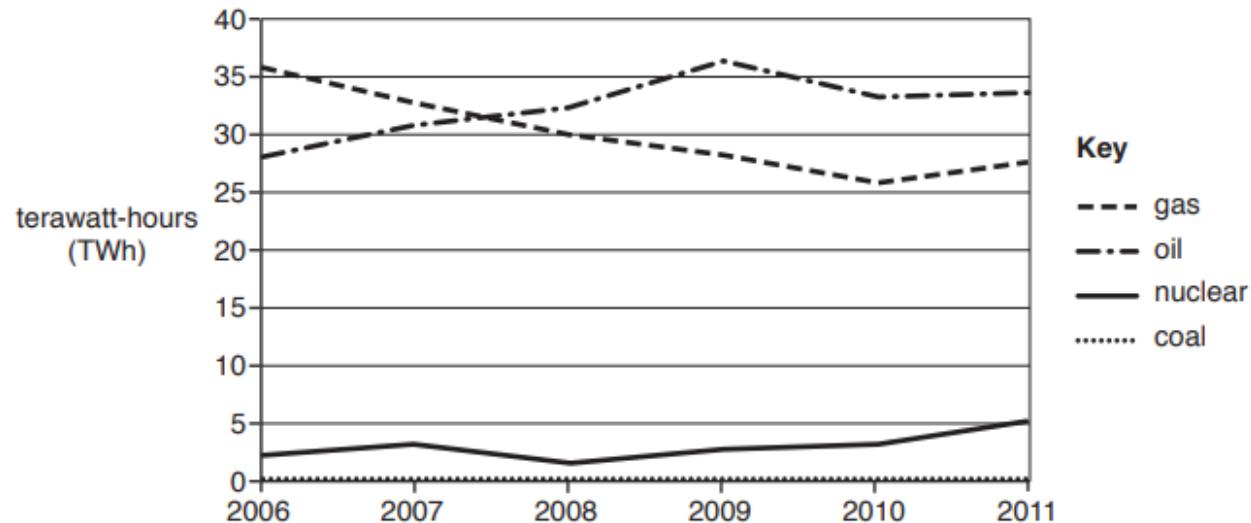
Used (instead of petrol / diesel) in transport / vehicles

Especially buses / rickshaws

(Compared to petrol / diesel) cheaper, cleaner / reduces air pollution, safer

Can be stored / transported in cylinders

(c) Study Fig. which is a graph giving information about different non-renewable fuels used for electricity production in Pakistan over the period 2006–11.



(i) What is meant by the term 'non-renewable fuel'? [2]

Markscheme:

An energy source that depletes / runs out / is not being replaced / has fixed reserves / is finite – 1 mark

With any one example e.g. fossil fuels, wood, coal, oil – 1 mark

(ii) Which fuel use has increased by the largest amount between 2006 and 2011? [1]

Markscheme:

Oil

(iii) Use information from the graph to describe one main difference between the change in gas used for electricity production and the change in oil used for electricity production. [2]

Markscheme:

Gas overall decrease: oil overall (throughout / 2006–2011 / over the years) increase

Gas from 36 to 27–28TWh / by 8–9TWh: oil from 27–28 to 33–34TWh / by 6–7TWh

Reserve 1 mark for use of data with unit (TWh)

(iv) Explain why so little coal is used for electricity production in Pakistan. [3]

Markscheme:

Coal mined in Pakistan is unsuitable

Lignite, sub-bituminous to peat

Contains impurities / sulfur

Low heat producing, low carbon content, large amount of ash, does not give out much energy

Coal reserves not exploited due to shortage of funds / technical skills

Not imported (because expensive)

Difficult / expensive to transport around country because bulky

International agreements / pressure to use less coal since is a dirty fuel / causes high emissions of smoke / CO₂

(d) Read the following article:

Energy crisis

Industrial growth in Pakistan relies on the availability of energy. Pakistan does not produce enough energy for its needs and therefore spends a lot of its earnings on expensive imports of fuels.

Describe briefly different measures that can be taken to solve the country's energy crisis. To what extent can these measures be successful? [6]

Markscheme:

Measures

Moving away from non-renewable / large-scale schemes to renewable / small-scale schemes

E.g. wind, solar, biogas (details / examples)

Investment in large-scale power stations

E.g. nuclear, wind, solar, HEP, gas, coal gas (details / examples)

Energy saving in workplaces / homes

Public / media awareness about not wasting energy resources

Evaluation (depends on measures)

Successful

Small-scale schemes can be maintained locally / in rural areas

Given sufficient government / private / foreign investment

Wind – large empty areas of uplands / Makran coast

Solar – lack of cloud (250–300 sunny days per year)

Biogas – large agricultural sector producing manure / plant waste

Unsuccessful

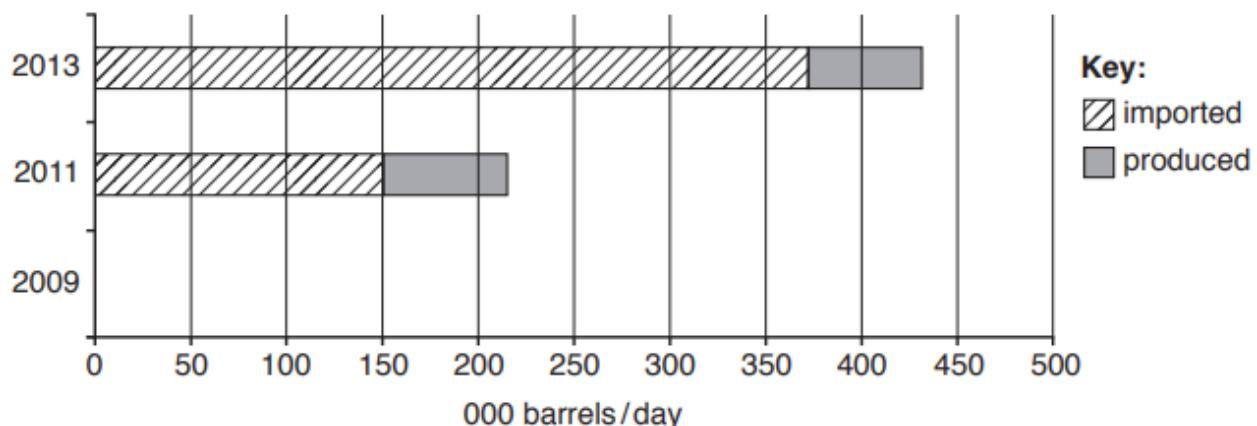
Opposition to new technology / power stations

High cost (leading to domestic / foreign debt)

Changes of government priorities (large projects may be delayed / cancelled)
 Limited skills / expertise (in using advanced technology)
 Other issues considered higher priority than saving energy (e.g. escaping poverty / increasing levels of education / health)
 Hydro in north – far from the major centres of population, transport costs
 Green energy is less reliable

[May/June 2017]

5 (a) Study Fig. , which shows the amount of oil produced in Pakistan and the amount of oil imported, for selected years.



(i) Name the location of one oil refinery in Pakistan. Give one reason to suggest why it is located there. [2]

Markscheme:

- Morgah/Rawalpind – close to oilfields (in Potwar Plateau);
- Central Punjab – close to oilfield;
- Karachi/Korangi – near oil terminals/close to oilfield/port;
- Mahmood Kot/Muzaffargarh – terminus of crude oil pipeline from Karachi.

(ii) Complete Fig. by drawing the bar for 2009, using the information below:

2009	Barrels/day
Imported	185 000
Produced	60 000

[1]

Markscheme:

Bar correctly drawn on Fig.

Note: Tolerance: imported 180–190, produced 55–65.

(iii) Compare the amount of oil produced and the amount of oil imported in Pakistan in the years 2011 and 2013. [2]

Markscheme:

The amount of oil imported increased/higher/rose/figures from 150 to 370–380;

The amount of oil produced decreased/fallen/figures from 60–70 to 55–65/almost constant/stayed the same;

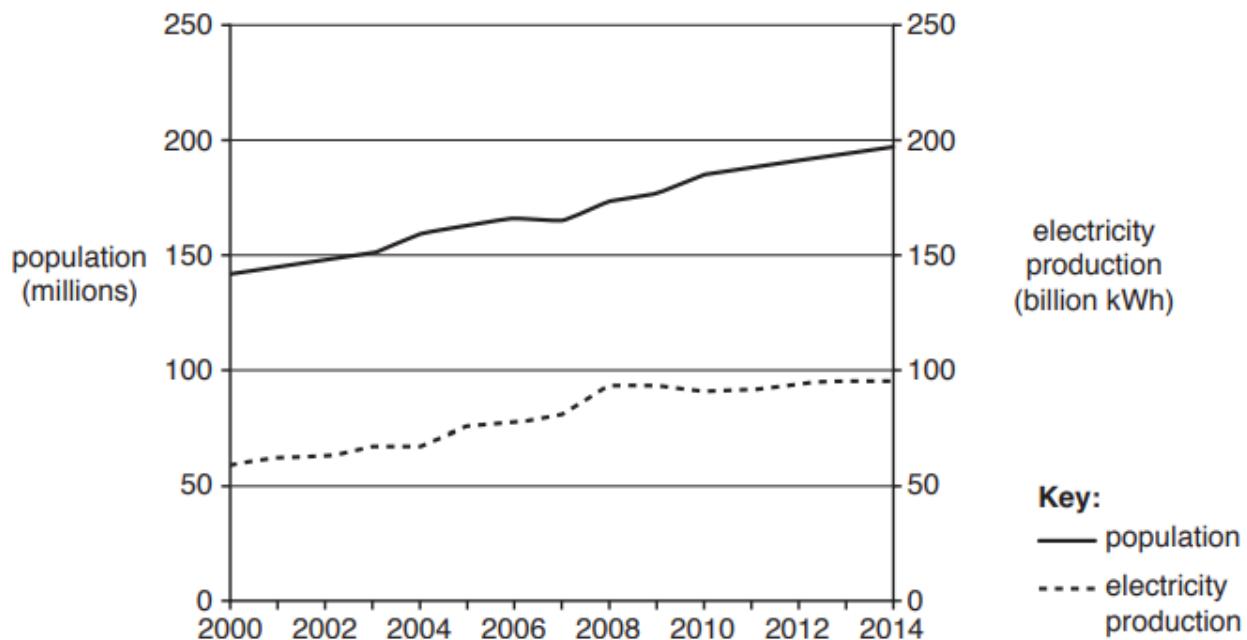
The total amount of oil increased/overall it went from 210–220 to 430–440.

(iv) Give two reasons why Pakistan imports large amounts of oil. [2]

Markscheme:

- Small reserves/potential oilfields not explored/small amount produced;
- Lack of government investment/funding for further exploration/lack of money for developing oil fields/ exploration/expensive equipment;
- Lack of technology/expertise for extraction/exploration/ lack of skilled labour;
- (Large/increasing demand for) oil for vehicles/transport;
- Heating/domestic use/cooking;
- Electricity generation/electricity;
- Manufacturing/manufactured products;
- Cannot exploit/explore reserves due to tribal opposition/insurgency;
- Due to population growth.

(b) Study Fig. , which shows population and electricity production in Pakistan over the period 2000–2014.



(i) A Describe the relationship between population and electricity production from 2000 to 2008. [2]

B Describe the changes in population and electricity production since 2008.[2]

Markscheme:

- A Positive correlation/as population increases, electricity production increases/both increasing/population is always higher/more than electricity production (or vice versa);
- B Population increases: electricity production remains same/very slightly

increases/population kept increasing/ electricity did not have much change.

(ii) Explain why electricity production does not meet the demand for electricity in many parts of Pakistan. You should develop your answer. [4]

Markscheme:

- Population increasing (greater need/greater use of electricity in homes/businesses) (named example of new technology in home/business)/(new towns have to be built because growing population puts a burden on electricity);
- Increased affluence for some (enables more electrical appliances in the home or named examples/items are becoming more affordable);
- Little new investment in new power stations (foreign investors less willing to invest due to political instability) (other government priorities such as healthcare/education/housing/transport/alleviating poverty);
- Pakistan has small/inaccessible/depleting fossil fuel reserves (fossil fuels expensive to extract/poor quality/ have to import);
- Renewable energy plants expensive to construct;
- Power losses due to old/long transmission lines;
- Power theft (people diverting existing power sources for their own use);
- Most people live in rural areas (electricity does not reach there/lack of infrastructure/power lines);
- Many power plants are not working to full capacity (as a result of siltation in dams and reservoirs)/(they are still under construction);
- Power breaks down (lack of expertise to handle it)/(due to old machinery);
- More rural to urban migration (means demand cannot be fulfilled);
- Seasonal variations (less HEP generation in winter as less rainfall/snowmelt at times of peak demand).

ETC.

(c) (i) Electricity can be generated using solar power. Complete the passage below by choosing the correct words from the list and placing them in the spaces provided.

Rectangular, solar are made up of many solar which convert the energy from the sun into electrical energy. They can be placed on the of houses and other buildings. Large arrays of solar panels can be sited on the ground, for example in deserts. Solar panels should face in order to collect as much of the sun's energy as possible. Other solar power systems use the sun to heat water and the is then used to turn a turbine.

Roofs	panels	wind	steam	cells	east	[3]
heat	light		south			

Markscheme:

Rectangular, solar panels are made up of many solar cells which convert the light energy from the sun into electrical energy. They can be placed on the roofs of houses and other buildings. Large arrays of solar panels can be sited on the ground, for example, in deserts. Solar panels should face south in order to collect as much of the sun's energy as possible. Other solar power systems use the sun to heat water and the steam is then used to turn a turbine.

(ii) What are the disadvantages of generating electricity by wave and tidal power? [3]

Markscheme:

- Expensive technology/expensive investment for government;
- Small scale/only generates small amounts of electricity;
- Only at coastal sites;
- Hazardous to marine life/damages habitats;
- Disruption to shipping/fishing areas;
- Difficult to set up/inadequate technology;
- Not enough output to meet demand;
- Can be damaged or disrupted by cyclones or tsunamis;
- Shortage of expertise/knowledge/skills to set up.

(d) Read the following two views about solutions to Pakistan's shortage of energy:

A

To produce more energy, large-scale power generation schemes such as nuclear, gas-fired, oil-fired, and multi-purpose HEP (Hydel) power stations should be built.

B

To produce more energy, small-scale power generation schemes should be set up, such as biogas, wind, and solar power plants.

Which view do you agree with more? Give reasons to support your answer and refer to

examples you have studied. You should consider both View A and View B in your answer. [6]

Markscheme:

For large-scale

- Funding available from China
- Provide very large amounts of power from small amount of uranium
- Large coal reserves

Against large-scale

- Large sums of money/loans needed
- Problems with disposing of/reprocessing/storing waste
- Danger of insurgency threat/accident
- Danger of flooding
- Coal extracted in Pakistan is poor quality for power generation
- Oil expensive to import
- Large coal reserves not exploited
- Fossil fuel reserves are depleting
- Political issues between provinces with the construction of multipurpose dams over division of water

For small-scale

- Lower cost to maintain
- Renewable resources do not deplete
- Renewable resources do not pollute the environment
- Biogas – cheap source of energy
- Wind – available land in Balochistan highlands
- Solar – many parts of Pakistan experience 250–300 sunny days per year

Against small-scale

- Do not contribute/only small amount to national grid
- Renewables only generate small amount of energy
- Wind/solar have high construction cost
- Wind is considered unsightly/harms wildlife
- Not constantly producing energy
- Biogas decreases availability of manure for organic fertiliser

ETC.

[October/November 2018]

(a) (i) Which one of the following definitions correctly describes hydel power? Tick one box below.

	Tick (✓)
Hydel power is electricity generated by using fossil fuels.	
Hydel power is electricity generated by using heat from the sun to heat water.	
Hydel power is electricity generated by using the fast flow of water to move turbines which drive generators.	

[1]

Markscheme:

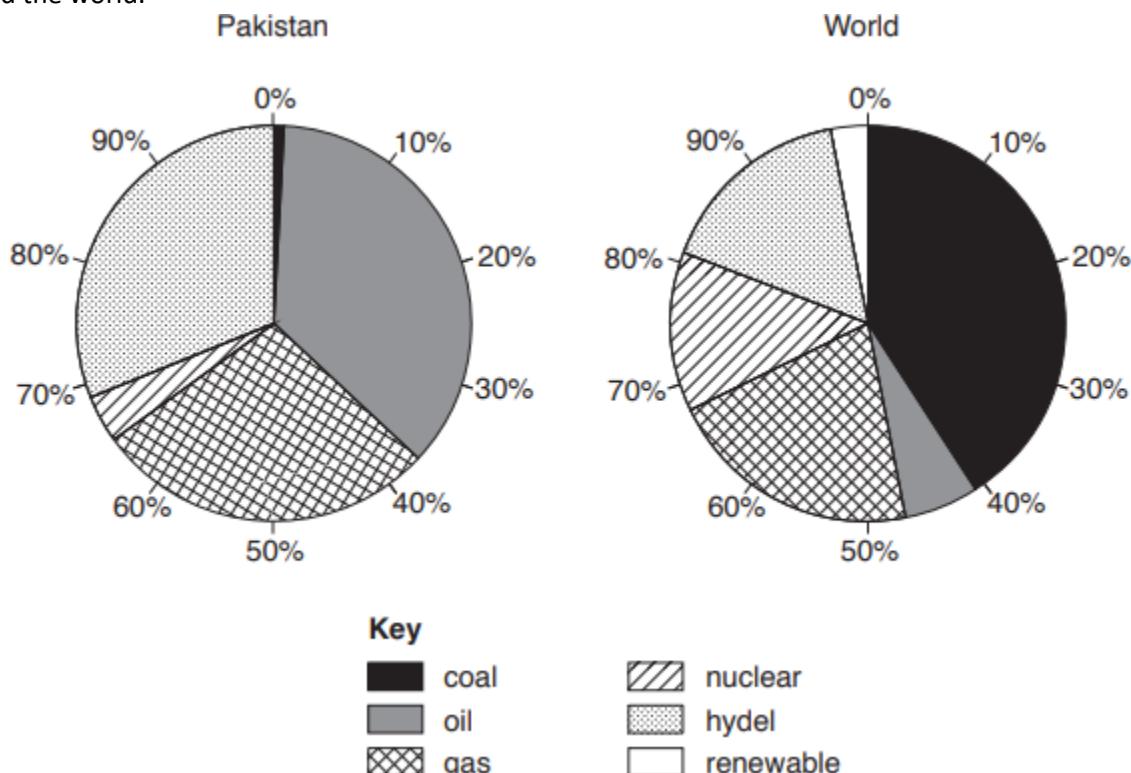
Hydel power is electricity generated by using the fast flow of water to move turbines which drive generators.

(ii) Explain how the climate causes problems in developing hydel power in Pakistan. You should develop your answer. [4]

Markscheme:

- Some areas have less rainfall e.g. Gilgit and Chitral (e.g. cannot generate electricity if not enough water);
- Rain shadow areas;
- More precipitation in highland areas (e.g. where most dams are located);
- Less rainfall in winter / more snow / stored as snow and / or ice in mountains;
- Less rainfall means less water in rivers (e.g. so more difficult to generate electricity);
- Rainfall not evenly spread throughout Pakistan (e.g. rainfall is unpredictable);
- Very high temperatures – lead to evapotranspiration, less water available;
- Very low temperatures – lead to freezing, less water available.

(b) (i) Study Fig. , pie charts showing the percentage share of energy produced in Pakistan and the world.



Compare the proportion of energy produced from any two non-renewables in Pakistan with the rest of the world. [2]

Markscheme:

- World uses more (41%) coal than Pakistan (1%);

- Pakistan (37%) uses more oil than the world (5%);
- Pakistan (28%) uses more (20%) gas than the world;
- World (13%) uses more nuclear than Pakistan (3%).

(ii) State three reasons why the contribution of renewable energy sources, other than hydel power, is smaller in Pakistan compared to the rest of the world. [3]

Markscheme:

- Expensive to build or develop own renewable energy / limited funding available;
- Limited education / skills / know how to develop these technologies;
- Want to use up coal / gas reserves first / cheaper to use coal / gas;
- Reliant on other countries to help develop renewable sources;
- Demand of growing population difficult to meet / not enough electricity can be produced;
- Areas suitable for large scale production are distant from centres of population;

Etc.

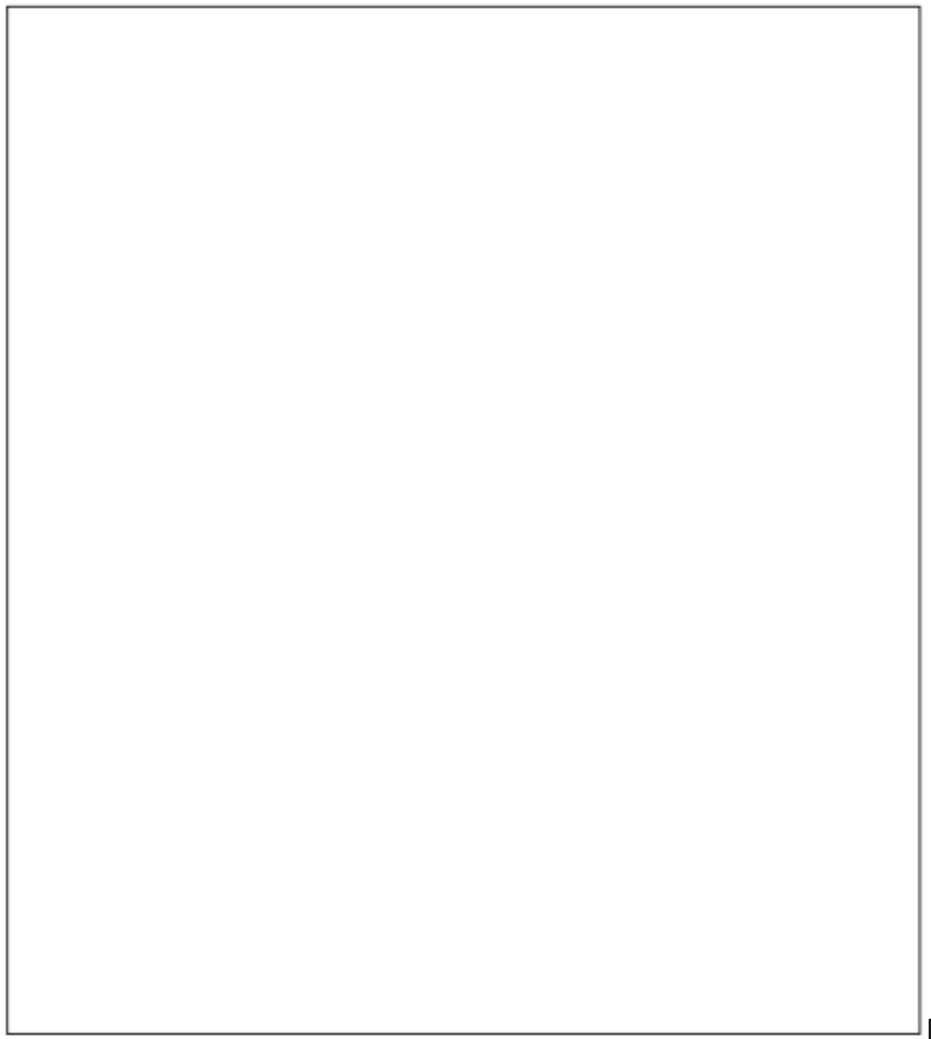
(iii) Suggest two ways solar energy can help solve the problems of producing and distributing energy in the rural areas of Pakistan. [2]

Markscheme:

- Solar panels can be located anywhere / portable;
- Do not need to be connected to the national power grid;
- Energy can be produced on site / in-situ / does not have to be transported through cables;
- Easy to set up small scale scheme / independent schemes / every house will have their own solar panel;
- Limitless / will not run out;

Etc.

(c) (i) Draw and label a diagram of a wind turbine.



[3]

Markscheme:

Sketch of a wind turbine, labels can include:

- Generator
- Rotor Blades / fans
- Tower / pole
- Gear box
- Transformer
- Cables

Etc.

(ii) Give two advantages and two disadvantages of using wind energy. [4]

Markscheme:

Advantages:

- Wind is renewable / does not run out;
- Does not pollute the atmosphere or water or environmentally friendly (clean or green);
- Plenty of wind available in Pakistan;
- Wind is free / cheap to run;
- Can be deployed locally / remotely;

- Wind turbines improve electricity supply in rural areas;
- Wind farms attract tourists;
- Wind turbines vary in size depending on requirements;
- Wind energy can be generated at night unlike solar;

Etc.

Disadvantages:

- Expensive to build;
- Wind is not constantly blowing / variable wind speed;
- Stop working during storms;
- Many turbines are needed to generate enough power for a town or city / low output individually;
- Need a large area to construct wind farm / can take land which could be used for agriculture;
- Can kill birds;
- Perceived as an eyesore;
- Noise pollution;
- Interfere with radio / TV signals;
- Limited sites where wind is reliable;

Etc.

(d) Pakistan is planning to expand its nuclear energy capacity from 1300 to 8800 megawatts between 2018 and 2030.

To what extent is further developing nuclear energy a sustainable way of generating more electricity in Pakistan? Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer. [6]

Markscheme:

More sustainable because:

- Boosts economy;
- Can bridge the gap with energy shortages / deficiencies in oil and gas;
- Can be used near the coast to provide energy to nearby industries;
- Assists development;
- Provides jobs;
- A small quantity of uranium can generate a large amount of energy;
- Less than half kg of uranium contains 3 million more times energy than the same weight of coal;
- The chances of accidents in nuclear power stations is low / there have been fewer accidents in nuclear power stations than any other kind of power station;
- Nuclear power can help speed up the process of industrialisation;
- Nuclear power contributes less to the greenhouse effect and acid rain compared to fossil fuels;

Etc.

Less sustainable because:

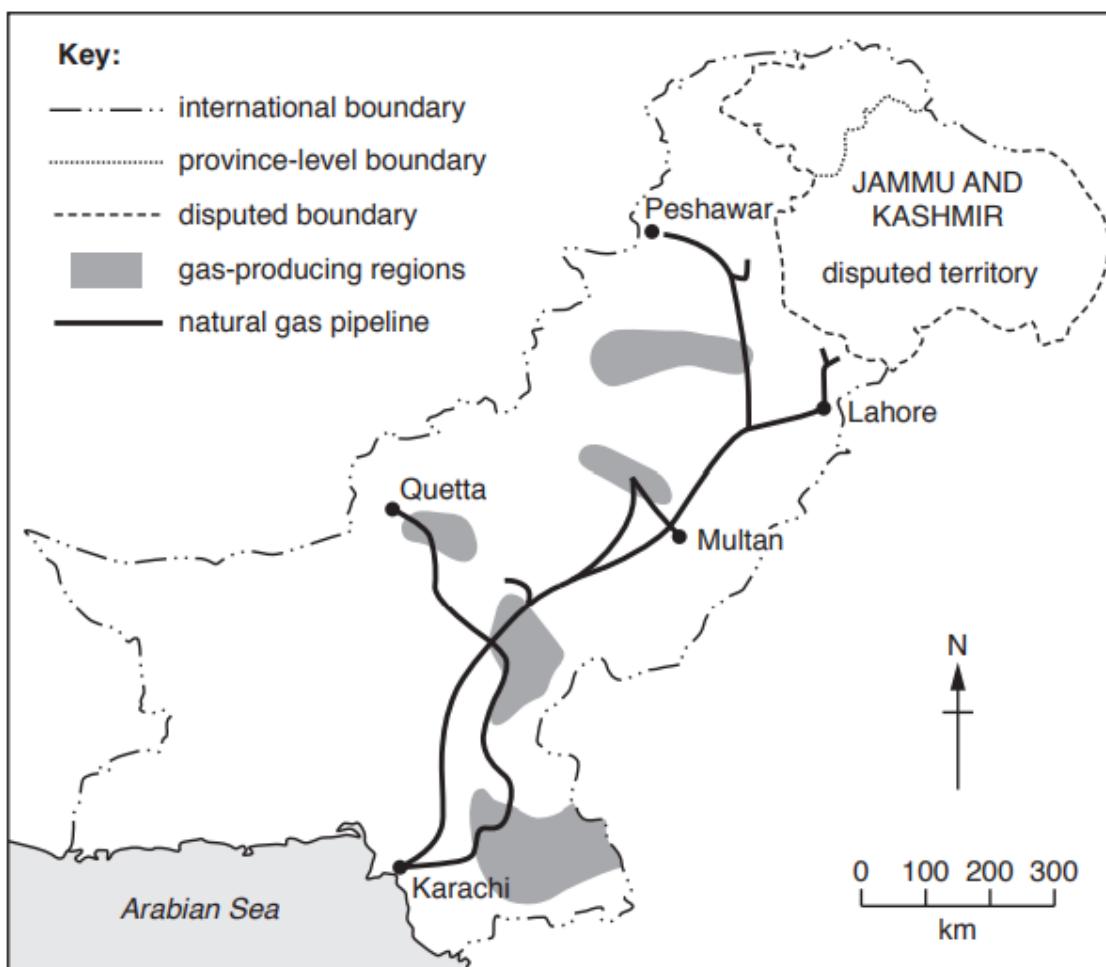
- Expensive to build so may have to borrow money or seek investment from other countries / economic burden;
- Will take up valuable land space needed for more important development projects / or example;

- Renewable energy schemes such as solar energy / wind power are more appropriate;
- Have many coal reserves that can still be exploited;
- Only provides jobs in the short term whilst building them;
- Probably built in other countries so negative multiplier effect;
- Fuel rods in reactors produce dangerous rays which are cancer causing;
- Nuclear waste remains radioactive for many years;
- Finding suitable locations for storing radioactive waste is a problem;

Etc.

[May/June 2019]

- (a) (i) Study Fig. , a map showing gas producing regions and the natural gas pipeline network in Pakistan.



Name three gas producing regions in Pakistan.[3]

Markscheme:

- Sui / Eastern Balochistan / Pirkoh / Uch / Zin / Loti;
- Lower Sindh / Tharparker / Thora / Tando Adam / Nazari / South Mzari Deep / Pasakhi;
- Northern Sindh / Mari;
- Northern gas region / Potwar Plateau / Meyal / Dhurnal / Adhi / Pindori /

Balkassar / Fimkassar.

(ii) Using Fig. and your own knowledge, describe the distribution of the natural gas pipeline network in Pakistan.[4]

Markscheme:

- Named provinces: Sindh / Punjab / KPK / Northern Balochistan;
- From / to named cities;
- Large areas are not served by natural gas via the pipeline / or named examples;
- Distance from any specified place or feature;
- Direction from any specified place or feature;
- Runs from the coast in the south to the tip of the Northern Regions;
- Forms a line down the centre of Pakistan / central Pakistan;
- Only a few branch lines / two branch lines to the west / east;
- Connects to / from all the gas producing regions.

(iii) Explain one way of transporting natural gas to parts of Pakistan not served by the pipelines and one limitation of this method. You should develop your answer. [4]

Markscheme:

Method of transport:

- Road / rail / cylinders; can be cooled to a very low temperature where it turns into a liquid (dev); LPG can be placed into (special) cylinders; the cylinders can then be transported to all parts of Pakistan / named example where pipelines cannot be found (dev);

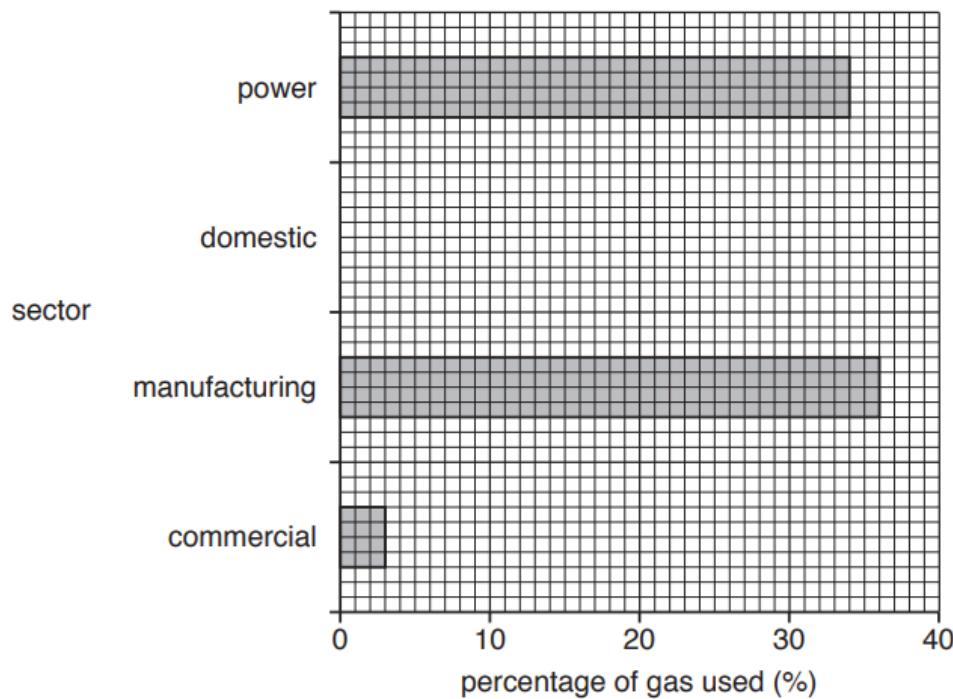
Etc.

Limitation:

- It is dangerous / hazardous to transport gas cylinders by road; accidents can happen causing an explosion or leakage (dev);
- It is more expensive to transport gas by road rather than by pipeline; less income will be earnt (dev);
- It takes longer to transport gas by road than through the pipeline; there could be delays on the roads leading to a gas shortage in remote areas (dev);
- Only small amounts can be transported; therefore may lead to a shortage of gas in remote areas (dev);
- Supply is not continuous; roads blocked in winter / theft (dev);
- Needs safety precautions in place; may increase cost of transport (dev);

Etc.

(b) (i) Study Fig. , which shows the percentage share of natural gas used by selected sectors in Pakistan.



Complete Fig. by drawing the bar for domestic use using the information below.

gas use	percentage (%)
domestic	18

[1]

Markscheme:

Accurate completion of bar chart for household 18%.

(ii) Name two other sectors that use natural gas which are not shown on Fig. .[2]

Markscheme:

- Fertiliser industry / animal feed;
- Cement industry;
- Transport / CNG.

(c) Complete the passage about generating electricity using natural gas. Choose the correct words from the list and place them in the spaces provided. [5]

To produce electricity in a power station, such as coal, oil or gas are burned to make that moves the to generate electricity. Transformers control the voltage and transfer electricity to pylons through lines.

biofuels	conductor	fossil fuels	heat	hydel light
nuclear	power	steam	thermal	transmission turbines

Markscheme:

To produce electricity in a thermal power station, fossil fuels such as coal, oil or gas are burned to make steam that moves the turbines to generate electricity. Transformers control the voltage and transfer electricity to pylons through transmission lines.

(d) The natural gas field discovered at Sui is considered to be one of the largest in the world. Additional smaller gas fields have since been discovered and developed in Pakistan.

To what extent is further development of the natural gas industry possible in Pakistan? Give reasons to support your judgement. You should consider different points of view in your answer.[6]

Markscheme:

Possibilities

- More pipelines and gas fired thermal power stations could be set up;
- Potential for more gas fields to be found;
- Pipeline could be extended further to areas currently not served;
- Pipeline could be over-ground, doesn't have to be underground;
- If more gas fired thermal power stations are built, Pakistan could reduce imports of oil and coal;
- Finding more gas reserves would increase the domestic supply and increase the number of potential years use;
- Improve the lives of people in remote rural areas / provide employment opportunities;

Etc.

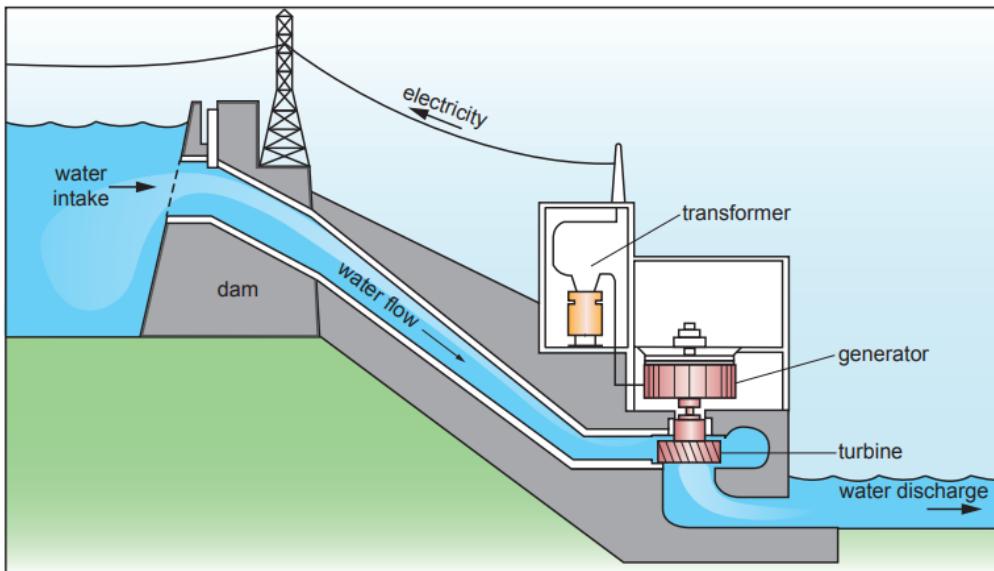
Difficulties

- Financial constraints / loans may have to be taken out;
- Topography and / or climate may hinder or make difficult the building of more pipelines or further exploration;
- Cost of exploration and / or building thermal power stations will not be value for money / cost effective;
- Industries would not be built in these areas anyway as remote / not ideal locations for building further industry;

Etc.

[May/June 2020]

(c) (i) Study Fig. , a diagram showing a hydel power station. Using Fig. only, describe how electricity can be generated using this method.[4]



Markscheme:

Ideas such as:

Uses the force of flowing water to spin the turbines;

The turbine in turn causes the shaft to spin rapidly inside a magnetic field in the generator;

The generator creates electricity;

The electric current is regulated by the transformer;

Electricity is sent through the power line to where it is needed; etc.

(ii) Explain two benefits of generating electricity using hydel power. You should develop your answer.[4]

Markscheme:

Ideas such as:

Water is a renewable resource; (will not run out/can be used over again);

HEP is referred to as white coal; (because it doesn't have to burn anything/is environmentally friendly);

Can be developed in highland areas; (where there are steep slopes and adequate supply of rainfall/very little else can be developed in these areas);

Once HEP stations have been set up running costs are low; (saving money in the long term); etc.

(d) Read the following two views about providing a sufficient and reliable electricity supply for Pakistan, now and in the future:

A

Pakistan should make use of its fossil fuel resources for as long as they are available.

B

Pakistan should prepare for the future and further develop its renewable energy resources.

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 and View B in your answer. [6]

Markscheme:

A: Continue to make use of its fossil fuels

Agree because:

Already have power stations set up to use coal/oil/gas;

Uses existing skills and technology;

Cheaper than setting up alternatives from scratch;

Do not have know-how to set up alternatives;

Alternatives (or named examples) are not 100% reliable all of the time; etc

B: Prepare for the future and further develop its renewable energy resources

Agree because:

Environmentally friendly;

Once set up running costs are low;

No air pollution;

Creates employment opportunities;

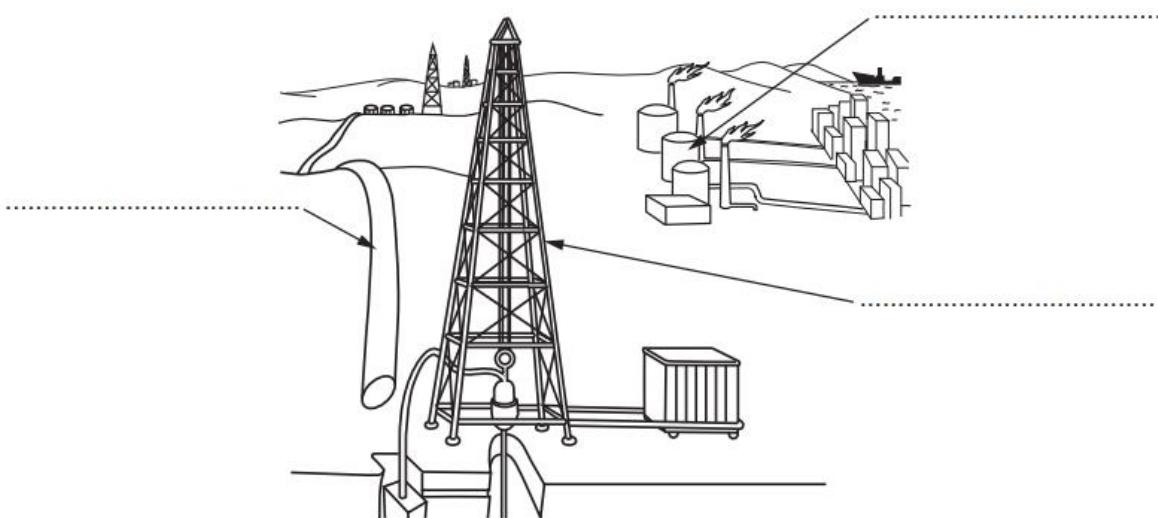
More sustainable;

Pakistan has a lot of sunshine – good for solar power;

Remote rural areas can use solar power; etc

[October/November 2020]

Study Fig. , a diagram showing oil prospecting and drilling.



(a) (i) Complete the labels on Fig. by choosing the correct words from the list below.

Derrick

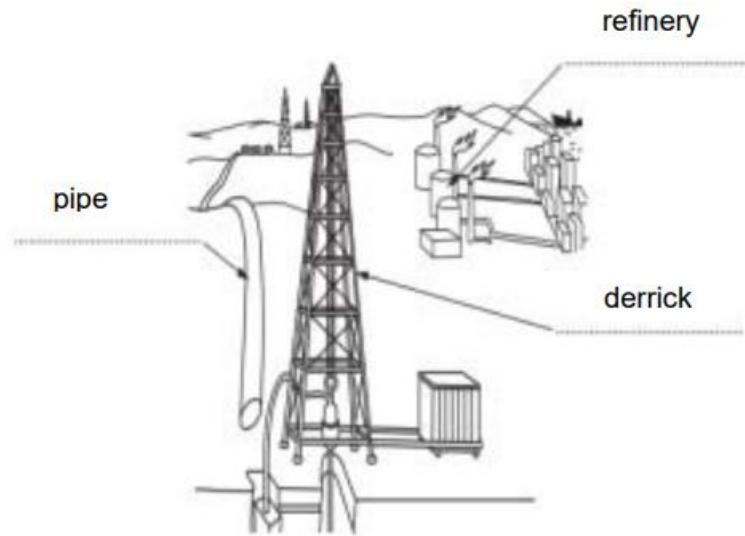
drill

pipe

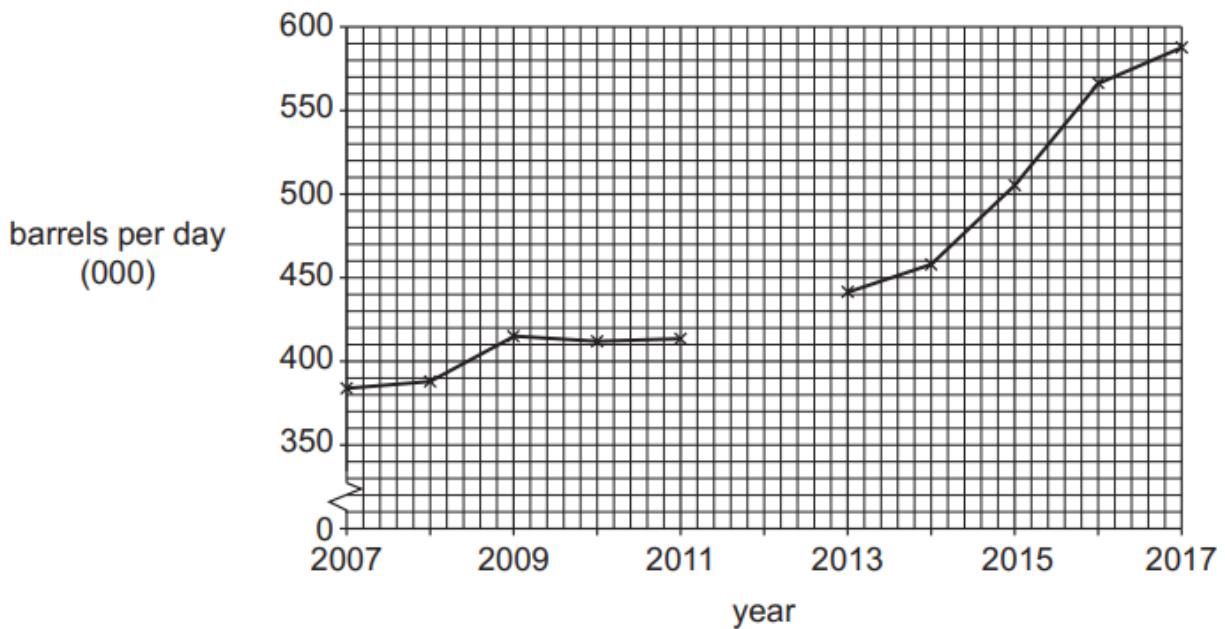
refinery

valves [2]

Markscheme:



(ii) Study Fig. , a line graph showing daily oil consumption in Pakistan from 2007 to 2017.



Complete Fig. by plotting daily oil consumption in 2012 using the information below.

year	barrels per day (000)
2012	410

[2]

Markscheme:

1 mark for accurate plot of 410 barrels of oil consumed per day for 2012,
1 mark for accurate completion of line

(iii) How many barrels of crude oil were produced per day in Pakistan in 2019?

Circle the correct answer.

69000 91000 113000 [1]

Markscheme:

91 000

(iv) State two ways that oil is transported on land in Pakistan.[2]

Markscheme:

- pipeline(s)/pipes
- road/tanker/barrels/truck/lorry
- rail/tanker

(b) (i) Define the term 'refined'.[1]

Markscheme:

Cleansing/purification/removal/separation of impurities/substances/unwanted elements/toxins are removed (by processing/industrial processes).

(ii) Study Fig. , a photograph of an oil refinery in Pakistan. Using Fig. only, describe the features of the oil refinery shown.[3]



Markscheme:

- large/huge/vast/wide area of land;
- built on flat land;
- round buildings/square buildings;
- storage tanks/storage cylinders;
- (tall) towers/chimneys/columns;
- grey/white/striped/blue buildings;
- (raised) pipelines/pipes;
- different coloured/curved pipe(line)s;
- roads/pathways;
- crane;
- air conditioning units;
- scaffolding/ladders;
- mostly made from metal.

(iii) Name two oil refineries in Pakistan and state where each one is located.[4]

Markscheme:

- Attock: Morgah/Potwar Plateau/Rawalpindi;
- Pak-Arab PARCO; Mahmood Kot/Muzzafargarh/Multan District;
- Byco Petroleum; Khalifa Point/Hub
- Pakistan refinery; Karachi;
- National refinery; Karachi;
- ENAR refinery; Karachi;
- Trans-Asia refinery; Karachi;
- Byco refinery; Karachi;
- Bosicor refinery; Hub/Karachi;
- Khalifa Coastal refinery; Lasbela District / Kharan.

(c) Explain how oil is used to generate electricity in a thermal power station. You should develop your answer.[4]

Markscheme:

- oil is burnt/used as fuel (1) heats water/generating heat (dev)
- heat boils water (1) which then turns to steam (dev)
- steam turns a turbine (1) producing electricity in the generator (dev)
- steam produced (1) transfers kinetic/potential energy to electrical energy (dev)
- transformers control the voltage (1) and then transfer the electricity to where it is needed via power lines and pylons (dev)

(d) In 2017 Pakistan discovered its largest oil and gas reserve at Jhandial Well. It is expected that at least 292 billion cubic feet of gas and 23 million barrels of oil can be recovered.

Evaluate whether Pakistan should develop new oil and gas reserves. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Develop new oil and gas reserves

- Pakistan has an energy crisis so any new reserve will help to solve this;
- Jhandial is a sizeable find/bigger than previous reserves so worth investing in;
- both gas and oil have been found there;
- Pakistan will save money/foreign exchange on importing oil;

Etc.

Ideas against further development

- it is expensive to exploit the new reserves;
- foreign investors like China may be needed to extract the gas and oil;
- dependence on other countries will outweigh the benefits of finding/using the oil and gas found;
- an improved infrastructure is needed to exploit the resources or transport them to where they are needed;
- lack of trained personnel may hinder the exploitation of resources;
- oil and gas are fossil fuels and therefore finite;
- dependence on other countries will outweigh the benefits of finding/using the oil and gas found;
- an improved infrastructure is needed to exploit the resources or transport them to where they are needed;

- further environmental degradation will occur from extracting and transporting these resources;
- Jhandial will only help in the short term hence, Pakistan should be looking for more sustainable solutions to the energy crisis/ Pakistan should be looking to invest in alternative energy sources over nonrenewable sources; Etc.

[May/June 2022]

(b) (i) Define 'renewable' and 'non-renewable'.[2]

Markscheme:

- renewable can be used again/are infinite/always be present/sustainable/will not run out/not exhaust
- non-renewable are finite/limited/will exhaust/ cannot be used again/if used are gone forever

(ii) Complete the table to classify by type (renewable or non-renewable), the energy resources listed below.

Coal	gas	hydel	oil	solar	wind
renewable			non-renewable		

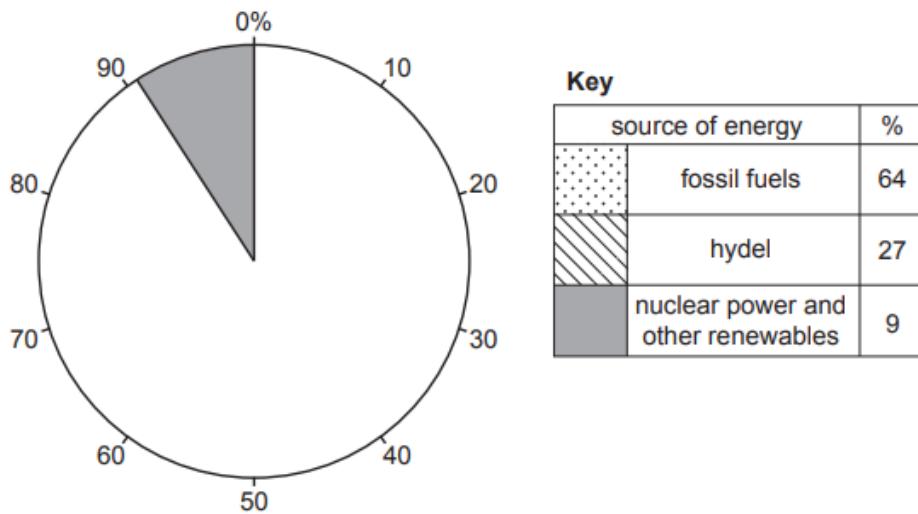
[3]

Markscheme:

renewable: hydel, solar, wind

non-renewable: coal, gas, oil

(iii) Study Fig. , a pie chart showing the percentage share by value of Pakistan's energy sources.



Complete Fig. using the information in the key. [3]

Markscheme:

- accurate completion of line plotted at 27% or 64%

- correct shading of fossil fuels segment – small dots
- correct shading of hydel segments – diagonal lines at the correct angle

(c) Explain one advantage and one disadvantage of generating electricity using solar power.

You should develop your answer.[4]

Markscheme:

advantages:

- solar is a renewable resource; will not run out/can be used again/reduces use of non-renewables
- solar power is environmentally friendly; because it doesn't burn anything/does not create air pollution/greenhouse gases
- Pakistan is sunny/has high number of sunshine hours/250-300 sunny days a year; so most/remote regions can utilise solar power
- once solar panels have been installed running costs are low; saving money in the long term
- small solar panels can be provided on homes; provides electricity to areas without need for pylons and cables
- solar panels are portable; can be installed on house rooftops/slopes/can be easily installed
- solar panels are low maintenance; minimal running costs/need for servicing

disadvantages:

- amount of power generated per solar panel is quite small; may need several to power a home
- development of solar farms takes up large areas; land is needed for agriculture/industry etc.
- expensive to buy panels/construct solar farms; difficult to afford the initial investment/may need loans/increases debt
- no power is generated at night; in winter days are shorter in the north of Pakistan so energy production is not guaranteed
- some regions of Pakistan have long periods of cloud/rain/snow; less power is generated during these times/a backup source may be needed
- solar panels can get covered in dust/sand; require cleaning to ensure they can still operate/reduces their efficiency

(d) Pakistan plans to generate 60 per cent of its power using renewable energy by 2030, yet coal-fired power stations are being rapidly developed. In 2016 there was one coal-fired power station and by 2019 there were nine, providing 15 per cent of Pakistan's electricity supply.

To what extent is it possible for Pakistan to generate more of its power from renewable energy? Give reasons to support your judgement and refer to examples you have studied.

You should consider different points of view in your answer.[6]

Markscheme:

It is not possible to produce more electricity from renewable resources:

- Pakistan already has power stations set up to use coal/oil/gas
- continuing to use reserves of coal/oil/gas is cheaper than setting up alternatives from scratch
- requires knowledge/skilled workers to set up

- renewables (or examples) are not 100% reliable
- Pakistan has invested heavily in developing coal fired power stations; this would be wasted
- problems with sandstorms in desert areas covering the solar panels; need to be cleaned so that they work properly/not as effective as hoped

Etc.

It is possible to produce more electricity from renewable resources:

- once set up running costs are low, making them more sustainable
- labour is available to work on the construction/maintenance of renewable power stations
- Pakistan has a lot of sunshine – perfect for solar power/desert areas can be used for solar farms
- Pakistan has lots of hilly areas – perfect for wind energy
- Pakistan already has several dams and this can be extended to produce more hydel power
- Pakistan has a coastline so it can develop tidal energy and build offshore wind farms
- Pakistan recognises there are benefits of renewables/they are environmentally friendly

Industrial Development

[May/June 2013]

(c) (i) Name two types of infrastructure other than water supply. [2]

Markscheme:

roads, railway, electricity, gas pipes, telecommunications, buildings

(ii) For each of the types of infrastructure named in (c)(i), consider the advantages and problems of improving it in Balochistan.[6]

Markscheme:

Advantages

Development of resources

Industrialisation

Employment

Trade

Higher living standards

Better education

Allow development

Disadvantages

Remoteness

Low density of population

Large area

Allow development

(d) To what extent can the development of cottage and small-scale industries improve family incomes in Pakistan? [6]

Markscheme:

IN FAVOUR

employment

for women

local demand

international demand

reduces migration

local raw materials

can use waste materials e.g. rubber, rope

low set-up costs / investment

BUT

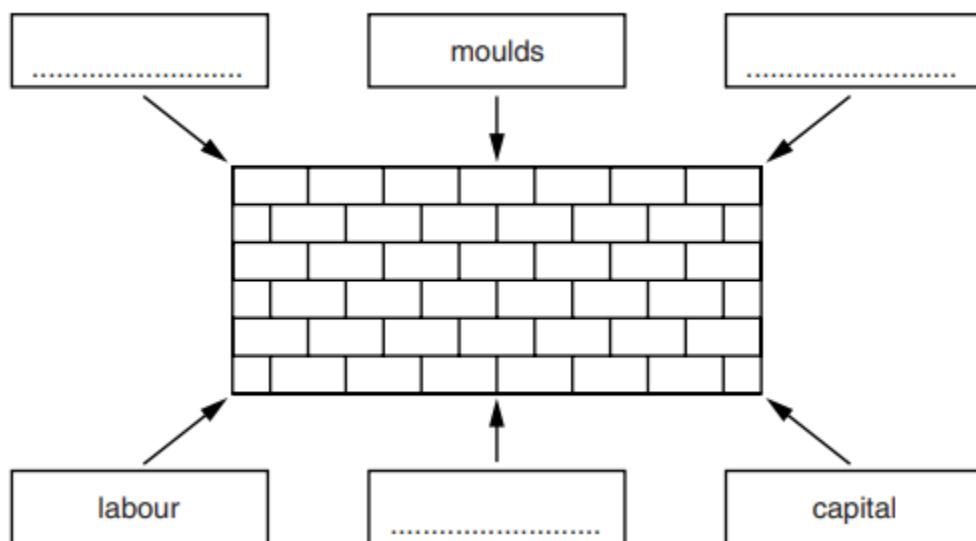
Poor quality

Child labour

Lack of infrastructure

Etc.

(a) Study Photograph showing a brickworks, and Fig. , a diagram showing the main inputs to a brick-making industry.



(i) Write the names of three other physical inputs in the three empty boxes on Fig. above. [3]

Markscheme:

Clay, water, coal

(ii) Explain how bricks are made[3]

Markscheme:

Clay mixed with water

Placed in moulds

Dried (in sun)

Baked (in kiln)

(iii) Name two types of air pollution that might be produced by a brickworks. [2]

Markscheme:

Carbon dioxide/carbon monoxide, nitrogen oxides, sulphur dioxide, soot/smoke, smell, dust/ash

(b) Study Photograph again. Describe the effects of the pollution created by thisbrickworks on people and the environment in the local area. [4]

Markscheme:

People

Respiratory diseases

E.g. Asthma

Skin irritations

Eye diseases

Unsightly views

Irritability/deafness (from noise)

Environment

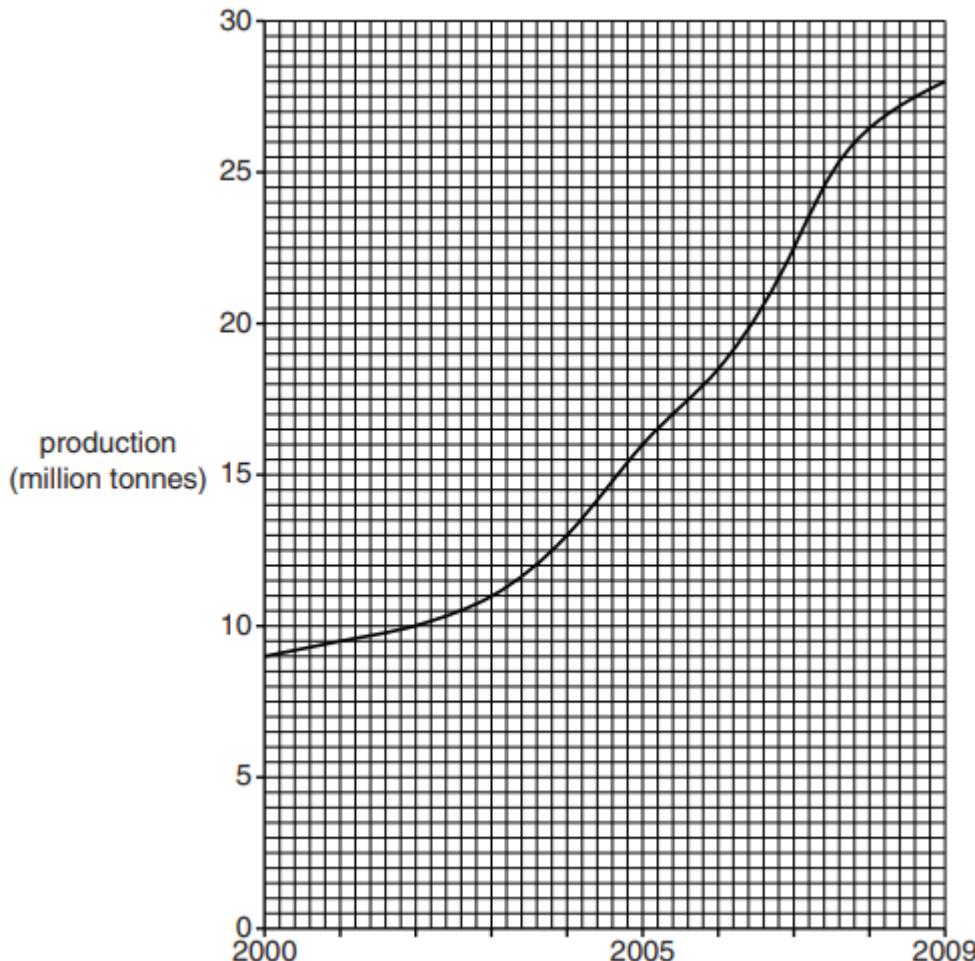
Quarries/holes/depressions

(Spoil) heaps

Vegetation/crops covered in dust/ash

Land degraded/bare/deformed

(c) Study Fig. , a graph showing cement production in Pakistan.



(i) What was the production of cement in 2009? [1]

Markscheme:

28 million tonnes

(ii) By how much did production increase from 2000 to 2009? [1]

Markscheme:

19 million (tonnes)

(iii) Name the two main raw materials used to make cement. [2]

Markscheme:

Limestone, Gypsum

(iv) Give three reasons for the continuous increase in cement manufacture from 2000 to 2009[3]

Markscheme:

Industrial/economic development

Urbanisation/construction

Better/more housing, roads, offices, factories (max 2)

Higher living standards

Population increase

Raw materials cheap

Raw materials readily/locally available

(d) Explain the advantages and disadvantages of expanding the sports goods industry in Pakistan. [6]

Markscheme:

Advantages

Enhances traditional skills

Uses local raw materials/saves import of raw materials

Increases employment

Work for women

Increases family incomes/GDP

More exports/trade

Disadvantages

Shortage of raw materials

Cost of importing raw materials/machinery

E.g. rubber/thread/leather

Lack of skilled labour

(Trade hindered by) child labour issues

(Trade hindered by) quality issues

(d) (i) Study Photograph



Name three attractions to tourists shown in the photograph. [3]

Markscheme:

- Valleys
- Rivers/rapids
- Mountains/hills
- Greenery/lush vegetation/meadows/pastures
- Forest/trees
- Terraces
- Tracks/trails

(ii) Explain how local people can gain income from tourism in mountain areas. [3]

Markscheme:

- Making/sale of crafts
- Opening shops in village
- Guides (on tracks/trails)
- Named services e.g. hotels/restaurants
- Named transport services
- Offering accommodation in own home
- Construction of tourist facilities

(e) To what extent is it possible to increase tourism in Pakistan in the 21st century? [6]

Markscheme:

Possibilities

- By providing more/improved/good/etc. – security, named infrastructure, hotels, named tourist activities (max 2)
- Advertising/promotion
- Training for staff in tourist industry/education about accepting tourists
- Maintenance/cleanliness of tourist attractions

Attraction – mountain ranges/valleys, forests, archaeological/historic/cultural sites, mosques, modern buildings, traditional crafts/bazaars, hill stations (max 1)

Strategies for increasing tourism, e.g. – preventing deforestation in tourist areas, removing litter/rubbish from e.g. Murree, opening a (winter) resort + details, (max 2)

Problems

Unstable political situation

Corruption

Lack of security/terrorism

Accommodation below Western standards

Poor named infrastructure

High cost of developing tourist areas/facilities

Lack of government support/attention/interest

[October / November 2014]

(a) Explain what is meant by each of the following terms, and choose one example of each from the given list.

A raw material; B waste material; C value added material

[6]

COAL

COKE

STEEL

SLAG

LIMESTONE

CO₂

Markscheme:

A Basic commodity from which finished goods are made / which is changed by a manufacturing process

Coal / limestone

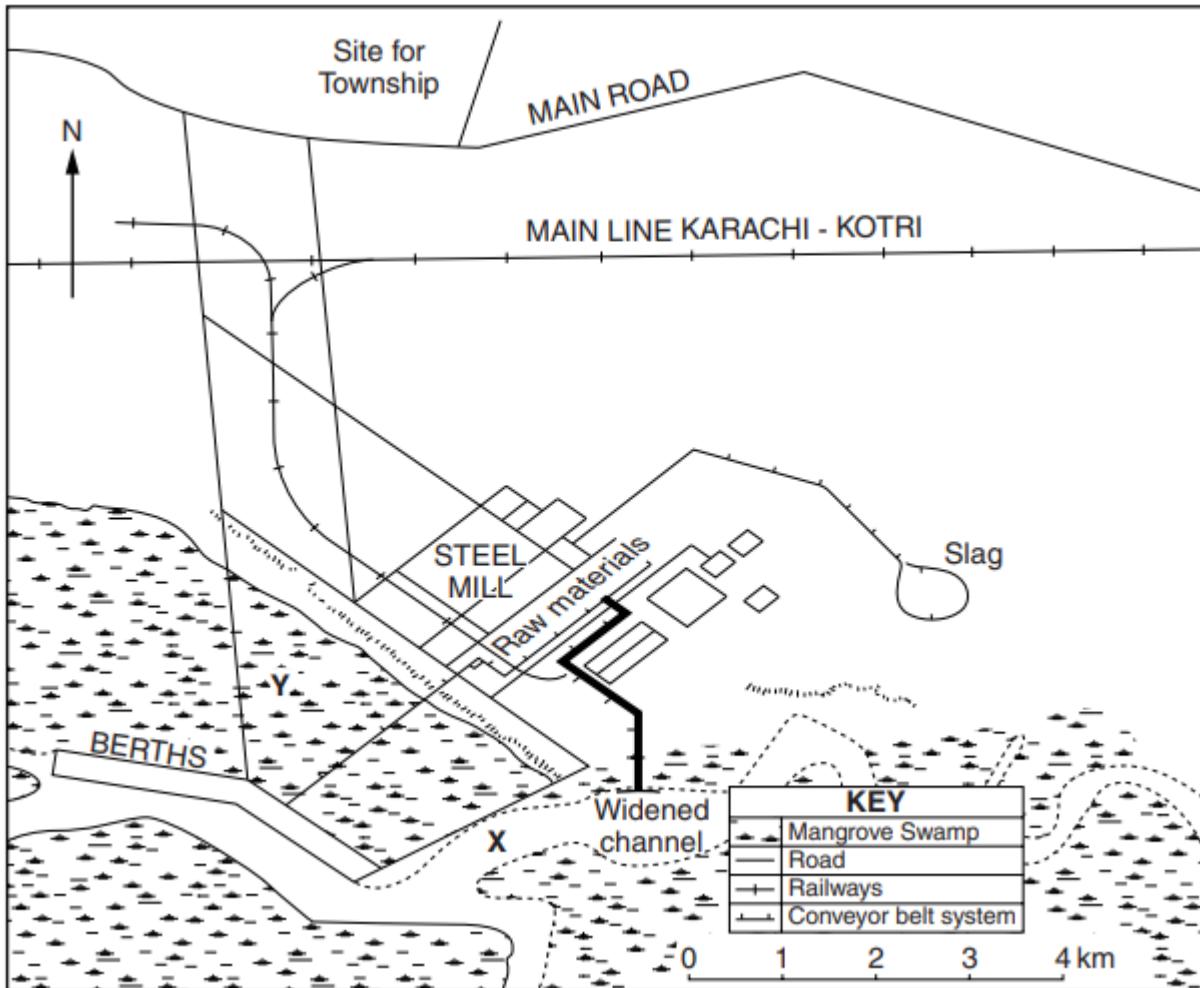
B Unused / unwanted by-product

Slag / CO₂

C Product that increases in value / worth due to industrial activities / a material improved as it goes through a manufacturing process

Steel / coke

(b) Study Fig. , a map of the site of the Pakistan Steel Mills



(i) Name the creek X and the port Y. [2]

Markscheme:

X Gharo

Y Port[Bin] Qasim

(ii) Name the sea to the south where ships can travel to the steel mills. [1]

Markscheme:

Arabian [Sea]

(iii) Using Fig. and your own knowledge, state three factors that make this site suitable for the development of the Pakistan Steel Mills. Explain one advantage that each factor gives to this industry. [6]

Markscheme:

Factors

Flat / cheap / unused land

Coastal site / natural / deep water harbour

Limestone nearby / at Thatta / Murli Hills

Fresh water nearby / at Lake Haleji
Power stations nearby / at Pipri / Korangi
Rail / road connection
Township on site / near Karachi

Advantages

Low set-up cost
Allows transport by ship / of heavy / bulky materials
Cheap transport of raw materials
Reliable / continuous power supply
Ease of transport of raw / heavy / bulky materials / products [especially to HMC at Taxila]
Readily available supply of labour
Market for sales / exports

(c) Explain why the Pakistan Steel Mills is an industry in the ‘formal sector’. [4]

Markscheme:

Capital intensive
Employed / not self-employed
Mechanised / fewer workers
Regular working hours
Regular / fixed wages
In purpose built factory / office
Legal / registered / pays tax

(d) To what extent can work in the informal sector improve the lives of those living in urban areas? Explain your answer. [6]

Markscheme:

Might

Would otherwise be unemployed / unemployed / unemployable find work
Source of income
Can afford better diet / improved housing / education / luxuries
May be suitable for unskilled / illiterate
Can use traditional skills
Goods / services available locally

Might not

Poor working conditions
Low / irregular incomes
Too many people doing the same thing / too much competition
May employ children who do not receive education
Goods are poor quality

(c) (i) What is meant by the term ‘cottage industry’? [1]

Markscheme:

Production of saleable goods / industry / valid named industry in own home
(ii) State and explain three advantages of establishing cottage industries in a rural area. [6]

Markscheme:

Advantages
Employment / self-employment
Employment of women / whole families

Income / export earnings
Meets demands of local market
Raw materials available locally / cheaply
Low technology

Explanation

Ability to support family
Reduces rural-urban migration of otherwise unemployed
Promotes independence / equality of women
Raises standard of living / quality of life
Boosts national economy / GDP / BOP
Puts money in local economy
Promotes self-reliance of area
Saves expensive imports / extra transport costs
Suitable for poorer people
Low set-up costs

(d) To what extent can small scale and cottage industries be sustainable? Explain your answer. [6]

Markscheme:

Possibilities

Can be done in the home (so low set up costs)
Local raw materials / re-used waste materials (therefore cheap / less need to borrow money)
Simple technology (so less need for electricity / power supply)
Small scale causing less damage to environment
Traditional skills / does not demand education (people can support themselves when other work not available / possible)
Government support / schemes / loans
Use of machinery
Use of electricity (allowing work after dark)
Provision of other named infrastructure
Training / education

Problems

Small output / low earnings
Low profits (therefore difficult to escape poverty)
Need for 'middle man' which reduces profits
Poor quality products (so lack of demand / low value)
Use of child labour (restricting markets / sales)
Lack of education / telecommunications (which limits marketing skills / limit marketing ability)

[May/June 2015]

(a) (i) Study Fig. which shows formal and informal sector employment in Pakistan over three years.

Sector	2008–09	2009–10	2010–11
Formal	26.7	26.7	26.2
Informal	73.3	73.3	73.8

Which sector of employment makes up the largest share of the labour force in Pakistan over these years? [1]

Markscheme:

Informal

(ii) Tourism is a service industry. Name two other service industries. [2]

Markscheme:

public administration/government

transport

retailing/shops

banking/banks/finance

doctors/healthcare/medical

teaching/education

legal/lawyers

entertainment/media

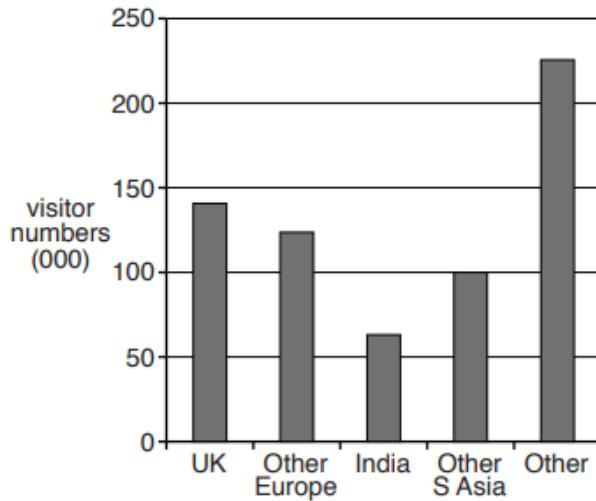
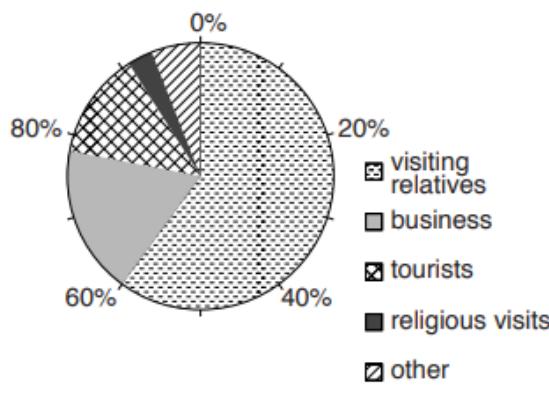
social care/home helps/family helpers/domestics, insurance

hospitality/hotels

telecommunications

etc

(iii) Study Figs . and . which give information about visitors into Pakistan in 1999.



A What percentage of visitors into Pakistan was classed as tourists?

Markscheme:

13% (accept 12–14%)

B What was the total number of visitors into Pakistan?

Markscheme:

655000 (accept 640000–670000)

C Suggest one reason why more people visited relatives compared to visiting Pakistan as tourists. [3]

Markscheme:

Lower cost

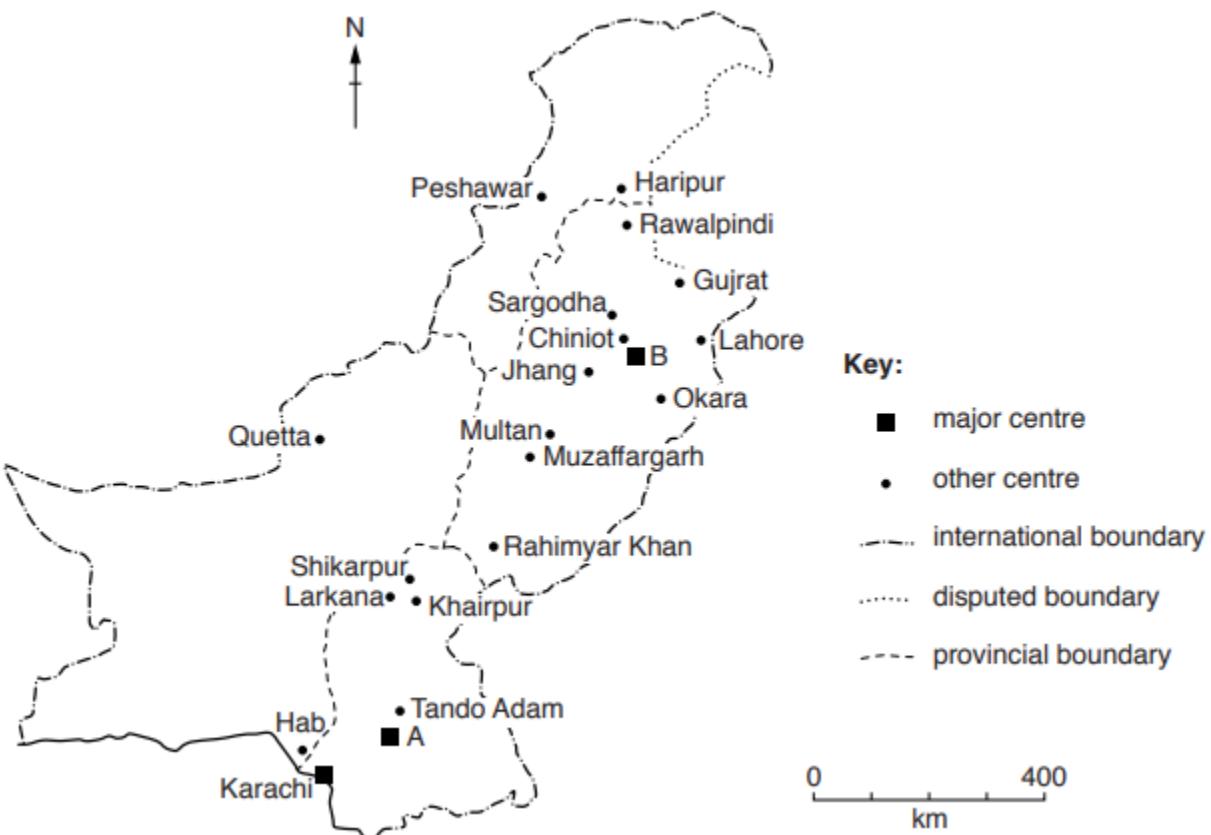
Large/extended families spread out in different countries

Work abroad

Few tourist attractions
Terrorism/lack of security/political instability
Poor transport infrastructure

[October/November 2015]

(a) Study Fig. , which is a map giving information about cotton textile industries in Pakistan.



(i) Name one of the major centres of the cotton industry, A or B. [1]

Markscheme:

Hyderabad / Faisalabad

(ii) Suggest reasons why the cotton textile industry is distributed as shown in Fig. .[3]

Markscheme:

Specific to one centre Reserve 1 mark

e.g. Karachi – port, availability of thermal/nuclear power

Faisalabad – in cotton producing region of Punjab

Hyderabad – in cotton producing area of Sindh, close to coast/Karachi

General

Availability of labour

Large local demand/market

Good transport system/roads

Near rivers for water in manufacturing process

In/near cotton growing area 'Raw materials' = 0

(iii) Explain what can be done to improve Pakistan's cotton textile industry. [3]

Markscheme:

Increase production of cotton crop / quality of cotton crop

Research into solutions to leaf-curl virus

Irrigation

More investment/government support/tax holidays/loans

Address child labour/environmental issues to ease international restrictions

Modernise machinery/plant/technology

Increase availability of power/electricity

Training / education of workers

(b) (i) State two characteristics of employment in the informal sector of industry. [2]

Markscheme:

Self employment

Labour intensive/little equipment

Irregular hours/wages/low wages Seasonal = 0

Paid daily/cash in hand

Not pensionable/no health benefits

At home/in streets

Not a registered business

Female labour

Child labour

(ii) Give an example of a job in the informal sector. [1]

Markscheme:

Handicrafts/carpet maker

Street trader/hawker / cobbler / fruit seller

Labourer in construction/factories / garment worker

Bus/truck/taxi driver

Care work / maids

Street sweeper

(i) Choose a province and name two tourist attractions within it. [2]

Markscheme:

Punjab

Ancient history/archaeology – Taxila/ Harappa

Hillstations – Murree/Nathia Gali

Tombs/shrines -Allama Iqbal/Ranjit Singh/ Jahangir

Culture – Mughal architecture/ Shalimar Gardens/ Badshahi mosque/Lahore Fort/Rohtas

Fort

Modern buildings – Minar-e-Pakistan/Presidential palace/Parliament building/Faisal mosque

Other – Khewra salt mines

Sindh

Ancient history/archaeology – Mohenjo-Daro/ Bhambore/ Kot Deji

Tombs/shrines – Shahbaz Qalander (sufi)/ Muhammad Ali Jinnah/Mazar-e-Quaid./ Chaukundi/ Makli

Culture – Mughal architecture/Jamia Masjid/ Ranikot Fort/ Kafir-Qila Fort

Hillstations – Gorakh

Lakes – Keenjhar, Manchar

KPK

Valleys – Kaghan/Kumrat/Swat/Kalam/Naran

Lakes – Saiful Muluk

(ii) Suggest two problems the tourist industry in Pakistan must overcome in order for it to be more developed. [2]

Markscheme:

Poor security/terrorism/political instability

Bad management/planning of tourist developments/corruption

Poor transport infrastructure/poor road network/unpredictable railways/ infrequent air access in north

Lack of government funding/priority

Little tourism infrastructure / few tour agencies / hotels not international standard

Lack of maintenance/cleanliness of tourist areas

(d) Read the following two views:

Tourism is one of the world's fastest growing industries. More attractions and facilities for tourists must be built to help Pakistan develop.

Tourist facilities must be restricted. The increasing number of tourists will damage our culture and cause environmental degradation.

Which view do you agree with more? Give reasons to support your answer. [6]

Markscheme:

1. Tourism increased

Tourist income likely to be high (and greater than from other sources, e.g. from exporting raw materials)

Creates employment

Boosts cottage craft industries (leading to financial stability/preservation of culture/heritage)

Locals can use tourist facilities (which increases their quality of life)

Increases cultural linkages with foreign countries

Source of foreign exchange/improves economy (which will enable Pakistan to clear debts)

2. Tourism restricted

Only seasonal employment (May–Oct in northern areas)

Money could be spent on other important sectors (such as minerals, power, manufacturing, mechanising agriculture, alleviation of poverty)

Displacement of local people to make way for development, e.g. hotels

Named social problems e.g. crime, alcohol/drugs

Lack of respect for local customs/beliefs

Increases prices of local goods/food

Clearing of natural habitat to make way for tourist developments (e.g. deforestation in Swat Valley)

Unsightly hotel construction

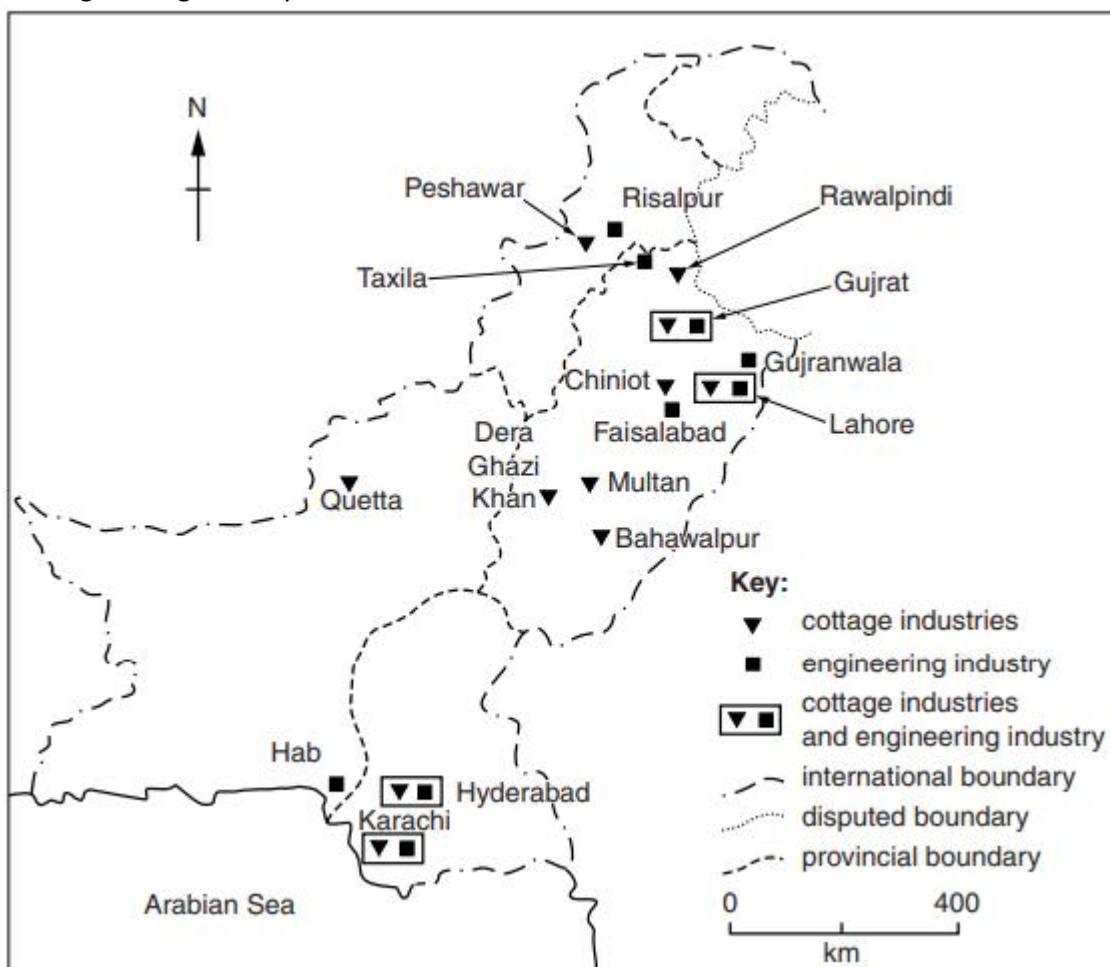
Air/noise pollution from more vehicles

Water pollution in rivers from overloaded sewerage system

Litter

[May/June 2016]

(c) (i) Study Fig. which shows the distribution in Pakistan of selected cottage industries and the engineering industry



A: Give an example of a cottage industry. [1]

Markscheme:

One of: furniture/ pottery /woodwork / metalwork / jewellery / hand woven rugs/carpets/shawls / handicrafts / embroidery/sewing/ hand-made leather goods/shoes / candles

B: Compare the distribution of cottage industries and engineering as shown in Fig . [3]

Markscheme:

Similar

Both in all four provinces / spread throughout provinces

Both concentrated in Punjab

Both present in Karachi/Hyderabad/Lahore/Gujrat

Both have two locations in Sindh/one location in Balochistan/one in KPK/ equal in

number in S/B/KPK

Different

Cottage has more locations in Punjab/use of stats to exemplify e.g. cottage 7

locations in Punjab whereas engineering 5 locations

Cottage present only in

Quetta/Peshawar/Rawalpindi/Chiniot/Multan/DGK/Bahawalpur/S Punjab

Engineering present only in Hab/Faisalabad/Gujranwala/Taxila/Risalpur

Engineering more clustered/ cottage more spread out

(ii) For the products of either cottage industry or engineering industry, identify your chosen industry and circle a suitable method of transport.

Chosen industry

Air road ship rail [1]

Markscheme:

Cottage industry: air/road

Engineering: ship/road/rail

(iii) Suggest one advantage of using this method of transport for your selected industry. [1]

Markscheme:

Air – for export/ small/light/low volume/high value goods

Ship – for export/ large/heavy/bulky goods / containers

Rail – for large/heavy/bulky goods / containers / long distances

Road – extensive/dense network / door-to-door/ short distances

(iv) Explain what is meant by the term ‘small-scale industry’? [3]

Markscheme:

Assets limited /capital limited/ capital <Rs 10mn

Family workers / small number hired workers /workforce <10

Worked carried out outside the home/ in factory / in workshop

Example: sports goods/surgical instruments/carpets/electric fans/cutlery/toys/agricultural Implements

(d) Read the following two views about possibilities for industrial development in Pakistan.

A

It is better for Pakistan to promote large-scale industries which provide more goods for domestic use and for other industries.

B

It is better for Pakistan to promote small-scale and cottage industries in rural areas.

Which view do you agree with more? Give reasons to support your answer and refer to places or examples you have studied. [6]

Markscheme:

Large scale

For

Reduces need for expensive imports of finished goods (e.g. vehicles)

Export potential

Fulfils domestic demand (e.g. galvanised steel in construction)

Greater contribution to GDP

Encourages private sector to invest (e.g. Pindi Bhattian)

New industries would encourage large scale employment

Against

Expensive to set up (foreign investment/loans/debt)

May require expensive imports of raw materials (e.g. coking coal/iron ore for steel industry)

Changes of government/political instability (large projects may be delayed/cancelled)

Employs relatively fewer people (approx. 20% industrial workforce/very few women)

Noise/air/ water pollution

Causes deforestation (which destroys habitats)(loss of scenic beauty)

Small scale and cottage

For

Important source of income in rural areas

Money is re-invested locally

High demand (both domestic and exports / 30% manufacturing exports by value)

Employment possibilities (employs approx. 80% industrial workforce)

Conducted in homes (women can work)

Reduces rural to urban migration

Recycles industrial waste (e.g. of cotton/steel industries)

Small input requirement/uses local raw materials (e.g. leather/wood)(promotes primary industries)(limited need for imports)

Low cost

Against

Only small (5%) contribution to GDP

Limited profit/wholesalers take most of the profit

Limited ability to expand

High production costs (since no economies of scale)

Lack of electricity in rural areas

[October / November 2016]

(d) Read the following two views about the possibilities for tourism in Sindh province:

A

Hotels and tourist resorts need to be developed along the Sindh coast to bring foreign exchange and boost the economy.

B

The coastal area of Sindh cannot support large numbers of tourists. There could be negative effects from tourism.

Which view do you agree with more? Give reasons to support your answer and refer to places or examples you have studied. [6]

Markscheme:

For tourism

Sindh has many tourist attractions

Beaches (Clifton Beach / Sand spit / Hawkes Bay / Paradise Point)

Historical buildings (Quaid-i-Azam Mausoleum / National Museum / Mohatta Palace)

Tourism industry undeveloped / has scope for development / investment

Creates employment (such as drivers / guides / hotel staff)

Against tourism

Sensitive environment (threats to mangrove forests / fishing grounds)
Tourists bring culturally unacceptable behaviour / dress code
Tourists can pollute the environment with noise / litter / oil from jet skis, etc. (which disturbs local residents / looks unsightly / is a danger to wildlife)
Indus delta / most of Sindh coast unsuitable for development (swamps / marshes / creeks / forests)
Karachi needs tourist industry infrastructure (e.g. no passenger ferry terminal)
Declining / lack of tourist numbers
Employment only seasonal
Loss of livelihood due to construction of resorts (e.g. fishermen)

[May/June 2017]

(b) Study Photographs B and C, which show typical working scenes in rural areas.





(i) Using Photograph B and your own knowledge, describe how bricks are made in rural areas. [3]

Markscheme:

- Mixing clay with water;
- Placing mixture into rectangular moulds/mould the clay/moulded into brick shape/cuboid shape/put into stencils/blocks;
- Leaving to dry in sunlight;
- Firing/baking in kilns/furnace/heated in kilns to harden them/baked/heated in a furnace.

(ii) Describe the work being done in Photograph C. [2]

Markscheme:

- Harvesting/cutting;
- Collecting in bales/bundling together/stacking/tying them;
- Laborious/carrying/lifting/picking up;
- Manual work/done by hand.

(d) It has been proposed that a large integrated iron and steel mill should be built on the outskirts of Rawalpindi, Punjab.

80 km² of land will be cleared for the mill and new infrastructure will be provided to the site by the local authorities. Large amounts of raw materials will be brought onto the site by road or rail and it is planned to produce up to 3 million tonnes of finished steel per year.

Evaluate how the new integrated iron and steel mill will affect the local people of Rawalpindi. Give reasons to support your answer. You should consider both benefits and problems in your answer. [6]

Markscheme:

Benefits

- Employment opportunities

- Improvements to roads/other infrastructure
- New settlements
- Educational/recreational facilities
- More trade for local shops
- More work for local ancillary/related industries

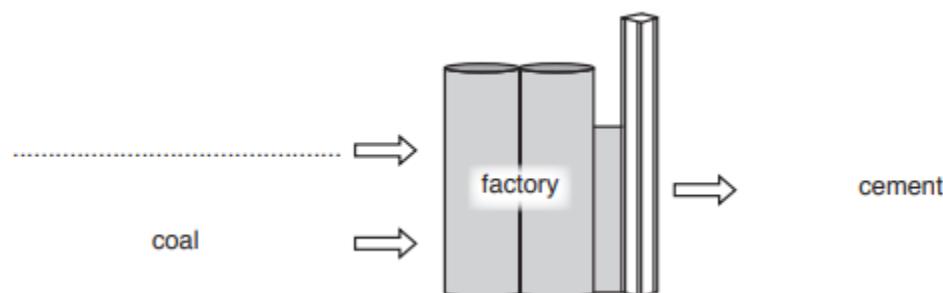
Problems

- Farmland/grazing
- Air pollution/dust from chimneys, etc.
- Visual pollution/eyesore
- Roads/railways congested
- Attracts migrants
- Uses large amounts of water/power

ETC.

[October/November 2017]

(a) (i) Study Fig. , which is a flow diagram of the cement industry.



On Fig. , insert the name of a raw material used to make cement in the space provided. [1]

Markscheme:

In space LHS of diagram:

limestone / gypsum (calcium sulphate) / clay / shale / chalk

(ii) Give one example of primary, secondary and tertiary employment in the cement industry. [3]

Markscheme:

Primary – job related to mining raw materials (coal, limestone, gypsum) / mine / quarrymen;

Secondary – job related to manufacturing product, packing / bagging product / factory worker;

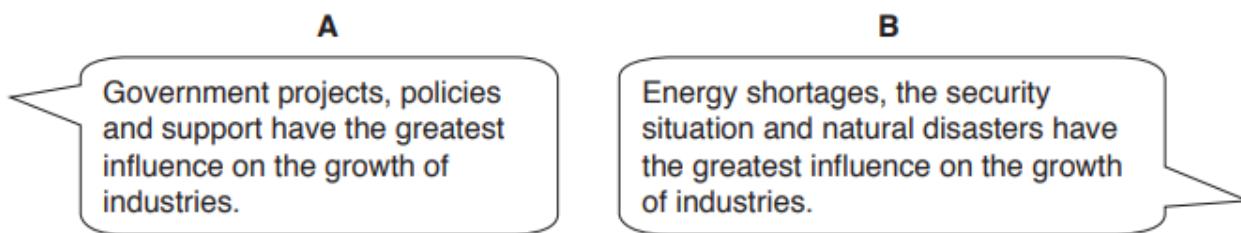
Tertiary – job related to lorry driving / sales / advertising / cleaning / maintenance.

(iii) The cement industry is an example of a formal industry. State three characteristics of employment in the formal sector of industry. [3]

Markscheme:

- Employed / not self-employed / registered with government / legal;
- Trained / skilled workforce;
- Uniform / dress code;
- Improved working conditions / named example – pension;
- Regular working hours / fixed working hours;
- Fixed / regular / higher wages;
- More likely to use machines / equipment / not labour intensive;
- Purpose-built office / factory;
- Less likely to be female / child labour.

(d) There are many influences on industrial growth at the national level in Pakistan. Read the following two views:



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 and View B in your answer. [6]

Markscheme:

View A

For

- Industrial policy / taxation;
- Investment;
- Infrastructure / power projects;
- Training in skills / examples of;
- Services to industries.

Against

- Mismanagement;
- Inconsistency of government policy / changes of government;
- Delay in / cancellation of government projects.

View B

For

- Shortage of electricity generation and problems with supply;
- Natural disasters divert national funds away from industry;
- Security issues / unrest.

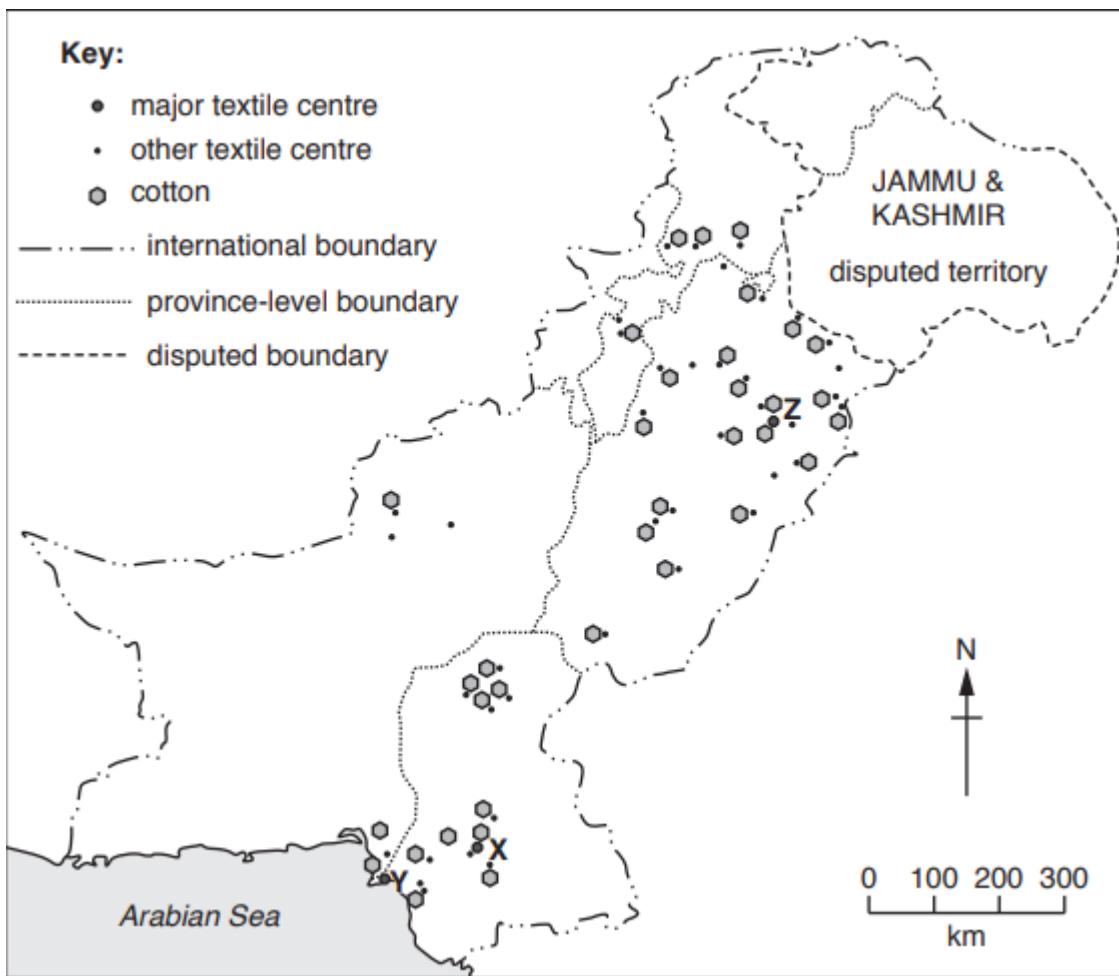
Against

- Destruction / damage can stimulate construction industry;
- Cost of building earthquake-proof buildings is high;
- Cost of emergency shelters during floods;
- Cost of security.

ETC.

[May/June 2018]

(a) (i) Study Fig. , a map showing the location of selected textile industries in Pakistan.



Name the three major textile centres labelled X, Y and Z on Fig. [3]

Markscheme:

- X = Hyderabad;
- Y = Karachi;
- Z = Faisalabad.

(ii) Describe the location of the major textile centre labelled Y on Fig[2]

Markscheme:

Karachi is:

- In south of Pakistan;
- Next to the coast / near sea / Arabian Sea;
- In the province Sindh;
- Close to border with Balochistan;
- At centre of three cotton areas;
- Distance from named feature, e.g. within 100 km of other textile centres / cotton areas;
- Direction from named feature, e.g. west / southwest of X.

(b) (i) Define the term 'secondary industry'. [1]

Markscheme:

- Industry that converts raw materials into commodities / products (for the consumer) / manufacturing industry / where raw materials are manufactured / made / processed into a product.

(ii) State a feature of each of the following types of industry:
cottage industries;
small-scale industries;
large-scale industries [3]

Markscheme:

A cottage industry is:

- where the owner and family work with no hired labour / in homes / mostly women and children work / small investment / low output / informal;

A small-scale industry is:

- where up to 10 hired labourers work / medium investment / up to R10mn invested / formal or informal / in workshops / (small) factories;

A large-scale industry is:

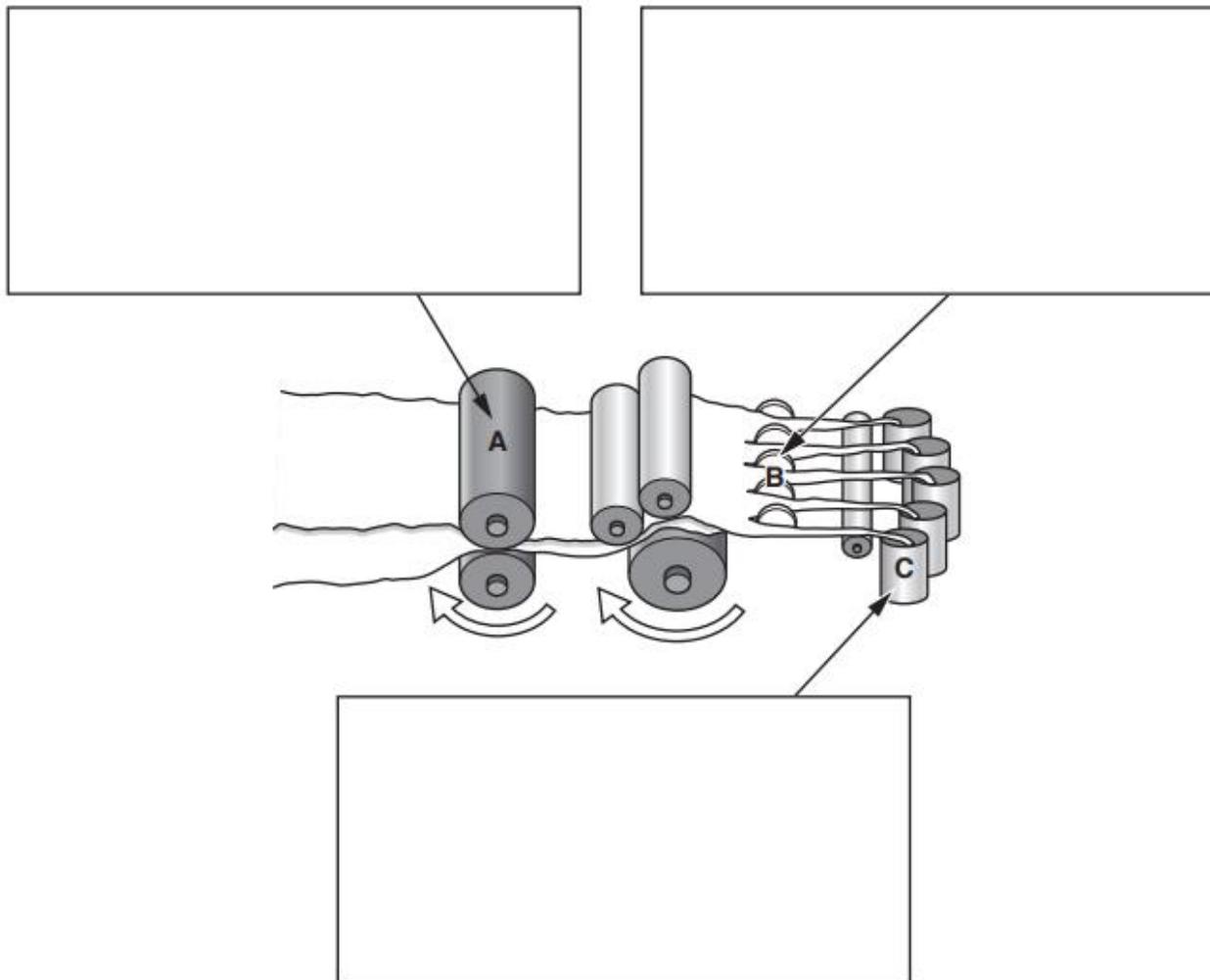
- where there is no limit to the number of people employed / unlimited investment / high capital / standardised / skilled labour / multinational / registered / formal sector / mechanised / in (large) factories.

(iii) State three reasons for the location of the cotton textile industries in Pakistan. [3]

Markscheme:

- Near a port / dry ports for imports / exports;
- Close to cotton belts of Pakistan / close to raw materials;
- Near to large population centres for skilled / unskilled labour;
- Near to markets;
- Favourable / stable government policies / in tax exempt areas;
- Agglomeration / near to each other to share ideas / materials;
- Near to / uninterrupted power supply;
- Near to named infrastructure, e.g. roads / rail.

(c) (i) Study Fig. , a diagram showing three of the processes involved in the spinning of cotton.
Describe processes A, B and C in the boxes on Fig. [3]



Markscheme:

- A: Opening / bales of cotton laid down uniformly in layer / rollers used to flatten cotton fibres / smooth out folds / straighten fibres / spread out fibres;
 - B: Carding / sorts fibres to produce a continuous web or slivers / teasing wires produce loose bundles of fibres (web / slivers) / the fibres (web / slivers) are divided into threads;
 - C: Drawing / fibres are straightened / the combined sliver (threads) is collected in moving cylinders where fast and slow rollers further divide slivers / slivers stretched / twisted / pulled out further.
- (ii) Explain why the cotton textile industry is important to Pakistan. You should develop your answer. [4]

Markscheme:

- Largest sector of the economy / large-scale production;
- Great export potential / demand;
- Is 60–65% / most of export earnings;
- Improves balance of trade;
- Employs a large number of people;
- Unskilled and skilled labour;
- Contributes approx. 7% of GDP;

- Textiles are value added products;
- Earn more foreign exchange than raw cotton;
- Uses local raw materials;
- Reduces dependence on imports;
- Large domestic demand.

Etc.

(d) Although cotton textiles is Pakistan's largest industry, it still faces challenges if it is to increase its global market share. Read the following two views about some of the challenges to the cotton textile industry in Pakistan:

A

Load shedding of electricity is a major challenge to the growth of the cotton textile industry.

B

Lack of skilled labour is a major challenge to the growth of the cotton textile industry.

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 and View B in your answer. [6]

Markscheme:

Load-shedding

Production comes to a standstill;
Orders cannot be completed;
Workers may be sent home / not paid;
Deadlines cannot be met;
Lose market share if trading partners cannot rely on Pakistan.

Skilled labour shortage

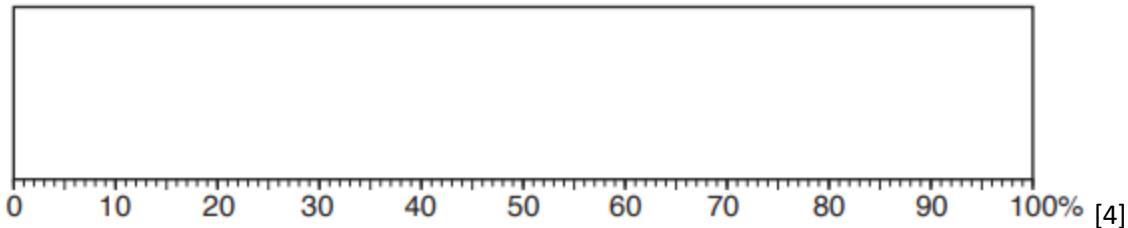
Government need to invest in education and training;
Current employees are overworked;
Full capacity of cotton production cannot be met;
Cotton production may decline in the future if there are no skilled workers to fill the vacancies.

Etc.

[October / November 2018]

(a) (i) Complete Fig. , which is a divided bar graph, using the information below to show the employment structure of Pakistan:

Sector	Percentage (%)
Primary	42
Secondary	14
Tertiary	44



Markscheme:

Accurate completion of percentage bar chart.

(ii) Complete the table by classifying the jobs from the list below into the correct categories.

An example has been done for you. [3]

Primary	Secondary	Tertiary
farmer	factory worker	teacher

nurse	train driver	builder
chef	miner	fisherman

Markscheme:

- Primary = farmer, miner, fisherman;
- Secondary = factory worker, builder, chef;
- Tertiary = teacher, nurse, train driver.

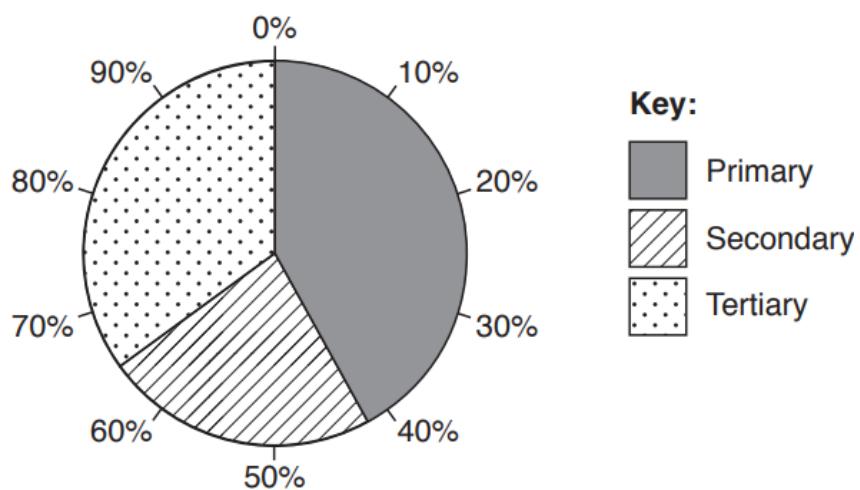
[May/June 2019]

(a) (i) Define 'tertiary industry'.[1]

Markscheme:

Tertiary industry is any activity concerned with providing a service

(ii) Study Fig., which shows the percentage share of people employed in each economic sector in Pakistan.



What is the percentage of people employed in tertiary activities in Pakistan?[1]

Markscheme:

35%

(iii) Name three different job types in the tertiary sector.[3]

Markscheme:

- Sales;
- Waiter;
- Driver;
- Teacher (teaching) / education;
- Doctor / bank clerk (banking);
- Guide;
- Hairdresser;
- Trading;
- Salon services;
- Maid;
- Tourism;
- Healthcare;
- Engineering;
- Security;
- Manager;

Etc.

(b) (i) Describe the difference between domestic and foreign tourism.[2]

Markscheme:

- Domestic tourism is when people go on holiday within their own country;
- Foreign tourism is when people from a different country visit / go on holiday abroad.

(ii) Study Table , which shows the source of foreign tourists to Pakistan from selected countries in 2007.

origin	number
UK	275 600
USA	129 600
Afghanistan	80 500
China	30 600

A Which country is the main source of foreign tourists?

B Suggest two reasons for this. [3]

Markscheme:

A: UK

B: • Visiting friends and family living in Pakistan;

• On business / official meetings (classed as tourist / visitor);

• Attending a cultural event;

• Sporting event;

• Visiting a religious site / pilgrimage;

• Sightseeing / historical sites / historical ties (e.g. colonial links);

• Scenic beauty / nature loving.

(c) (i) Explain two advantages of tourism to Pakistan. You should develop your answer.[4]

Markscheme:

- Income from tourism; is usually greater than exporting raw materials (or named examples) / can help to correct the balance of payments / increase foreign exchange / money spent on areas like education and healthcare (dev);

- Creates employment in local areas; examples of employment opportunities, e.g. in hotels / as tour guides (dev);

- Encourages development of cottage or craft industries; handmade souvenirs are sold as profit / earn an income (dev);

- Food production is increased; creation of local markets (dev);

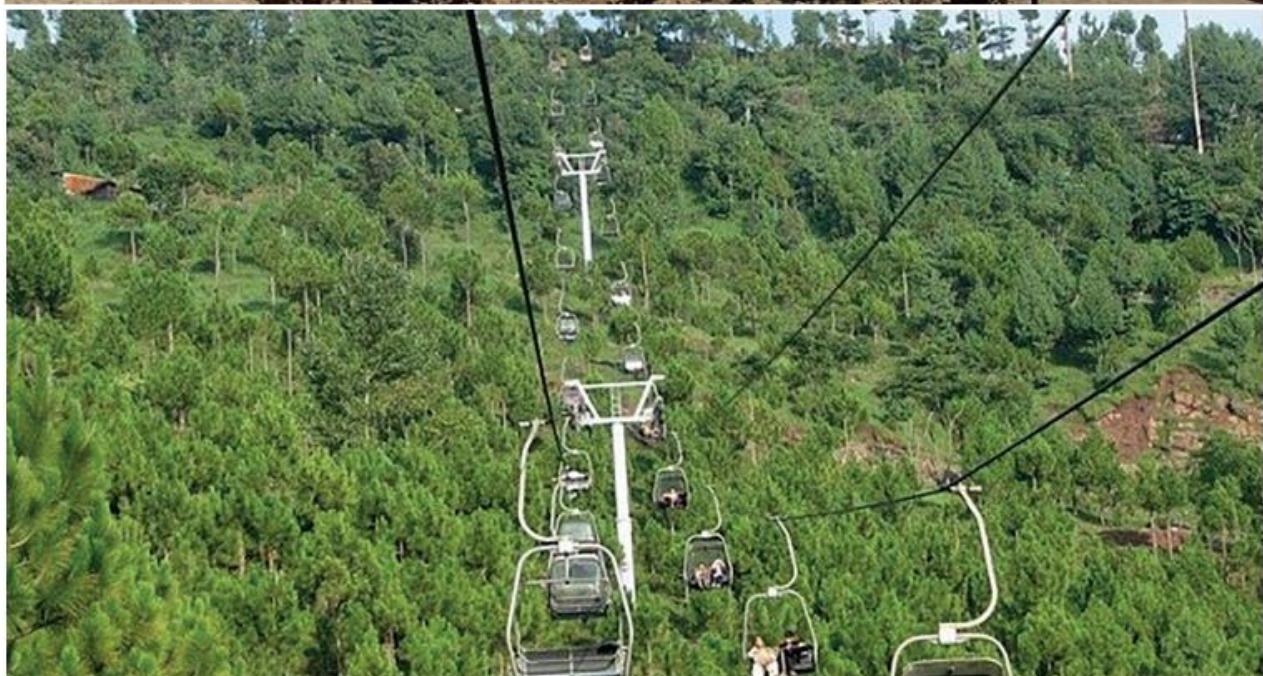
- Local people can use the tourist facilities; named examples, e.g. swimming pools / public transport (dev);

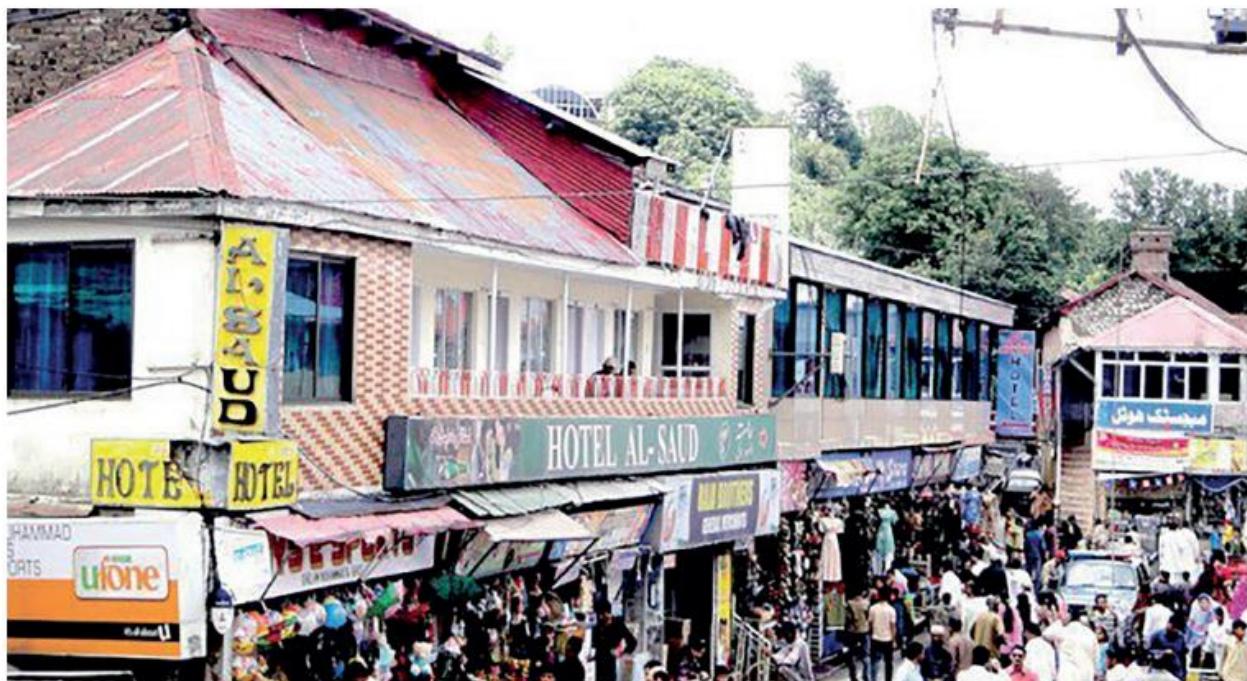
- Tourist and local interaction; creates cultural awareness and understanding (dev);

- Tourism is a sustainable industry; tourist attractions will be maintained / developed (dev);

- Improves literacy; development of language skills interacting with tourists (dev);

(ii) Study Figs. 4.2, 4.3, 4.4, 4.5 and 4.6 , photographs of some natural and cultural attractions of Pakistan. Use the photographs and your own knowledge to suggest how each is a tourist attraction.[5]







Markscheme:

- Fig 4.2: beach for relaxing holidays / sunbathing / water sports / admiring scenic view of ocean from beach / cooling breeze from sea reduces heat / beach cricket or similar activities / riding camels;
 - Fig 4.3: chairlifts (in Murree) for leisure and sightseeing / explore mountains / adventurous activities / photo opportunities / scenic viewing / greenery / admiring the scenic beauty / entertainment and thrills / aerial views;
 - Fig 4.4: shopping / buy souvenirs (in Murree) / honeypot site for tourists / many attractions and amenities / hotels / stay in resort / market / investigating local culture / eating traditional food;
 - Fig 4.5: experience mountains (in northern regions) / adventure tourism / mountain climbing / hiking / skiing / trekking / snowboarding;
 - Fig 4.6: historic buildings / view architecture / to sample history / investigate culture / study traditions / sightseeing / historical sites / spiritual visit.
- (d) Tourism is an important and growing activity in Pakistan contributing 7.4 per cent to Gross Domestic Product in 2017.

To what extent is further development of Pakistan's tourism industry possible? Give reasons to support your judgement. You should support different points of view in your answer.[6]

Markscheme:

Possibilities

- Many impressive attractions natural / cultural / historic that could be further developed for tourism / named area, e.g. 1500 km coastline with

beaches in southern Pakistan;

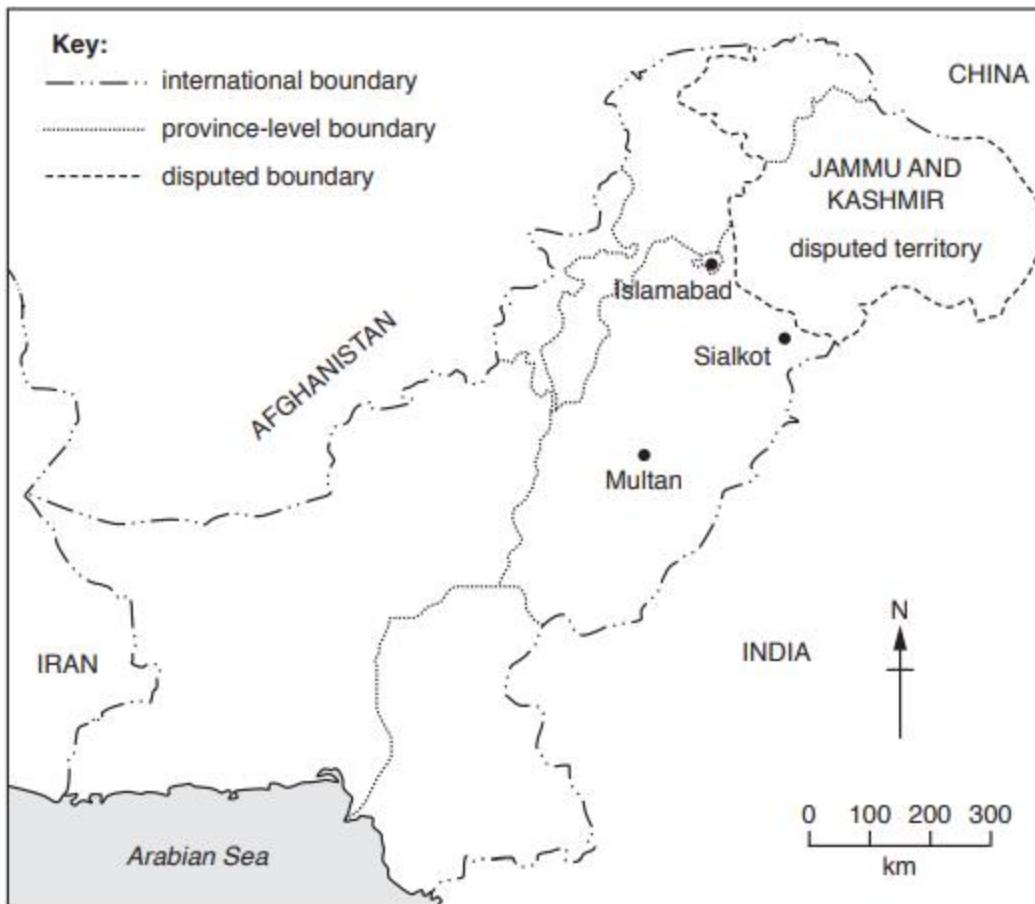
- Increased marketing and promotion of attractions using social media / TV; development of clear brand for Pakistan;
- The role of the Pakistan Tourist Development Board in promoting tourism;
- Recent additions to infrastructure that help; airports / helicopter services / roads, etc.;
- Improved tourist activities / services; named hotels / packages;
- Emerging middle class with time / money to go on holiday;
- Visa on arrival available to 24 countries;
- Greater expertise in hospitality / management of tourist facilities / training for staff;
- Careful management of attractions would preserve and enhance cultural / natural tourist sites.

Difficulties

- Cost of developing a tourist infrastructure;
- Focus is on the development of other industries;
- Current infrastructure; power, sewage facilities can slow the rate of development;
- Access to sites restricted by transport network; road / rail / air;
- Attracting investment;
- Security in some tourist areas;
- Some accommodation and services below international standards;
- Some tourist sites have been mismanaged causing soil degradation, etc.;
- Risk of natural disasters in tourist regions; flash flooding / landslides / earthquakes.

[October / November 2019]

(a) (i) Study Fig., a map showing the location of Sialkot, a place where sports goods are manufactured in Pakistan.



Using the information in Fig. only, describe the location of Sialkot.[3]

Markscheme:

- North / north eastern / eastern part of Pakistan;
- Distance from named city / Multan / Islamabad;
- Direction from named city / north-east of Multan / south-east of Islamabad;
- Close / near to border of Jammu and Kashmir / south-west of Jammu and Kashmir;
- West of India / near border with India / border city;
- Direction from named country or area / east of Afghanistan / north-east of Iran / south-west of China / south-west of Jammu and Kashmir;
- In the same province as Multan.

(ii) State two raw materials that the sports goods industry uses.[2]

Markscheme:

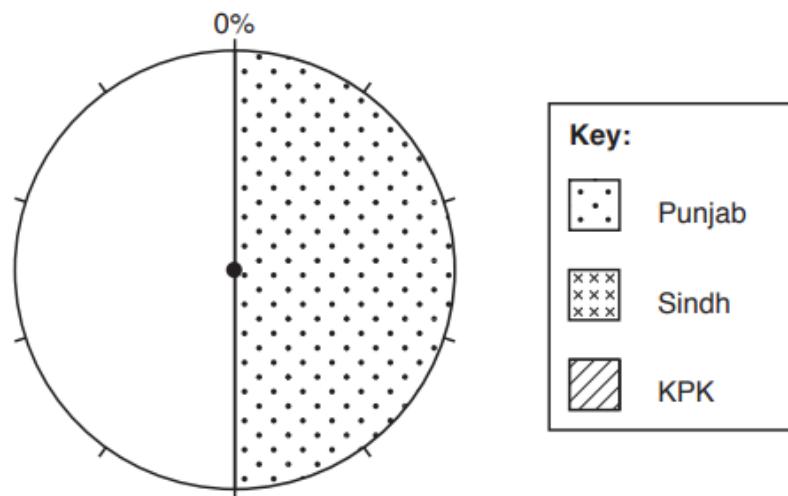
- Rubber
- Wood / wood pulp
- Stitching thread / cotton
- Leather
- Water
- (Linseed) oil / varnish

(iii) Describe how the sports goods industry operates in Pakistan.[3]

Markscheme:

- In small workshops / within household / small scale industry / in cottages / primitive conditions;
- Uses predominantly manual labour / by hand / hand tools;
- Processes, e.g. cutting, sewing, stitching, shaping;
- The final stages are done in factories;
- There are aspects of both formal and informal sectors;
- Mostly work is conducted by unskilled / child labourers;
- Goods are manufactured to international standards / high quality / for export;
- All stages are supervised for quality control.

(b) (i) Study Fig. , which shows the percentage of sugar mills in Pakistan by province.



Complete the pie chart to show the percentage of sugar mills in Sindh and Khyber Pakhtunkhwa (KPK), using the following information and the key provided:

province	percentage (%)
Sindh	40%
KPK	10%

[2]

Markscheme:

- completion of pie chart
- correct shading

(ii) State one reason why there are no sugar mills in Balochistan.[1]

Markscheme:

- There is no sugar cane grown in Balochistan;
- Sugar mills have to be located near the sugar cane fields and there are none in Balochistan;
- Sugar cane starts to lose its sugar content as soon as it is harvested / it needs to be crushed immediately;
- Too far to transport sugar cane from Balochistan to the nearest sugar mill;
- Sugar cane is bulky and heavy so it is expensive to transport.

(iii) Name one by-product of the sugar industry and state what it is used for.[2]

Markscheme:

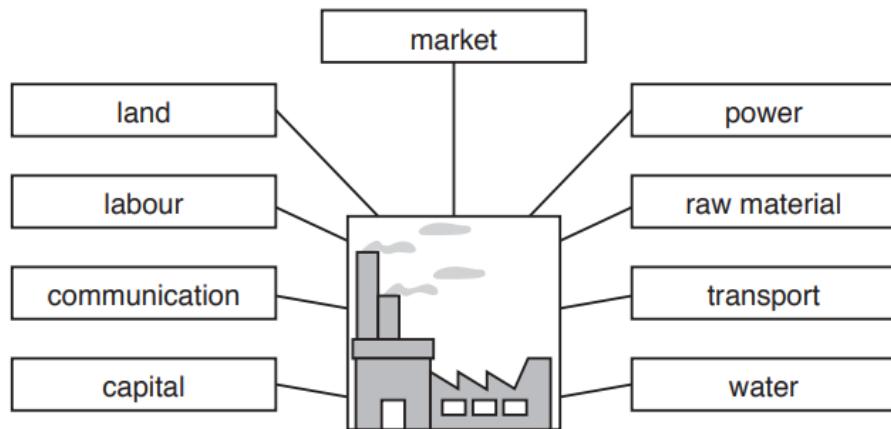
By-product

- Bagasse
- Molasses

Use

- Bagasse: as a fuel in sugar mills / to make chipboard / to make paper / to make animal feed.
- Molasses: to manufacture various acids, e.g. citric acid / in the chemical industry / to make cattle feed / to make yeast / as fuel (in sugar factories) / used in manufacture of synthetic rubber.

(c) (i) Study Fig. 3.3 which is a diagram of the factors affecting industrial location.



Choose one physical and one human factor and explain how each influences the choice of location for a steel mill. You should develop your answer.[4]

Markscheme:

Physical factors

- Raw material; heavy and bulky to transport / so factory would be best located close to the source of the raw material in order to reduce cost of transportation (dev);
- Water; a large quantity of water is needed in steel manufacture / so the factory would be sited near to a large source of water e.g. a river or lake (dev);
- Land; flat land is required; as it is easier to build on (dev) / unused land is preferred as money does not have to be spent cleaning up the land first (dev) / large area of land so there is room for expansion and storage if needed in the future (dev); cheap land / so that it is affordable for businesses and loans do not have to be taken out (dev).

Human factors

- Power; situated near to a thermal or nuclear power station / is preferred so that energy supplies will be uninterrupted (dev);
- Labour; skilled and unskilled labour is required so located near to a large town or city / so that labour can access the factory (dev);
- Market; located to large towns and cities / railways / ports / so that the products can easily be transported for sale or export (dev);
- Communication; near to motorways / railways and / or good IT infrastructure / so that goods can be transported efficiently and deals can be made within Pakistan or beyond (dev);

- Transport; near to main road and rail network and ports for the movement of raw material in / finished products out / and for workers / large and bulky raw material needs to be near factory (dev);
- Capital; tax breaks, loans, incentives, (dev) etc.

(ii) Classify the following products into the correct category in the table below. You need to decide if each product is mainly for the domestic market or the export market.

Domestic market	Export market

Choose from:

Cement	cotton	fertilisers
sports goods	steel	surgical instruments [2]

Markscheme:

Domestic market: cement / steel / fertilisers

Export market: cotton / sports goods / surgical instruments

(d) There is a large domestic market in Pakistan but consumers sometimes choose imported goods over home-produced goods.

To what extent could demand for home-produced goods be increased? Give reasons to support your judgement and refer to examples that you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Possibilities

- Introduce training programmes;
- Advertising to entice local markets to buy locally produced products;
- Reducing manufacturing costs;
- Improving productivity;
- Buy local initiatives or examples;
- Improving the standard / quality of locally produced goods to meet international standards;
- Incentives for buying local, e.g. creation of more jobs;
- Helps reduce impact on climate change by reducing CO₂ emissions; from transport costs / benefits to the environment promoted;
- Make it more difficult to import goods / increase tariffs / duties;

Etc.

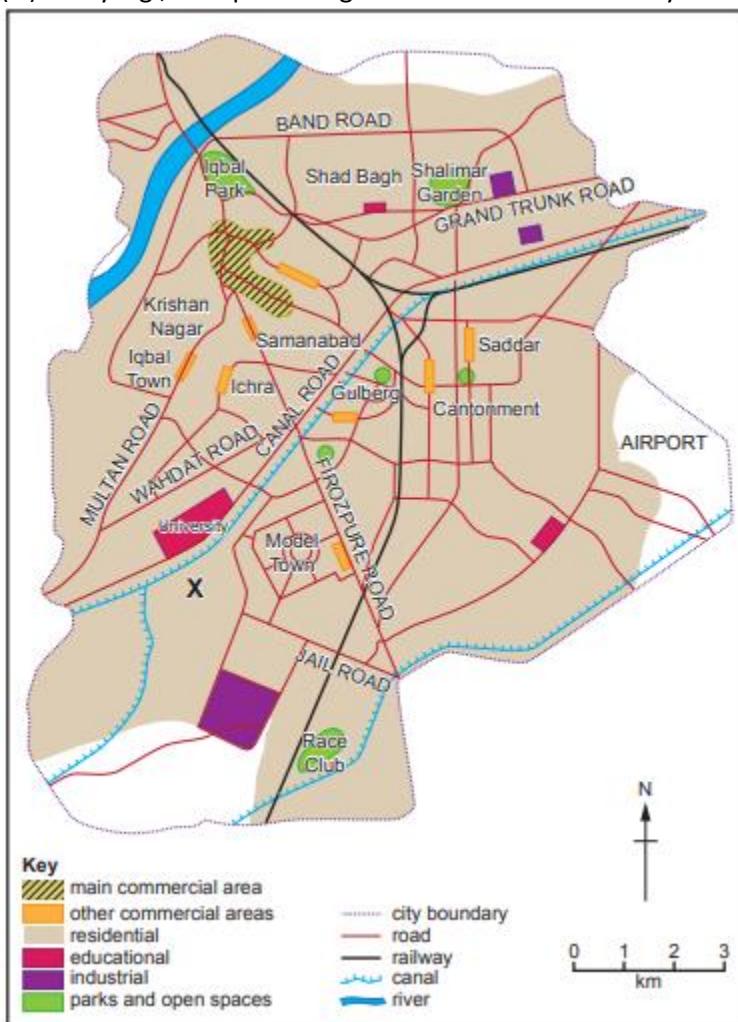
Difficulties

- Advertising / promotion / branding of imported goods;
- Costs / cheaper to buy imported goods;
- Quality of local goods;
- Skills availability for producing quality goods;
- Funding to develop industries / manufacturing;
- Technical knowledge / skills;
- Energy crisis;

- Economic constraints;
 - Availability of modern technology;
 - New competitors, e.g. Bangladesh / Vietnam / Turkey;
 - Low foreign investment in consumer goods;
 - Restricted market, e.g. international standards applied to products;
- Etc.

[May/June 2020]

(iii) Study Fig., a map showing the location of a university in Lahore.



Using Fig. only, describe the location of this university. [3]

Markscheme:

Ideas such as:

In the south west of the city;

South of river;

On/along main road/railway;

Direction from any named feature/location within the map boundary;

Distance from any named feature/location within the map boundary.

(iv) Suggest two factors that may affect access to university education in Pakistan.[2]

Markscheme:

Ideas such as:

Some cannot gain basic education/entry qualifications;
Cost/fees are too expensive;
Many in rural areas cannot access higher education;
More university places are needed;
People are needed to care for family members;
People are needed to work in the family business/earn money for the family;
etc.

(b) (i) Define 'small-scale' industry.

Markscheme:

Has assets less than Rs 10 million (excluding loan, land and building);
Up to 10 hired labour can be employed in addition to family labour.

(c) State two strategies used by governing authorities to promote industrial growth in Pakistan.[2]

Markscheme:

Ideas such as:
Development of export processing zones;
Restrictions on exports;
Development Trade Development Authority of Pakistan (TDAP);
Developing named infrastructure - roads/railways/airports/ports);
Developing telecommunications/named examples;
Training and education;
Advertising nationally and/or internationally;
Providing incentives for new businesses/named examples; etc.

[May/June 2021]

(ii) Explain two human factors influencing the location of a cement factory.

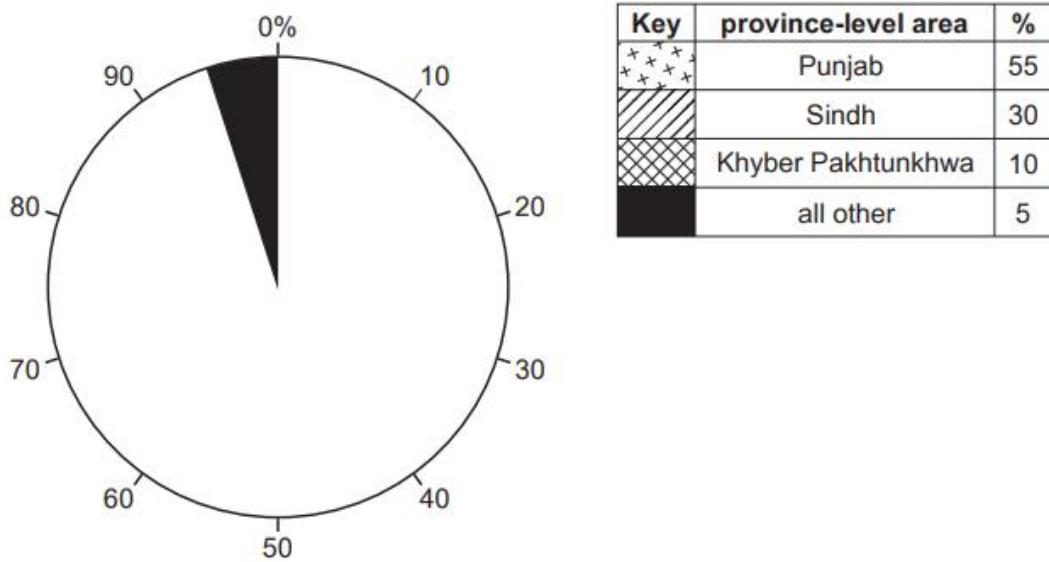
You should develop your answer.[4]

Markscheme:

- availability of natural gas/gas pipeline; used as a cheap fuel/to keep costs down;
- close to markets/demand from within Pakistan; high demand from construction industry;
- demand for export markets; to improve balance of payments;
- large workforce nearby; to fulfil both skilled and non-skilled jobs;
- transport/accessible to motorways/main roads/railways; for ease of transporting in raw materials/exporting finished products to where needed;
- loans/investment to set up the factory;
- near to raw materials/limestone;

Etc.

(a) (i) Study Fig. , a pie chart showing the percentage share of Pakistan's fertiliser production by province-level area.



Complete Fig. using the information in the key. [3]

Markscheme:

- each correct division to create pie segment = 1 mark – max 2 marks;
- correct use of key = 1 mark.

(ii) Define 'secondary industry'[1]

Markscheme:

Changes raw material into a finished product/uses raw materials to manufacture products.

(b) (i) Name two raw materials needed to manufacture fertiliser.[2]

Markscheme:

- gypsum;
- hydrogen;
- natural gas;
- nitrogen;
- phosphate/phosphorous;
- potash rock;
- potassium;
- sulphur;
- water

(ii) Study Fig. , a photograph of a fertiliser factory in Pakistan.

Describe two features of the factory shown.[2]



Markscheme:

- tall towers/chimneys/many towers;
- square/rectangular buildings;
- white/silver/grey/yellow/gold buildings;
- hardly any windows;
- cranes;
- large area of flat land/space/large factory;
- multi storey/double storey;
- pipes/pipelines;

Etc.

(iii) Describe the physical factors required for the location of a fertiliser factory.[4]

Markscheme:

- availability of flat land (to build on);
- large area of land/room to expand;
- away from environmentally sensitive areas (to limit environmental impact);
- near to a water source;
- close to raw materials/raw materials available nearby;
- stable land/not prone to earthquakes;
- well drained land/not liable to flood;

Etc.

(c) (i) State three ways in which the fertiliser industry is important to Pakistan.[3]

Markscheme:

- to increase agricultural output/healthy crop growth;
- reduce imports/as an export to bring in revenue;
- to provide employment opportunities;
- to make use of Pakistan's mineral resources;
- to develop the formal sector;
- soil is nitrate deficient;

Etc.

(ii) Explain two negative impacts of using fertilisers and pesticides in Pakistan. You should develop your answer.[4]

Markscheme:

- chemicals drain into rivers; causing eutrophication/pollutes water/growth of algae/reduced oxygen/fish die;
- increased toxicity in rivers/pollutes rivers; threat to livestock/human health;
- can weaken the human immune system; increased risk of diseases/gastro-intestinal disease/tuberculosis;
- damage ecosystems; break down food-chains;
- loss of/destruction of habitats/harmful to animals; animals move away or die out;

Etc.

(d) Pakistan's agricultural sector is becoming increasingly dependent on fertiliser. Read the following two views about ways of meeting the demand for fertiliser.

A

Additional research and use of technology in Pakistan's fertiliser industry is the best way of providing more fertiliser for agricultural use.

B

Increasing imports of fertiliser is the best way of providing more fertiliser for agricultural use in Pakistan.

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 and View B in your answer.[6]

Markscheme:

Agree with View A because:

- Pakistan is an agro-based country and should improve technology further to keep a-pace with demand;
- if Pakistan is self-sufficient in the production of fertilisers it will reduce imports and help with the balance of payments;
- Pakistan has plenty of raw materials required to produce enough fertilisers so should increase the number of factories; improved technology will save money and create skilled jobs;
- increased demand can be met internally;

Etc.

Disagree with View B because:

- the cost of imports will burden the economy;
- reliance on other countries for fertiliser means that this could lead to the price of fertiliser rising;
- if relations between the trading country/partner breaks down then Pakistan might experience a fertiliser shortage which could damage agricultural production;
- prices will fluctuate;

Etc.

Agree with View B:

- it may be more financially viable to invest in other industries that would provide a higher return (and/or named examples);
- it is cheaper to import fertilisers than produce them;
- extracting the minerals to produce the fertilisers is environmentally damaging;
- more organic farming should be introduced rather than relying on chemicals as less environmental pollution will be caused and it is healthier for the livestock and people;
- demand for fertiliser is always higher than the amount produced;

Etc.

Disagree with View A:

- there may not be capacity of skilled and professional people/scientists to do this/ may be needed to work in other industries;
- Pakistan should invest in other high value businesses rather than the fertiliser industry to gain higher income from trade;
- should move towards manufacturing and services rather than relying on being agro-based economically/socially;
- the cost of research would be higher compared to imports;

Etc.

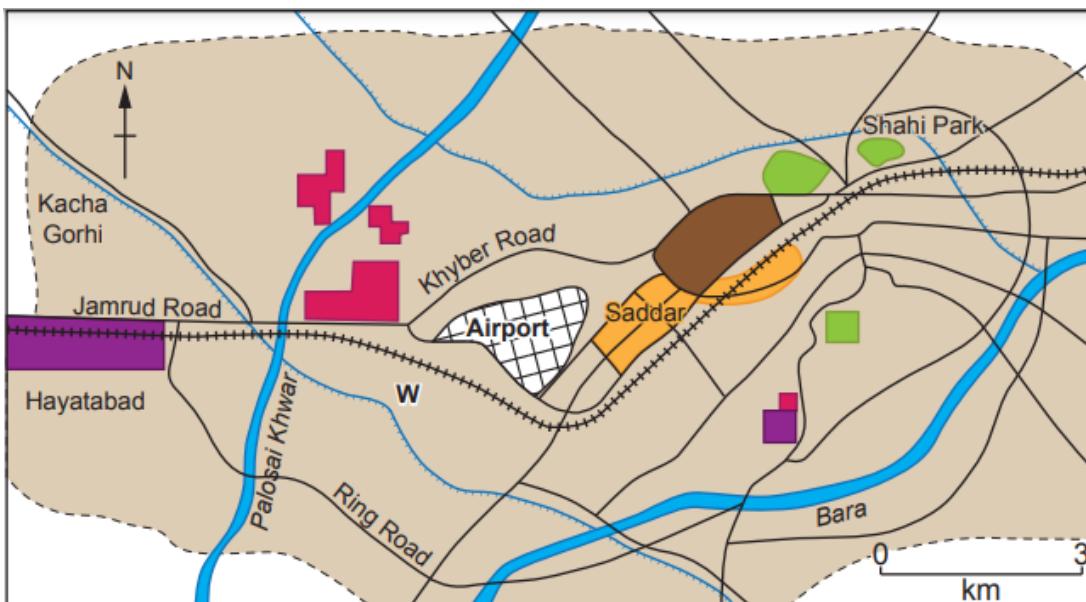
[May/June 2022]

(b) (i) Describe two features of large-scale industry.[2]

Markscheme:

- requires a large area of land
- in factories/warehouses/large storage facilities
- capital intensive/large investment
- convert raw materials into (manufactured) goods
- uses automation/machinery/modern technology
- meets international standards/standardised goods/quality controlled
- mass production/high output/in bulk/economies of scale
- high(er) output per worker/employee
- can be a multi-national company
- large number of employees/100+
- registered/formal industry/regular wages/ contribute to taxes
- health & safety/regulations

(ii) Using Fig. and your own knowledge, suggest two advantages of locating a new large-scale industry at W.[4]



Key

main commercial area (city centre)	orange
administrative	brown
residential	tan
universities	pink
industrial	purple
parks and open space	green
airport	grid pattern
city boundary	dashed line
road	solid line
railway	dotted line
canal	dashed line
river	blue line

Markscheme:

- in large settlement/city; nearby source of workers/utilities example electricity/water
- river/canal nearby; for a constant water supply
- in residential area; will offer employment opportunities to local people/not far for workers to travel
- close to industrial area; for links to similar industries/agglomeration/links to suppliers/to save transport costs
- close to commercial area; for banking/retail/customers/marketing or promotion
- close to university; for high skilled labour/for links to research/which will be attractive for investors
- close to rail/roads/canal/river/airport; for imports/exports/to take heavy goods to ports/to take perishable goods by air/for senior staff to travel to meetings
- close to parks; good living area attracts high skilled workers

(c) Explain how large-scale industries can increase economic development in Pakistan. You should develop your answer. [4]

Markscheme:

- provides jobs/employment/reduces unemployment; provides a regular

- income for families/higher wages/more people earning/paying taxes
- agglomeration/multiplier effect/encourage further growth/improve the area; e.g. steel production provides materials for other industries/attracts new investment
- more output/goods will be produced; which means Pakistan has more to trade/export/sell/can reduce imports
- produce high value/manufactured goods; which have demand in other countries/can increase foreign exchange/can improve the balance of payments
- increase in/large amount of exports; reduces need for imports/which will improve the balance of trade/increase GDP
- will provide training and skills; trained workforce will have transferable skills/generate more employment opportunities
- will require new roads/reliable power supply; this will benefit other local industries as they can use them too
- standardised products; meets international standards for improved trade/more trading partners

[October/November 2022]

(a) (i) What is meant by the term 'tertiary occupation'? [1]

Markscheme:

A job providing a service/working in the service sector.

(ii) Name two examples of a tertiary occupation. [2]

Markscheme:

- tourism examples: waiter/tour guide, etc.
- retail examples: shop worker/cashier/sales person, etc.
- office work examples: computer operator/telephone operator, etc.
- transport work examples: train driver/pilot, etc.
- public sector examples: teacher/ civil servant, etc.
- health care work examples: nurse/doctor, etc.

(iii) State two advantages and two disadvantages of the informal sector to the tourist industry in Pakistan. [4]

Markscheme:

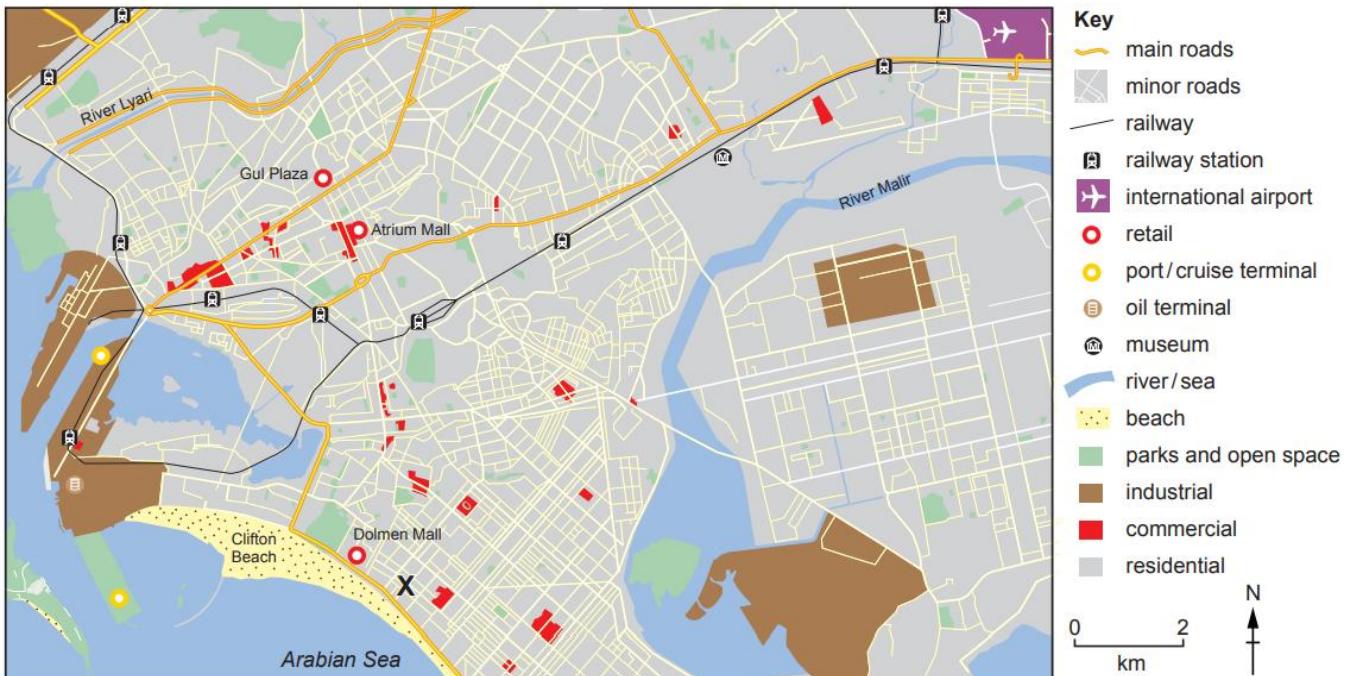
Advantages:

- self-employed
- can employ people temporarily/seasonal/zero-hour contracts
- aren't required to pay taxes/sick pay/not legal or registered
- can pay low wages
- low skilled/manual work (so easy to find workers)
- work long hours/shifts/can choose own hours

Disadvantages:

- no contracts/workers can leave without notice/unreliable workers, e.g. irregular hours
- possibility of high turnover of staff/workers may be difficult to manage
- may have to recruit/train people quite frequently

- workers may lack skills required/unqualified
 - poor relations with customers/could put customers off
 - unprofessional image created
 - some areas of the informal sector use child labour
- (b) (i) Study Fig. , a map showing part of the urban area of Karachi.



Using evidence from Fig. only, suggest why X is a good location for a hotel.[3]

Markscheme:

- proximity to rail/airport/port/cruise terminal for access/transport
- on/near main road for transport links to all major parts of the city
- close by to commercial area/mall for shopping/leisure
- (Clifton) beach/Arabian Sea nearby for relaxing/swimming/for sea view
- close to a large park for leisure
- in/surrounded by residential area/far from industrial areas for holiday makers/tourists/for quiet
- near to commercial/industrial areas for people on business trips

(ii) Study Fig. , a photograph of an area near Karachi used by tourists.



Using Fig. only, state two natural attractions of the area shown.[2]

Markscheme:

- beach/sand/sandy
- wide/flat land/coastline
- sea/water/waves
- (steep) cliffs/rocky/rocks
- clear blue sky/sunshine

(iii) Suggest how tourists may use the area shown in Fig.[3]

Markscheme:

- relaxing/sunbathing/beach games/picnics
- photography/bird watching/scenic views
- swimming/watersports/surfing
- fishing/boating
- rock climbing/hang gliding/abseiling
- walking/hiking
- to cool down in summer/cooling breezes/visit cooler area/to get fresh air

(c) Explain two approaches used by governing authorities to promote industrial growth in Pakistan. You should develop your answer.[4]

Markscheme:

- Pakistan industrial development corporation (PIDC); to invest in (large scale) industries, e.g. textiles/cement, these were transferred to private sector once set up
- nationalisation of industries; stimulated industrial activity/particularly such as iron and steel/power generation/to encourage linked industries

- privatisation of state-owned enterprises promoted; follows global trend/creates opportunities for the private sector/allows expansion/modernisation/improves productivity and profitability/reduces the burden on government economic resources/achieve more rapid industrialisation
 - incentives/subsidies/loans offered to industries/or named examples; stimulates investment in Pakistan
 - tariffs on imported goods; encourages domestic production/people to buy locally produced goods
 - the China/Pakistan Economic Corridor (CPEC); encourages industrial growth in both countries/China invests in industry/power/transport in Pakistan/providing jobs
 - industrial estates/Special Economic/Export Processing/Special Industrial/ TDAP Zones established; relaxed planning permission/have tax exemptions/reductions to encourage investors, e.g. no import duty on machinery
 - marketing of industries/industrial areas; e.g. TV/ brochures/internet/to raise awareness of government support/locations available for new industry/tourism
 - policies to encourage development in regions/rural areas/outside of big cities; to promote industry in less developed areas
 - transport infrastructure/railways/ports built; imports/exports/transport of goods are easier/tourism
 - education and training/encouraging research and development; to provide a skilled work force/to improve industrial standards/develop better quality products
- (d) Read the following two views about ways industry could encourage further economic growth in Pakistan:

A

B

Pakistan could develop more large-scale manufacturing industries to increase GDP.

Pakistan could develop tourism further to increase GDP.

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 and view B in your answer.[6]

Markscheme:

A: for developing manufacturing:

- will utilise Pakistan's own raw materials
- provide a range of employment opportunities both skilled and unskilled
- provide goods for both domestic and international markets
- improve trade/balance of trade

- promotes standardisation of products
- manufactured products are high in value and will bring in more profit than primary products

A: against developing manufacturing:

- international markets are competitive, e.g. goods from China available at lower costs
- a high level of investment is required to develop new manufacturing industries
- power supply needs to be reliable/manufacturing takes a lot of power
- requires skilled labour
- transport/communications infrastructure would need to be further improved

B: for developing tourism:

- Pakistan has many natural and cultural attractions
- provides a wider range of job opportunities for local people
- improvements to transport and/or services for tourism will benefit local people too
- improve relations/cultural links with other countries
- contributes to Pakistan's global image
- high-end/adventure/mass tourism will bring in large amounts of revenue
- Pakistan Tourism Development Corporation (PTDC) have already done work to promote tourism

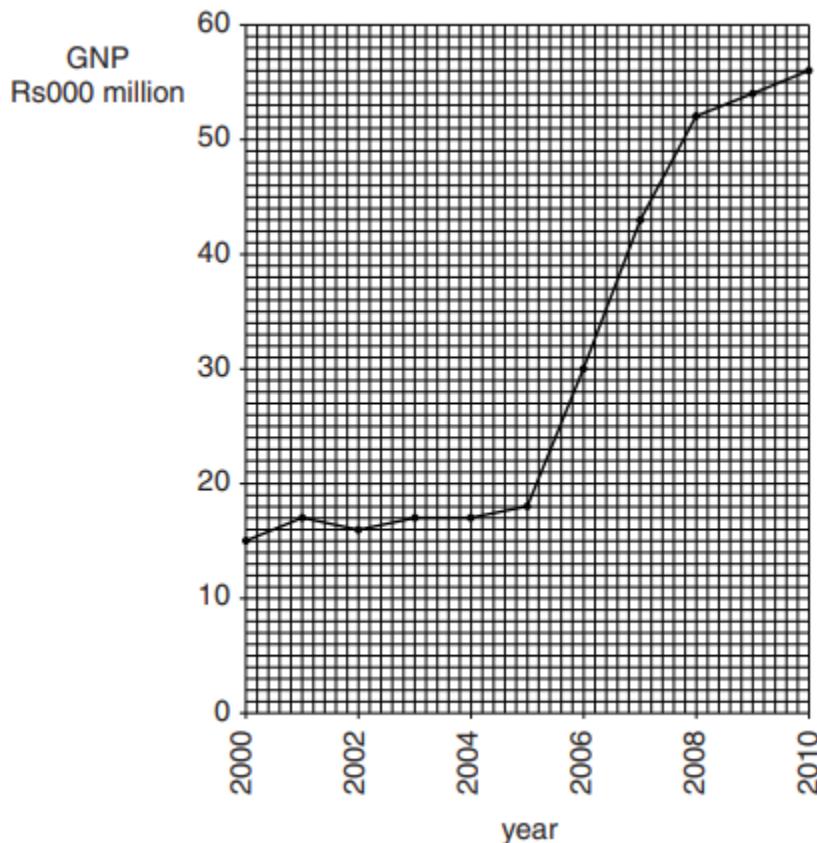
B: against developing tourism:

- tourism tends to be seasonal/no money generated out of season
- transport/communications infrastructure would need to be further improved to meet tourist needs
- accommodation for tourists would require further improvement
- international tourism may lead to dilution of traditional culture

Trade

[May/June 2013]

(b) Study Fig. , which shows the contribution to Gross National Product (GNP) of the fishing industry in Pakistan.



(i) What was the contribution to GNP of the fishing industry in 2010? [1]

Markscheme:

56 million rupees

(ii) By how much has this figure increased since 2006? [1]

Markscheme:

38.5 million rupees

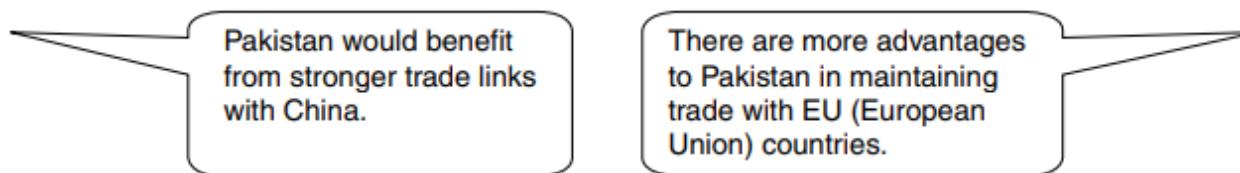
(ii) How useful is the border crossing for trade? Give reasons for your answer. [4]

Markscheme:

<p>* <u>Very useful/great importance</u> Encourages/improves/increases – trade/import/export/foreign exchange E.g. example named export/import Cheaper transport/shorter distance to travel/saves time Improved relations/better relations</p>	<p>* <u>Of very little or limited use/little importance</u> Routes into Iran/Afghanistan are mountainous/deserts Security issues/tensions in FATA areas E.g. Khyber Pass closed Karakoram Highway blocked/closed in winter Due to snow/avalanches/landslides Poor trading relations with India</p>
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(d) There are advantages and disadvantages to Pakistan of trading with different countries or groups of countries.

Read the following two views:



Which view do you agree with more? Give reasons and refer to places or examples you have studied to support your answer. [6]

Markscheme:

China

EU has trade barriers (custom duties and import quotas/tariffs/embargoes) with countries outside the EU

EU may restrict trade (due to poor law and order situation/terrorism/environmental issues/child labour/political instability)

Cottage and small scale industry products may lack international quality standard acceptable to EU

Can avoid reliance/dependence on Western powers

Chinese imports are low-priced (and meet local demand)

China faster growing economy so Pakistan can earn more foreign exchange

Land link with China (Karakoram Highway/Khunjerab Pass)

EU

EU countries politically/economically stable (so fewer changes in market trends)

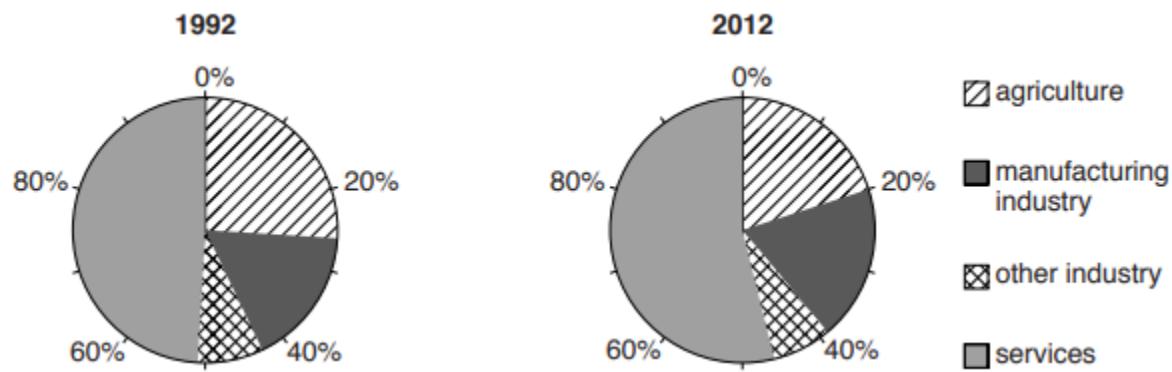
History of stable trade relations with European countries since independence

China likely to manufacture products that Pakistan exports (in greater quantities/at lower prices)

Cheap Chinese imports may threaten domestic industries

Accept converse arguments

(a) Study Fig. , which gives information for the Gross Domestic Product (GDP) of Pakistan in 1992 and 2012.



(i) What is meant by the term Gross Domestic Product (GDP)? [1]

Markscheme:

Annual sum/total value of all output/goods and services produced within a country
Income generated by a country's own workers and resources

ii) A. What percentage of GDP came from services in 2012?

Markscheme:

53–54%

B. What might be included in the category 'other industry'?

Markscheme:

Mining/construction/power/fishing/forestry

C. State whether the share of GDP from the following has increased, decreased, or stayed the same in the period from 1992 to 2012: Agriculture Manufacturing industry [3]

Markscheme:

Agriculture decreased: manufacturing increased

(b) Study Fig. , which shows the value of exports and imports in Pakistan in 2011.

Category	Exports (US\$ million)	Imports (US\$ million)
Animals and animal products	560	–
Vegetable products	3940	1460
Edible fats and oils	–	2590
Prepared foodstuffs	560	540
Mineral products	690	6030
Chemicals, incl. fertilisers	370	5050
Leather	680	–
Textiles and textile products	13490	2870
Metals	960	2290
Machinery and instruments	640	5130
Vehicles and transport	–	2190
Other	1460	3490
TOTAL	23350	31 640

(i) Name a textile product exported by Pakistan. [1]

Markscheme:

Garments/bed linen/cotton cloth/cotton yarn/carpets/rugs/suits/towels/fabrics Use list rule

(ii) How much greater is the total value of all imports than the total value of all exports? [1]

Markscheme:

8290 US\$

(iii) Use Fig. to describe three differences between goods Pakistan exports and imports. [3]

Markscheme:

Animal products/leather exported but not imported

Edible fats and oils/vehicles and transport imported but not exported

Vegetable products/textiles and textile products (much) more exported than imported

Metals more imported than exported

Mineral products/ chemicals /machinery and instruments much more imported than exported

Value of imported goods more balanced/evenly spread than exported goods

Mainly exports primary goods but mainly imports manufactured goods

(iv) Explain two problems for Pakistan's economy caused by the differences you have described in your answer to part (iii). [4]

Markscheme:

Narrow export base/overdependence on a few export items (so if low production e.g. poor harvests, no surplus/profit)

Main export/import items subject to world price fluctuations/vagaries of commodity market (e.g. oil, cotton, rice) (so some years there may not be a profit/economy goes into

debt/has not surplus)

Exports are largely low value-added products which do not earn a great deal/great deal of foreign exchange [from small and cottage industries] (so other countries benefit more when add value)

Exports are items subject to high competition in the world market (so may not find a market)

Lack of quality control of export items (so may lose orders)

Production of main agricultural export items is subject to variations in weather and effects of pests (e.g. poor cotton crop due to unfavourable weather/virus/lack of rainfall/frost etc.)

Imports are mainly high value-added products and therefore expensive (such as manufactured goods/capital goods/luxury goods)

Food (e.g. wheat) has to be imported that could be grown in Pakistan

Importing consumer good which harms Pakistan industry (named consumer goods/industry)

Value of imports are greater than the value of exports (causing negative balance of payments).

(c) (i) State one main trading partner with Pakistan for each of exports and imports. [2]

Markscheme:

Exports: USA/UAE/Afghanistan/China/UK/Germany/EU

Imports: China/Saudi Arabia/UAE/Kuwait/USA/Japan/EU

(ii) Describe a method of transport that could be used for trade with one of the countries stated in your answer to part (i). Suggest the benefits of using this method of transport. [4]

Markscheme:

- Ship/by sea (1), shorter link to European markets, freight costs low/cheap, modern port facilities especially for containers/bulk cargo/oil, Middle East readily accessible, ports are warm water and open all year
 - Aeroplane/by air (1), effective for low volume/lightweight goods, very quick, useful for perishable/high value goods, e.g. fruits and vegetables Fragile/delicate goods = 0
 - Truck/lorry/by road (1), link to China/Iran/Afghanistan/India, useful for smaller consignments, e.g. electronics/medicinal herbs/Chinese fabrics/decorative items/toys/cotton textiles/dried fruits/hosiery, useful for perishable/high value goods
 - Train/by rail (1), link to Iran, cheaper for long distance, useful for bulky/heavy goods, e.g. food grains/cotton/oil/fertiliser/heavy machinery, effective for low value goods
- (d) 'There are more factors that hinder trade between Pakistan and other countries than factors that help trade.'

To what extent do you agree with this view? Give reasons and use examples you have studied to support your answer. [6]

Markscheme:

Hinder

Lack of security/internal civil and tribal unrest/terrorism

Political instability/inconsistent government policies

Debt/imbalance of trade (leads to need for loans/foreign economic assistance and possible trade embargo if default)

International tension (e.g. with India, historically since partition 1947 and periodically over Kashmir so no significant trade with India has developed).

Mountainous terrain to NW. (Passes to Afghanistan e.g. Khyber, Kurram, and Khojak subject to border tensions, landslides, and avalanches.)

Trade barriers/embargoes from industrialised countries (which express concerns about child labour/health and safety/hygiene/environmental standards such as excessive use of pesticides on cotton).

Membership of regional organisations (e.g. ECO/SAARC/WTO in 2004) (involves removing import tariffs causing inflow of cheap imports)

Devaluing Pakistan rupee (makes imports, which are more than exports, more expensive)

Help

Improvements to transport infrastructure, (e.g. Karakoram Highway/new road Quetta to Chaman, Afghanistan/upgrade to RCD Highway to open a route to Iran and Turkey)

Development of ports (particularly Karachi/Bin Qasim port for containers and bulk cargo/Gwadar port/Makran Coast)

Membership of regional organisations (e.g. ECO/SAARC/WTO in 2004) (in which member countries benefit from access to major world markets)

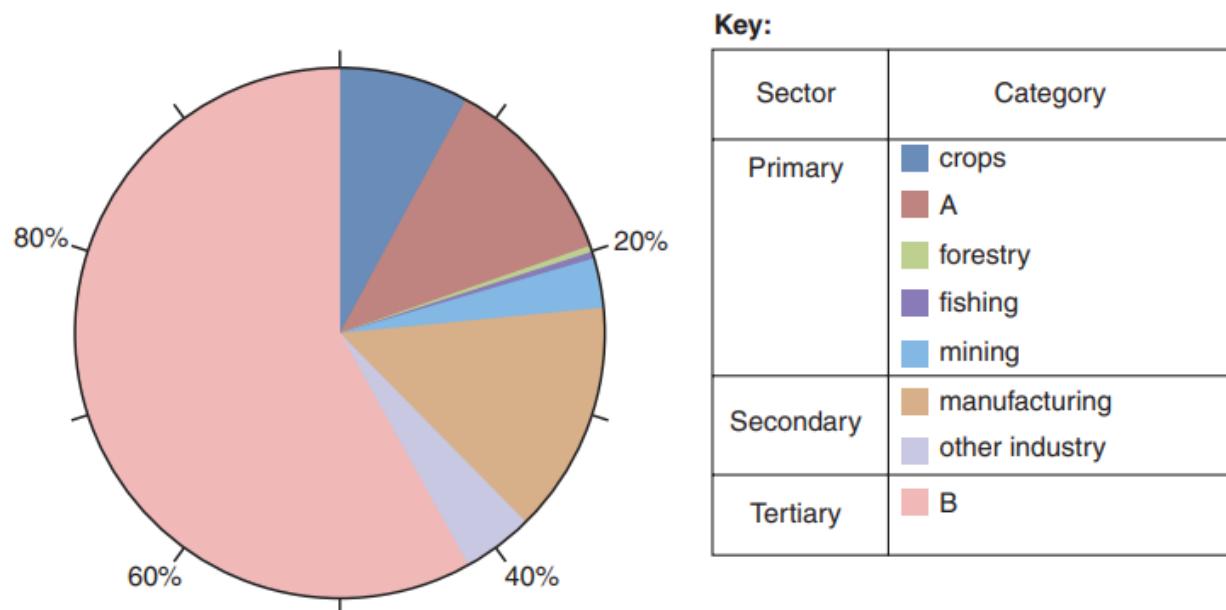
Tax incentives for exporters

Export Promotion Bureau/Trade Development Authority of Pakistan/Export Processing Zones

Devaluing Pakistan rupee (makes exports cheaper)

[May/June 2016]

(b) Study Fig. which gives information about the Gross Domestic Product (GDP) of Pakistan for 2014 by sector.



(i) State what might be in categories A and B in Fig. . [2]

Markscheme:

A: Livestock/named livestock

B: Services /named service/named employment in service industry

(ii) For one sector in Fig. explain how its contribution to GDP could be increased. [2]

Markscheme:

Primary

Improve irrigation to increase area under crops

Develop further modern methods of agriculture e.g.

mechanisation/fertilisers/pesticides/HYVs

Land reforms/consolidation

Government schemes e.g. plant protection programmes / credit/loans to buy farm machinery

More agricultural training college to increase skills

[Foreign] Investment in livestock facilities/husbandry

[Foreign] investment in exploration/extraction of natural resources

Afforestation projects

Modernisation of fishing fleet

Secondary

Expand Industrial Estates/Special Industrial Zones

Government organisations to promote small scale/cottage industries / loans to small industry owners / technical service/development centres

Attract foreign/private investment for business start-ups

Promote training courses in business/technology

Introduce hi-tech/modern machinery

Higher quality control of finished goods

Tertiary

Improve security to attract tourists

Develop telecommunication network

More publicity/marketing

Government organisations to promote tourism/call centres

Improved IT/business skills training

Setting up schools / colleges / education/training centres / hospitals

(b) (i) What are Export Processing Zones (EPZs)? [1]

Markscheme:

Areas which have government support/are joint ventures with foreign investors/ attract foreign capital for export-orientated manufacturing/assembling industries

(ii) Describe the features of an EPZ. [3]

Markscheme:

Industrial estates

Named e.g. Port Qasim/ Sialkot/ Faisalabad/ Gujranwala/ Risalpur/ Saindak/ Duddar/ Gwadar/Karachi

Exemption of duties on imported raw materials/machinery

Tax holidays/exemptions/subsidies

Export quality control

Provision of named infrastructure e.g. telephone/electricity/water/gas/roads Max 1

Provided with security

Attracts hi-tech development

(c) (i) Name two of Pakistan's main exports. [2]

Linen / textiles / clothing / men's suits / bed linen

Raw cotton / cotton yarn / cotton products

Carpets / tents /rugs

Rice

Refined petroleum / oil

Cement

Leather / leather products / named leather product e.g. shoes

Sports goods

Surgical instruments

Chemicals

(ii) Read the following article:

Pakistan produces many goods that could be exported in greater quantities. For a variety of reasons the amount of exports remains low: in 2013 the value of exports was only 13% of GDP.

Explain why it is difficult for Pakistan to sell more of its goods to other countries.[4]

Markscheme:

Challenging to compete with foreign / larger companies / producers (accept an example, e.g. Egypt – textiles)

Quality of items (lack of access to / high cost of raw materials / machinery)

Child labour causes barriers to trade (e.g. EU)

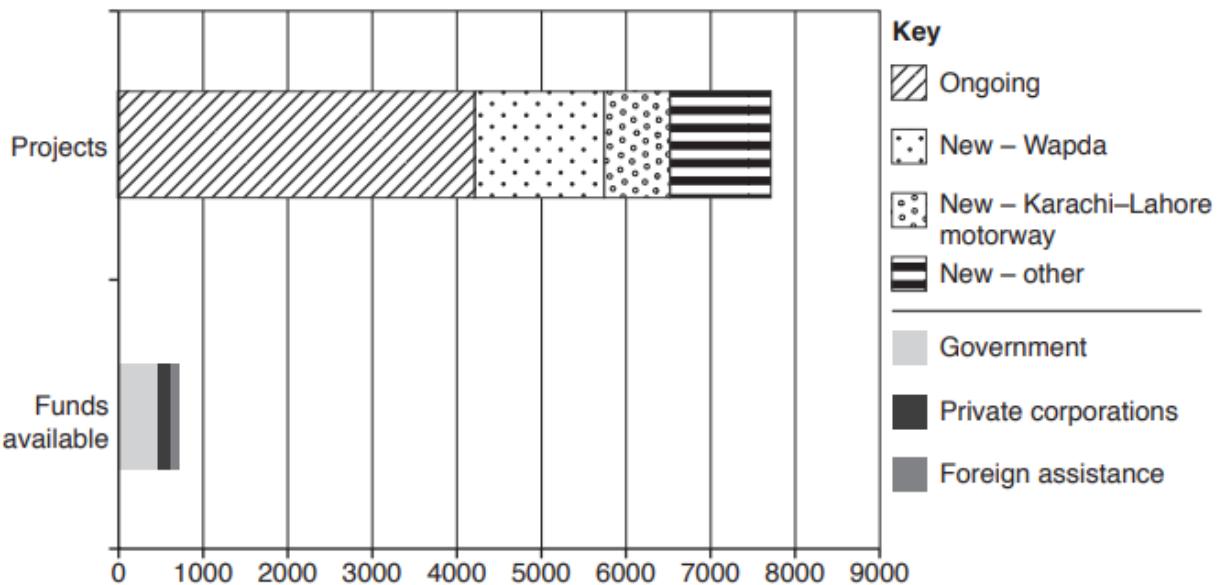
Limited management expertise in the export industry

Other countries have trade barriers / tariffs / quotas / restrictions (to protect their own industries / markets)

Relations with some other countries restricts trade

Pakistan government may have trade barriers with other countries (e.g. China – on cheap imported goods)

(a) (i) Study Fig. which is a bar graph giving information about infrastructure spending in Pakistan for 2014–15.



A What is meant by the term 'infrastructure'? [2]

Markscheme:

Definition: the basic facilities / services / installations / utilities e.g. electricity, water needed for the functioning / operation of a community / society / enterprise / country / area - 1 mark

Example: Roads / rail / ports / airports / electricity / gas / power supplies / sewerage / water / telecommunication / phone lines / internet provision – 1 mark

B Using information from Fig. 8 only, describe problems for infrastructure spending in 2014–15. [3]

Markscheme:

Projects cost much more than funds / money available

Total projects Rs 7700 ± 100 bn, funds available Rs 700 ± 100 bn – lack of funds overall

Source of funds available – government Rs 400 ± 100 bn, private Rs 150 ± 50 bn, foreign assistance Rs 150 ± 50 bn – government has to rely heavily on private / foreign assistance

Large amount / number of ongoing / new projects

Not all projects can be funded successfully – ongoing projects Rs 4200 ± 100 bn / new projects e.g. new Wapda Rs 1500 ± 100 bn, new K-L motorway Rs 800 ± 100 bn, new other Rs 1200 ± 100 bn, new total RS 3500 ± 100 bn

Wapda more expensive than money available / Wapda Rs 1500 ± 100 bn, funds available Rs 700 ± 100 bn

Money available would only pay for Karachi-Lahore motorway / funds available Rs 700 ± 100 bn, K-L motorway Rs 700 ± 100 bn

(ii) Spending on infrastructure projects is lower in some years than others. Suggest reasons why this might be. [3]

Markscheme:

Size of debt / trade / balance of payments deficit
 Limited financial resources / lack of funds available / limited amount of money collected through taxes
 Narrow export base leads to instability in export earnings
 Investment is sometimes difficult
 Spending cuts to balance budget
 No agreements with foreign capital / banks
 Change of government / policies
 Other national priorities / more pressing priorities than development projects
 Funds for natural disaster relief
 No large projects in those years / projects may have been completed / maintenance of existing projects prioritised
 Less financial aid

[May/June 2017]

(a) Study Fig. , which ranks Pakistan's main trading partners for imports and exports in 2013.

Rank	Origin of imports	Rank	Destination of exports
1	UAE	1	USA
2	China	2	China
3	Saudi Arabia	3	Afghanistan
4	Kuwait	4	UAE
5	India	5	Germany
6	Malaysia	6	UK

(i) Name a country which is a main trading partner for both imports and exports. [1]

Markscheme:

China / UAE

(ii) For either imports or exports suggest reasons why the countries listed are important trading partners for Pakistan. [3]

Markscheme:

Imports

- China/India – regional superpower/strong economy/neighbouring country/has land links;
- China/India – source of capital/manufactured goods/ technological goods/import machinery;
- UAE/Kuwait/Saudi Arabia – source of oil;
- Malaysia – source of palm oil;
- India – source of primary commodities, e.g. fruit and vegetables.

Exports

- Any named country – increased sales/markets/market share/enlarge market share;
- China/Afghanistan – neighbouring countries with land links;

- Afghanistan – foodstuffs such as rice, sugar;
- China – to maintain relations/political ties with regional superpower;
- UAE – nearby country via sea/Arabian Sea/Makran Coast;
- USA/Germany/UK – developed economies raw materials, e.g. cotton yarn/woven cloth or manufactured goods, e.g. sports goods, linen, suits.

(c) Pakistan usually has a negative balance of trade.

(i) What is meant by the term 'balance of trade'? [1]

Markscheme:

The difference between the value of goods imported and exported by a country/the value of imports subtracted from exports/the value of exports minus imports.

(ii) What are the reasons for having a negative balance of trade? [3]

Markscheme:

- Value of goods imported is more than the value of goods exported;
- Uncompetitive quality/low quality of exports;
- Unable to fulfil domestic needs of population;
- Import tariffs/quotas in other countries;
- Dependency on import of capital goods/machinery/ oil/high value added goods;
- Dependency on importing/exporting agricultural products/food/named examples;
- Depreciating own currency/rupee against dollar;
- Trade embargoes imposed by other countries.

(iii) Suggest two effects of a negative balance of trade on the national economy [2]

Markscheme:

- Foreign debt;
- Dependence on foreign aid;
- Need to use country's cash reserves/assets/loss of foreign exchange;
- Development projects cancelled/delayed;
- Rise in taxation;
- Strategies to increase exports/high value exports/ Government encourages local industry to export;
- Country's currency depreciates, so imports become expensive.

[October/November 2017]

(b) (i) Name two fuels which are imported in large quantities by Pakistan. [2]

Markscheme:

- [Crude / refined] oil / petroleum;
- Coal [briquettes]

(ii) Explain the disadvantages to Pakistan of importing large amounts of natural resources.

You should develop your answer. [4]

Markscheme:

- Discourages development of Pakistan's own natural resources sector /

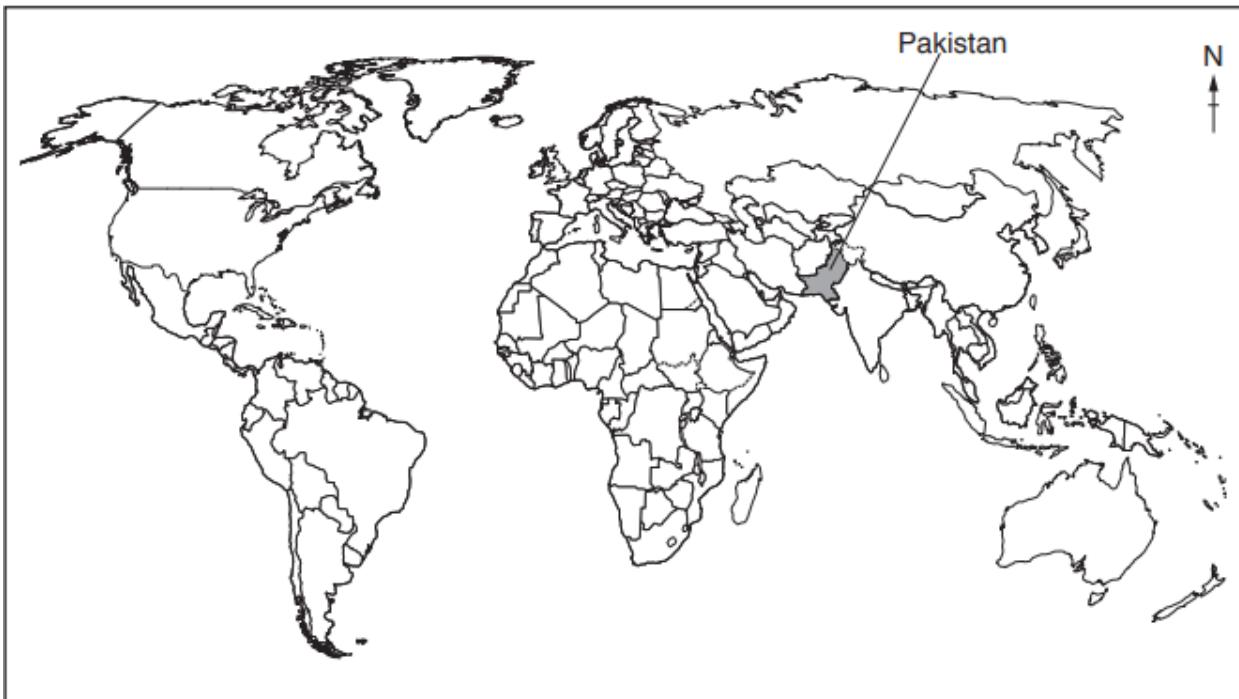
renewable energy sector (creating fewer job opportunities) (preventing growth of national economy);

- Dependent on other countries (which might restrict imports due to trade embargoes / worsening political relations / political instability);
- Dependent on trade in basic commodities (therefore vulnerable to changes / fluctuations in world supply / market prices);
- Limited international transport links for importing minerals (e.g. few road border crossings with Afghanistan / Iran / China / India) (e.g. Karachi Port too congested) (e.g. Gwadar Port not fully developed);
- Air / water pollution from international transport (e.g. oil spillage at Karachi beach).

ETC.

[October / November 2014]

(i) Study Fig. , a world map. Shade and label two countries that are major importers of products from Pakistan. [2]



Markscheme:

Accurate shading and labels for 2 countries.

- Afghanistan
- Australia
- Bangladesh
- Belgium
- Egypt
- Canada
- China / Hong Kong
- Denmark
- France
- Germany
- India
- Japan
- Kenya
- Kuwait
- Malaysia
- Holland
- Poland
- Portugal

- Russia
- South Africa
- South Korea
- Saudi Arabia
- Spain
- Sri Lanka
- Switzerland
- Sweden
- Tanzania
- Turkey
- Thailand
- United Arab Emirates
- United Kingdom
- United States of America
- Yemen

(ii) Name three major products that are imported into Pakistan. [3]

Markscheme:

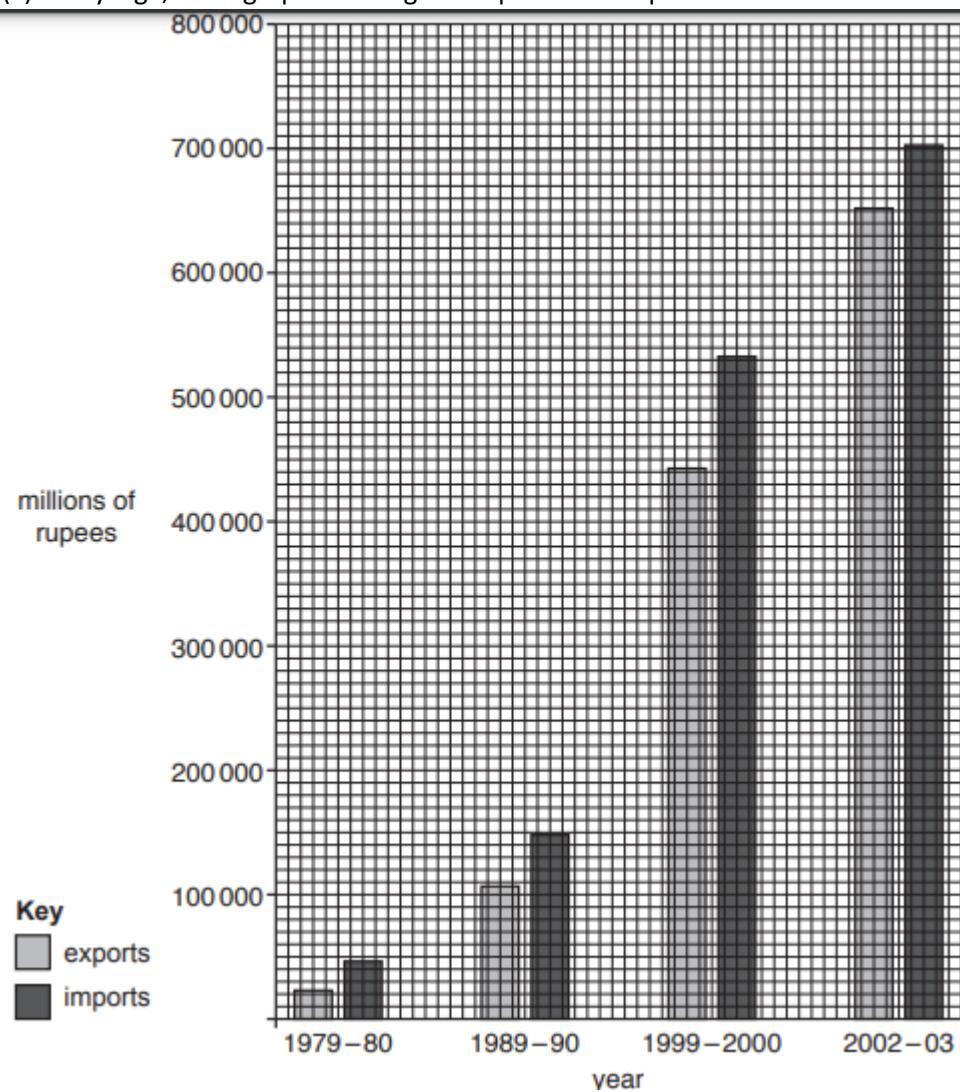
- Machinery / computers
- Electrical appliances / electronics
- Wheat
- Mineral oil / petroleum / crude oil
- Tea
- Oil seeds
- Vegetables
- Vegetable oils / edible oils / animal fats / waxes
- Coal
- Vehicles
- Iron / steel / metals
- Chemicals
- Plastics

(c) (i) Define the term 'trade deficit'. [1]

Markscheme:

Trade deficit is a negative balance of trade where the value of imports exceeds the value of the exports.

(ii) Study Fig. , a bar graph showing the exports and imports of Pakistan in millions of rupees.



A Calculate the trade deficit for 1979–1980. Circle one correct answer below.

+23519

-90114

-23519

+46929

B Identify how the trade deficit has changed from 1979 to 2003. Circle one correct answer below.

increased

stayed the same

decreased [2]

Markscheme:

A :1979–1980: 23 519

B :Increased

(iii) Explain why Pakistan has a trade deficit. You should develop your answer. [4]

Markscheme:

Ideas such as:

- Value of imports is greater than exports (import of higher value goods compared with goods for export which are lower value);
- Export a small variety of goods (e.g. cotton, rice, sports goods, leather)

goods, carpets and rugs);

- Import food items (e.g. not completely self – sufficient in food);
- weather-related points, (e.g. bad storms, heavy rain etc. leading to failed harvests);
- Trade barriers / restrictions on exports (e.g. child labour, environmental and health standards);
- Tough world market competitors / competition (e.g. Pakistan does not belong to major trade organisations, lack of standardisation / quality)
- Limited range of specialist / niche products that other countries need or want (e.g. standardisation / produce cheaper goods / have to import luxury items);
- Instability (deters foreign investment);
- Shortage of skilled / knowledgeable people to manage products;

Etc.

(d) The negative Balance of Payments needs to be corrected in order to ensure future economic growth. Read the following two views about correcting the Balance of Payments in Pakistan:

A

The best way to correct the Balance of Payments is to increase exports.

B

The best way to correct the Balance of Payments is to restrict imports.

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 and View B in your answer.[6]

Markscheme:

To increase exports:

- Exports with higher value-added element encouraged;
- Develop cottage and small-scale industries – especially using local raw materials;
- Increase variety of exports;
- Develop EPZ – export processing zones;
- Reduce taxes on exports;
- Boost industrialisation by developing export agencies e.g. Export Promotion Bureau;
- Strict quality control;

Etc.

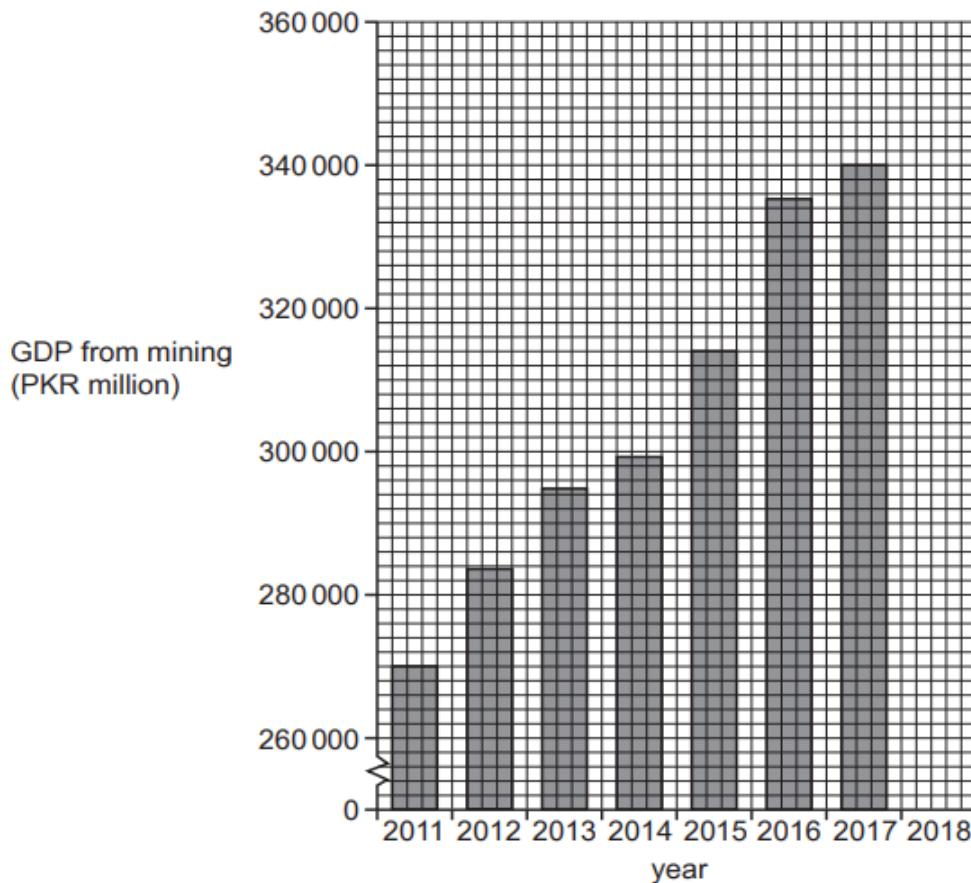
To restrict imports:

- Tertiary sector – less reliance on foreign employees, train Pakistani workers;
- More goods produced in Pakistan – both low and high value goods;
- Less reliance on other countries / use home produced raw materials if possible;
- More food could easily be produced in Pakistan;
- Improves local economy;

Etc.

[May/June 2021]

- (i) Study Fig. , a bar graph showing the amount of GDP Pakistan earned from mining between 2011 and 2018.



Complete Fig. to show that Pakistan earned 345000 PKR million from mining in 2018. [1]

Markscheme:

Accurate completion of the bar graph for 2018.

- (ii) Identify the amount of GDP earned from mining in 2011.[1]

Markscheme:

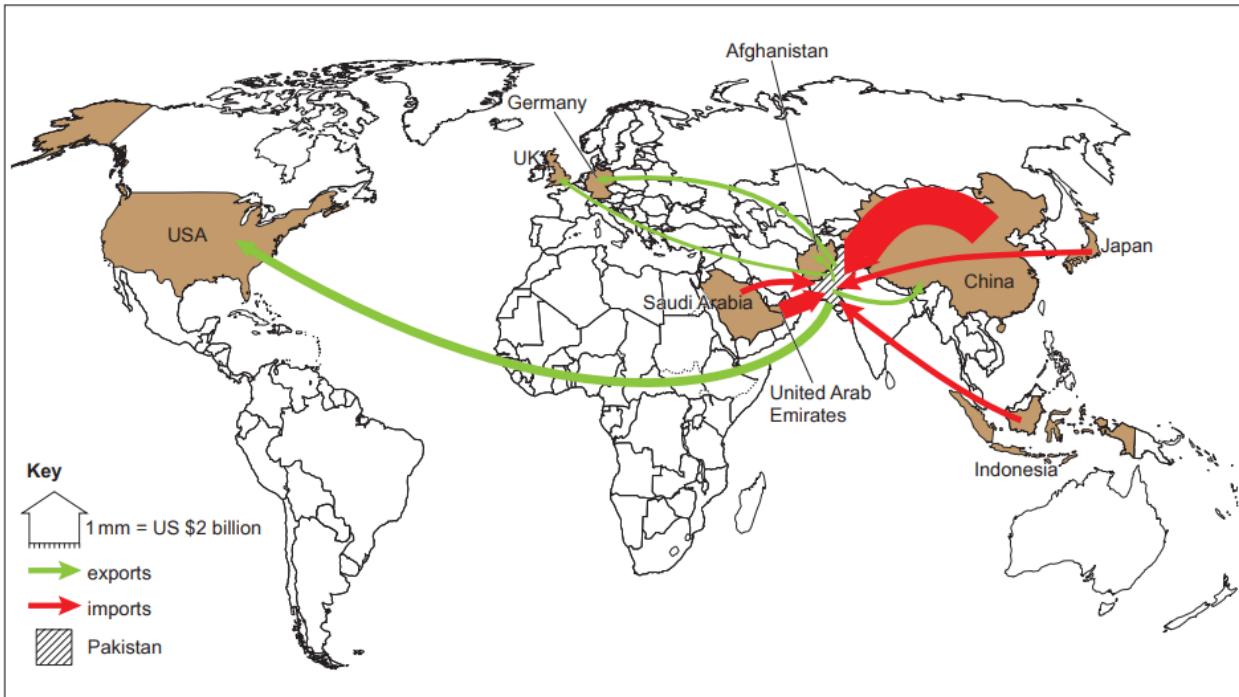
270 000

- (iii) Describe the changes in GDP earned from mining between 2011 and 2018. You should include data in your answer[3]

Markscheme:

- overall increase;
- 2011 lowest (at 270 000 PKR million);
- 2018 highest (at 345 000 PKR million);
- amount of increase 75 000 PKR Million (tolerance to be agreed);
- largest increase between 2015 and 2016 (of 21 000 PKR million).

(a) (i) Study Fig. , a map showing the top five destinations of goods exported and origins of goods imported by Pakistan in 2017.



Using Fig. only, identify the country:

– to which Pakistan exports the highest value of goods

Markscheme:

Exports to = USA

– from which Pakistan imports the highest value of goods

Markscheme:

Imports from = China

– which Pakistan both exports goods to and imports goods from

[3]

Markscheme:

Exports to and imports from = China

(ii) In 2017 Pakistan's total exports were valued at US \$24.8 billion and its imports at US \$55.6 billion.

Calculate Pakistan's trade balance in 2017. Show your working.[2]

Markscheme:

$$24.8 - 55.6 = -30.8 \text{ (billion US \$)}$$

(b) (i) What is the difference between GNP and GDP?[2]

Markscheme:

- GNP is the production by nationals both within and outside Pakistan/ measures the output by Pakistan nationals/companies wherever they are in the world.

- 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.

(ii) State two of Pakistan's main exports and two of its main imports.[4]

Markscheme:

exports:

- miscellaneous textiles/worn clothing;
- cotton (yarn) (medium staple);
- knit or crochet clothing/accessories;
- clothing/accessories (not knit or crochet);
- cereals/rice;
- leather/animal gut articles;
- copper;
- sugar/sugar confectionery;
- mineral fuels including oil;
- beverages/spirits/vinegar;
- salt/sulphur/stone/cement;
- fruit, nuts;
- medical/surgical/optical/technical apparatus;
- sports goods;
- carpets and rugs;

imports:

- mineral fuels including coal/oil/petroleum/oil products;
- machinery/electronics/electrical equipment;
- iron/steel;
- chemicals/chemical products;
- vehicles/cars;
- plastics/plastic articles;
- animal/vegetable fats/oils/waxes;
- oil seeds;
- cotton;
- wheat:

(iii) Describe the changes in the types and value of goods imported and exported by Pakistan in recent years.[4]

Markscheme:

- fewer food products are imported;
- imports of fuel energy are decreasing;
- imports of high value/capital goods has increased (e.g. machinery to manufacture its products);
- imports of consumer goods have decreased (e.g. computers, appliances, clothes);
- exports of low value/primary /agricultural products have decreased;
- exports of high value/manufactured/processed/industrial products have increased;
- exports of value added goods have increased;

(c) Explain how trading blocs and currency exchange rates affect Pakistan's trade. You should

develop your answer.[4]

Markscheme:

trading blocs:

- 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;
 - since 2014 Pakistan has had preferential access for its exports to EU markets; with low or zero tariffs on most goods increasing trade;
 - Pakistan is a member of ECO/ASEAN; but some trade barriers remain;
 - have trade barriers; which hinders trade between non-member states which affects Pakistan if it does not belong to a particular trading bloc;
- Etc.

exchange rates:

- determine the cost of imports and the value of exports; therefore the increase or decrease of the PK Rupee is significant to trade;
- determine the amount of overseas investment; companies/government/people more likely to invest in Pakistan if the exchange rate is favourable;
- 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;
- 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.

Etc.

(d) 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:

A

Pakistan could decrease the amount of cheap goods imported to improve the balance of trade.

B

Pakistan could export goods to a wider number of countries to improve the balance of trade.

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 and View B in your answer. [6]

Markscheme:

agree with View A:

- Pakistan could manufacture many of the products that it imports creating jobs;
- many of the goods imported are not needed but are imported due to an increase in consumerism;

- Pakistan can educate people on the impact of consumerism on the environment;
- 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.

Etc.

disagree with View A:

- Pakistan does not have resources to manufacture goods that it imports;
- 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;
- it may be difficult to support the domestic demand for products that are no longer imported.
- importing cheap goods does not affect the balance of trade significantly;

Etc.

agree with View B:

- Pakistan currently only exports to five main countries;
- increasing the number of countries that Pakistan can export to will mean that Pakistan will increase manufacturing /employment and earn more income;
- Pakistan will be less reliant on a few countries for trade;

Etc.

disagree with View B:

- it may not be possible to make trade agreements with more countries;
- there is a lot of competition for trade;
- trade blocs e.g. EU or individual countries may place tariffs on imports reducing the impact on the balance of trade;
- increasing exports is not the only/best way to improve the balance of trade;

Etc.

Evaluation may argue:

that both ideas are necessary for improving Pakistan's balance of trade.

[October/November 2022]

(b) (i) Define 'balance of trade'.[1]

Markscheme:

The difference between the value of a country's exports and the value of its imports.

value of exports – value of imports

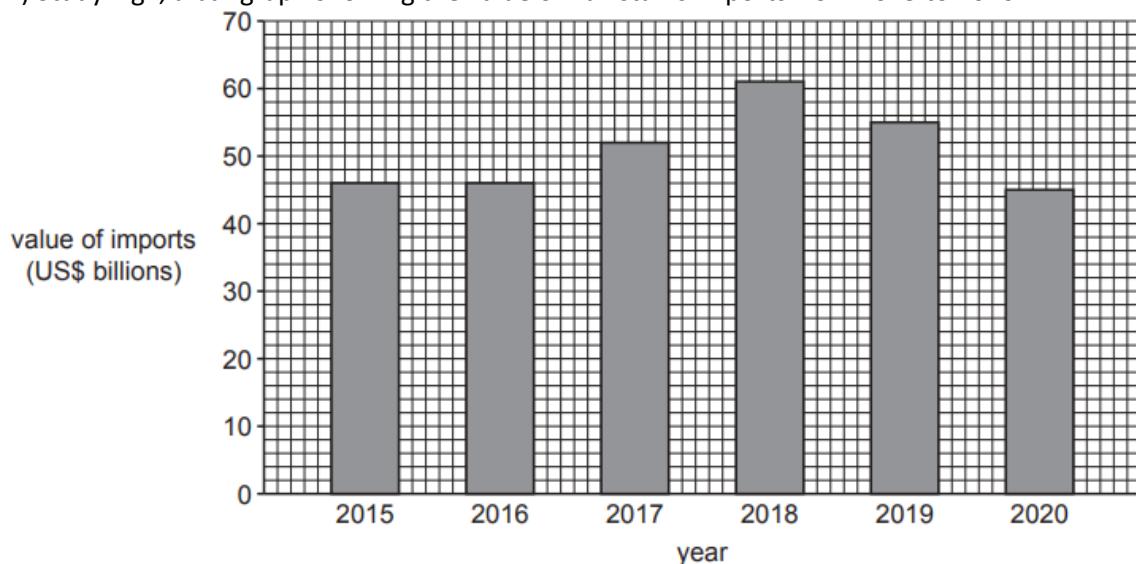
(ii) Name one of Pakistan's main trading partners, and give one example of goods imported from it and one example of goods exported to it.[3]

Markscheme:

main trading partner	goods imported from	goods exported to
UK	iron and steel machinery electrical appliances vehicles	clothing/textiles cereals/fruits/nuts cotton surgical goods
Germany/ named EU countries	machinery pharmaceuticals electrical appliances chemicals	clothing/textiles cotton leather articles surgical goods
USA	cotton iron and steel machinery pharmaceuticals <u>mineral</u> oil/fuel vegetable oil wheat	clothing/textiles cotton leather articles carpets/rugs surgical goods sports goods
named Middle Eastern countries	<u>mineral</u> oil/fuel electrical equipment plastics machinery	meat cereals clothing/textiles spices/rice
China	electrical equipment machinery pharmaceuticals <u>mineral</u> oil/fuel stationary	cotton copper cereals fish cotton yarn

Afghanistan	cotton fruits/nuts/vegetable <u>mineral</u> oils/fuel salt iron and steel plastics	cereals/sugar/flour/rice/ vegetables edible oil salt pharmaceuticals
Japan	electrical appliances vehicles machinery	cotton clothing/textiles fish and fish products
Bangladesh	tea cotton/jute	cement textiles
Indonesia/ Malaysia/Sri Lanka	tea edible oil	textiles clothing

(iii) Study Fig. , a bar graph showing the value of Pakistan's imports from 2015 to 2020.



Using Fig. only:

- What was the value of Pakistan's imports in 2016?

Markscheme:

46 billion dollars

- How has the value of Pakistan's imports changed since 2018? [2]

Markscheme:

decreased/gone down/falling/reduced

(iv) Describe the changes in the types and amounts of goods imported by Pakistan in recent years.[4]

Markscheme:

- imports of primary goods/raw materials have decreased
- imports of food/food products have decreased

- imports of consumer/value added goods have decreased
- imports of raw materials for consumer/value added goods/for manufacturing have increased
- imports of industrial machinery/equipment/high value goods/capital goods have increased
- imports of fuel oils/energy have fluctuated/increased
- imports of raw materials/luxury items/intermediate goods have (recently/2022) been paused/restricted
- imports overall were paused/decreased during COVID-19

(c) Explain two factors which may promote trade with other countries. You should develop your answer.[4]

Markscheme:

- membership of World Trade Organisation (WTO); places Pakistan on world stage/competes with other countries
- establishing/extending trade agreements with trading blocs/ SAARC/EU/CPEC/ECO/ASEAN; allows expansion of markets for exports/imports/allows more foreign exchange
- removing trade barriers; international competition for local industries leads to improved quality goods/efficiency
- competitive exchange rates; determines the cost of imports and exports/impacts on the balance of payments
- developing export processing zones (EPZ); attracts foreign investment/boosts industrialisation/offers incentives, e.g. tax breaks for import
- establishment of the Export Promotion Bureau (replaced by)/Trade Development Authority of Pakistan (TDAP); has an overview of the planning and development of different sectors/marketing of Pakistan through conferences, etc.
- increased mechanisation; faster production times/can sell goods at lower prices
- manufacturing standardised products; meets international quality standards
- developing ports/airports/highways/transport infrastructure; can make more efficient/faster trading routes to other countries/can agree deals to allow (landlocked) countries to trade via Pakistan
- training programmes/educated/skilled workforce; make higher quality products
- constant power supply to industry/no load shedding; products can be made efficiently/to meet deadlines/more reliable production

(d) Evaluate the extent to which Pakistan can increase its trade with other countries. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Pakistan can increase its trade with other countries because:

- Pakistan is already a member of some major trade blocs/named examples

- member of WTO/this aids trade
- already large investments from other countries such as China and UK/other named example countries/projects
- by investing in/training/upskilling workers so quality of products meets international standards
- Pakistan could offer further concessions/incentives to attract investors who manufacture goods for export

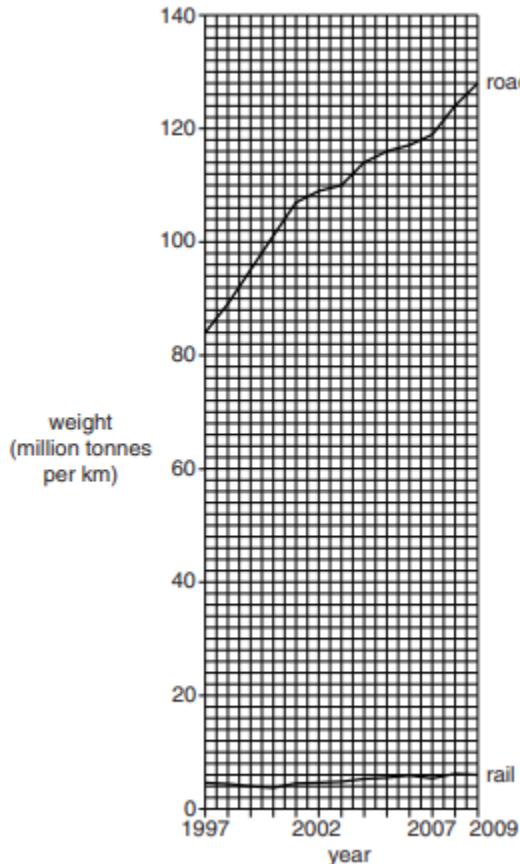
It would be difficult to increase trade with other countries because:

- varying investment in different sectors/regions
- trained/skilled workers required
- trade barriers/import/export tariffs
- connectivity through transport networks requires further improvement, e.g. rail/road/air/ports
- power supply reliability/load shedding restricts production

Transport & Telecommunications

[October/November 2013]

- (a) Study Fig. , a graph showing the weight of goods carried by road and rail transport in Pakistan



- (i) What is the weight of goods carried by road in 2009? [1]

Markscheme:

128 million tonnes per km

- (ii) How much more was carried by road than rail in 2009? [1]

Markscheme:

122 million (tonnes per km)

- (iii) By how much has the weight of goods carried by road increased from 2002 to 2009? [1]

Markscheme:

18–20 million (tonnes per km)

- (b) Why has the use of road transport increased more than rail transport since 2000? [4]

Markscheme:

Roads go everywhere } (Accept converses for these two lines)

Door-to-door }

More roads built

Improved/pucca roads

Motorways/dual carriageways
Little investment in railways
Damaged track
Poor engines/trucks/carriages
Rail suffers delays

[May/June 2014]

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

Markscheme:

Safety / less likely to be damaged / stolen / less risk of accidents Speed
(b) Study Fig. an advertisement for cotton fabric.

COTTON FABRICS INTERNATIONAL



FOR THE BEST QUALITY COTTON

Look at the huge range of cotton cloth on our website

www.cottonfabricsinternational.com

Contact Cotton Fabrics International, Faisalabad, Pakistan

Tel. 041-9234188

Fax. 041-9234189

E-mail: cottonfabricsinternational@pakcom.com

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

Markscheme:

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]

Markscheme:

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]

Markscheme:

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

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

Markscheme:

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

(d) To what extent could a better road network increase the development of small scale and craft industries of Pakistan? [6]

Markscheme:

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

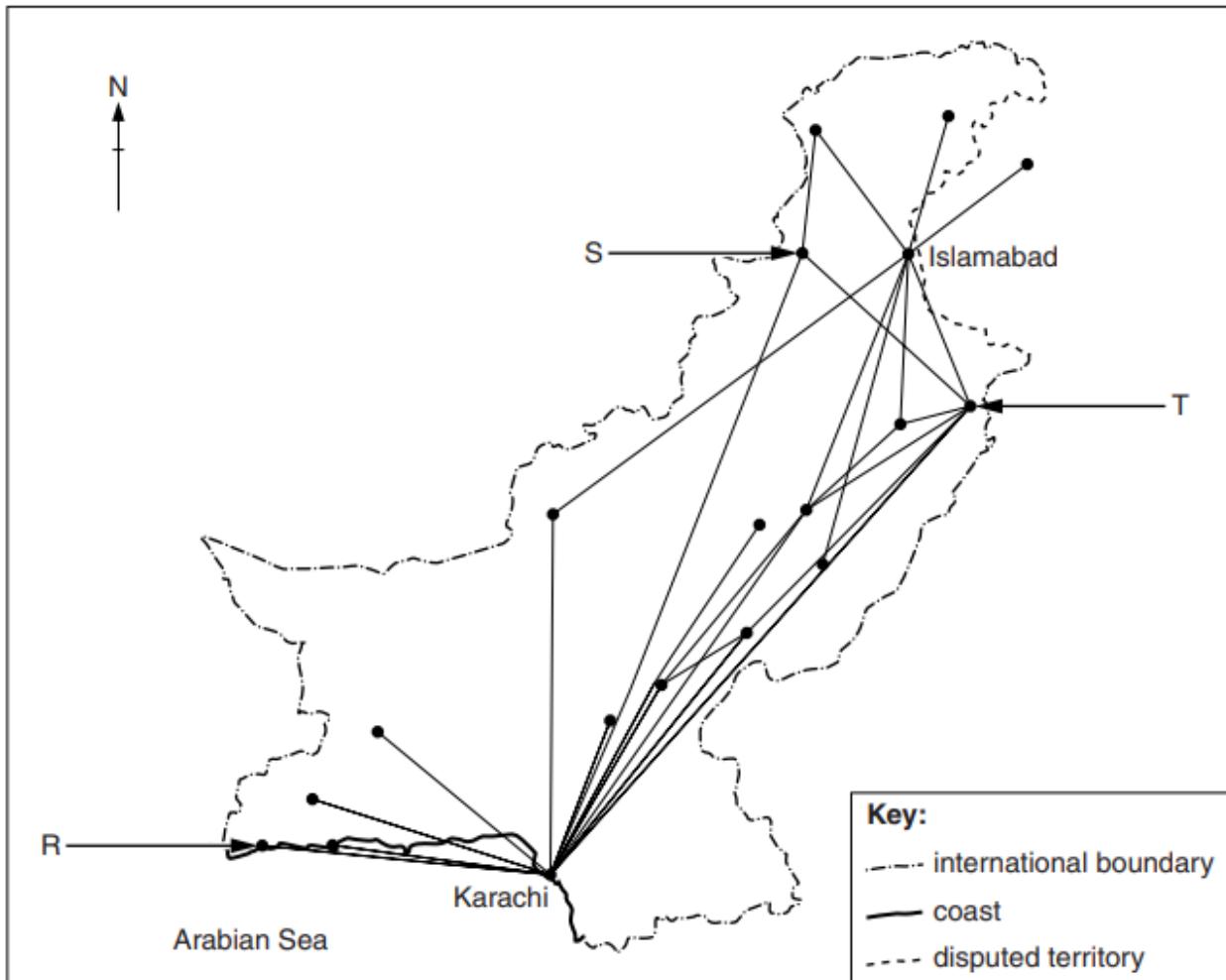
Roads likely to be often closed in mountain areas

Due to landslides / avalanches / snow

Cost of transport / middle man / do not have own transport

Allows more import of cheap manufactured goods / more competition

(a) Study Fig. , a map showing air routes in Pakistan.



(i) Give the destination of the air routes from Karachi R, S, and T. [3]

Markscheme:

R Gwadar

S Peshawar

T Lahore

(ii) Describe the pattern of air routes from Islamabad. [3]

Markscheme:

In most directions / widely spread

More / many to the south

Longer routes to the southwest

Fewer / a few to the north

Shorter routes to the north

None to the coast

(b) Explain the benefits of air transport to the people and the local economy of the northern mountains of Pakistan. [6]

Markscheme:

People

Allows movement where lack of / inaccessible by roads / railways / roads blocked by snow

Faster means of travel

Enables faster relief after earthquakes / landslides

Access to hospitals in medical emergencies / transport of medicines

Supply of imported food items

Employment e.g. air hostess / pilot / airport staff / hotel staff / waiter / guide

Local economy

Good for transport of perishable goods

Good for transport of valuable / light goods

Promotes trade

Promotes cottage / small-scale industry

Brings income / foreign exchange / currency from tourism

[May/June 2015]

(c) Give an example of a dry port and explain why it is located where it is. [3]

Markscheme:

Faisalabad/Hyderabad/Lahore/Larkana/Multan/Peshawar/Quetta/Rawalpindi/Sambrial (Sialkot)

Inland/far from seaport

In largest cities

Where industries/productive agricultural regions

Where good road/rail connections

(d) It has been proposed that a new motorway should be built in Sindh from Hyderabad via Thatta to Keti Bandar on the Indus Delta, a town with a population of less than 25000. Explain why this motorway might be needed. To what extent would this proposal be possible? [6]

Markscheme:

Why needed/Importance

New route to open up a seaport desirable (to relieve pressure on port of Karachi)

Enables quicker/more efficient trade/movement of local goods/people

Stimulates industry (industrial estates along motorway/near junctions/more efficient supply of raw materials/manufactured goods)

Possible

Possible with high government/foreign funding

Already Indus Highway as far as Thatta (and could more easily be upgraded to motorway)

Not possible

High cost

Difficult to connect to coast/construct due to mangrove swamp (as would need deep foundations/high pillars/causeways)

Difficult to connect to coast/construct due to being a delta region (and therefore prone to flooding or distributaries changing course)

Would involve felling mangrove forests (and destruction of vital habitat and a human resource)

Keti Bandar too small to be served by a motorway/serve as a port (and therefore not economically worthwhile)

(d)

Pakistan Railways now carry less than 10 percent of Pakistan's passenger traffic and 5 percent of its freight.

To what extent is it possible to develop railways further in Pakistan? Support your answer by using examples you have studied. [6]

Markscheme:

Possible

Government/private funding (providing faster trains, e.g. Shalimar Express/launching new services/computerising ticket system)

Allowing private operating companies who pay to use track

Electrification

Changing single track to dual (e.g. Khanewal to Lodhran)

Foreign funding (e.g. Karakoram Express, Lahore to Karachi, launched 2002, mostly funded by China)

Not possible

Hilly/difficult terrain (especially SW Balochistan/high mountains in N/NW)

Much of network single line/track

Lack of maintenance over a long period (worn out rails/sleepers)

Inefficiently managed (overstaffed/operational inefficiencies/delays/corruption/uneconomic stations)

Outdated locomotives

Shortage of rolling stock

Lack of funding

(b) (i) Study Photographs which show airports in Gilgit and Chitral.



Using the photographs and your own knowledge describe the problems in providing air transport in the northern areas of Pakistan. [3]

Markscheme:

Mountainous area/rugged terrain
Little level ground for airports/runways
Difficult landings/take-offs for pilots/restricted to small aircraft
Frequent poor/bad weather for flying conditions
Snow/ice/fog/low cloud/flooding/windy
Poor road access to airports
Blocked telecommunications/radio
Service unreliable causing flight cancellation/people stranded
Lack of funds for specified air transport improvements/new technology
(ii) Explain the advantages to Pakistan as a developing country of providing more air transport routes. [4]

Markscheme:

More visitors/tourists (e.g. adventure tourists to northern areas/mountains)
More income/profit for tour operators/local economy
More business trips
More business deals/investment in Pakistan
Employment in airline industry
Increases trade/more opportunities to export/(source of) foreign exchange/tax in low volume/lightweight/perishable/high value goods, e.g. fruits and vegetables
Assisting with natural disasters
Opening up inaccessible areas of Pakistan
(c) (i) Name or describe a border crossing by road between Pakistan and a neighbouring country. Which country is linked to Pakistan by this road? [2]

Markscheme:

<u>border crossing</u>	<u>country</u>
Koh-i-Taftan/RCD Highway	Iran
Chaman/Quetta to Kandahar	Afghanistan
Khyber pass/Grand Trunk Road	Afghanistan
Khunjerab Pass/Karakoram Highway	China
Lahore to Amritsar/Grand Trunk Road	India

[October/November 2015]

(iii) Study Photographs





A. Describe the road transport that can be seen in Photograph C.

Markscheme:

Transport Reserve 2 marks

Pick-up/4x4/4-wheel-drive vehicle/jeep

Overloaded / heavily loaded

Carrying large pieces of timber/wood/sawn trunks 'Wood' = 0

Trucks/lorries

Painted

B. Explain the problems of using road transport in the northern areas of Pakistan with reference to Photograph D and your own knowledge. [5]

Markscheme:

Problems Reserve 2 marks

Mountain roads very narrow/steep/small for large trucks

Danger of falling rocks/cliff edges

Likely to be closed/blocked due to landslides

Closed in winter due to snow/ice/avalanches

Unmetalled roads/potholes

Lack of security

(d) Read the following article:

The Lowari Tunnel is due to open in 2017. It is 8.6km long and will give Chitral Valley its only all-weather road to the rest of Pakistan.

For some in Chitral Valley this tunnel will be of real benefit but for others it will create problems.

To what extent does the Lowari Tunnel benefit or create problems for the local people and economy of Chitral? Give reasons for your answer. [6]

Markscheme:

Benefits

Chitral valley no longer cut off from the rest of Pakistan for 6 months per year.

Access by road in winter when Lowari Pass closed by snow

Avoids travelling into Afghanistan and back into Pakistan (the only natural winter route)(this route not available since 2009 due to presence of militants)

Shortens duration of journey to Peshawar by half (7 hours instead of 14 hours)

Greater access to hospital/university/airports (in Peshawar and Islamabad)

Greater access for trade

Greater access for tourists/higher income from tourism

Allows greater provision of services/food in winter

Stimulates industrial development/employment

Problem

Too many visitors (commercialisation of culture)

Young/ males likely to migrate (seasonally to urban areas)

Maintenance cost

Ease of movement for terrorists / a terrorist target

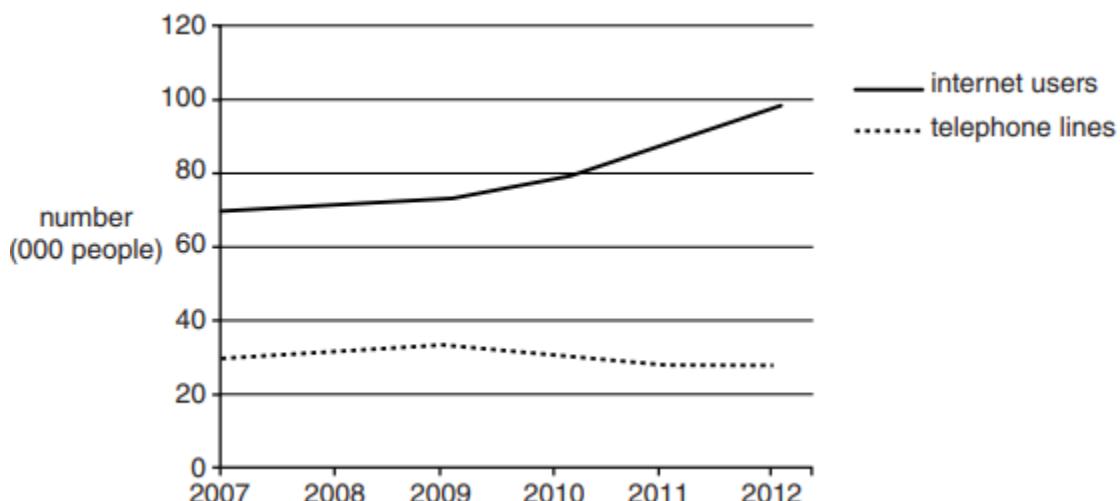
Increase in air pollution from exhaust fumes (which creates breathing difficulties)

Opens area to competition in foreign goods

Loss of scenic beauty

Ongoing debt (increasing local taxation)

(c) Study Fig. which gives information about the number of internet users and telephone lines in Pakistan.



(i) How many more people were using the internet in 2012 than in 2007? [1]

Markscheme:

29000 Allow 28500–29000

(ii) **A:** Describe one difference between the number of internet users and the number of telephone lines over the period 2007 to 2012.

B: Suggest one reason for the change in the number of telephone lines over the same period. [2]

Markscheme:

A: Internet use increases: telephone lines decreases

Internet use higher than telephone lines

B: An increase in mobile/cellular phone use/social media/Skype/WhatsApp/Snapchat/Instagram/ Facebook/Twitter/GooglePlus

(iii) What problems might there be in extending Information Technology (IT) throughout Pakistan? [5]

Markscheme:

Lack of electricity in remote areas

Lack of signal in remote areas / many people live in remote areas

Lack of media infrastructure e.g. masts/WiFi/telephone lines/cables

IT illiteracy

Lack of IT professionals

Frequent electrical/technical faults/breakdowns/loadshedding/damage from natural disasters

Decreases employment/number of office workers

Resistance from older generations/traditional/tribal societies

Real or perceived threat of Internet on cultures/belief systems

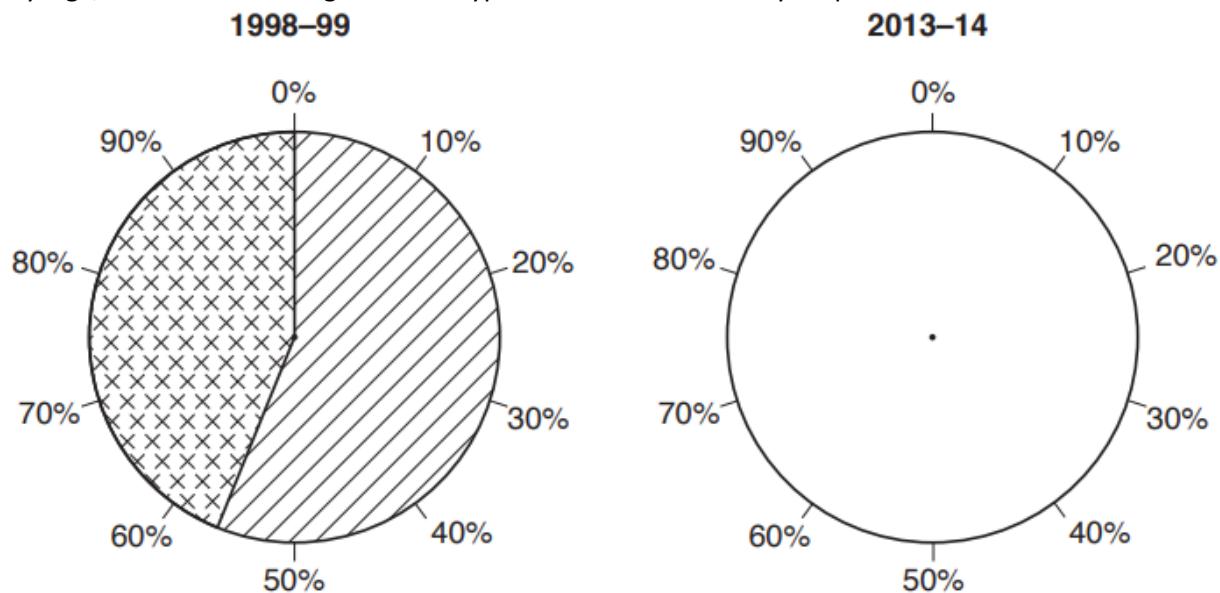
Risk of cyber attack

Capital intensive/ high initial cost /lack of government finance/ high cost of [frequent] replacement

Technology has to be imported/expensive imports of technology / negative effect on balance of payments of import of technology

Population cannot afford bills/equipment

Study Fig. , which shows changes in road type in Pakistan over a 15-year period.



Key:

Metalled

Unmetalled

- (i) Complete the pie chart for 2013–14 by using the following information and the key provided:

Road type	Percent
Metalled	73
Unmetalled	27

[2]

Markscheme:

First radial line at 0% and second at 73% (allow 72–74%)

Correctly shaded using key

- (ii) State the increase in the percentage of metalled roads in Pakistan between 1998–99 and 2013–14. [1]

Markscheme:

1998–99 = 56%

2013–14 = 73%

$73 - 56 = 17$ (% increase) (allow 14–20)

- (iii) Suggest two advantages of developing the motorway network in Pakistan. [2]

Markscheme:

- Quicker/faster connection/more direct routes/saves time;
- Cities/towns/rural areas will be better connected/connect remote areas;

- Faster supply/delivery of raw materials/finished goods/exports/imports/trade will be more efficient/quicker trade routes;
- Promote industrial growth/industrialisation/industries will develop/build industrial estates along route;
- To relieve pressure on existing roads;
- Create employment opportunities/attract foreign investment;
- To connect to Afghanistan and Central Asian Republic/or other named countries;
- Establish new settlements along the route;
- Increase development of tourism.

(iv) Explain the difficulties of building roads in the desert areas of Pakistan. You should develop your answer. [4]

Markscheme:

- Rugged/hilly/undulating/sandy terrain (increases construction cost)/(due to extra bridges/cuttings/ embankments/extra length to curve around features);
- Extreme aridity/heat/hot/high temperatures/sand/dust storms (making difficult working conditions for construction workers)/(causing dehydration/heat-related illnesses of workers/workers might find it exhausting/traffic can be hampered due to sand storms);
- Remote/uninhabited/low population density areas (increasing cost of transporting/housing workers/so not cost effective)/(meaning a shortage of local labour);
- Lack of government investment/government funding;
- Opposition from tribal areas;
- Lack of security/insurgency;
- Lack of water;
- High construction costs.

(d) Evaluate whether using global telecommunications has improved employment opportunities in Pakistan. Give reasons to support your answer and refer to examples you have studied.

You should consider different points of view in your answer.

Markscheme:

Great improvement

- Creates many employment opportunities
- Examples of employment opportunities
- Better paid jobs in tertiary sector
- Improved working conditions

Small improvement/no improvement

- Creates relatively few employment opportunities
- Reasons why
- Lack of education/skills
- Cost of computers
- Less demand from developed countries
- Poor electricity infrastructure/load shedding
- Can be long working hours

ETC.

[October/November 2017]

(b) Study Fig. , which shows the road types in the road network of Pakistan's National Highway Authority in 2016.



(i) What is meant by the term 'road network'? [1]

Markscheme:

How roads are interconnected / joined / distributed / spread out across an area / linkage of roads / road pattern

(ii) Complete Fig. by drawing the bar for the motorway, using the information below and the key provided:

Road type	Number of roads
Motorway	7

[2]

Markscheme:

Bar drawn at 7 for number of roads (allow 6–8)

Correctly shaded using key

(iii) The road network is most dense on the plains of Punjab and Sindh. Explain why there are fewer roads in the mountainous areas of Pakistan. You should develop your answer. [4]

Markscheme:

- Rugged / steep slopes / high / hilly terrain (making road building difficult) or (more expensive to build – embankments / cuttings / tunnels / bridges);
- Unstable land – landslide / rock falls (dangerous);
- Remote / uninhabited / low population density areas / few people live in these areas (so less demand for roads / so hard to supply equipment / lack of labour to build roads);
- Groups who live in these areas may be traditional in outlook (and therefore oppose areas being opened up by roads / are resistant to modernisation);
- Long distance to cover between towns (making road projects expensive);
- Lack of investment;

- Extreme weather / extremely cold / snow / frost (roads blocked by snow).
ETC.

(d) Evaluate whether developments in transport networks benefit or create problems for the people and the natural environment in Pakistan. Give reasons to support your judgement and refer to examples you have studied. You should consider benefits and problems in your answer. [6]

Markscheme:

Benefits

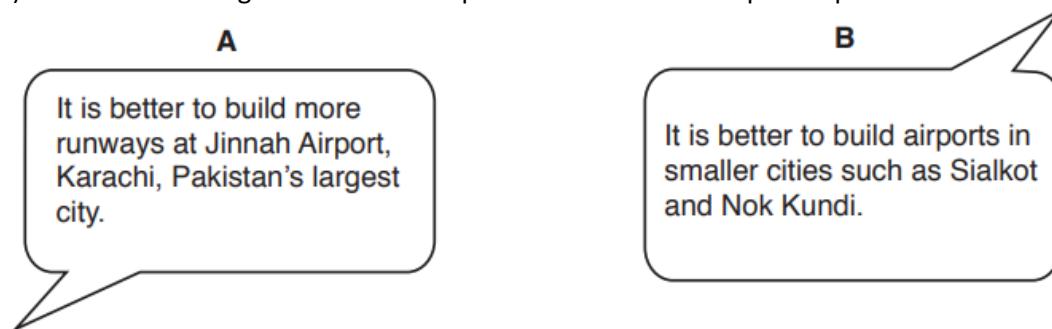
- Quicker / cheaper long distance travel for passengers / goods;
- More developed public transport network means less need for / expense of car ownership;
- Employment in named transport industry / building motorways;
- Greater mobility of labour / university students;
- Greater ability to transport bulky / low value goods / freight / minerals;
- Rail development reduces number of cars / lorries on the roads and amount of air pollution / fumes from road vehicles;
- Development of industrial estates / settlements alongside new roads.

Problems

- Rail not door-to-door / trains only stop at stations;
- Fumes from diesel trains cause air pollution / very polluting;
- Noise pollution;
- Railway tracks / motorways use up / divide farmland;
- Railway tracks / motorways destroy / disturb / divide natural habitat;
- Relocation of people / loss of homes / reduces value of property.

ETC.

(d) Read the following two views about possibilities for air transport improvements in Pakistan:



Which view do you agree with more? Give reasons to support your answer. You should consider View A and View B in your answer. [6]

Markscheme:

View A

For

- High population;
- Large demand for passenger travel;
- Global airline companies more likely to fly new routes to largest cities / provincial capitals;
- Large international airport already present;

- Cheaper to expand at current site than construct at a new site as air traffic control / multiple terminal buildings already exist;
- Headquarters of Pakistan International Airlines;
- Shorter distance to travel to Middle East / Gulf states than interior such as Sialkot;
- Large industrial city;
- Good (named) infrastructure facilities present.

Against

- Increase in noise / air pollution at Jinnah site;
- Increase in traffic congestion to and from airport;
- Uneven development.

View B

For

- Shorter distance to travel to Iran / Afghanistan / China / India;
- Demand for trade in local manufactured items;
- Even development of air transport infrastructure over country;
- Bring in tourists / income from tourism.

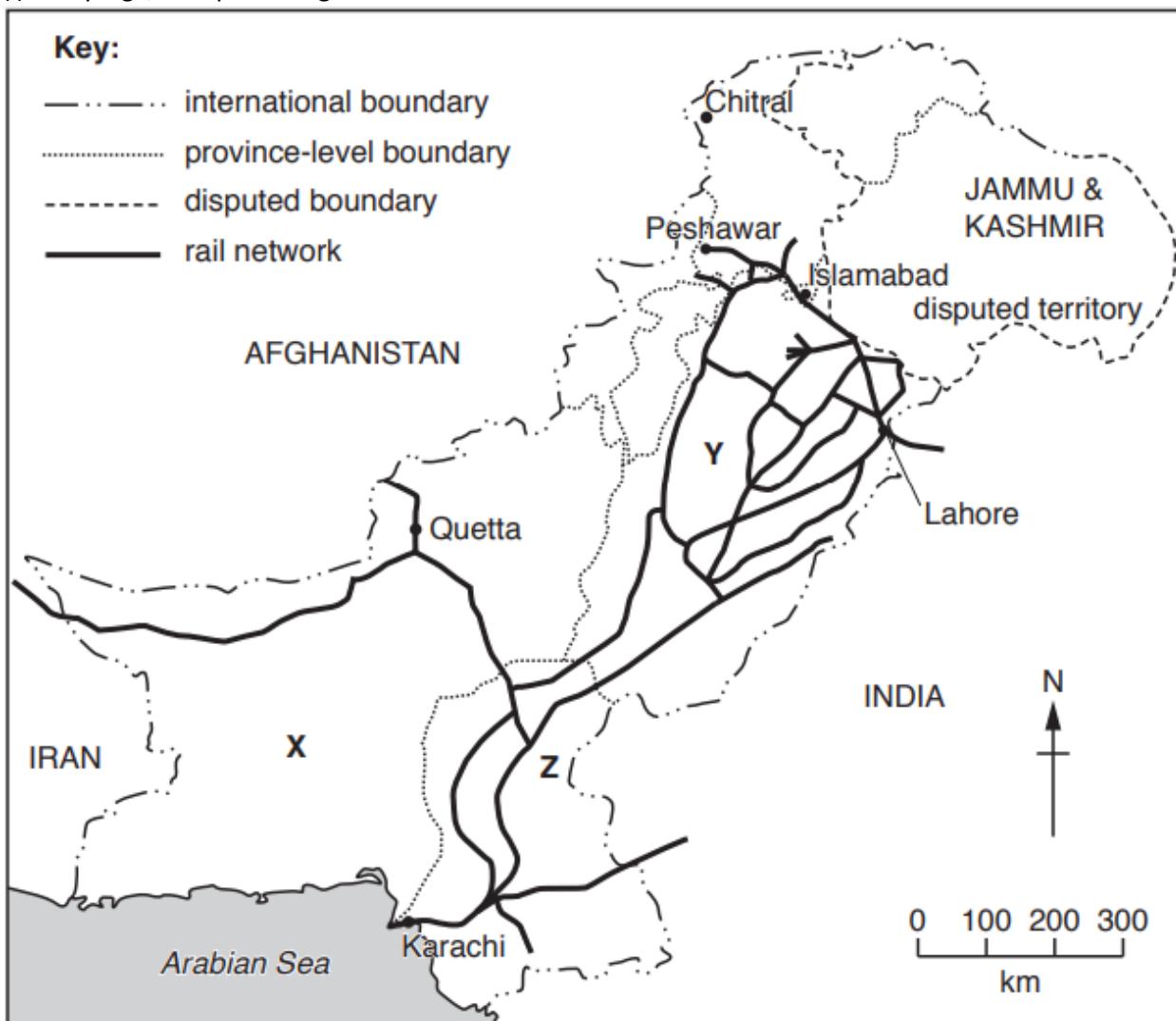
Against

- Cost of providing air facilities at new sites;
- Serve smaller populations – less likely to generate large numbers of passengers / profit;
- Nok Kundi very remote;
- Difficulties in building in Balochistan due to climate.

ETC.

[October / November 2018]

(i) Study Fig. , a map showing the rail network in Pakistan.



Name the three provinces X, Y and Z. [3]

Markscheme:

X = Balochistan

Y = Punjab

Z = Sindh

(ii) Using Fig. only, identify two countries that have international rail links with Pakistan. [2]

Markscheme:

Iran

India

(iii) Using Fig. only, describe the regional variations of the rail network in Pakistan. [3]

Markscheme:

- Northern Pakistan / FATA has no / few rail networks;
- Dense network in Punjab;
- Sparse network in Balochistan / South / Southwest / one line in

Balochistan;

- There are two lines in central KPK;
- Medium / moderate network in Sindh;
- More around major cities;
- More railways in East / more railways in North East (or opposites).

(b) (i) State one improvement that has taken place on the railways in Pakistan since 2000. [1]

Markscheme:

Recent developments include:

- New services on different routes;
- Constructing a track to Gwadar linked to the port;
- Computerised ticketing system;
- One window ticketing system;
- Dual tracks;
- More electrification;
- Karakoram Express / Shalimar Express / Magno Train / new routes / more lines;
- Air-conditioned coaches;
- Public address system;
- More spacious coaches with more seats / berths;
- Greater safety;
- More privatisation – provides more comfortable coaches.

(ii) Suggest reasons why the government is improving the railways in Pakistan. [4]

Markscheme:

Ideas such as:

- To encourage more people to use railways;
- The network needed improving / was outdated;
- To carry more passengers / large amount of people on one journey;
- To enhance the transport of goods / people or examples within the country;
- To provide a service to neighbouring countries / international links;
- To improve trade links / connect more industrial areas / connect dry port to sea port / connect remote areas to developed areas/market;
- To assist business / economic growth / income for government;
- More environmentally friendly;
- To be able to travel longer distances;
- Faster than road;
- Cheaper than air;
- Better security / safer than roads;
- Provides opportunities for tourism or named examples;

Etc

(c) (i) Study Fig. , a survey of internet usage in Pakistan in 2014.

Approximately 87% of households own mobile phones but only 7% have an internet connection.

Mobile phone ownership is higher in urban areas (95%) than rural areas (83%).

Approximately 17% of urban homes have an internet connection compared with 2% of rural homes.

Suggest two reasons why a small percentage of the rural population use the internet. [2]

Markscheme:

- Few people have mobile phones / computers in rural areas;
- Limited internet connection / internet infrastructure in rural areas;
- Limited access to internet;
- Electrical devices are expensive;
- Limited electricity;
- Lower literacy levels;
- Any valid reason(s) why internet is used in rural areas, e.g. farmers' weather forecasting / education.

(ii) Explain why internet access is important in education. You should develop your answer. [4]

Markscheme:

- Assists research / websites;
- Develops skills for an ever-increasing technological world;
- Provides opportunities for learning beyond the classroom;
- Widens horizons / develops an interest in the wider world;
- Provides opportunities for future employment prospects / apply online;
- Can get information on any topic;
- Can access more information than in a library;
- Women can learn from home / online learning / distance learning;
- Increase knowledge of a subject;
- Can ask experts / interaction / receive answers in minutes;
- Up to date information;
- Assists homework assignments;

Etc.

(d) It is important to improve telecommunications in Pakistan to encourage development. Read the following two views about improving internet access in Pakistan:

A

It is better to invest in improving internet access in the major cities of Pakistan.

B

It is better to invest in extending internet access to the rural regions of Pakistan.

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 and View B in your answer. [6]

Markscheme:

improving internet access in major cities:

- More people will benefit;
- More schools and children are more likely to go to school in the urban areas as opposed to the rural areas (where they may have to work);
- More businesses which would benefit;

Etc.

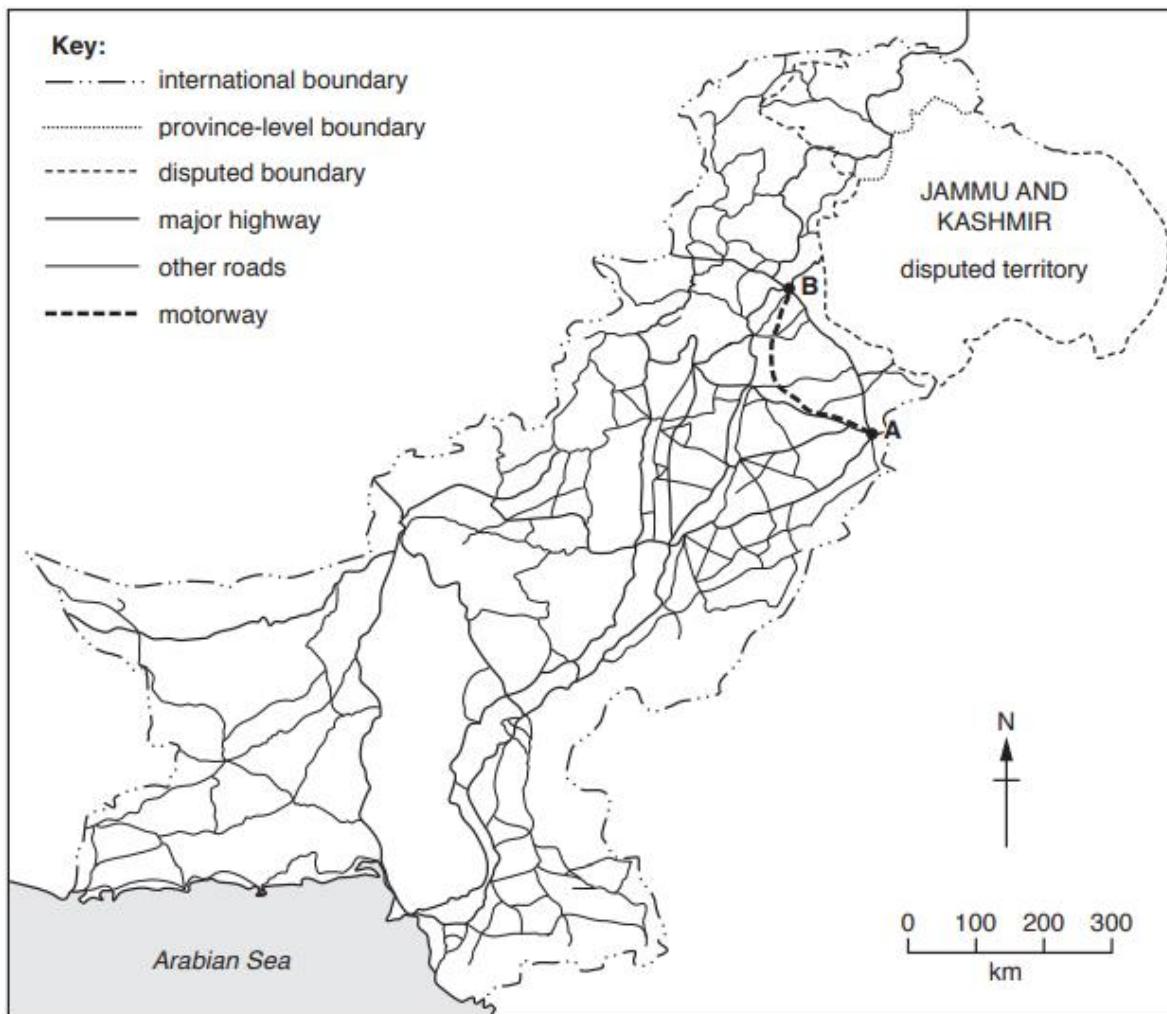
extending internet access to rural areas:

- Reduces isolation;
- May help and encourage small businesses to grow or set up there;
- May reduce rural to urban migration if opportunities are provided in rural areas;

Etc.

[October / November 2019]

(a) Study Fig. , which is a map of Pakistan's road network.



(i) Name the two cities labelled A and B [2]

Markscheme:

A= Lahore

B= Rawalpindi / Islamabad

(ii) Name the road on Fig. that crosses an international boundary. [1]

Markscheme:

Karakoram Highway / KKH

(iii) Using Fig. only, describe the regional variations of the road network in Pakistan. [2]

Markscheme:

- More roads in / most dense in east / north-east / south-east;
- Fewer roads in / least dense in south-west / north;
- One region the north / north-east has a motorway;
- Motorway connects cities (A and B) in the north / north-east;
- Many minor roads compared to major highways in all regions.

(b) (i) State three reasons why motorways are needed. [3]

Markscheme:

- Faster / more efficient form of transport / to reduce time of journey;
- Industrial estates are built along the route / promotes industrial growth;
- Trading / raw materials can be delivered to industries / finished products can be delivered to markets / dry ports;

- More employment opportunities can be provided (due to industrial expansion);
- Motorway can be further expanded to connect Afghanistan and the Central Asian Republic / increase foreign trade / increase in imports and exports;
- New settlements can be established along the route;
- Connects cities / to outlying rural areas;
- Promote tourism;
- Relieve traffic on other roads , e.g. N5;
- Reduce accidents / safer.

(ii) Describe the benefits of rail transport for people and goods.[4]

Markscheme:

- Fast / efficient;
- Can move bulky goods / a lot of people;
- Cheaper;
- More suitable for long distances;
- More comfortable / sleepers;
- Less stressful / pay in advance;
- Cost effective / economical;
- Safe / fewer accidents;
- No traffic jams;
- More sustainable / less air pollution

(c) (i) Define the term 'dry port'.[1]

Markscheme:

- It is an inland terminal connected to a seaport by road or rail;
- Operates as a centre for the transhipment of sea cargo to inland destinations;
- An inland area or multimodal logistics centre connected to the sea.

(ii) Name two examples of dry ports that are currently in use.[2]

Markscheme:

- | | |
|--------------------|----------------------|
| • Faisalabad | • Multan |
| • Gilgit | • Murgha Pura |
| • Hyderabad | • Peshawar |
| • Islamabad | • Quetta |
| • Karachi / Kemari | • Rawalpindi |
| • Lahore | • Sambrial / Sialkot |
| • Larkana | |

(iii) Explain two advantages of using a dry port. You should develop your answer.[4]

Markscheme:

- Can be used to relieve a major seaport of workload and congestion; named examples / Karachi / Port Qasim (dev);
- Provides facilities; like container yards/warehouses/railway sidings / cargo-handling equipment / administrative services / for export or import purposes / everything is in one place (dev);
- Speeds up / saves time / more convenient for businesses; as they do not have to transport their goods all the way to the sea port (dev);

- Efficient managerial staff; saves time and money/paperwork completed quickly / smooth collection of revenue for government (dev);
 - Refrigeration facilities provided; for perishable items, e.g. fruit and vegetables (dev);
 - Employment opportunities provided / warehousing / customs (dev);
 - Allows trade away from sea port / allows all regions to be productive / encourages foreign trade in each region (dev);
 - Saves money for exporters; makes more profit (dev);
- Etc.

(d) Read the following two views about extending and developing the rail network in Pakistan:

A

B

The existing rail network could be extended in Balochistan to encourage further industrial development and settlement growth in this province.

The rail network could be developed in the northern regions with a link to China to encourage further economic development in this area.

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 and View B in your answer.[6]

Markscheme:

Develop rail network in Balochistan

- Balochistan is one of the least developed areas with low population density / few opportunities for trade;
- Direct links to Gwadar or Pasni ports would help develop trade and industry;
- The rail network in the central area of Balochistan is virtually undeveloped / currently runs around the outskirts of the province;
- Towns and cities would be more accessible and less isolated;
- It would reduce the amount of migration from the area;
- Further links into Iran and / or Afghanistan could be developed;

Etc.

Develop rail network through the Northern Regions

- The Northern Regions are one of the least developed areas with low population density / few opportunities for trade;
- A rail route through to China would provide increased revenue for the country, and save journey time;
- Raw materials from the Northern areas could be transported to other parts of Pakistan more efficiently;
- Tunnels through the Himalayas would reduce the environmental impact and will reduce the risk to the railway from landslides and avalanches;
- Tourism can be developed more in this area;
- People can commute;

- May reduce rural to urban migration;
 - Attract businesses and industries to the region / improve cottage industries;
- Etc.

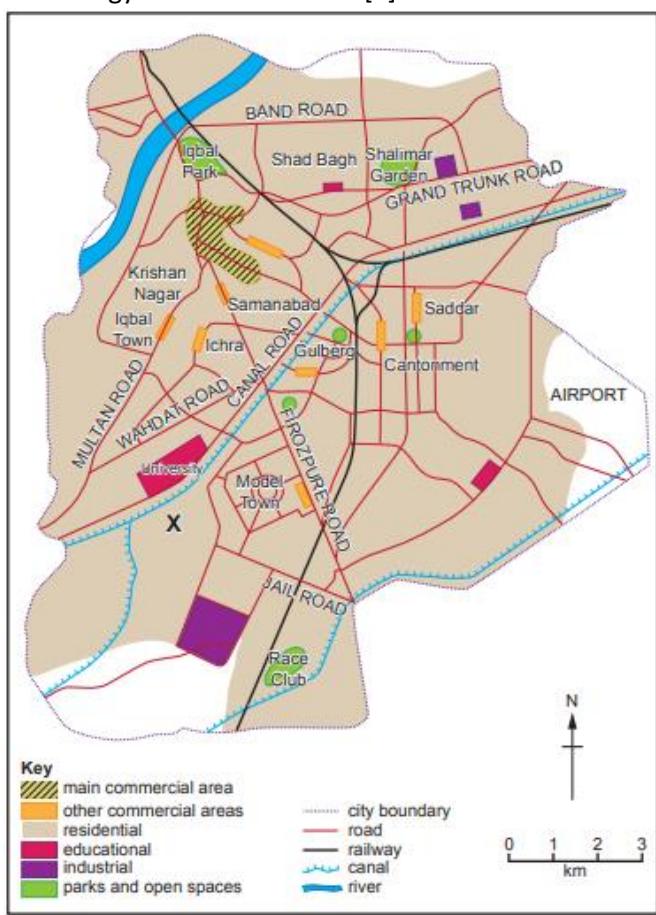
Ideas against further development

- High cost of developing infrastructure;
- Availability of funding / increase debt;
- Availability of technical knowledge and / or equipment;
- Difficulty of building railways due to topography and difficult landscape;
- People might not want to live or work there and would still migrate;
- Businesses and industries would need more to attract them to these areas, e.g. incentives;
- Other countries may benefit more than Pakistan;
- Climate challenges;
- Local people in northern regions might not benefit;

Etc.

[May/June 2020]

- (ii) Using Fig. only, suggest two advantages of developing a new information technology business area at X.[2]



Markscheme:

Ideas such as:

Near university for skilled labour;
Links with university for research/agglomeration;
Near Model Town for work force;
Can locate anywhere/footloose;
Lots of available space to build/expand on; etc.

(iii) Explain how the following factors can increase economic development in Pakistan. You should develop your answer.

- degree-level qualifications
- use of telecommunications [4]

Markscheme:

Degree-level qualifications

Skilled workforce; (will be attractive to international businesses);
Will reduce unemployment; (more people earning a living wage/higher wages);
Will improve social services such as schools and hospitals; (improve HDI so more attractive internationally/reduce economic emigration/more trained doctors/teachers);
Specialised courses according to the requirements of the industry; (meets the employment needs of the company);
Training for managers at all levels; (reduces the need for people from outside Pakistan to take these roles/money stays in Pakistan); etc.

Use of telecommunications

Enables companies/businesses to communicate instantly around the world; (no need to wait for meetings/travel abroad);
Will attract international companies to have headquarters/branches located in Pakistan; (will improve the balance of payments);
Ease of use of mobile phones; (able to conduct business from anywhere/work from home);
Ability to message/email/skype/meet remotely; (information obtained and shared instantly/instant messaging/decisions made quickly and easily);
Able to set up websites/advertise globally/TV and radio/internet; (increased trade/competition with international markets);
Increased market opportunities/e-commerce; (able to trade around the world/development of on-line banking/reduces costs/overheads);
Enhanced ability to compete in the global market; (increasing GDP); etc.

(d) The number of information technology (IT) users in Pakistan has increased rapidly since 2000.

Evaluate the extent to which the use of IT in Pakistan has the potential to reduce unemployment. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.

Markscheme:

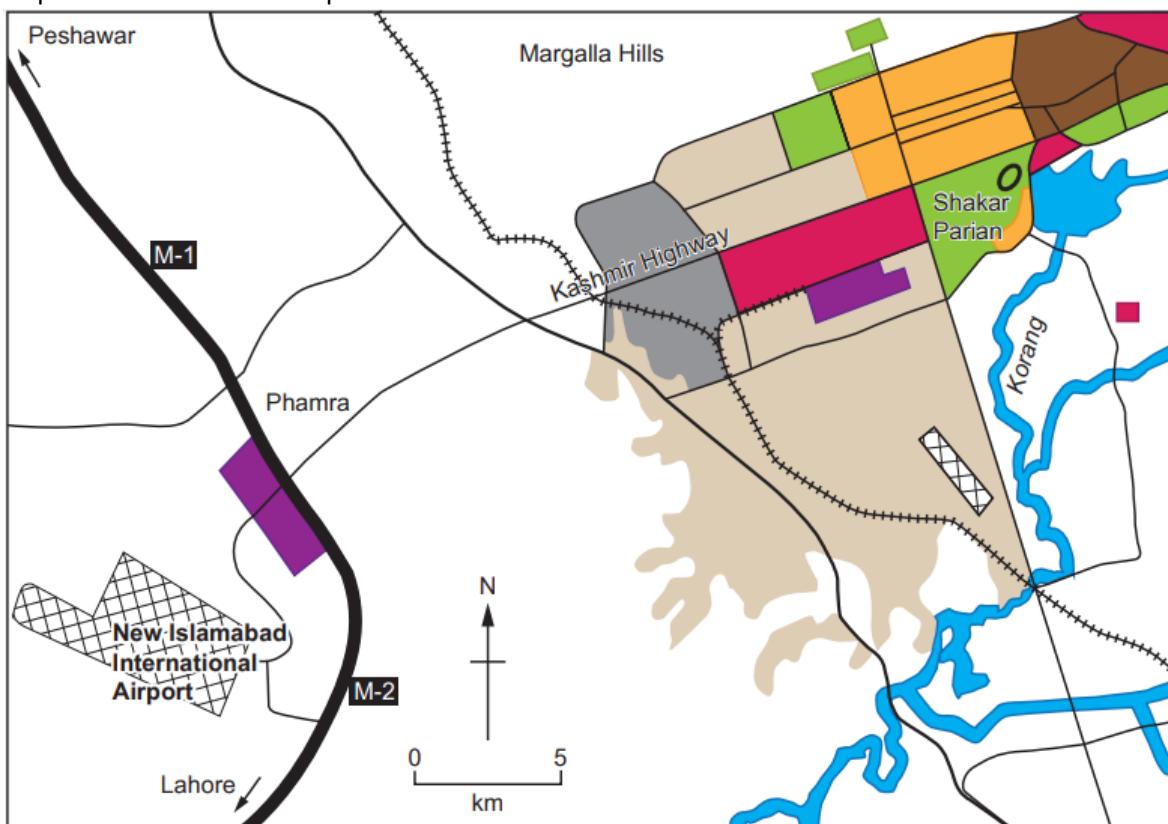
IT may reduce unemployment because

More entrepreneurs are generated;
Will reduce the need for managers to be brought in from businesses abroad;
New businesses will open;

Can train future generations;
 Further development of tertiary and/or quaternary sectors;
 Many people own smart phones;
 Can have basic skills to use a phone or computer to set up a business from home;
 Can be carried out in any language; etc.
IT may not reduce unemployment because
 Equipment and training can be expensive;
 Not all students/families can afford to go to university and develop IT expertise;
 Many IT graduates emigrate so Pakistan does not always benefit from them;
 Not all areas have a reliable electricity supply; etc.

[October/November 2020]

(a) (i) Study Fig. a map showing the location of New Islamabad International Airport in Islamabad-Rawalpindi.



Key

	commercial
	industrial
	educational
	administrative
	residential
	parks and open space
	area of future development
	airport

	Jinnah Stadium
	railway
	roads
	motorway
	river

Using Fig. only, describe the location of New Islamabad International Airport.[2]

Markscheme:

- direction from named feature e.g. motorway/industrial area;
- distance from named feature;
- in rural area/on outskirts of built up area/edge of urban area/Islamabad/Rawalpindi;
- south-west/west from centre of Islamabad/Rawalpindi/urban/built up/residential area;
- connects to Kashmir Highway;
- direction from named city e.g. north of Lahore/south of Peshawar

(ii) Describe three factors that encourage the location and development of airports in Pakistan.[3]

Markscheme:

- availability of flat/wide/open land/plain (needed for runways/for building);
- near to/in large cities/areas of large population (for employees/customers/trade);
- near to industry (to encourage international trade/business);
- need for faster/efficient transport for cargo (especially for perishable goods or named examples);
- air routes to areas (like Gilgit and Skardu) makes otherwise inaccessible areas more accessible;
- rise in living standards/more disposable income (has led to more people using air transport);
- government policies/funding (to encourage growth of air transport or examples);
- security (to encourage international investment/so tourists feel safe);
- increased tourism;
- links to (other infrastructure) roads and railways;

(iii) Suggest two disadvantages of air transport for people and two disadvantages of air transport for the movement of goods.[4]

Markscheme:people:

- expensive tickets/cannot afford to pay/compared with other transport;
- limited luggage allowance/items allowed onboard are restricted;
- not a door to door service – money spent to transfer to/from airport;
- limited number of flights per day compared with trains/buses;
- luggage can be lost/damaged;
- flights cancelled/delayed/late due to bad weather;

- likely increased taxes for people (long term investment with little benefit for many people)/cost of maintaining airports is expensive;
- noise pollution near to runways/airports;
- air pollution near to runways/airports

goods:

- expensive to transport goods internally and internationally;
- difficult to transport bulky goods/can only transport small or perishable goods;
- fragile goods damaged when loading/unloading or due to turbulence;
- not all cities/locations have an airport within Pakistan so some areas cannot be reached;
- not a door to door service – money spent to transfer to/from airport;
- limited number of flights per day compared with trains/buses;
- flights cancelled/delayed/late due to bad weather.

(b) (i) Study Fig. ,a photograph of a seaport in Pakistan. Using Fig. only, describe the features of the seaport shown.[3]



Markscheme:

- next to/near to the sea;
- a large area of flat land/lot of space;
- cranes/machinery;
- containers/girders;
- (large) ship(s)/tugs;
- wharf/dock/piers;
- deep water/sheltered;
- tower/watch tower/flood lights;
- railway line;
- lorries/trucks;
- refinery/round containers
- portacabins/flat roofed buildings/temporary buildings.

(ii) Name three main seaports in Pakistan.[3]

Markscheme:

- Karachi/Keamari,
- Qasim/Mohammed Bin Qasim
- Gwadar

(c) Explain the importance of the development of seaports to Pakistan. You should develop your answer.[4]

Markscheme:

- makes use of deep water/sheltered harbours (1); to facilitate container ships/large ships/cruise ships (dev);
- improves the national economy (1); makes use of the long coastline in the south of the country (dev);
- provides economic opportunities (1); especially for the largest province of Balochistan (dev);
- provides opportunities for international links/trade (1); other countries can import/export through the ports of Pakistan/named examples e.g. Afghanistan/China/Middle East countries (dev);
- Pakistan can export goods abroad (1); bulky goods can be moved relatively cheaply e.g. minerals/earns foreign exchange (dev);
- provides employment opportunities (1); in areas usually reliant on traditional activities or named examples e.g. fishing (dev);
- seaports handle most international trade (1); increasing trade (dev);
- infrastructure development like roads/railways near the sea (1) boosts the local economy/allows nearby area to be developed and modernised (dev);
- increase trade (1); so can pay off debts (dev);
- increased transportation of goods (1); boosts the economy (dev);
- increase GDP (1); through more exports (dev);
- links to other countries (named examples) (1); so improves trade/relations (dev);
- to develop tourism (1); to facilitate cruise ships etc. (dev);
- encourage industrialisation (1); to provide employment (dev).

(d) The New Islamabad International Airport opened in 2018 with a capacity of nine million passengers per year expanding to 25 million passengers per year by 2025.

Evaluate whether building major new infrastructure projects such as international airports is the best way to encourage further economic development in Pakistan. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Building new infrastructure projects

- modern state of the art airports may encourage/old airports may deter people from travelling;
- encourages international trade/named examples; growth of tourism;
- old airport still put to good use/aid the military;
- provides employment opportunities both nationally/internationally;
- increases national income/investment in services and facilities for local population or named examples; increases number of international

routes available;

- other examples such as railways/motorways/highways can be credited as appropriate;

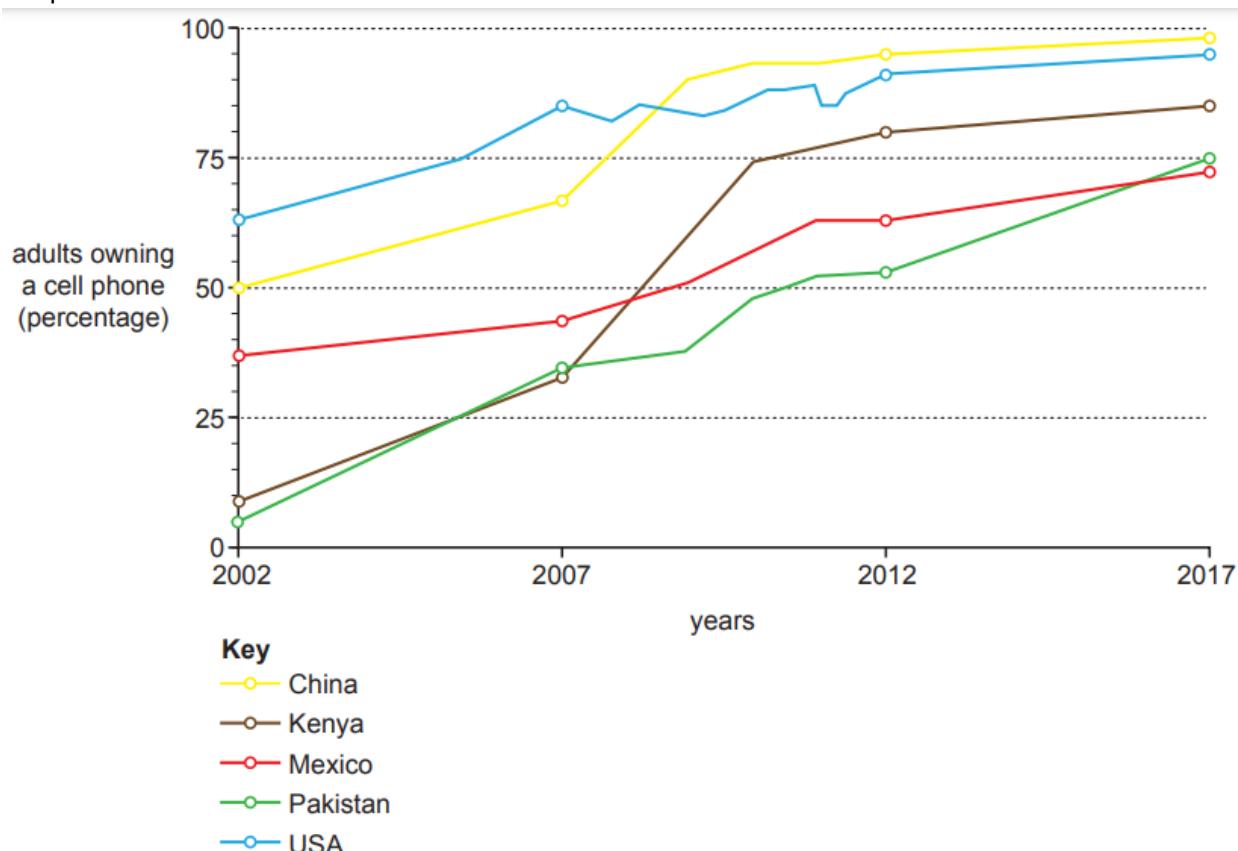
Etc.

Ideas against

- long term investment so returns will not be immediate;
- cost a lot to build/may increase debt;
- would have been more cost effective to improve the old airport rather than build a new one;
- other international airports in Pakistan may lose business so overall business is not increased; tourism may still not increase;
- other infrastructure needs to be improved to support further economic development e.g. electricity supply (or other named examples);
- development of smaller projects may be more beneficial e.g. in rural areas with raw materials available;
- other examples such as railways/motorways/highways can be credited as appropriate

[October / November 2021]

5 (a) (i) Study Fig., a graph showing the change in the percentage of adults owning a cell phone between 2002 and 2017 for selected countries.



Using Fig. only:

- by how much has the percentage of cell phone ownership changed in Pakistan between 2002 and 2017?

Markscheme:

- 70% (tolerance 69%–71%)
- what is the general trend of cell phone ownership?

Markscheme:

- increasing
- which country has experienced the largest change in cell phone ownership between 2002 and 2017? [3]

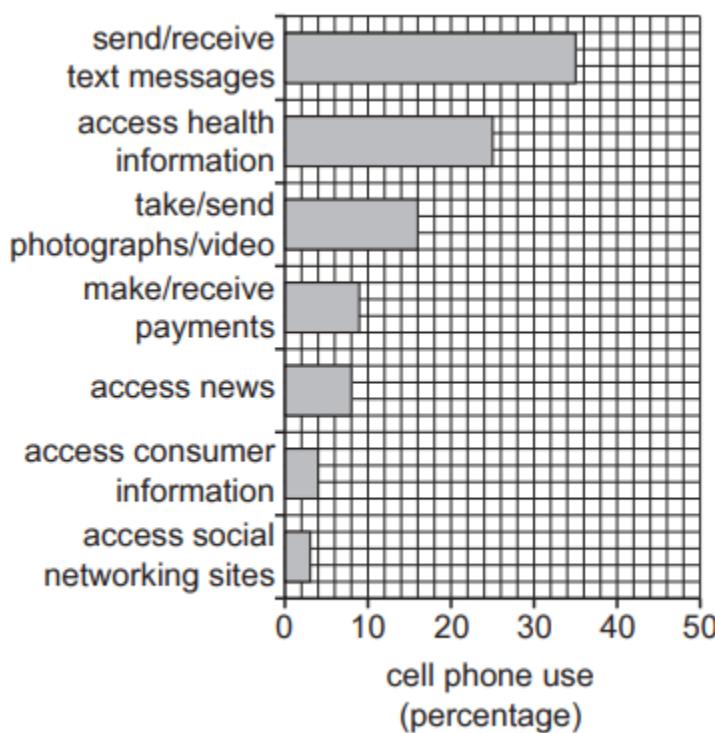
Markscheme:

- Kenya
- (ii) Suggest how cell phone ownership may encourage the growth of small-scale industries in Pakistan.[3]

Markscheme:

- for online banking/pay staff/pay invoices;
- selling/buying/trading/ecommerce/online shopping;
- can use to set up website/social media/advertise/marketing;
- for instant global/long distance communication;
- to sell cell phones/related gadgets (cases)/services (screen repairs)

(b) Study Fig. , a graph showing the most common uses of cell phones (other than making a phone call) by people in Pakistan in 2013.



(i) Using information from Fig. only, complete the sentence about cell phone use.[2]

The most common use of cell phones is ,
 whereas per cent make or receive payments from a cell phone.

Markscheme:

The most common use of cell phones is send/receive text messages
 whereas 9 per cent make or receive payments from a cell phone.

(ii) Suggest why a large percentage of people in Pakistan use cell phones to access health information.[3]

Markscheme:

- can speak to clinicians from home/limited access to healthcare services in remote areas;
- reluctant/eliminates fees/transport costs to visit doctor/hospital;
- do not have time/saves time for medical appointment/to travel;
- to research (24/7) (up to date/accurate) health information e.g. symptoms/diagnosis/cures;
- increased literacy rates so take more interest in their health;
- to research healthcare services e.g. vaccination centres;
- to book appointments;
- fast communication method in an emergency;
- to contact health services in event of natural hazard;
- allows remote monitoring of a patient e.g. giving data or getting test results;
- gives access to personal medical records;
- reminders to take medicines/make/attend appointments.

(c) (i) State four advantages to teachers and students of using the internet in education in Pakistan.[4]

Markscheme:

- makes home learning possible/avoids unnecessary travel/learning continues when schools are closed/student unable to attend;
- connect with other students/join education forums/debates/chatrooms;
- attend online (live)/recorded/lessons/staff meetings;
- virtual field work in the classroom/virtual learning experiences;
- saves costs of buying books/cost of printing sheets;
- to research topics/access worldwide sources/collect data/ information;
- to easily share documents;
- setting/completing and handing in homework;
- to learn/access/use new information communications technology/how to build websites/how to use software;
- to access past exam papers and/or mark schemes;
- teachers can access training/courses.

(ii) Explain two challenges of providing telecommunications in some parts of Pakistan. You should develop your answer.[4]

Markscheme:

- densely populated cities put a strain on network due to high numbers of users; so connections are not always available;
- topography makes some parts of Pakistan inaccessible; so infrastructure cannot be developed there/lack of signal;
- extreme weather event/thunderstorms/heavy rainfall; this can interrupt signal/damage towers and wires;
- 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;

- 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
 - developing infrastructure can harm the landscape/ecosystems/ habitats/ destroy scenic beauty; so spreading the network in environmentally sensitive areas is difficult;
 - a shortage of IT professionals; limits pace of network development;
 - telecommunication companies are less willing to invest in some areas; because the population cannot afford bills/equipment;
- (d) The rate of growth of Pakistan's telecommunications sector has been impressively fast-paced in recent years. However, computers and smartphones 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 judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

significant role:

- improvements to education and training/skills increase employment opportunities; e.g. foreign businesses making locally produced smart phones
- it encourages foreign direct investment from businesses/corporations;
- it improves advertising and marketing opportunities/e-commerce;
- new fibre-optic cables e.g. Khunjerab Pass, connect Pakistan businesses with the world e.g. Chinese networks;
- the Digital Pakistan initiative aims to improve connectivity and digital skills, especially for young people and women;
- video-conferencing can take place which may encourage multinational companies in other parts of the world to open branches in Pakistan;
- the telecom sector contributes to government funds via taxes;
- multi-national businesses consider Pakistan to have huge potential for growth in online banking introduce 4G/5G services;
- teachers can use e-learning to teach students in different/remote areas which may improve life chances;
- people can get remote access to medical staff which may improve quality of life;
- farmers can use the internet to educate themselves about products which could increase yields/check weather updates etc;

Etc.

less significant role:

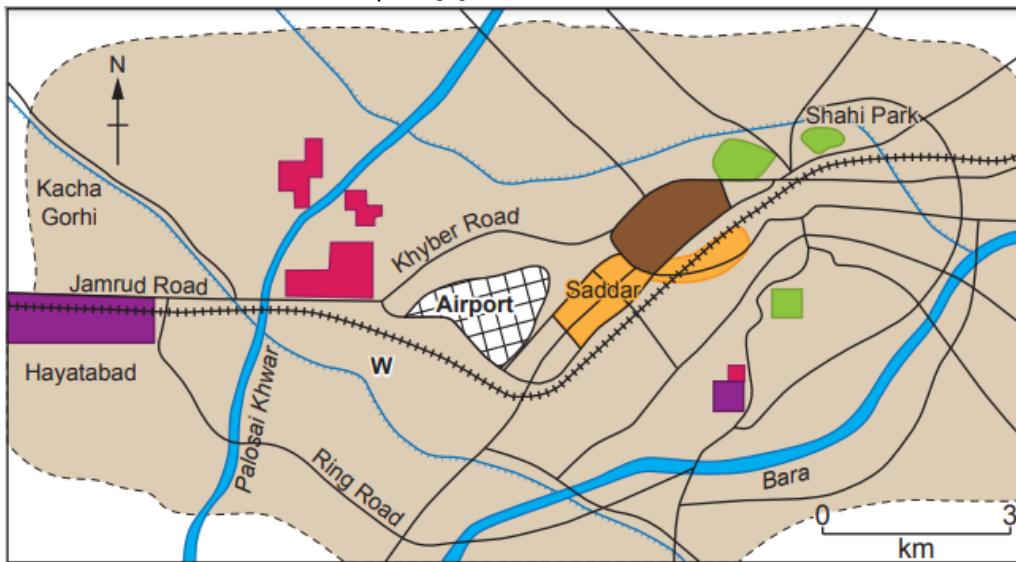
- it is expensive to invest in;
- there are other issues that need to be overcome before investing further in telecommunications e.g. improving reliability of electricity supplies/ reducing interruptions from technical faults and load shedding;
- international companies may decide to locate where the population are already educated and skilled;
- regional instability discouraged some foreign investors;

(ii) Suggest two reasons why it may be difficult to develop a large airport on the Balochistan Plateau.[2]

Markscheme:

- hilly/mountainous
- uneven land topography/rough/rugged/rocky
- desert/sandy/lack of water/hot/dry/arid/barren
- sparsely populated/low population/far from large settlements
- lack of labour/workers
- lack of customers/lack of demand
- local resistance
- remote/difficult to access/few roads/no roads
- partial/poor/no electricity/power supply
- partial/poor/no communications/phone/internet
- expensive/not cost effective to build

(iii) Study Fig., a map showing the location of the airport in Peshawar. Using Fig. only, describe the location of the airport.[3]



Key

	main commercial area (city centre)
	administrative
	residential
	universities
	industrial
	parks and open space
	airport
	- - - - - city boundary
	— road
	----- railway
	— canal
	— river

Markscheme:

- outskirts of the commercial area/central part/middle of the city
- in the middle of/surrounded by/nearby to residential areas

- in-between two rivers
- in-between two canals
- accessed by/on/named roads, e.g., along Jamrud Road
- in-between Khyber and Jamrud roads
- in-between Khyber Road and the railway
- railway passes/goes around the airport
- accurate direction from any named feature on the map
e.g. E of Palosai Khwar River
S–W of Shahi Park
S of Khyber Road
- accurate distance from any named feature on the map
Kacha Gorhi 6–8 km
Industrial area 3–6 km
Hayatabad 4–6 km
River Palosai Khwar 2–5 km
River Bara 2–6 km
University 500m–3.5 km
Saddar/main commercial area 250 m–3.5 km
Administrative area 1 km–3 km
Parks and open space 3 km–6 km
Shahi Park 4.5–6.5 km

(iv) State two improvements that have recently taken place in air communications in Pakistan.[2]

Markscheme:

- new/more international airports/terminals (e.g.Islamabad/Sialkot)
- new/more routes (both internal and external)
- more frequent flights
- budget airlines/more airlines
- new/more runways/fog-lights (on runways)
- new/modern (control) towers
- improved flight technology examples; fuel efficient planes/‘fly by wire’ technology, radio communications, signals to the tower, modern navigation systems/GPS/satellites
- improved airport efficiency examples; moving walkways, escalators, baggage carousels, air bridges, ticketing/reservation/booking systems/online tickets/self/online check-in

(d) The development of international transport links can help to promote further economic growth in Pakistan. Read the following two views:

A

B

Building new international airports in Pakistan has the most potential to increase trade and development.

Improving existing international seaports in Pakistan has the most potential to increase trade and development.

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 and view B in your answer. [6]

Markscheme:

agree with view A:

Building new international airports has the most potential to increase trade and development because:

- more employment opportunities can be provided/named examples of types of jobs
 - employees can be trained/skilled workforce
 - airports meeting international standards will increase the number of visitors/tourists
 - provides more business opportunities/entrepreneurs will set up there
 - enables companies/businesses/individuals to travel so no need to go far for international flights
 - will attract multi-national companies to locate in Pakistan/have branch companies or offices
 - more businesses will be attracted/more people will want to visit
 - able to import/export goods more quickly compared to overland or seaports
- Etc.

disagree with view A:

Building new international airports does not have the most potential to increase trade and development because:

- only light-weight goods can be transported cheaply by air so the trade gains will be fewer as it won't benefit many of Pakistan's main export goods
 - most likely that multi-national companies will be attracted and profits will leak out of Pakistan
 - managerial jobs may be outsourced
 - cost of improving/building international airports is high and could outweigh any financial gains
- Etc.

agree with view B:

Improving existing international seaports in Pakistan has the most potential to increase trade and development:

- the infrastructure is already built so will cost less to improve seaports than

- building airports
 - ships can carry heavy goods much more cheaply than planes so more goods can be exported
 - more people are taking cruises for holidays so Pakistan could become a destination for more cruises
 - Pakistan could be an international trade hub
- Etc.

disagree with view B:

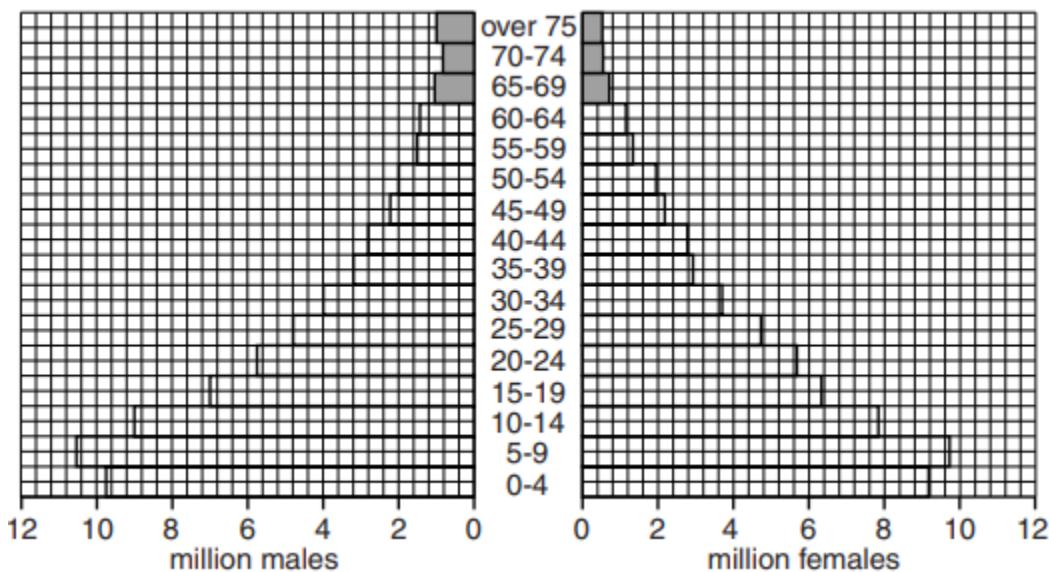
Improving existing international seaports in Pakistan does not have the most potential to increase trade and development:

- the ports are already developed but motorways and railways connecting to the ports would need to be further improved which is expensive/complex
 - there is a lack of space to develop the seaports further so it will cost more/isn't feasible to expand
 - focusing on developing services/quaternary industries rather than manufacturing would help increase GDP more, so seaports are less needed
- Etc.

Population and Employment

[May/June 2013]

(a) Study Fig. , which shows a population pyramid for Pakistan.



(i) What is the age range of the shaded portion of the population? [1]

Markscheme:

65 – over 75/over 65

(ii) Estimate how many people there are in this sector of the population.

4 million 5 million 6 million?

Circle the correct answer. [1]

Markscheme:

5 million

(iii) Why is this figure likely to increase in the next 20 years? [2]

Markscheme:

lower death rate

longer life expectancy

better healthcare/pensions etc.

higher birth rate/more babies being born

lower infant mortality

(iv) What pressures will this increase put on the working population? [2]

Markscheme:

higher taxes

less jobs

example of costs, e.g. medical care, pensions, care homes, food

(b) (i) Estimate how many children aged under 5 are shown on Fig [1]

Markscheme:

19–19.8 million

(ii) Explain why the birth rate of Pakistan is very high. [4]

Markscheme:

lack of knowledge of family planning/consequences of a high population

lack of contraception

female illiteracy

early marriage

high infant mortality rate

religion/children will be provided for

pride in large families

family labour/sent out to work

desire for sons

(iii) Explain how better health and education provision can reduce the birth rate in Pakistan.[6]

Markscheme:

Education

use of contraception/family planning

understand overpopulation

emancipation of women/delayed marriage

change of religious views

mechanised/progressive farming

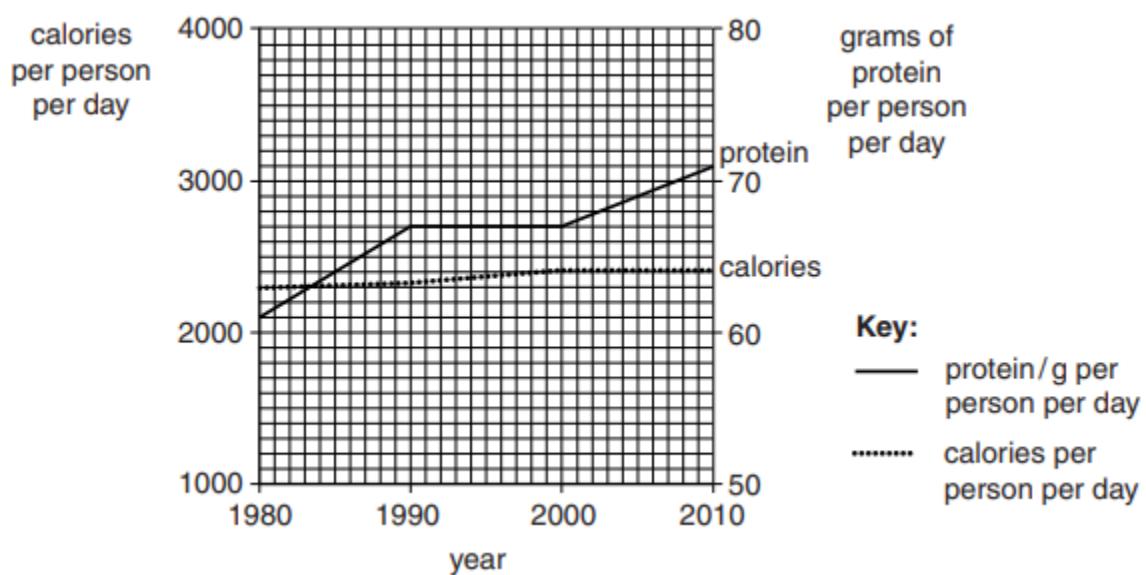
Healthcare

lower infant mortality so fewer births

use of contraception

access to family planning clinics

(c) Study Fig. , which shows the calories and grams of protein consumed per person per day in Pakistan.



(i) Compare the increase in food calorie intake with the increase in protein consumption

from 1980 to 2010. [2]

Markscheme:

protein increases more

calories constant/slight increase 2000–2010

comparative figures

(protein 61–71 grams, calories 2300–2400 per day)

(ii) The United Nations (UN) has predicted that the population of Pakistan may double from 2010 to 2050.

To what extent can Pakistan increase its food supply for this large population? [6]

Markscheme:

Increase by

more fertiliser

better seed

more pesticides

irrigation

mechanisation

more land brought into cultivation

more fishing

education/professionals/colleges

investment/loans

more imports

foreign aid

better transport system linked to better distribution or less food spoilt

better storage facilities

Problems

lack of money

lack of education

lack of experts

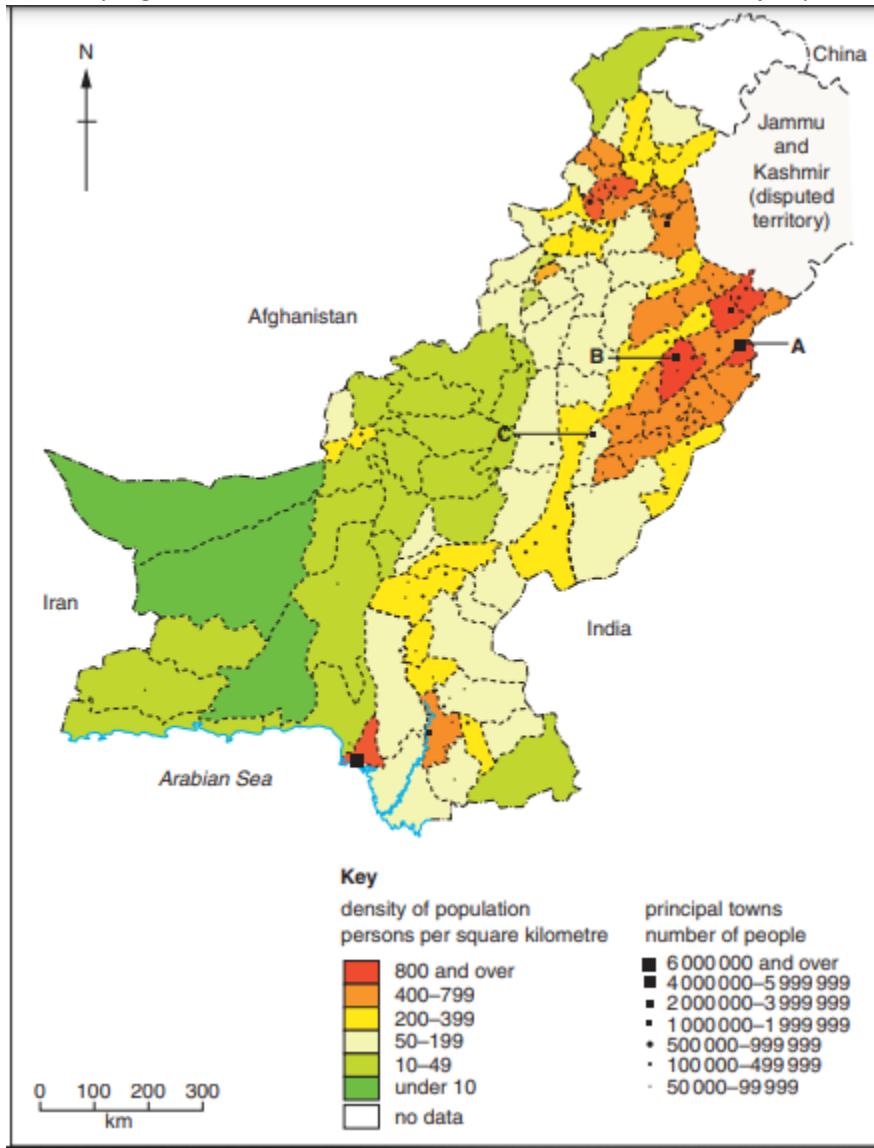
too many people

lack of water

political problems

war etc.

(a) Study Fig. which shows the main towns and cities in the Punjab province



(i) Name the cities A, B, C, and state the size of their population. [6]

Markscheme:

A – Lahore 4–6 million

B – Faisalabad 2–4 million

C – Multan 1–2 million

(ii) Describe the distribution of towns and cities with a population of over 50 000. [3]

Markscheme:

Mostly in the east / central area

Where the tributaries are / Chenab, Sutlej, Ravi, Jhelum

Few in south / near Sindh

Few in north-west (except Islamabad/Rawalpindi) / near KPK

(b) Study Fig. again.

(i) Name an area with a population density below 50 persons per square kilometre. [1]

Markscheme:

Any area coloured light or mid-green

e.g. Chitral, Tharparkar, Balochistan,

- (ii) With reference to physical factors only, explain why the area that you have named in (b)(i) has a low population density. [4]

Markscheme:

Shortage of rain

rivers

Extreme temperatures

Mountains / plateaux, steep slopes

Lack of soil / stony / barren

- (c) In the last 50 years there has been a big increase in the proportion of people living in urban areas.

- (i) Name two push factors that cause people to migrate from rural to urban areas. [1]

Markscheme:

poverty

unemployment

hunger

poor housing

poor services e.g. education., health

poor infrastructure e.g. roads, electricity

natural disasters e.g. floods

disease

danger e.g. tribal unrest, Taliban

- (ii) Explain each of the factors you have named in (c)(i) [4]

Markscheme:

Explanation of above

e.g. poverty because of lack of land, high rents, large families

unemployed because of mechanisation, lack of skills,

natural disasters e.g. ref. to floods in 2010, earthquake etc.

- (iii) Explain two problems experienced by migrants from rural areas when they reach urban areas. [6]

Markscheme:

Housing – shortage, expensive, poor standard

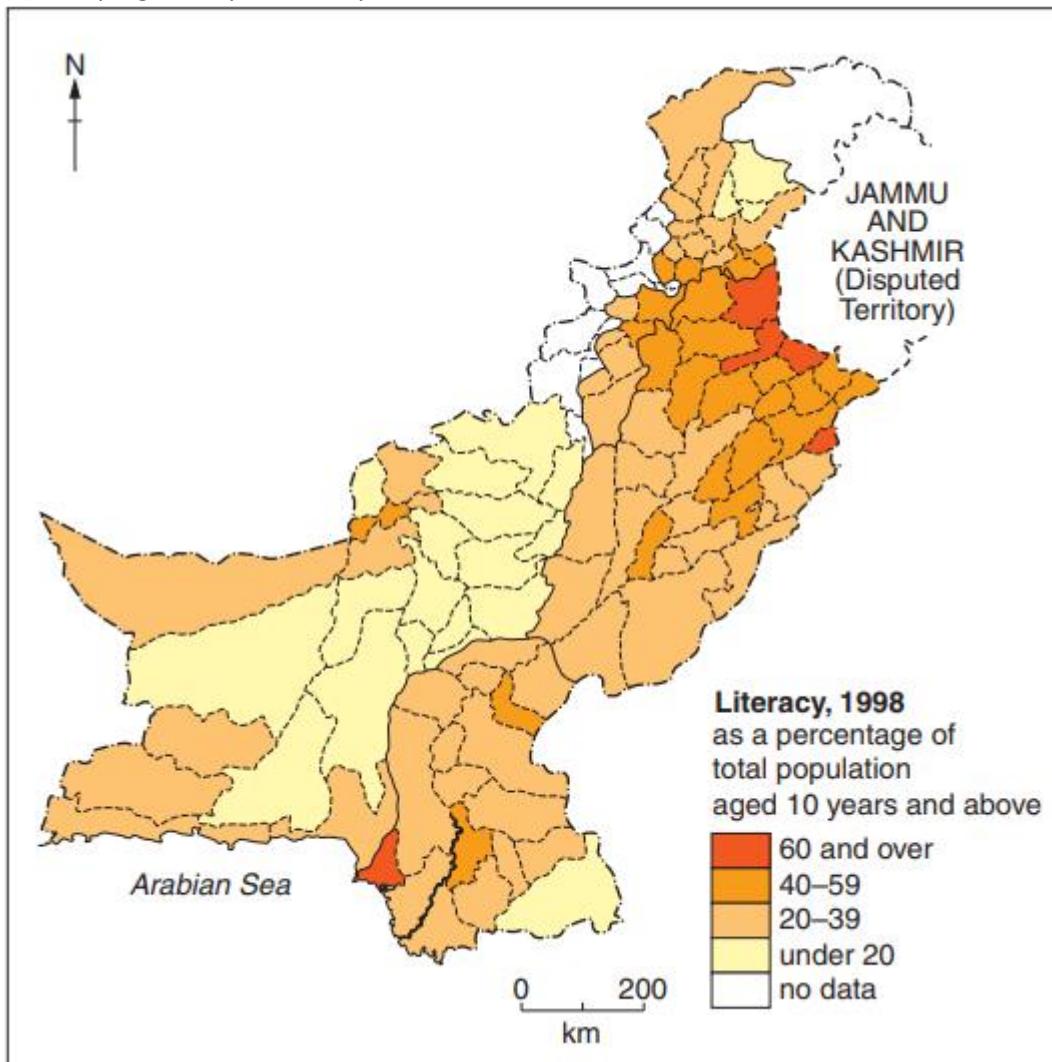
Work – shortage, unskilled, lack of contacts

Food – shortage, unhealthy

Health – shortage of clinics/hospitals, poor living standards, overcrowding

[October/November 2013]

(a) Study Fig. a map of literacy in Pakistan.



(i) Name a city in each of the three areas shown on the map where literacy is over 60%. [3]

Markscheme:

Islamabad/Rawalpindi/Gujrat/Jhelum

Lahore

Karachi

(ii) Name an area where literacy is below 20%. Explain why the literacy rate is low in this area. [6]

Markscheme:

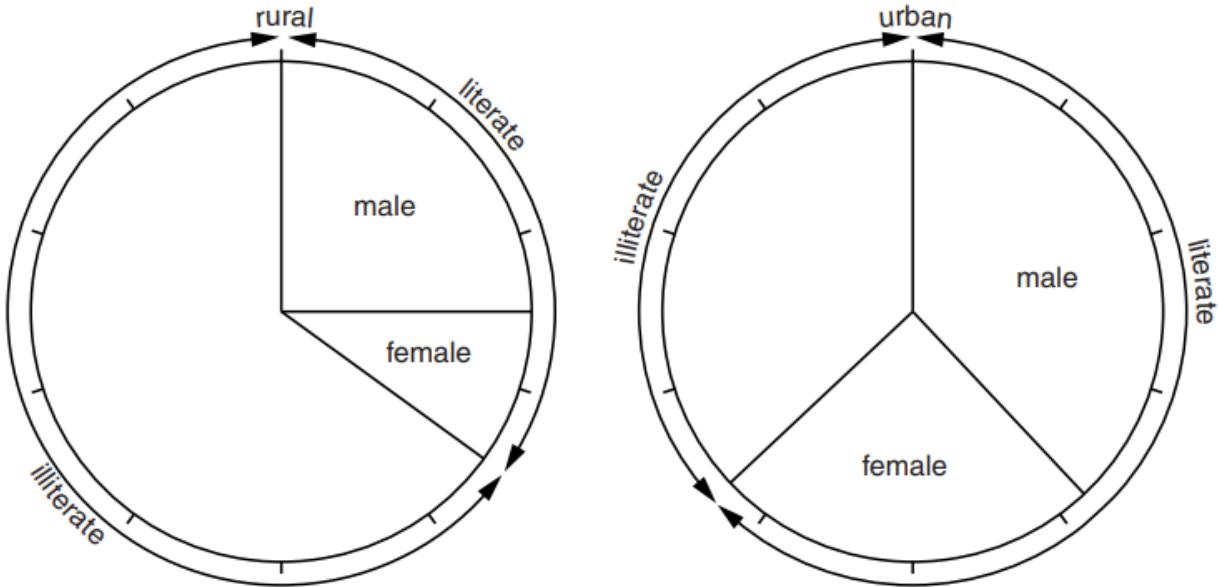
Name

Central/N/NE/E/correctly named District in Balochistan, SE Sindh/Tharparkar, N/NE KPK/Shangla/Kohistan/Batgram

Explanation

Remote (from main population centres)
Traditional ideas/women uneducated/tribal influences
Terrorism
Nomadic lifestyle (in Balochistan)
Self-sufficient/less need for education/less work available
Child labour
Lack of named infrastructure e.g. roads, schools, telecoms/IT, electricity (max 2)
No government help
Poverty/cannot afford education
Fewer/less skilled teachers

(b) Study Fig. , pie charts showing literacy rates in Pakistan.



(i) What is the percentage of literate males in urban areas? [1]

Markscheme:

37–39 (%)

(ii) How much larger is this than the percentage of literate males in rural areas? [1]

Markscheme:

12–14 (%)

(c) (i) Give an example of tertiary employment for which literacy is not important. [1]

Markscheme:

A named example e.g. domestic/street trader/industrial cleaner/roadsweeper/driver/etc.

(ii) Explain why literacy is important to increase economic development in Pakistan. [6]

Markscheme:

More skilled workers...

...E.g. managers, IT, teachers, engineers, architects

...More attractive to foreign investors

...More remittances from abroad

More businesses started

Increased number in employment

Higher wages...

...Therefore more money to spend in local economy
...Therefore more taxes raised
Businesses better managed/farms use modern methods...
...Therefore become more profitable
...So greater efficiency/higher quality goods in agriculture/industry (dev)
Better policy making/administration in government
(d) Study Fig. again.
(i) What is the percentage of literate females in rural areas? [1]

Markscheme:

10

(ii) To what extent can population growth be influenced by increasing female literacy? [6]

Markscheme:

Likely to influence population growth

Reduce

(More informed about) family planning
(More informed about) use of contraceptives
Later marriage so delay in having/reduced number of children
Empowered so will choose whether to have more children/to follow traditional beliefs about large families
Work/become career orientated therefore likely to have less children
(Higher) wages therefore less need for so many children who work
Will understand economic consequences/health risks of a high birth rate/large families

Increase

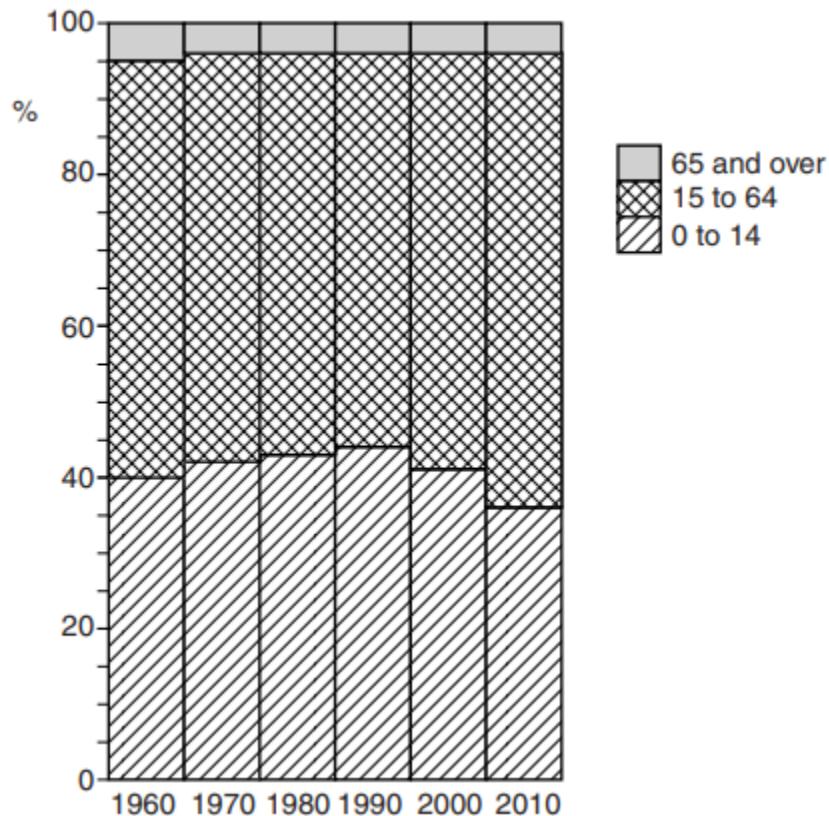
Higher family income so can afford more children

Will not influence population growth

(Too many) other factors which increase population growth
Factors explained – reasons for high birth rate (max 2)
Other factors are just as/more important in reducing population growth
Factors explained – better healthcare/improvements in sanitation/hygiene so less need for children to replace those who die, more family planning clinics, approval of family planning by religious leaders, etc. (max 2)

[May/June 2014]

(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]

Markscheme:

35–37 (%)

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

Markscheme:

0–14

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

Markscheme:

Increased / decreased to 1990 then increased

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

Markscheme:

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

(ii) Name and describe an example of seasonal migration. [4]

Markscheme:

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

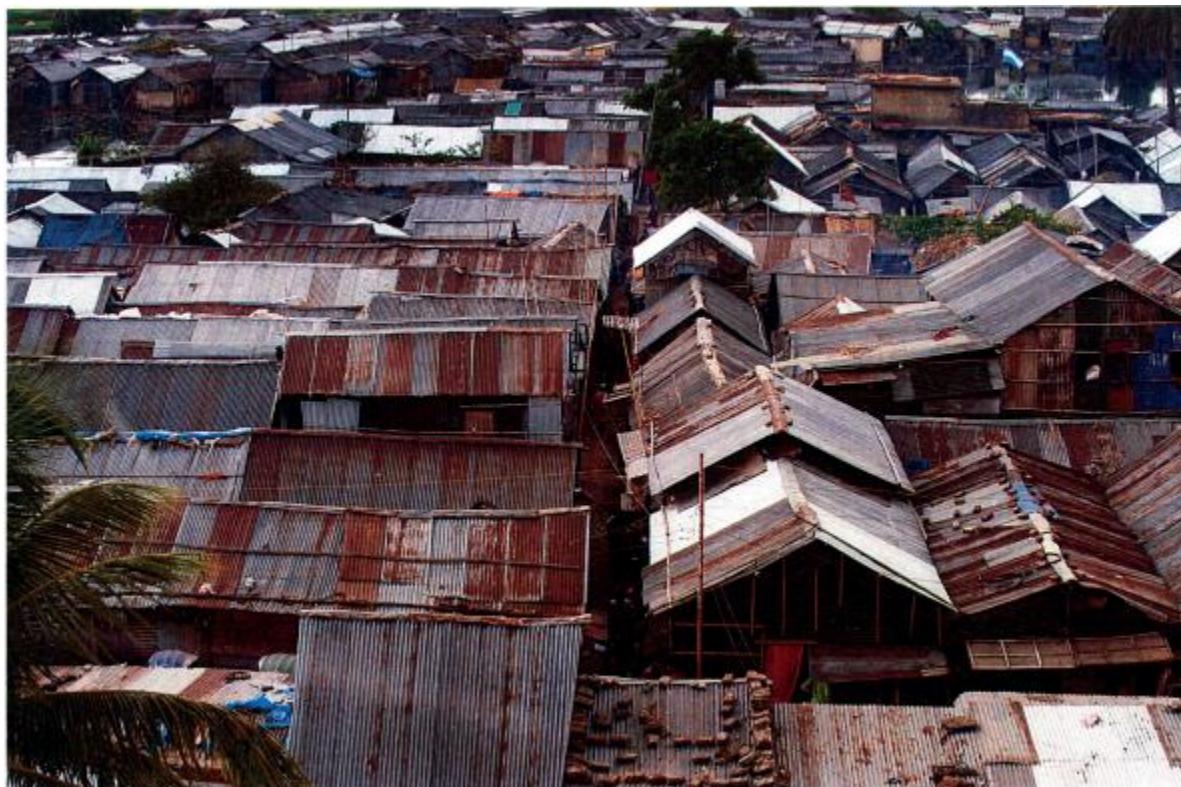
Return movement to which location + time of year / reason

Details

Time period

Area within Pakistan

(c) Study Photographs





(i) Give four features of the housing shown in the photographs. [4]

Markscheme:

- 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

(ii) Explain why people live in areas such as those shown in Photographs. [6]

Markscheme:

- 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 be improved? [6]

Markscheme:

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

[October / November 2014]

(a) Study Fig

Province	Khyber Pakhtunkhwa	Sindh	Punjab	Balochistan
Area (sq. km)	74521	140914	205345	345190
Population Density (people per sq. km)	238	216	358	19
Population under 15 years (by %)	47	43	42	47
Population from 15 to 65 years (by %)	50	54	54	51
Population over 65 years (by %)	3	3	4	2

(i) Name the smallest and largest province by area. [2]

Markscheme:

Smallest – KPK

Largest – Balochistan

(ii) What is the population density of Sindh province? [1]

Markscheme:

216 people per sq. km.

- (iii) Which is the most densely populated province? [1]

Markscheme:

Punjab

- (b) Choose two of the factors given below and explain how they cause a low population density in Balochistan.

RELIEF CLIMATE INFRASTRUCTURE SECURITY

Markscheme:

Relief

Mountainous

Too steep / uneven for irrigation / building / agriculture

Difficult to construct transport routes

Long journey times

Climate

Extremely dry / arid / desert

Really hot in summer

Very cold in mountains

Too dry for farming

Shortage of water

Infrastructure

Lack of / poor named infrastructure

Lack of / poor roads for access to food / essential supplies

Lack of / poor roads for trade / industrialisation / communication

Lack of power / electricity / telecommunications / water for homes / businesses / schools

Security

Tribal warfare / insurgencies / terrorism / bombings

Threat to homes / livelihood

Danger of death

Hinders education

Prevents investment / industrialisation

- (c) Study Fig. again

- (i) Which province has the largest percentage of population over 65? [1]

Markscheme:

Punjab

- (ii) Compare the age range of Punjab and Balochistan provinces. [2]

Markscheme:

For Punjab (reverse for Balochistan)

Fewer under 15 / children / young people

More 15 to 65 / working age / independent

More over 65 / elderly

- (d) Use Fig. and your own knowledge to explain the advantages and problems caused by the age distribution of either Punjab or Balochistan [6]

Markscheme:

For Punjab (reverse for Balochistan)

Fewer children

Advantages

- Reduced demand for / pressure on resources schools / clinics for young
- More chance of education / school places
- Less likelihood of poverty in family

Problems

- Fewer workers / less innovation / fewer unemployed
- Not enough young to look after old

More people of working age

Advantages

- More production / economic growth
- More taxes paid / people earning

Problems

- Fewer job opportunities / more unemployment / lower wages
- More pressure on named resources e.g. healthcare / recreation / public transport / food supply

Larger population of older dependents

Advantages

- Old give good advice / provide family support

Problems

- Old cannot work / do not contribute to economy
 - More healthcare / family / social support / homes for elderly / pension needed
 - Cost of care / pensions / raised taxes to provide for care / pensions
- (e) To what extent can the birth rate of Pakistan be reduced? Explain your answer. [6]

Markscheme:

Possibilities

More education of women / more women in careers (will marry later / have shorter reproductive spans / less desire for children / large families)

More education on family planning / awareness of [economic] problems caused by high BRs

Use of family planning / better access to contraception / more family planning programmes / clinics / population policy

Cheaper contraception

More hospitals / clinics / better healthcare (lowers infant mortality so less need to replace those who die)

Approval of family planning by religious leaders

Raising marriage age

Banning child labour (so less need for children to work on farms)

Problems

Lack of education / illiteracy

Lack of empowerment of women to control family size

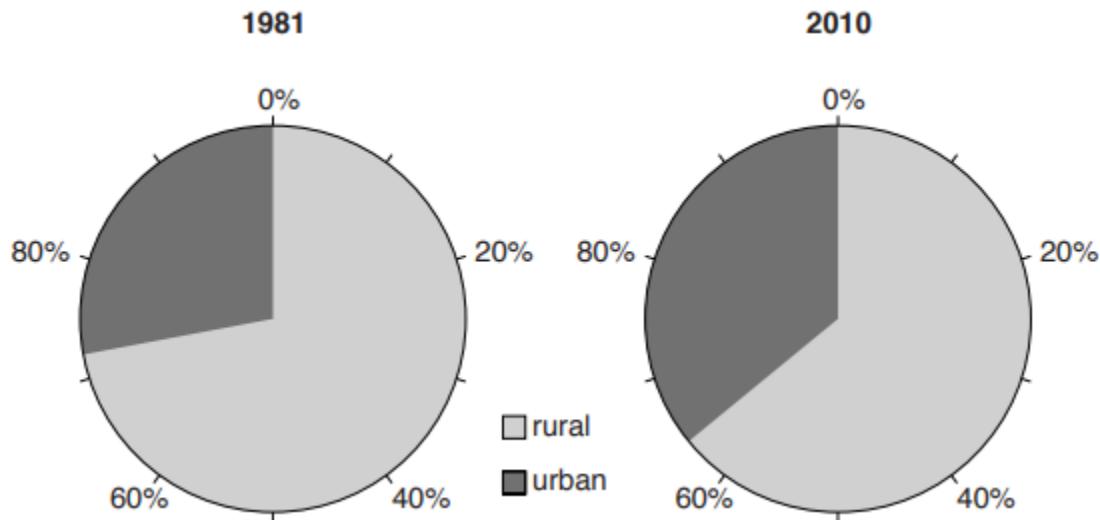
Traditions / opposition to contraception

Lack of medical facilities / investment in family planning programmes

Traditional beliefs encouraging large families

Early marriage

(b) Study Fig. which gives information about urban and rural population in Pakistan in two different years.



(i) By how much has the rural population decreased between 1981 and 2010? [1]

Markscheme:

8% (tolerance 7–8%) Also accept alternative interpretation 11%

(ii) Loss of agricultural land is one reason for the rural population decreasing.

Describe three other push factors that are causing people to move to urban areas.[3]

Markscheme:

Mechanisation of farms resulting in unemployment

Unemployment/underemployment

Poverty/lack of options

Poor quality services, e.g. health/education/schools/educational institutes/shops

Poor standard of utilities – no electricity/lack of water/unhygienic/lack of sanitation

Poor housing

Extreme weather/floods/droughts/diseases causing crop failure

Unrest in tribal areas

Zamindari system – landlords

(iii) Explain the effects on rural areas when large amounts of people migrate to urban areas. [4]

Markscheme:

Positive

Reduces population pressure on infrastructure/housing/services

Reduces unemployment

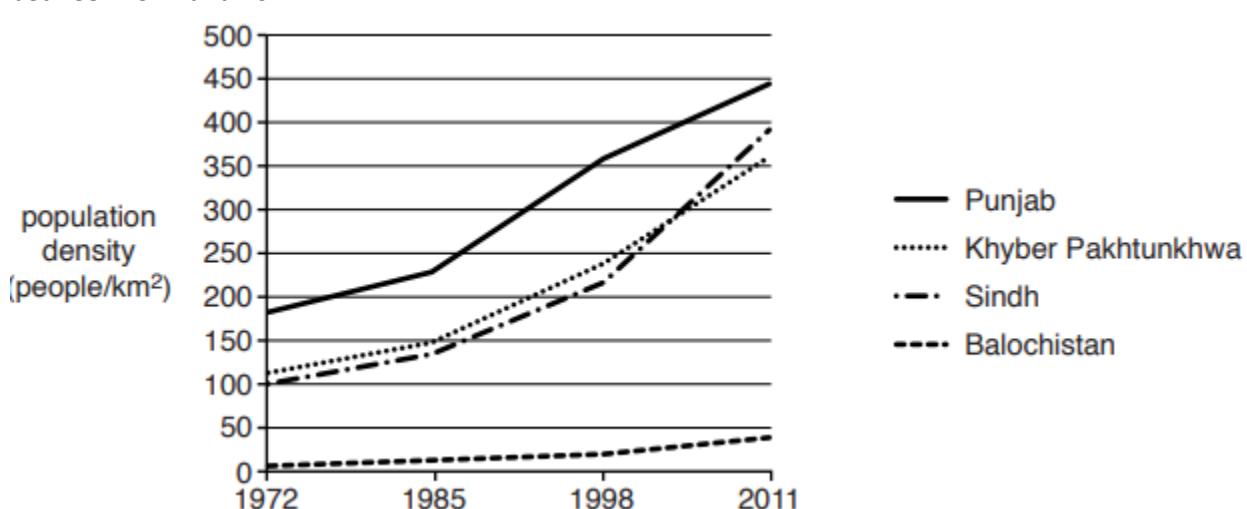
Remittances are sent from workers in urban areas

Negative

Unbalanced population structure/young men leave

Lack of (skilled) labour/lack of named example/fewer farmers

Less population to support rural services
 Fracture of families
 Feeling of isolation/lack of government interest
 Services decline
 (c) Study Fig. which is a graph showing the changes in population density for different provinces between 1972 and 2011.



Describe two of the main changes over time that can be seen in this graph. [2]

Markscheme:

All four increased

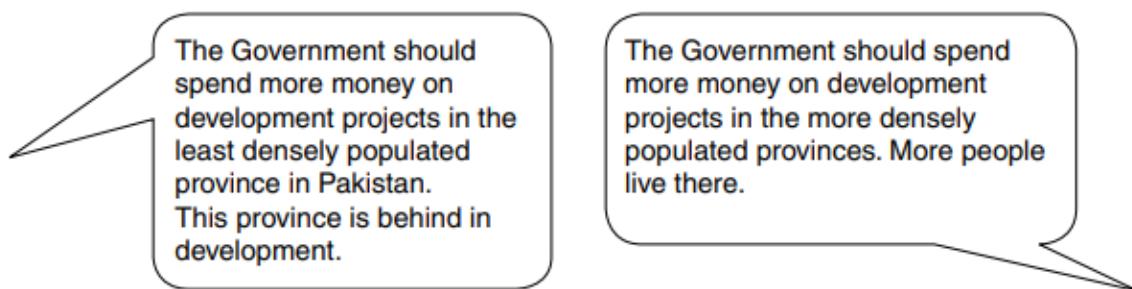
P, KPK, and S all increased at same rate

B increased at a slow rate

P/KPK/S increased at a fast rate

S became more densely populated than KPK over the time period

(d) Read the following two views:



Which view do you agree with more? Give reasons and refer to places or examples you have studied to support your answer. [6]

Markscheme:

Balochistan

Large area/unrestricted space

Untapped mineral resources (e.g. coal/natural gas/chromite/iron ore/antimony/manganese)
(Saindak Copper-Gold project with Australian/Chinese/German/French expertise)

Coast has development potential for ports (e.g. deep sea port at Gwadar) (for exports of fruit)/fishing/wind farms (would lead to ancillary industries/free industrial zones providing employment)

Much of the province requires development (many of the people are nomadic farmers)

Would create even spread of development in Pakistan

Punjab / Sindh / KPK

Population growing more quickly than Balochistan (more demand for services/housing/jobs)

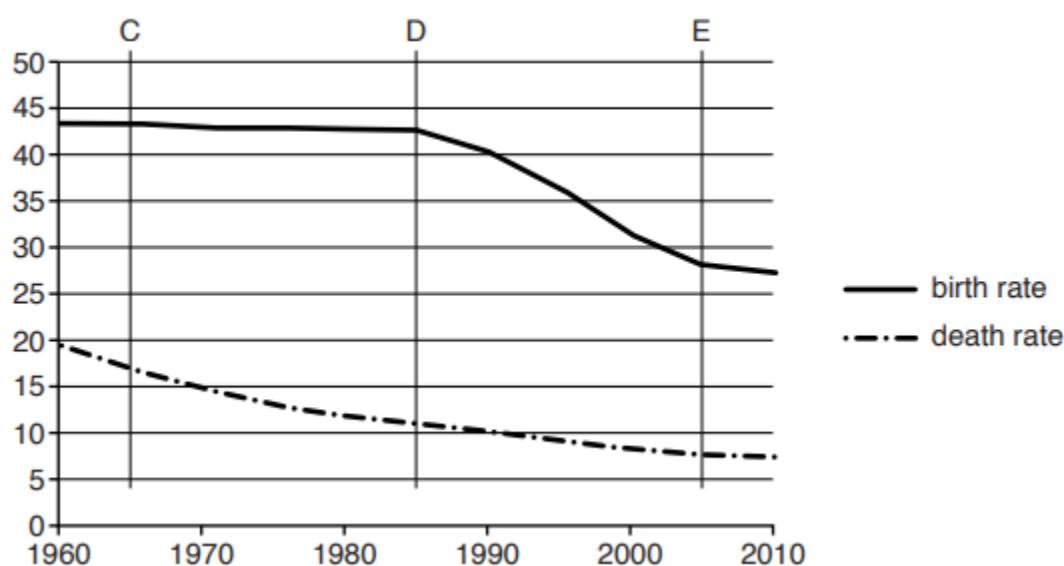
Indus Plain productive agricultural area/has Pakistan's largest cities/industries/most extensive transport networks (more economical to develop where these exist)

In Balochistan traditional/tribal society/opposition to development/modernisation

High cost of putting infrastructure into Balochistan (very hot and dry climate/mountainous and rugged terrain/deserts) (e.g. roads/railways/water/electricity/gas/telecoms)

Accept converse arguments

(a) Study Fig. which gives information on birth rates and death rates in Pakistan.



(i) On Fig.:

A. Add a suitable label for the y-axis (vertical axis).

Markscheme:

per 1000 population [per year]

B. Circle one of the letters C, D, or E on the graph to show the point where natural increase is highest. [2]

Markscheme:

D

(ii) Give two reasons why Pakistan continues to have a high birth rate. [2]

Markscheme:

Large families for support in old age/desire for sons

Large families for labour on farm/in cottage industries

Opposition to family planning/women working/being educated/Rizq/religious beliefs

Lack of use of/availability of/cost of contraception

People unaware of population pressure/illiteracy

Early marriages/women marry/bear children early

(iii) The death rate in Pakistan has been decreasing every year since 1960. Suggest reasons for this. [3]

Markscheme:

Improved medical facilities

E.g. vaccinations/antibiotics/better hospitals/more highly trained doctors/free hospitals

Reduction of diseases

E.g. cholera, malaria, typhoid

Improvement in food production/healthy food

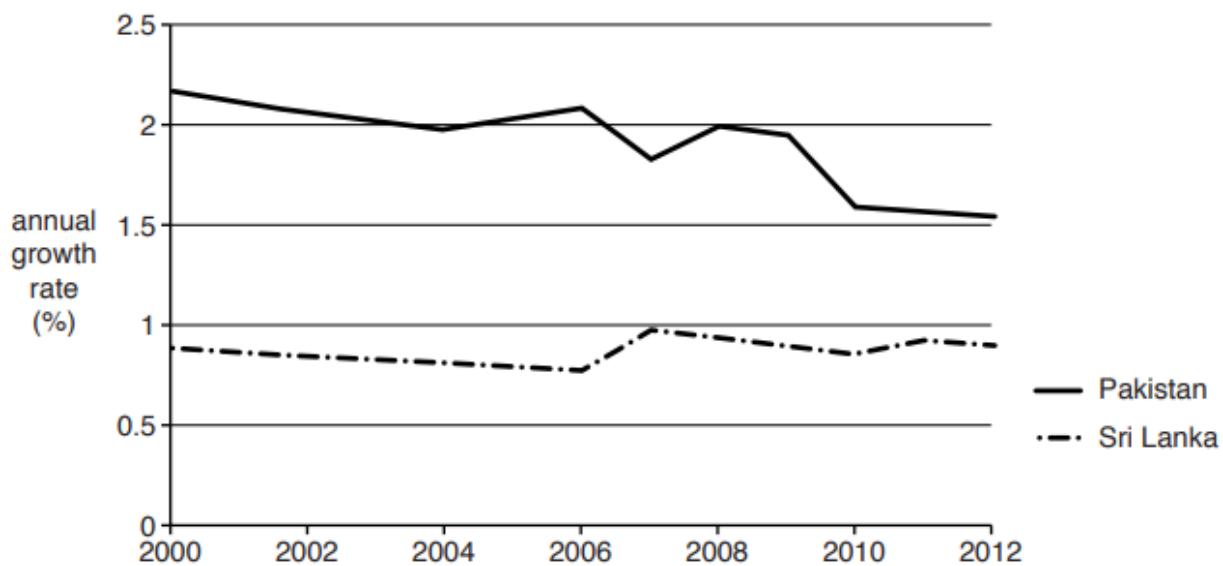
Improvement in sanitation and hygiene

Clean supply of water

People more affluent/have more money to afford medical treatment

Reduced infant mortality rate

(b) Study Fig. which shows changes in population growth rates for two countries between 2000 and 2012.



(i) Compare the main changes in the population growth rate of Pakistan with that of Sri Lanka between these two dates. [3]

Markscheme:

Pakistan higher than Sri Lanka throughout

Overall decrease but Sri Lanka stays same/ slight increase

Both fluctuate

Pakistan fluctuates more/Sri Lanka fluctuates less

One mark for start (2000) and finish (2012) statistics for both countries

Pakistan: 2.2% to 1.6%; Sri Lanka: either 0.8% to 0.9% or 0.9% to 0.9%

Alternatively candidate can give difference between start and finish figures – Pakistan 0.6%; Sri Lanka 0.1% or 0%

(ii) One of the factors affecting population growth is international migration. In recent years Pakistan has experienced more emigration than immigration.

A What is meant by the term 'immigration'

Markscheme:

People entering/moving into a country/area

B Explain what has caused high levels of emigration and the effects of this on the economy of Pakistan. [5]

Markscheme:

Causes

Unemployment/underemployment especially amongst educated

Job prospects abroad

Perceived better lifestyle abroad

Political instability/corruption/unrest/terrorism

Immigration policies in some countries to attract migrants

Effects on economy

Remittances sent back can be a significant component in balance of payments

Unemployment rate for those who remain decreases

Loss of skilled/educated workforce/loss of doctors, engineers etc.

Ideas and initiatives coming back with returning emigrants

Less pressure on resources

(c) (i) What is meant by the term 'sustainable population growth'? [1]

Markscheme:

Population size that can be supported by available resources

(ii) Suggest three problems that might be caused by unsustainable population

growth. [3]

Markscheme:

Shortage of food/food insecurity

Unemployment rises

Pressure on health/diseases increase/education/illiteracy rate increases

Pressure on utilities/water/electricity/sanitation

Traffic congestion

Shortage of housing/overcrowded housing/homelessness/squatter settlements

Pressure on land/resources

Standard of living falls/poverty/low standard of living

Increase in crime

Named type pollution, e.g. litter – max one mark

Lack of local/national government funds to provide for everyone

(d) Read the following two views about reducing the population growth rate in Pakistan.

The population growth rate is best reduced by family planning programmes.

The population growth rate is best reduced by increasing literacy for all, especially females.

Which view do you agree with more? Give reasons and refer to examples you have studied from Pakistan to support your answer. [6]

Markscheme:

Family planning

Policies to reduce family size effective in other countries (e.g. China's one-child policy)

Family planning can be introduced through government and NGO programmes (e.g. women's and children's welfare associations, Behbud Association, Green Star clinics)

Contraceptives could be provided cheaply
Is a direct approach/can be enforced/monitored
Developing education facilities especially in rural areas is very expensive (and can be opposed in tribal/traditional areas)
Traditional/religious societies are opposed to materialism and careers for women
Education is a less direct approach/has more effects than just on population growth rate

Education

Literate people would be more aware of the problems of population growth (and the need to reduce it)
Literate people would have more knowledge of family planning
More girls being educated (in secondary and higher education) would lead to later marriage/childbearing age (the time span for reproduction would decrease)
More females being educated would mean more women taking on careers (and seeking to improve their standard of living rather than having more children and contribute to economic development, decreasing the burden of population growth)
More people being skilled will generate income for country, decreasing the burden of/outweighing the effect of population growth
(Anti-natalist) population policies can be considered too harsh (unethical/too intrusive/against human rights)
Traditional/religious opposition to contraception

[May/June 2016]

(b) (i) What is meant by the term 'population density'? [1]

Markscheme:

The [average] amount/number of people per unit area/km² /mile² /acre/ha accept: m² / per square unit

(ii) Which province in Pakistan has the highest population density? [1]

Markscheme:

Punjab

(iii) Explain the physical factors that cause areas such as the province you named in (ii) to have a high population density. [4]

Markscheme:

Plains/doabs/flat land for ease of/suitable for building/communication routes/agriculture

Alluvial terraces/flood plains producing fertile soil

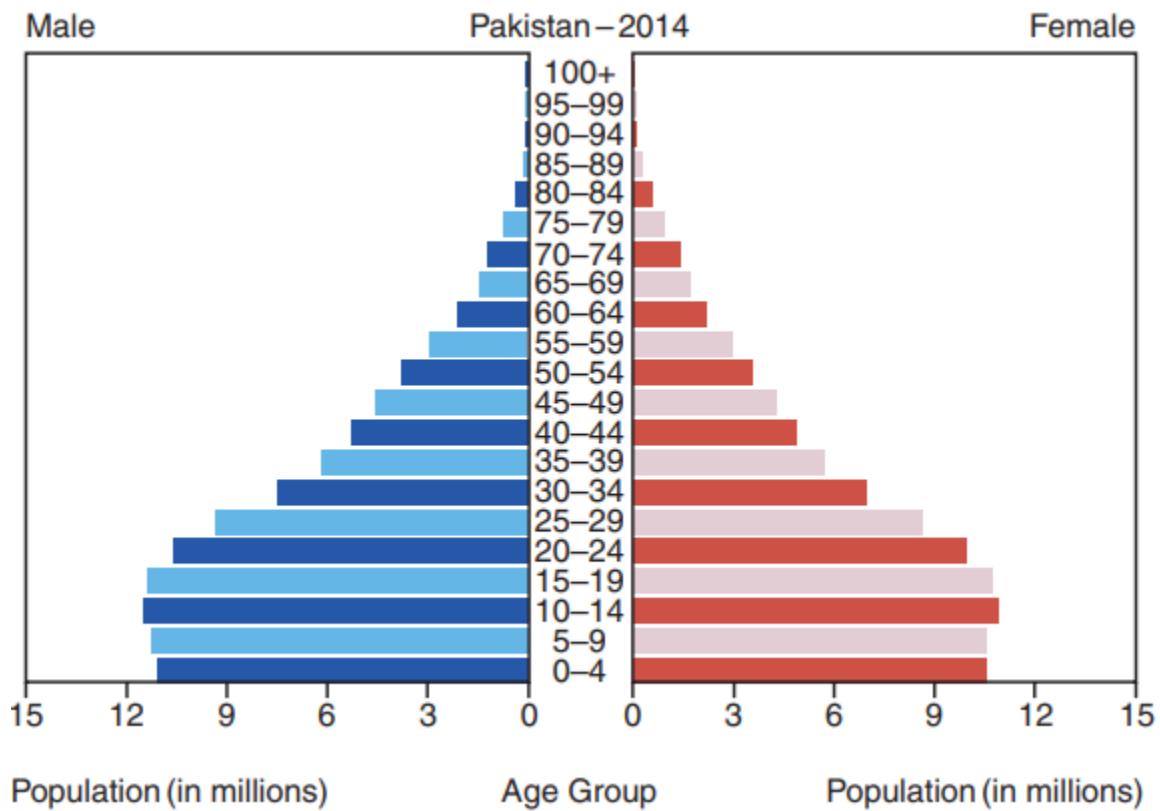
Moderate temperature/climate not too extreme/monsoon rainfall giving tolerable living conditions

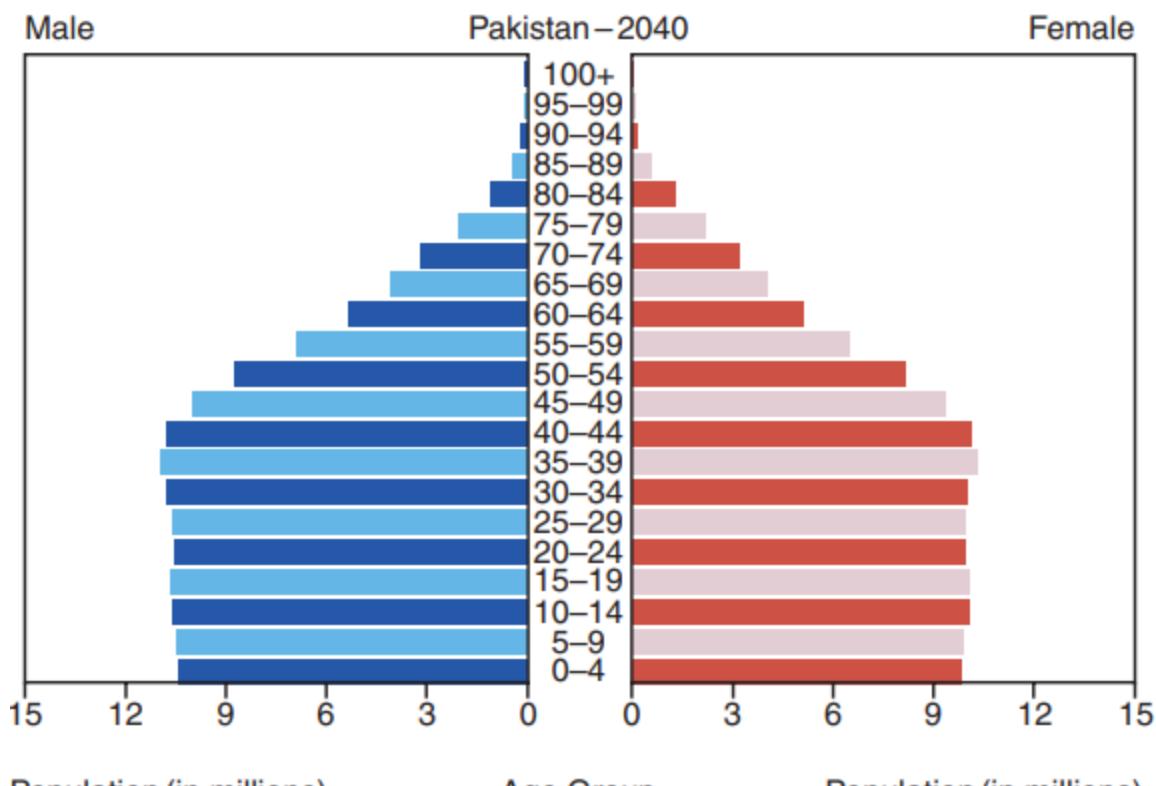
High annual rainfall leading to higher agricultural yields

Rivers/Indus/tributaries/named tributary for water supply [for industry]/irrigation/flooding land/fishing/transport

Fertile soils which allow cultivation of crops

(c) Study Fig. which shows two population pyramids for Pakistan.





Population (in millions)

Age Group

Population (in millions)

(i) What information is displayed in a population pyramid? [2]

Markscheme:

Amount/proportion/percentage of population in certain age groups/distribution of various age groups in a population/age structure of the population

In 5-year age groups

[Compares] male and female [shown separately]

(ii) Identify two ways in which Pakistan's population structure is forecast to change between 2014 and 2040. [2]

Markscheme:

Fewer children/young dependents / fewer of specified age in range 0-14

Fewer 15–19

More working population/ more of specified age in range 25–59/64

More elderly/old dependents/more of specified age in range 60+/65+

(If no other answer accept) ageing population

(iii) Give one possible reason for each change identified in part (ii). [2]

Markscheme:

Lower birth rates/parents having fewer children/smaller family size

Marrying later/women in education/working/empowered

Higher use/introduction of contraception/family planning

Education/awareness about contraception/family planning/healthcare/diet/hygiene

Over the period the larger bars move up the pyramid

Greater in-migration/more refugees in working age group

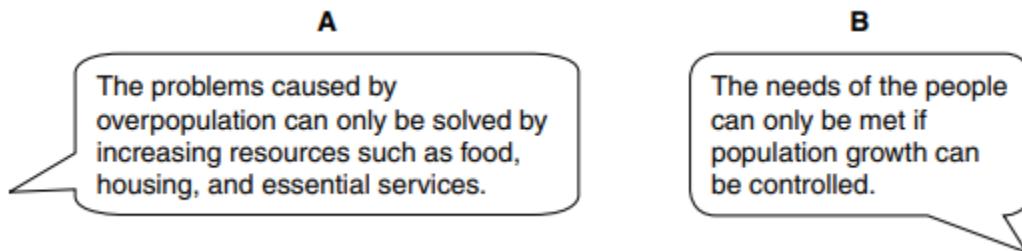
Longer life expectancy/higher standard of living/lower death rates/lower infant mortality

rates

Improved healthcare/vaccinations / more/better qualified doctors

Improved hygiene/diet/nutrition/food supply

(d) Read the following two views about overpopulation in Pakistan:



Which view do you agree with more? Give reasons to support your answer and refer to places or examples you have studied. [6]

Markscheme:

Increasing resources

For

Reclaiming land for agriculture (deserts/waterlogged and saline areas)

Green revolution/modern methods in agriculture (increase yields)

Government schemes to improve services (electricity/sanitation/house building/improvement/shanty housing redevelopment)

Against

Pakistan is a developing country with few resources/resources not exploited (government cannot afford/in debt/trade/BoP deficit)

Controlling population

For

Family planning/birth control clinics (free /education about contraceptives)

Education for women (likely to marry later/work/have fewer children)

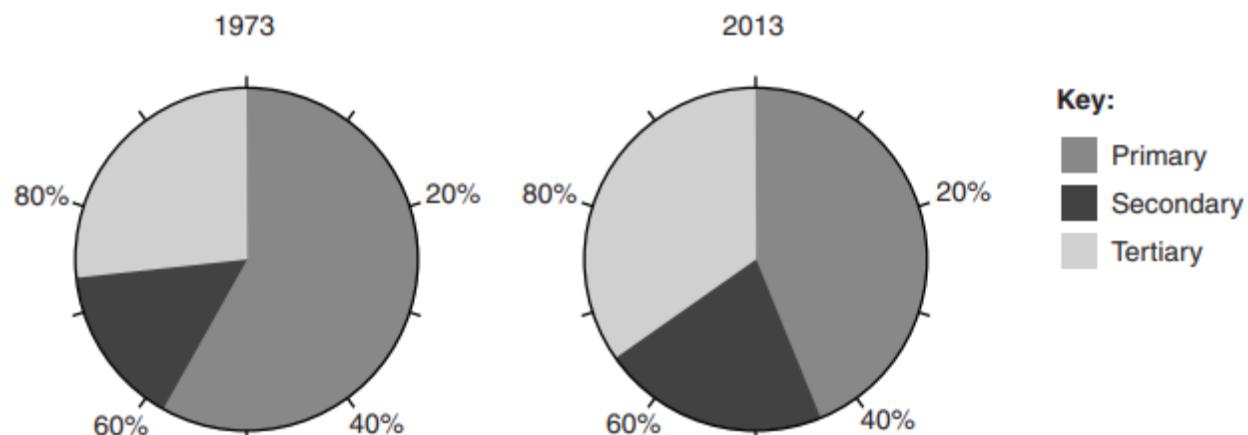
Against

Natural increase/birth rate still high (policies to reduce them still not working)

Factors are present preventing lower birth rate (religious/tribal opposition to family planning/women's education)

Tradition for large families (children as workers/security/status)

(a) Study Fig. which gives information about employment in Pakistan by sector.



(i) A State the proportion of primary sector employment in 1973.

B By how much has secondary employment increased between 1973 and 2013? [2]

Markscheme:

A: 58% Accept 57–59%

B: 6% Accept 5–7%

(ii) Suggest reasons for the change in tertiary employment shown in Fig. . [3]

Markscheme:

Improved education/training leading to higher numbers entering e.g. trade/finance/insurance

Larger population requiring more health services / education services / government/ administration

More informal sector services /named informal sector employment e.g. tailors/ cobblers/maids/ drivers/guards

New named infrastructure e.g. hotels/airports resulting in more named tertiary jobs

Is higher paid/ perceived to be higher paid

Better working conditions in offices/air conditioning

More foreign investment in banking/insurance

(b) (i) What are the causes of unemployment and underemployment in urban areas? [3]

Markscheme:

Population increasing rapidly/overpopulation

Increasing numbers of rural to urban/internal migrants /refugees

Mechanisation replacing workers [in factories / IT/computer use]

Lack of education/skills

Discrimination/corruption

Loadshedding/temporary layoffs

Political instability

Slow economic growth/weak economy

Definition of underemployment: people work less than full time although would prefer to work longer hours/ people who accept jobs that do not utilise their skills.

(ii) Suggest two reasons why unemployment is difficult to measure in countries such as Pakistan. [2]

Markscheme:

Disguised unemployment/more people employed than are needed

Large informal sector/workers not registered

Home workers / cottage industries

Self-employment

Unpaid e.g. domestic helps

Workers are mobile/ high internal movement of labour/ fluid labour market/ seasonal labour/ part-time labour

Inaccurate data collection/problems in collecting data e.g. in tribal areas

(d) Read the following two views about reducing the high unemployment rate in Pakistan.

A

Unemployment levels are best reduced by increasing training opportunities in agriculture and other primary sector jobs.

B

Unemployment is more likely to be reduced by providing education in skills for the manufacturing and service industries.

Which view do you agree with more? Give reasons to support your answer and refer

to examples you have studied. [6]

Markscheme:

Primary Industry

For

Pakistan is an agrarian economy (50–55% export earnings are in textile group)

Agriculture already employs large (40–45% of) workforce/ already high proportion (20–25%) of GDP

Model farms (giving practical demonstrations)

Workshops/technical training for repair/maintenance of agricultural machinery

Many mineral deposits not explored/potential in mining sector

Against

Rural unemployment is relatively low (4–5%) (half as high as urban)

Mechanisation in agriculture is displacing labour

Agricultural land going out of use (due to waterlogging and salinity, overuse, natural disasters, climate change, restrictive practices of landlords, plant diseases, rural-urban migration)

Agricultural products are not value-added/low value-added/not profitable

Agriculture does not generate much wealth (therefore less likely to attract new workers)

Very low proportion of land area under forestry

Fishing/mining very undeveloped

Manufacturing and Service Industry

For

Great potential in rural areas for opportunities in cottage industries

Urban unemployment is high (where most manufacturing industries/services are located) (8–9%)(twice as high as rural)

Tertiary sector already employs large (about 35% of) workforce

Higher profit/salary in sectors of economy requiring skills

Against

Manual work in manufacturing is reducing due to use of computers/automation

Increasing competition in global market for manufactured goods/products from Pakistan

Uncompetitive

[October/November 2016]

(b) Read the following article:

People move to towns and cities from the countryside for many reasons and often in large numbers. Some people return but most stay. As well as changing the lives of the migrants in many different ways, this rural–urban migration also brings change to the urban areas. The effects can be positive or negative.

(i) State two pull factors for the movement of population described in the article. [2]

Markscheme:

Higher paid jobs / better working conditions / more opportunity / variety of work

Better / higher education / colleges

More reliable sources of food

Expectation of better quality of life

Greater access to healthcare / hospitals / more hospitals / doctors
 Better healthcare / improved medicines / vaccinations
 Constant supply / availability of water / electricity / gas / telephone
 More entertainment
 Better / more housing
 Better road / rail / bus links
 Better law and order

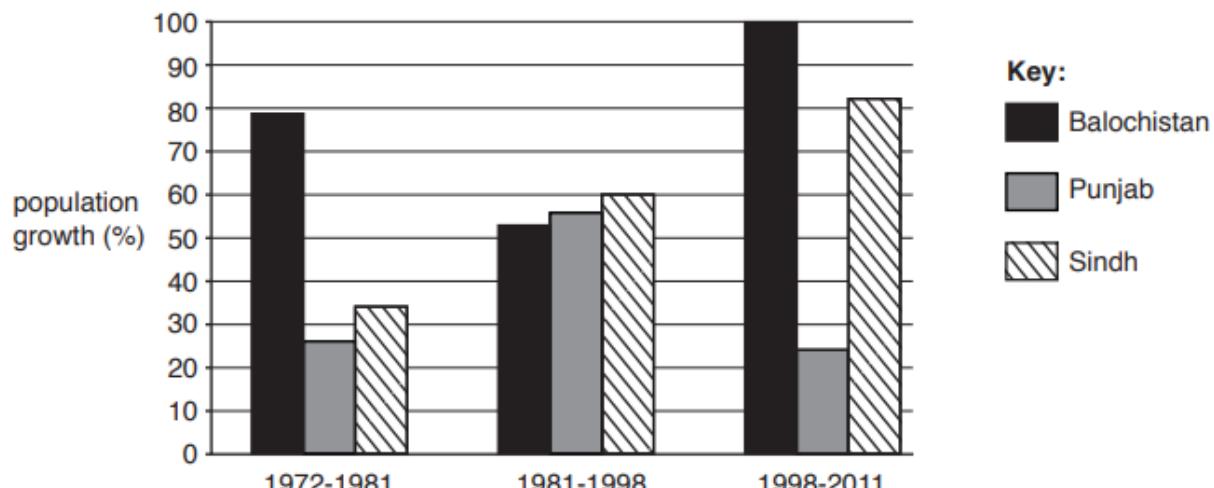
(ii) Describe the effects on urban areas of the movement of large numbers of people into them. [4]

Markscheme:

Greater workforce
 Increased competition for jobs / more unemployment
 Greater variety of skills
 Larger local market
 Overcrowding / shortage of housing / shanty development
 Overpopulation / densely populated
 Shortage of food / lack of food
 Strain / pressure on named services e.g. need more schools
 Strain on named utilities e.g. water, power
 Crime increases / increase in violence
 Growth in informal sector
 Urban sprawl / unplanned urban growth
 Traffic congestion / jams
 Increase in social and psychological problems
 Air / water / land / noise pollution / dumping untreated waste / damage to aquatic life
 Increased incidence of named health hazard – dysentery, cholera / disease spreads more quickly

[May/June 2017]

Study Fig. , which shows population growth rates for selected provinces over three time periods.



(i) A What was the population growth rate for Punjab between 1972 and 1981?

B Which province showed an increase in population growth rate in every period?[2]

Markscheme:

A 27% (allow 26–28%)

B Sindh

(ii) Identify one difference between the population growth rates of Balochistan and Punjab. [1]

Markscheme:

- Balochistan increases and Punjab decreases;
- When population growth is higher in Balochistan it is lower in Punjab and vice versa;
- Balochistan falls in 81–98 then rises in 98–11/moves from lower growth to higher growth whereas Punjab rises in 81–98 then falls in 98–11/moves from higher growth to lower growth;
- Balochistan lowest in 81–98 whereas Punjab highest in 81–98;
- Balochistan higher in 98–11 than 72–81/overall increase in growth: Punjab lower in 98–11 than 72–81/overall decrease in growth;
- Balochistan higher than Punjab in 72–81/98–11/Punjab higher than Balochistan in 81–98;
- Balochistan has a growth rate of more than 50% whereas Punjab has 25–55%

(iii) Explain two factors which have contributed to population growth in Pakistan.

You should develop your answer.[4]

Markscheme:

Economic factors:

- Children are an important part of the labour force (children needed to work on the land);
- Desire for sons (as an insurance policy in old age/ill health);
- Increase in food production (due to better farming methods);
- Better transportation system (to move doctors/food to where it is needed most);
- Cannot afford contraceptives.

Social factors:

- Early marriage/multiple marriages (increases the span for reproductivity);
- Limited acceptance of birth control/lack of family planning clinics/education about family planning;
- Religious beliefs (Allah gives Rizq/believe holy prophet wanted the nation to increase in size);
- Large families seen as a matter of pride/desire for large families;
- Low levels of literacy/lack of education (people are not educated about the pitfalls of large families/women are illiterate);
- Lack of contraceptives/access to contraceptives/knowledge of contraceptives;
- People living longer/higher life expectancy/ageing population.

Political factors:

- Increased availability of healthcare/medical facilities, (e.g. vaccinations/more hospitals/numbers of doctors/ use of

antibiotics/other life-saving drugs);

- Decrease in child mortality (due to improvements in the quality of medical facilities and/or access to them);
- Death rates have decreased (due to control of diseases, e.g. malaria or other named disease/due to modern health facilities);
- Improvement in sanitation/water supply (reducing spread of diseases like typhoid/cholera or other named disease);
- Change in governments (hinders implementation of population welfare programmes to reduce population growth);
- The hosting of large numbers of Afghan refugees/more people moving to Pakistan from neighbouring countries/immigration

(c) (i) Why is employment in urban areas considered to be more attractive than employment in rural areas? [2]

Markscheme:

- High salary/salaries higher/more work-related benefits/promotion available/handsome salaries;
- Salaries more regular/stable/livelihood less at risk/fixed wages;
- Better working conditions/examples, e.g. AC/more likely to be indoors/offices/factories;
- Less likely to be manual/more likely to be higher skilled;
- Perceived abundance of work available/wider variety of jobs/more job opportunities;
- Fixed/regular hours/year round/contract.

(ii) State three pull factors that attract migrants to urban areas other than for work. [3]

Markscheme:

- Higher/better education/better/more schools/universities/ colleges;
- More/better hospitals/greater access to healthcare;
- Better housing/or examples, e.g. brick built housing;
- Named better infrastructure transport/roads/railways;
- Better/more regular supply of electricity/gas;
- Improved/better sanitation/sewage systems;
- Piped/clean/drinking/regular supply/potable water;
- More entertainment/recreation/leisure facilities or named examples, e.g. cinema;
- Variety of shops/shopping malls;
- Reliable access to food/more food available/more regular food supply;
- Bright lights/glamorous lifestyle.

[October/November 2017]

Study Photograph which shows part of the urban area of Islamabad.



(i) Describe three features of the residential area in this photograph. [3]

Markscheme:

- Irregular pattern / arrangement;
- Crowded / closely built / high density;
- No open space / garden / small yards;
- Two storey / single storey / low buildings / houses;
- Small buildings / houses;
- Flat roofs;
- Brick built;
- Water containers on roofs;
- Power cables / transmission lines / telephone lines;
- Not glass windows / not many windows;
- Lack of vegetation;
- Narrow roads / pavements.

(ii) Suggest reasons why people move into areas such as that shown in Photograph. [4]

Markscheme:

- Considered a temporary living area;
- To be closer to work / to find work / more jobs available / high wages;
- To be closer to shops / entertainment / bright lights;
- To move in with relatives;
- Cannot afford higher quality housing / low rent or cheaper housing / low land tax;
- Lack / shortage of higher quality housing provision by authorities;
- Better housing than in squatter settlements / katchi abadis;

- Close to / improved transport links;
- Close to / improved education facilities;
- Close to / improved medical facilities;
- Close to services, e.g. electricity, water, gas, sewage, etc.

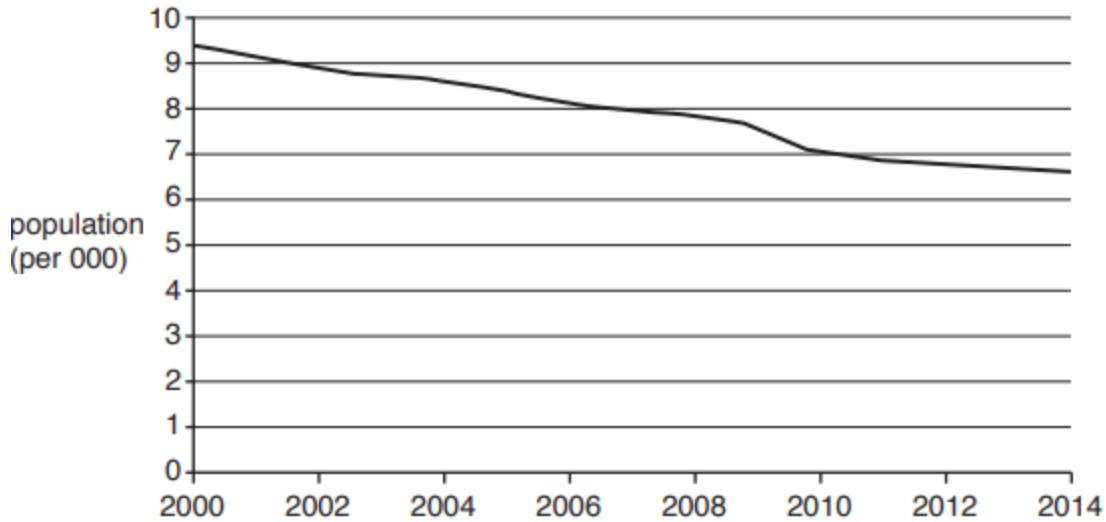
(b) A shortage of food is one reason why people move away from rural areas.

(i) Give two reasons why there might be a shortage of food in rural areas. [2]

Markscheme:

- Pests / crop disease;
- Storms / floods / heavy rain / frost / drought;
- Overcultivation / overgrazing;
- Waterlogging and salinity;
- Desertification / soil erosion / infertile soil;
- Inheritance laws / farm / plot size too small;
- Cannot afford named agricultural input, e.g. seeds;
- Mismanagement / neglect / landlords lack incentive;
- Increasing population growth / high population;
- Lack of education – farming methods / farming practices / traditional methods;
- Lack of irrigation.

(c) Study Fig. , which shows death rates in Pakistan between 2000 and 2014.



(i) What is the death rate in 2000? [1]

Markscheme:

9.5/000 / 9.5 per 000 – UNIT required (allow 9.3–9.5)

(ii) How has the death rate changed between 2000 and 2014? [1]

Markscheme:

Decreased / fallen / lowered / gone down / declined

(iii) Give one reason why the death rate has changed over this period. [1]

Markscheme:

- Better / more healthcare / medicines / clinics;
- More / better trained doctors / nurses / midwives;
- More widespread vaccinations / prevention of named diseases, e.g. malaria, cholera, typhoid;
- Improved hygiene / access to clean drinking water / sewage;
- Improvement in food production / supply;
- Better education or advice on what to eat / improved diet / healthy lifestyles / stopping smoking / more exercise.

(iv) Explain the impacts of this change in death rates on Pakistan. You should develop your answer. [4]

Markscheme:

- Population increases (pressure on named resource / increased crime / qualified pollution / specified congestion);
- More elderly to share experience / give advice / training (and so improve skills of working population);
- More elderly to offer family support (allowing more parents to work);
- Decreased infant mortality (pressure on healthcare / education);
- More people to contribute to labour force / more economically active (improves family income / greater productivity);
- Strain on families to support elderly; more dependents / higher dependency ratio (meaning more people who have to be supported by smaller share of working population / who do not contribute to the economy / financial burden);

- Strain on government / local authorities (to provide named services such as pensions / homes for elderly / healthcare / schools);
 - High cost of supporting elderly (causing taxes to be raised / longer working hours for wage earners / increase in pension age);
 - More people of working age (more competition for jobs / increased unemployment / increased crime).
- ETC.

(d) Rapid population growth and rural to urban migration lead to pressure on housing in urban areas of Pakistan. Read the following two views about ways to solve the housing problems in urban areas:

A

The government should provide funding to improve poor quality housing in urban areas.

B

The government should provide funding to rural areas to prevent migration from rural to urban areas.

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 and View B in your answer. [6]

Markscheme:

View A

For

- Self-help schemes;
- Schemes to renovate houses;
- Projects to build permanent housing / new low-cost housing;
- Loans to build own housing;
- Infrastructural development;
- Successful examples in Pakistan (e.g. Orangi Pilot Project, Karachi).

Against

- High cost of building materials / construction;
- Huge size of the problem – some slums are very large / makes projects very costly / long term;
- May attract more rural migrants;
- Local / community resistance to change.

View B

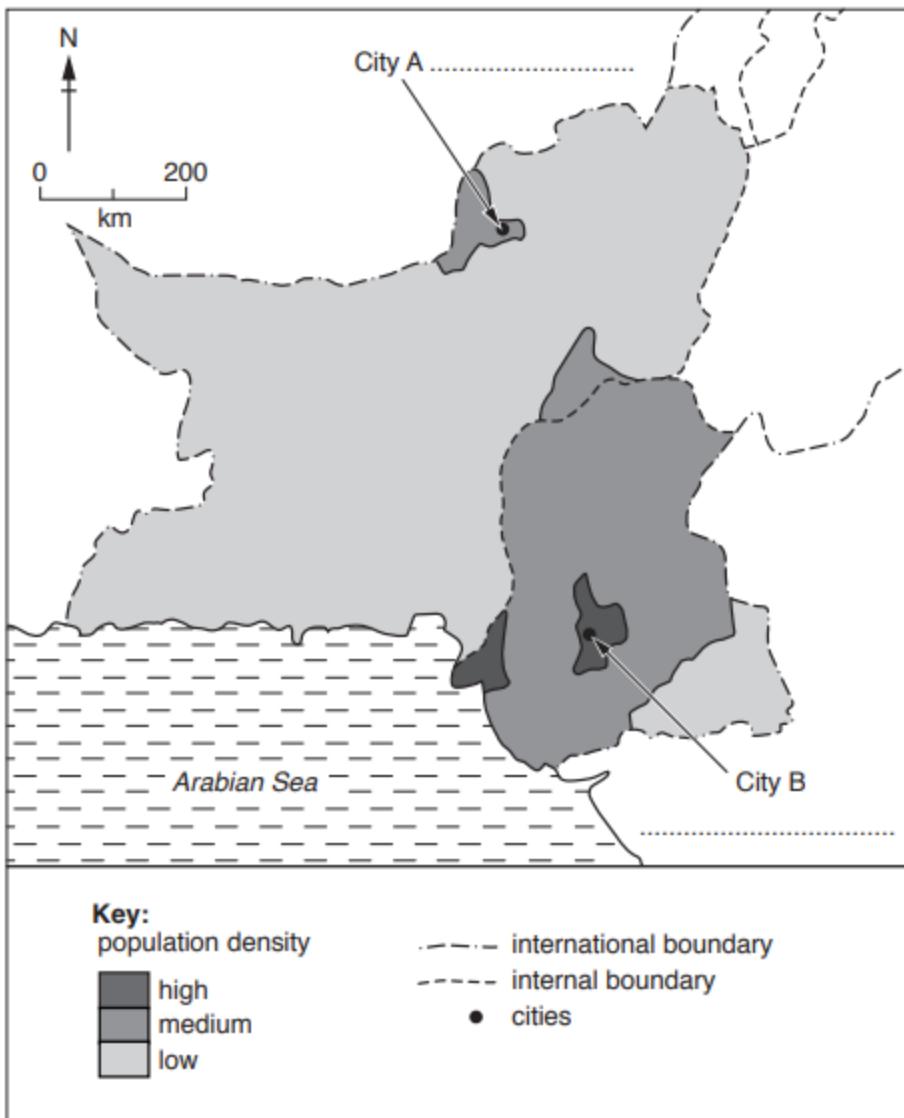
For

- Rural electrification / transmission lines;
- Other named infrastructure improvements, e.g. sewerage, roads;
- Build new settlements along roads;
- Schemes to support agriculture / cottage industries;
- Schemes to provide services – healthcare / education.

Against

- Pull factors of urban areas too great to prevent migration from rural areas;
- Push factors of rural areas more large-scale / widespread;
- Control of landlords / loss of land;
- Remoteness of rural areas makes it difficult to improve.

Study Fig. , a map which shows the distribution of population in southern Pakistan.



(i) On the map name the following: City A; City B. [2]

Markscheme:

A = Quetta

B = Hyderabad

(ii) Name one area of low population density shown on Fig. [1]

Markscheme:

- EITHER Balochistan / Tharparkar / Thar Desert / Kharan Desert / Zhob Desert / Cholistan Desert / Chagi Desert / Makran Desert;
- OR a named district in Balochistan: Awaran / Barkhan / Bolan / Chagi / Dera Bugti / Gwadar / JhalMaggi / Kachi / Kalat / Kech / Kharan / Khuzdar / Kohla / Lasbela / Loralai / Mastung / Musa Khel Bazar / Nushki / Panjgur / Piskin / Sherani / Qila A Saifullah / Sibi / Wazuk / Ziarat / Zhob;
- OR a named mountain range: Suleiman Range / Chaghi Range / Central Brahui Range / Toba Kakar Range / Makran Range / Kharan Range / Pab Range / Kirthan Range.

(iii) Describe three human factors that cause some areas to have a low population density. [3]

Markscheme:

- Few / poor / little trade / transport routes / named transport infrastructure;
- Lack of education / healthcare;
- Lack of job opportunities / unemployment;
- Poor / lack of named infrastructure other than transport, e.g. electricity / water supply / sewerage;
- Poor / lack of access to food / essential supplies;
- Unrest / security issues;
- Nomadic lifestyle;
- Barren area / deforestation / soil erosion.

(b) Study Fig. , which shows the percentage of the population working in Pakistan in 2013–14.

percentage of population working	Male	Female
Rural	69	29
Urban	66	10

(i) Tick two correct statements about Fig. 8 in the table below.

Statement	Tick (✓)
The percentage of female population working in urban areas is larger than in rural areas.	
The percentage of male population working in rural areas is smaller than in urban areas.	
The percentage of males working is greater than females.	
The percentage of people working in rural areas is greater than in urban areas.	

[2]

Markscheme:

Statement 3: 'A greater % of males are working than females'

Statement 4: 'A greater % of people are working in rural than urban areas'

(ii) Suggest reasons for the differences in the percentage of the population working between rural and urban areas. [3]

Markscheme:

- Higher proportion of women work in agriculture in rural areas / in general, higher percentage of population work in agriculture in rural areas than in urban areas;
- Higher proportion of women work in cottage industries and small-scale industries in rural areas;
- More male than female labour migrates from rural areas to urban areas;
- Mismatched of labour / skills for work in urban areas;
- Traditional / cultural values less likely to accept women working outside home / women stay at home;
- Traditional / cultural values mean males more likely to be seen as 'bread winners' in urban areas;
- In urban areas males paid more than females;
- Employment in rural areas is more labour intensive than in urban areas / less labour intensive in urban areas.

(iii) Explain the advantages of mechanisation in small-scale industries in Pakistan. You

should develop your answer. [4]

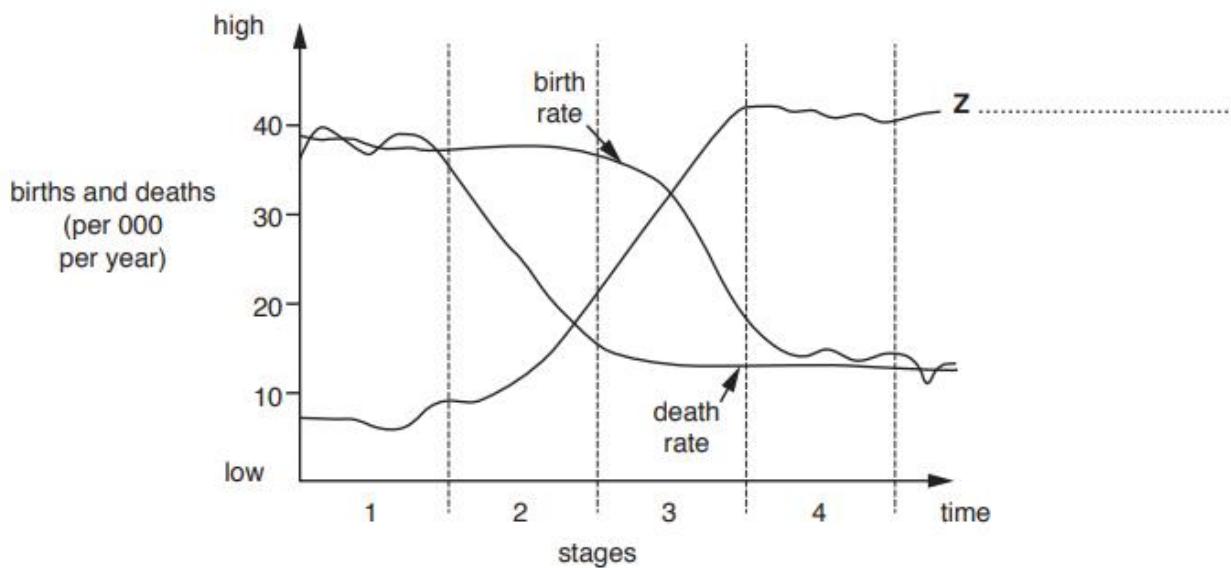
Markscheme:

- Quicker / more efficient (allowing greater production / profitability);
- Fewer workers needed (saving labour costs);
- Standardisation of products (improving quality for export);
- Reduces / replaces child labour (increasing trade opportunities / lifting embargos with countries previously not trading with Pakistan because of this issue);
- Increases skills (and therefore more competitive in global market);
- Costs per unit will decrease (increase profits).

ETC.

[May/June 2018]

(a) Study Fig. , which is a diagram of the Demographic Transition Model.



(i) Add a suitable label for line Z on Fig. . [1]

Markscheme:

- Total population / population growth.
- Describe the changes that occur in Stage 2 of the Demographic Transition Model in Fig. [2]

Markscheme:

- Birth rate increases slightly then decreases slightly / overall slight decrease;
- Death rate falls (rapidly);
- Natural increase is at its highest / steeply rises / increases;
- (Total) population grows / increases (rapidly).

(b) (i) Suggest three reasons for a high and fluctuating death rate in Pakistan during Stage 1 of the Demographic Transition Model. [3]

Markscheme:

- High infant mortality rate / children die from disease;
- High maternal death rate;
- Spread of diseases such as diarrhoea / cholera / malaria;

- Food shortages / lack of food / traditional farming methods / unreliable rainfall / drought;
- Poor hygiene facilities / lack of sewage disposal / lack of sanitation;
- Little development of medicines / drugs such as antibiotics / statins / limited availability of treatments for disease / vaccinations;
- Limited hospital / medical facilities / doctors / access to health facilities;
- Use of traditional practitioners / medicines;
- Natural disasters such as earthquakes / floods / mudslides;
- Insufficient knowledge on healthy diets / healthy living / exercise / health hazards of smoking;
- Unsafe / polluted drinking water.

(ii) Explain two reasons for a fall in the birth rate in Pakistan during Stage 3 of the Demographic Transition Model. You should develop your answer. [4]

Markscheme:

- Family planning programmes / named examples, e.g. subz-sitara clinics / Chabi ka Nishan;
- People aware of benefits of / desire smaller families;
- People have knowledge of problems of / understand issues of overpopulation;
- Increased literacy rates / people become educated;
- More women working / career orientated;
- Mechanisation of farming / fewer workers needed on farms;
- Later marriages;
- Decreased span of reproductivity;
- Desire for material possessions, e.g. cars rather than having children;
- Internal migration / international migration;
- Men leave / families fractured.

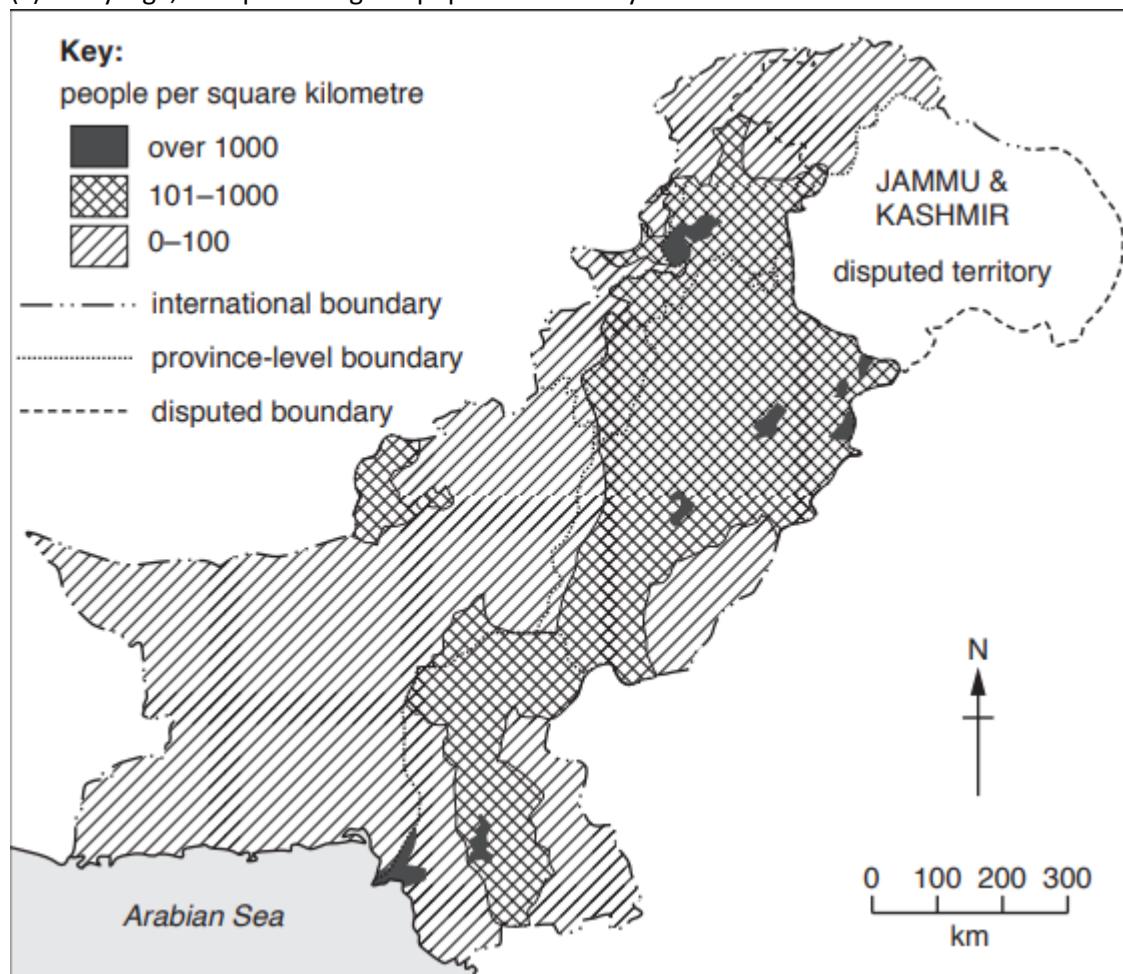
Etc.

(c) (i) Define the term 'population density'. [1]

Markscheme:

- Number of people per square kilometre / square mile / hectare / acre / unit area.

(ii) Study Fig. , a map showing the population density of Pakistan.



Describe the population density of Pakistan. [3]

Markscheme:

- Varied / uneven distribution;
- Small number of areas high density / high density areas are scattered;
- More densely populated in South East / East / Sindh / KPK / Punjab;
- Less densely populated / in South West / West / North / Balochistan / Gilgit / Northern areas;
- Moderate density in central areas.

(iii) Suggest reasons for the variation in population density in Pakistan as shown in Fig. [5]

Markscheme:

- Varied / uneven distribution;
- Small number of areas high density / high density areas are scattered;
- More densely populated in South East / East / Sindh / KPK / Punjab;
- Less densely populated / in South West / West / North / Balochistan / Gilgit / Northern areas;
- Moderate density in central areas.

(d) Pakistan's population is predicted to double by 2050 if population growth continues at the current rate.

Evaluate whether it will be possible for the government to support the population of Pakistan in the future. Give reasons to support your judgement and refer to examples you have

studied. You should consider different points of view in your answer.[6]

Markscheme:

Possible

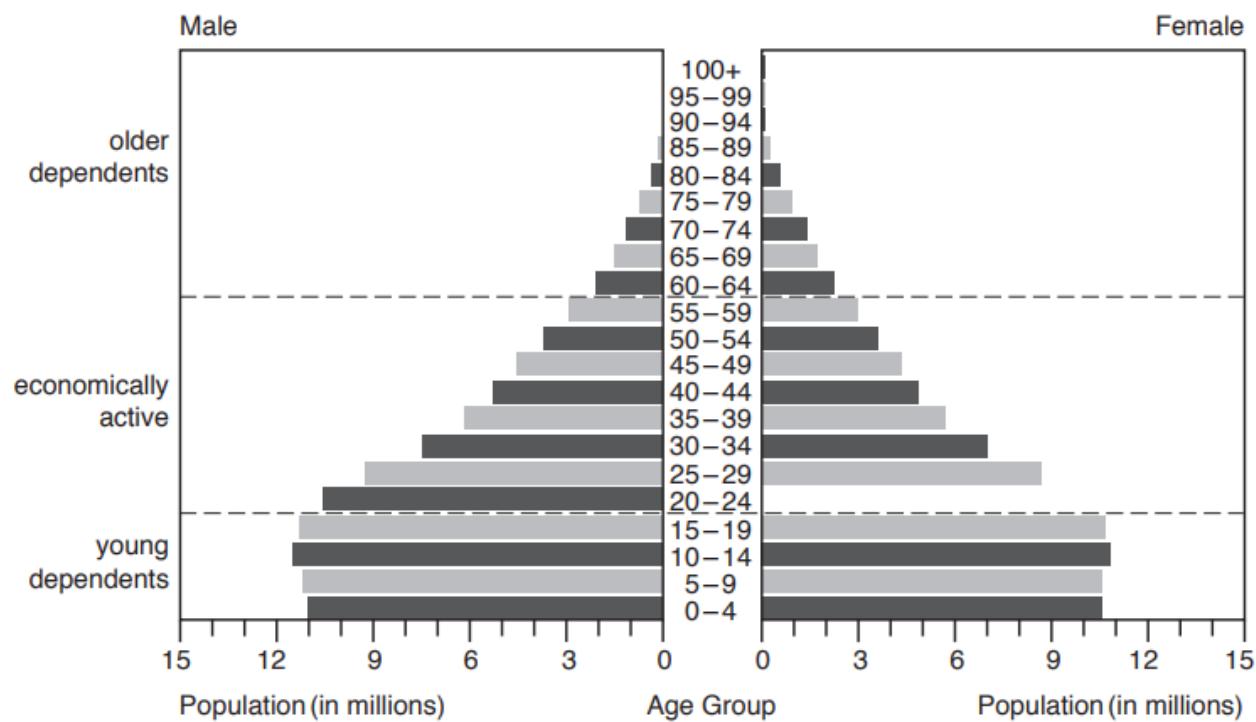
Government help through;
Encouraging use of contraception;
Introducing population policies;
Educating people about family planning / contraception;
Developing pre-natal care to reduce infant mortality rates;
Reducing the unemployment rate / create jobs;
Ensuring incentives are given to farmers to ensure demand for food is met;
As the country further develops / industrialises there will be more money in the economy and further investments can be made in healthcare / education / housing / food production.

Not possible

Insufficient food to feed the population now;
Limited healthcare;
High infant mortality rates;
School places in short supply / not all children can go to school;
Unemployment levels high;
Housing shortage / shanty towns developed;
Crime / discontent / racism / discrimination.
Etc.

[October / November 2018]

(a) (i) Study Fig., a population pyramid for Pakistan in 2014.



Complete the graph using the information below:

Females	
Age 20–24	10 million

[1]

Markscheme:

Accurate completion of population pyramid graph.

(ii) Using Fig. describe the population structure of Pakistan. [3]

Markscheme:

- Large number of young dependents 0–19;
- Small proportion of elderly dependents 60+;
- Gradual decline through the older age groups / economically active decline 20+;
- Economically active are the biggest sector;
- More females in older age groups / less males in older age groups;
- More males in young dependents.

(b) (i) Define the term 'birth rate'. [2]

Markscheme:

Birth rate – the number of babies' births / born per 000 of the population per year.

(ii) Study Fig. showing selected population information about Pakistan.

Total population	187 million
Urban population	70.87 million
Rural population	116.13 million
Population growth rate	2.0% per annum
Total fertility rate	3.3 per thousand
Birth rate	26.8 per thousand
Death rate	7.0 per thousand

Using data from Fig. calculate the natural population increase for Pakistan.

Show your working in the box below.

[2]

Markscheme:

Natural Increase = birth rate – death rate

$$26.80 - 7.00 = 19.8 \text{ (per thousand)}$$

(iii) From the list below tick three correct reasons for overpopulation:

	Tick (✓)
Too many people	
Use of contraception	
Not enough resources e.g. food, shelter, water	
Immigration	
Poor infrastructure	
Lack of government finance	
Rapid population growth	

[3]

Markscheme:

- Too many people;
- Not enough resources, e.g. food / shelter / water;
- Rapid population growth.

(c) (i) Give two benefits and two problems to a family of having a small number of children. [4]

Markscheme:

Benefits of having a small number of children:

- Have more food to go around;
- More disposable income / less outgoings;
- Can afford education;
- Will be healthier;
- More opportunities for employment;
- Better standard of living / quality of life;
- Less overcrowding;
- Less burden on services e.g. housing;
- More quality time for family;

Etc.

Problems of having a small number of children:

- Children needed to work (on the farms or other examples) / sent away

to work so less money coming in / more work to be done by fewer people;

- High infant mortality rate so children may not survive to adulthood;
- May not have a son to carry on the family name;
- May not have a child to take care of parents in old age;
- Have to pay others to work / less income earned;

Etc.

(ii) Explain how and why the death rate in Pakistan is changing. You should develop your answer. [4]

Markscheme:

How:

- Death rate is falling / decreasing / declining / lower; (decreased from 30 in 1947 to 7.2 per 1000 in 2012);

Why:

- Due to improved access to healthcare / more doctors / nurses;
- Improved medical facilities / more or better or improved hospitals / clinics / faster emergency services;
- Diseases like cholera / malaria / typhoid have been brought under control;
- Vaccinations;
- Improvements in food production / hygienic food / improved diets or examples;
- Education about healthy living / lifestyle / exercise;
- Improved hygiene / sanitation / sewerage;
- Safer / cleaner drinking water / water supply;
- Infant mortality rate decreasing;

Etc.

(d) Stage 4 of the Demographic Transition Model shows low birth and death rates with steady population growth for Pakistan between 2014 and 2040.

To what extent will low birth and death rates have a positive impact on the future development of Pakistan? Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Low birth and death rates may assist future development because:

- Lead to population / economic stability;
- A lower birth rate puts less pressure on the economic resources, e.g. education and healthcare, food and housing;
- A low birth rate means a lower dependency ratio;
- Lower birth rate allows greater investment into agriculture, trade, industry, transport etc. which will eventually lead to economic growth;
- A larger proportion of 15–60-year olds will mean that there is a large proportion of the population available for work / economically active to contribute to increasing the revenue of the country / pay taxes;
- Lower death rate means that elderly people can help with child care / pass on wisdom / knowledge to younger generations;

Etc.

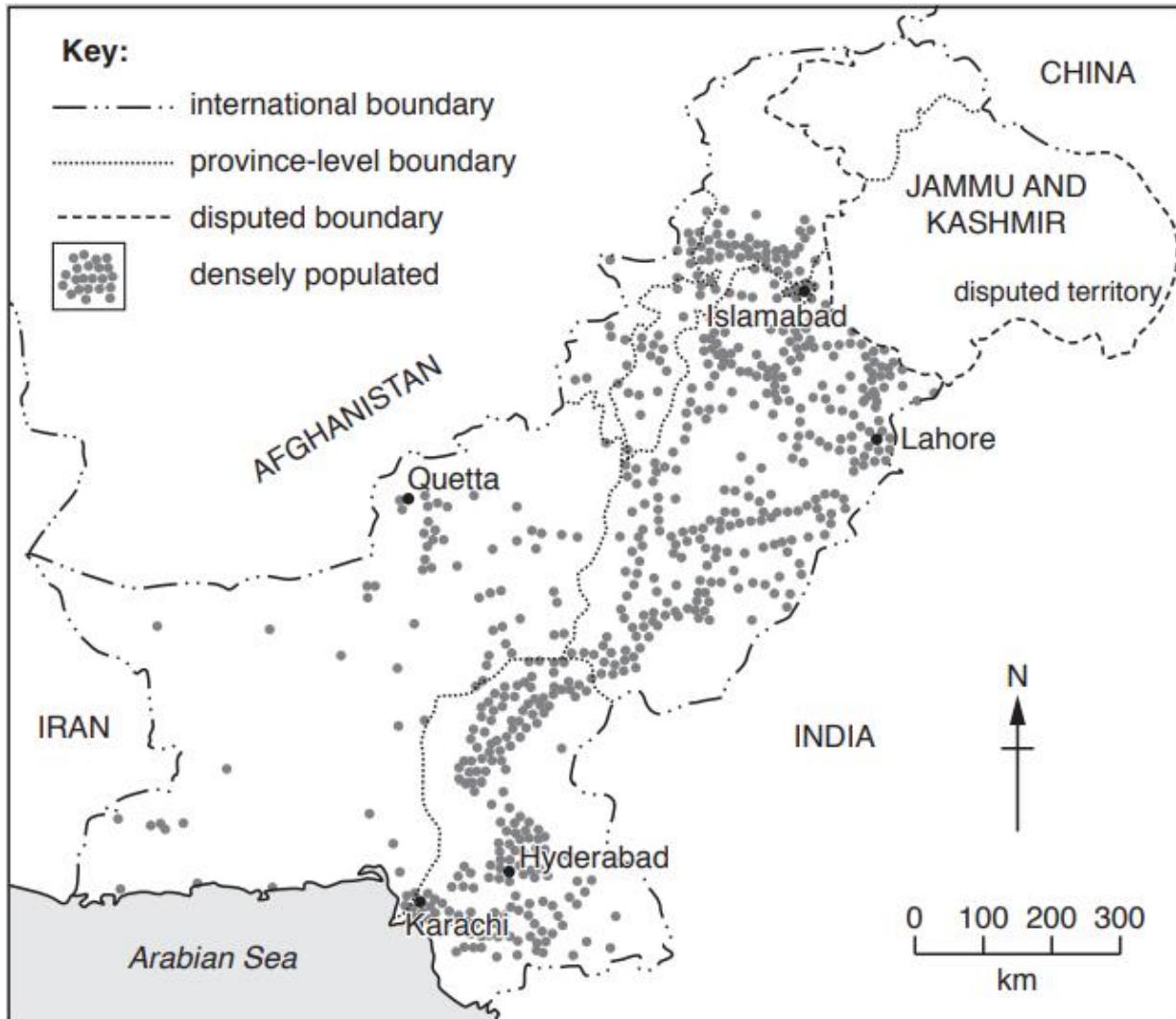
Low birth and death rates may limit / hinder future development because:

- Lower death rate will mean there are more people living longer, which leads to an ageing dependent population may offset possible development from a lower birth rate;
- A higher proportion of elderly people will increase the need for investment in healthcare, care homes, pensions etc.;
- There will be an increased dependency ratio of older people to younger people and who contribute less to the economic growth of the country;
- A larger proportion of 15–60-year olds will mean that there is a large proportion of the population available for work / economically active but this could lead to high unemployment levels if there are not enough jobs available putting a further economic burden on the government;

Etc.

Examples / ideas of how to reduce birth rates e.g. Subs-Sitara Clinics / Chabi ka Nishan

(a) (i) Study Fig. , a map showing population distribution in Pakistan.



Name a province that is sparsely populated.[1]

Markscheme:

Balochistan / Northern areas / Gilgit-Baltistan / FATA / tribal areas.

(ii) Using Fig. , describe the population distribution of Pakistan.[3]

Markscheme:

- Unevenly spread;
- Most people in North / North East Punjab / KPK;
- Densely populated in Punjab / Sindh;
- Most population in East Pakistan (compared with west);
- Most / more population centred around cities or named example from map, e.g. Islamabad / Lahore / Hyderabad / Karachi / Quetta;
- South West / West / North / North East Pakistan has few people / sparsely populated;
- Balochistan / FATA / Northern KPK / NWFP / Gilgit-Baltistan / Northern

Areas / Jammu and Kashmir are sparsely populated;

Etc.

(iii) Suggest three physical factors for the pattern of population distribution shown in Fig. .[3]

Markscheme:

- Topography / mountainous areas / uneven terrain = fewer people / flat land = more people;
 - Temperature / colder areas have fewer people / hot desert areas = fewer people / moderate or tolerable or favourable temperature = more people;
 - Snow in Northern Areas, fewer people / lack of rainfall, arid, dry = fewer people / moderate rainfall = more people;
 - Soil type / rich fertile soil able to grow crops = more people / dry or sandy soils difficult to grow crops / thin soil difficult to grow crops / farm = fewer people;
 - Near to / adequate water supply / river attracts more people / away from rivers = fewer people;
 - Natural route ways = more people / lack of route ways = fewer people;
 - Vegetation cover = more people / less vegetation cover = fewer people;
 - Availability of raw materials = more people / lack of raw materials = fewer people;

Etc.

(b) (i) Define 'rural to urban migration'. [1]

Markscheme:

Rural to urban migration is the movement of people from the countryside / village to towns / cities.

(ii) Using your own knowledge, what is the trend for the percentage share of people living in rural areas? Circle the correct answer.

increasing

decreasing

stable [1]

Markscheme:

Decreasing

(iii) State three pull factors for people moving to urban areas.[3]

Markscheme:

- Wider variety / higher salary jobs / better working conditions / industrial jobs;
 - Pleasant climatic conditions / not too hot or cold;
 - More / better educational opportunities / more schools / primary, secondary and further education available;
 - More / better healthcare facilities / more doctors / clinics available;
 - More reliable food supply in the cities;
 - Better standard of living / quality of life / modern lifestyle;
 - Better living conditions / better housing / improved sanitation / electricity supply / clean water;
 - More entertainment / recreation / bright lights / glamorous lifestyle / shopping malls / cinema;
 - More / better metalled roads / railways / public transport;

Etc.

(c) (i) Explain two impacts of large numbers of people moving into urban areas. You should develop your answer.[4]

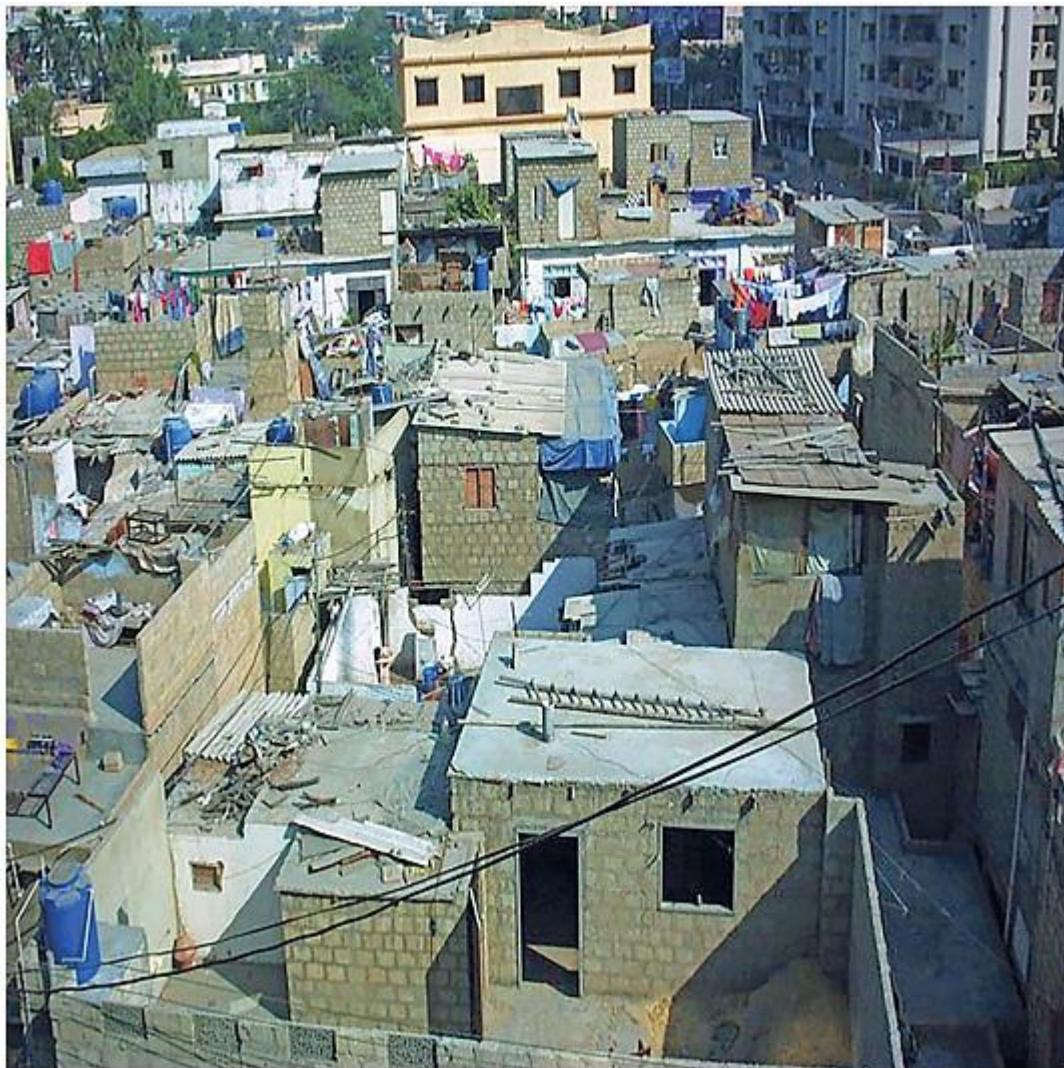
Markscheme:

- Unplanned growth of cities; leads to urban sprawl / growth of shanty towns (dev);
- More houses needed / crowded housing areas; so people build their own homes / poorly built / development of shanty towns (dev);
- Pressure on healthcare; more hospital beds / doctors needed, etc. (dev);
- Pressure on education; large class sizes / half day schooling / insufficient school places (dev);
- Sanitation / sewage systems overstretched; spread of diseases / raw sewage in streets (dev);
- Inadequate water supply; people drink polluted water / water shortages / water turned off during certain times of the day (dev);
- More power needed / electricity needed; power cuts during the day / leads to power theft (dev);
- More / high / increased unemployment; high competition for jobs / more unskilled or uneducated people / creation of more jobs required / growth of informal sector (dev);
- Increased traffic; leads to more air pollution / congestion / accidents (dev);
- Pressure on food supplies; leading to increased prices / poor diet;

Etc.

(ii) Study Figs. 5.2 and 5.3 , which show two areas of shanty development in Pakistan. Describe three differences between the shanty developments shown in Figs. 5.2 and 5.3.[3]





Markscheme:

- Houses are made from bricks (5.3) not material (5.2) / house (5.3) versus tents (5.2);
- Houses are more permanent (5.3) rather than moveable / tents (5.2);
- Drainage has been installed (5.3), no evidence of drainage (5.2);
- Cemented pavements / walkways have been built (5.3) versus mud paths (5.2);
- A water supply has been added as tanks are visible on roofs (5.3), no obvious water supply (5.2);
- Electricity / wires / cables / transmission lines have been installed (5.3), not evident in (5.2);
- The new housing has built doorways and windows (5.3), no doorways or windows in the tents / makeshift houses (5.2);
- Solid (metal / concrete) roof (5.3) versus canvas roof (5.2);
- Two storeys (5.3) versus single storey (5.2);

Etc.

(d) Evaluate the measures taken to improve the living conditions in shanty developments in urban areas of Pakistan. Give reasons to support your judgement and refer to examples you

have studied. You should consider different points of view in your answer.[6]

Markscheme:

Successful because

- Many shanty settlements have been improved by the government;
- Self-help schemes encourage community spirit as people will work together;
- People take pride in their environment;
- Clean water prevents spread of diseases;
- People will be healthier;
- Better standard of living;
- Housing is permanent and secure;
- Have directed where housing can be built;

Etc.

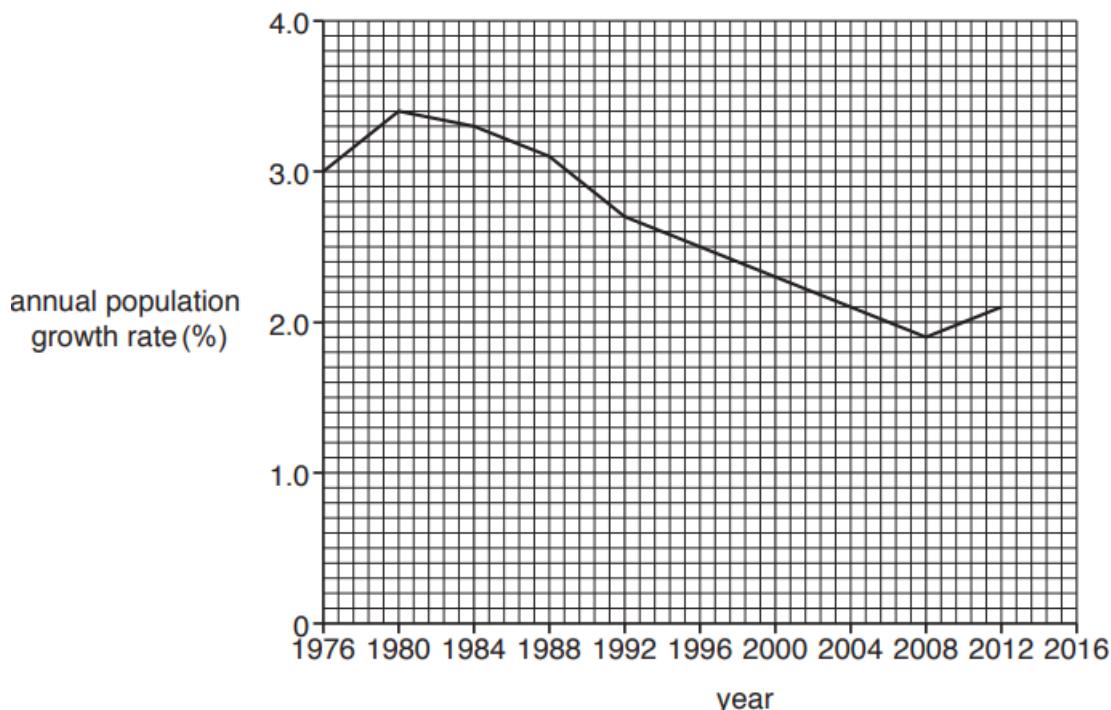
Less successful because

- Not all shanty settlements have been improved / only a few have been improved;
- Unplanned urban growth / sprawl continues;
- Some housing is still crowded so disease spreads easily;
- Rural to urban migration continues;
- Some housing is cramped / too small for large families;
- Some people remain living in poverty;

Etc.

[October / November 2019]

(a) Study Fig. which shows the annual population growth rate in Pakistan between 1976 and 2016.



(i) Complete the line graph for the annual population growth rate on Fig. using the information below:

year	annual population growth rate (%)
2016	2.0

[2]

[2]

Markscheme:

- 2.0 for 2016
 - joining up of the line

(ii) A In which year was the lowest annual population growth rate?

B In which year was the highest annual population growth rate?

C Identify how the annual population growth rate has changed between 1976 and 2016.

Circle one correct answer below.

Markscheme:

A= 2008

B= 1980

C= decreased

(iii) State two reasons for a declining death rate.[2]

Markscheme:

- Better (access to) medical facilities / Improved transport to doctors / more clinics / more hospitals;
 - Improvements in medical care / more doctors / more nurses;
 - Leading a healthy lifestyle;
 - Control of diseases or examples: cholera / malaria / typhoid / cures for diseases / medication;
 - Immunisations;
 - Improved diets / food production;
 - Improved sanitation / hygiene;
 - Clean / safe water supplies;
 - Fall in infant mortality

(b) (i) Define the term 'overpopulation'. [1]

Markscheme:

Overpopulation is when the number of people is too many / large for the available resources.

(ii) Explain two ways in which population growth can be reduced in Pakistan. You should develop your answer [4]

Markscheme:

- Introduction of population welfare programmes; e.g. women's association / Behbud association / green star clinics and child welfare association (dev);
 - Non-governmental agencies working with the government; for population welfare (dev);
 - Improving literacy rate / education; so that people know about family planning / understand the benefits of smaller families (dev);
 - Support of Ulemas; to distribute knowledge that family planning benefitting maternal and infant health is within Islamic principles (dev);
 - More schools for females; so as to increase the age of marriage which will reduce the birth rate (dev);

- Access to / use of contraception / free contraception; decreases birth rate (dev);
 - Increased education on family planning; prefer careers to having a family (dev);
 - Improvements in healthcare;
 - Reduced infant mortality rate;
 - Population policies to reduce number of people / anti-natalist policy; no more than two children allowed / fined if failed to follow policies (dev);
 - Provide pensions; so that children do not have to look after them when they get old (dev);
 - Prohibit child labour; so, no need for more children to earn for family (dev);
 - Fewer early marriages; as women focus on careers / reduce span of reproductivity (dev);
- Etc.

(c) (i) What are the causes of unemployment in Pakistan?[4]

Markscheme:

- Generation of enough economic opportunities for skilled and unskilled workforce / not enough jobs for everyone;
- Competition from people from other countries;
- Migrants / refugees moving into the country;
- Rate of population growth;
- Mechanisation in agriculture or industry / less manual labour;
- Increased use of ICT;
- Cultural traditions / restraints;
- Mismatch in supply and demand of labour force / rural-urban migration adds to numbers of unemployed;
- Security issues discourage investment;
- Underemployment / many part time jobs;
- Literacy rates / availability of education / skill levels.

(ii) Suggest three ways that employment can be generated.[3]

Markscheme:

- Government investment for small businesses / open more businesses or factories or industries;
- Support for new businesses;
- Inward foreign investment or named examples;
- Incentives to encourage foreign companies;
- Expansion of industry;
- Development of service industry/tourism;
- Non-governmental agencies or named examples;
- Bank loans;
- Community projects / self-help schemes or named examples;
- Invest in public sector.

(d) It is expected that over the next twenty years Pakistan's birth rate and death rate will decrease further.

Evaluate the extent to which projected population structures will affect the economy and

development of Pakistan. Give reasons to support your judgement and refer to examples that you have studied. You should consider different points of view in your answer.[6]

Markscheme:

Encourage economy and development

- A lower birth rate puts less pressure on the economic resources. e.g. education, healthcare, food and housing;
- A low birth rate means a lower dependency ratio;
- Lower birth rate allows greater investment in areas such as agriculture, industry, transport, trade etc., which eventually leads to economic growth (fewer resources spent supporting younger people, e.g. education / child healthcare etc.);
- A decreasing death rate means a larger active population (15–60) available for work and can contribute to increasing the revenue of the country / pay taxes. This will lead to more expenditure increasing development;
- A lower death rate means that the increasing number of elderly people can help with child care / pass on wisdom, knowledge and expertise to younger generations;

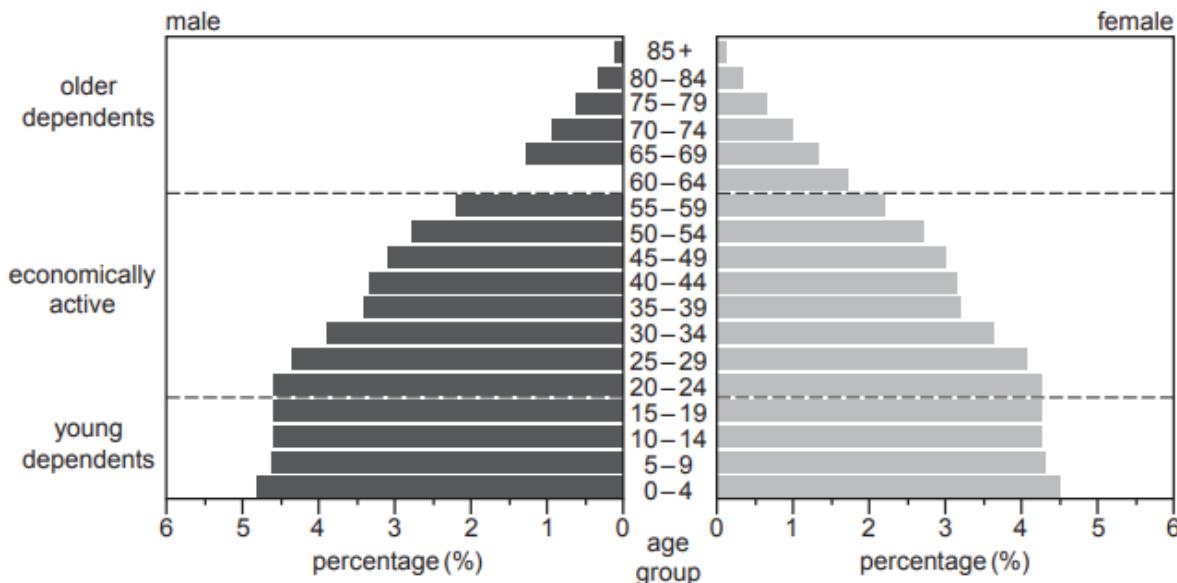
Etc.

Limit economy and development

- Lower death rates will mean there are more people living longer, which leads to an ageing dependent population / may offset possible development benefits of a lower birth rate;
- A higher proportion of elderly people will increase the need for investment in healthcare, care homes, pensions etc.;
- There will be an increased dependency ratio of older people to younger people and who contribute less to economic growth;
- A lower death rate will mean there is a larger proportion of economically active people available to work (15–60) but this may create an economic burden if there are not sufficient economic opportunities available for the increased workforce;

Etc.

- (a) (i) Study Fig. , a population pyramid showing the projected population structure for Pakistan in 2040.



Complete the population pyramid using the information below:

males	
age 60-64	1.7%

[1]

Markscheme:

Accurately drawn bar for males aged 60–64

- (ii) Using Fig. 5.1, calculate the percentage of female young dependents in Pakistan.

Circle the correct answer.

13.1% 17.4% 18.6% 36.0% [1]

Markscheme:

17.4%

- (iii) Describe the projected population structure for Pakistan in 2040 using Fig. only.[3]

Markscheme:

Ideas such as:

0–4 age group has highest percentage of population;

Predominantly young population/widest bars are below age 30;

Bars start to decrease after age 34;

Sharper decrease in bars after age 59;

Lower percentage of population in older age groups; etc.

- (iv) Explain how population data can be used to plan for the future in Pakistan. You should develop your answer.[4]

Markscheme:

Ideas such as:

To see how many young dependents there are; (so that the number of school places required can be determined/vaccinations/healthcare);

To identify how many old dependents there will be; (so that the amount to

spend on healthcare/care homes/medicines/pensions/hospitals can be estimated);

To know how many economically active there are; (so the amount potentially earned in taxation can be estimated);

To estimate the total number of population; (so that the quantity of new houses/building/services/facilities needed can be predicted/named examples); etc.

(b) (i) Suggest three benefits of a youthful population for Pakistan.[3]

Markscheme:

Ideas such as:

Enough people to work in the future;

Can pay more taxes;

Can support families when are older;

Provides a growing market for manufactured products; etc.

(ii) State four ways that a low and steady birth rate can be achieved in Pakistan.[4]

Markscheme:

Ideas such as:

Introduction/wider availability of contraception;

Family planning centres/clinics;

Educating women;

Population policy;

Improved healthcare; etc.

(c) (i) Complete the sentence below about overpopulation. Put the correct words in the spaces provided.

There is overpopulation when there are people and resources to support a satisfactory quality of life.

too few

too many

[1]

Markscheme:

Overpopulation is a result of too many people and too few resources

(ii) Describe two impacts of overpopulation.[2]

Markscheme:

Ideas such as:

Limited food supply;

Famine/starvation;

Overcrowding/too few houses;

Development of squatter settlements;

Shortage of essential services or named examples;

Limited clean water;

Excess waste/pollution;

Pressure on infrastructure;

Unemployment; etc.

(d) Pakistan has one of the world's largest and fastest growing populations. Read the following two views about the impact of fertility rates on the future economic development of Pakistan:

A

Unchecked high fertility rates in Pakistan will hinder future economic development.

B

Reducing the fertility rate in Pakistan will hinder future economic development.

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 and View B in your answer. [6]

Markscheme:

A: Unchecked high fertility rates will hinder future economic development

Agree because:

Too many people and not enough resources or named examples e.g. food, water, houses etc;

May lead to high levels of unemployment;

Increased pressure on services such as healthcare and education;

Higher taxes required to pay for services needed by young dependents;

People will have to work longer;

Investment in infrastructure or named examples may be reduced/limited as excess capital is diverted to support the young; etc.

Note: Conversely candidates may argue against View A and refer to examples of how high fertility rates may aid future economic development by creating a larger workforce that can contribute through taxes etc.

B: Reducing the fertility rate will hinder future economic development

Disagree because:

There will be more mouths to feed;

More pressure on land for housing/farming/industry;

Higher unemployment/not enough jobs to go around;

There will be more pressure on services such as healthcare and education;

Water, electricity, transport infrastructure is already stretched; etc.

Note: Conversely candidates may argue in favour of View B and refer to examples such as: China adopted an ante-natal population policy and later experienced an ageing population with too few economically active people, there may be natural checks to population (Malthus theory) e.g. war/famine etc.

(a) (i) Define the term 'migration'.[1]

Markscheme:

Migration is the movement of people from one place to another/leave own country and settle in another/moving in and out of an area.

(ii) Suggest four push factors that lead to rural–urban migration.[4]

Markscheme:

- drought so crops die/lack of water for people/crops/livestock;
- natural disasters/earthquakes;
- not enough land to divide between heirs due to large families;
- insufficient food grown/pest attack/leads to hunger/illness;
- overgrazing by livestock leads to soil degradation/erosion/flooding;
- high unemployment rate/low paid jobs/no or lack of jobs/few high salaried jobs/work for family;
- lack of services e.g. schools/shops;
- lack of hospitals/medical facilities;
- lack of infrastructure e.g. metalled roads/electricity supply;
- floods destroy homes/fields/livelihoods;
- no/limited irrigation due to lack of electricity e.g. tubewell;
- no/limited recreational facilities or examples;
- mechanisation in farming;

(iii) Describe the impacts of rural–urban migration on rural areas of Pakistan.[3]

Markscheme:

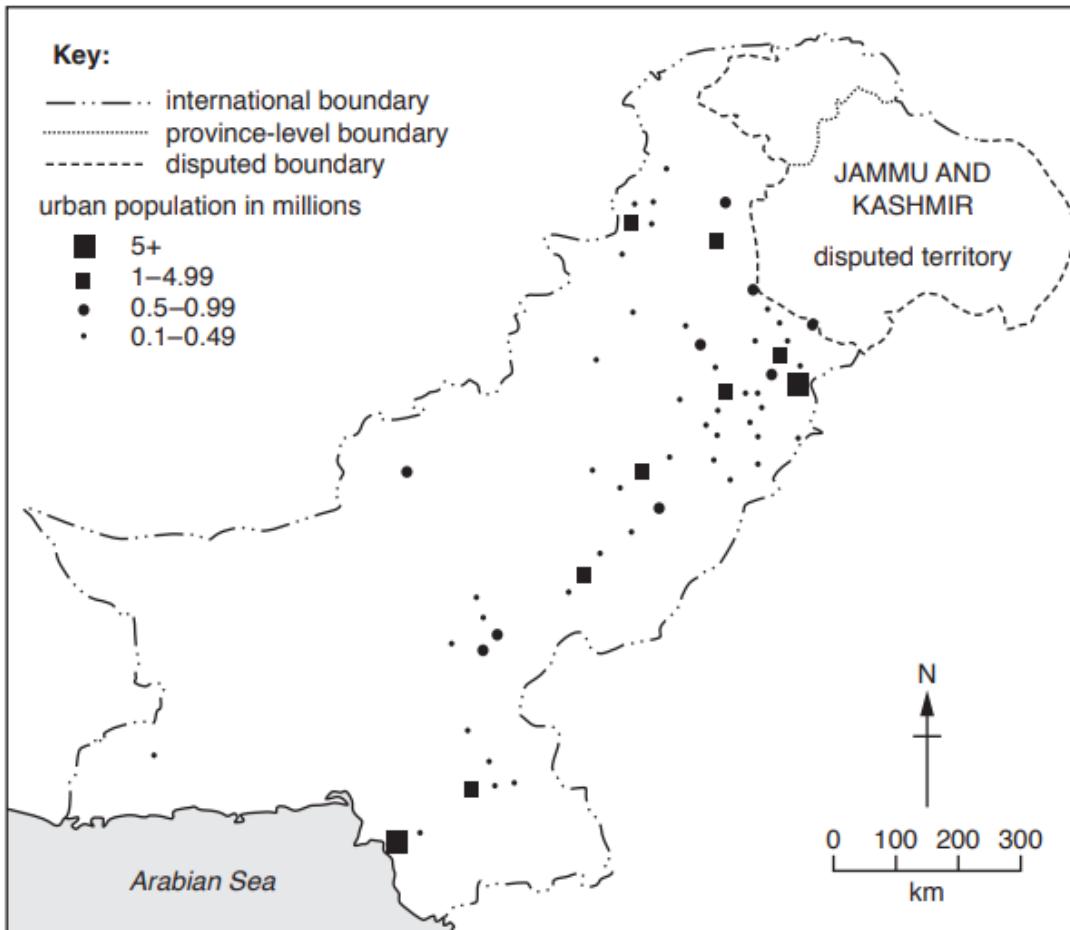
Negative impacts:

- rural de-population/low population/fewer people left behind;
- reduced workforce/people available to work on farms;
- reduced production;
- more women/children/older people/dependent population left behind/imbalance in population;
- feeling isolated/families are separated;
- fewer people discourages investment/development in rural areas;
- children are needed to work on the farm so cannot go to school;
- falling birth rate;
- families work harder to make up for the people who have left.

Positive impacts:

- send money back and so improve quality of life in rural area;
- more availability of food/electricity etc;
- more jobs available as people have moved out/less unemployment.

(b) (i) Study Fig. , a map showing the distribution of urban population in Pakistan in 2018.

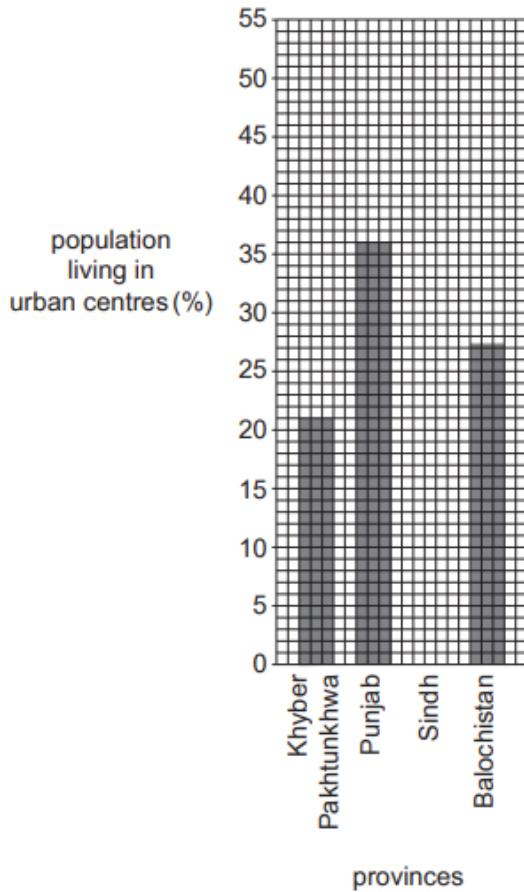


Using Fig. only, describe the distribution of urban population in Pakistan.[3]

Markscheme:

- uneven distribution;
- most/high population is distributed in the north-east/east;
- least/low population is in the south-west/west/far north;
- two locations have 5+ million: south and north-west;
- linear distribution north-west to south-east;
- most frequent distribution is 50 000 to 99 999;
- one area of 5+ million along Arabian Sea/very few along coastline/Arabian sea/most are inland;
- two areas of 0.5–0.99 million on the disputed boundary;
- only one area of 0.1–0.49 million in the south-west;
- only one area of 0.5–0.99 million in centre-west/west;
- reference to scale and correct number identified from key.

(ii) Study Fig. , a bar graph showing the percentage of the population living in urban centres by province in 2018.



Complete Fig. by drawing the bar for Sindh using the information below.

province-level area	percentage (%)
Sindh	52

[1]

Markscheme:

Accurate completion of bar at 52%

(iii) Using Fig. only list the provinces in rank order by the percentage of their population living in urban centres.[1]

Markscheme:

highest-lowest: Sindh, Punjab, Balochistan, Khyber Pakhtunkhwa (KPK)

(iv) State two problems which occur when large numbers of people live in urban areas.[2]

Markscheme:

- pressure/burden on school places;
- pressure/burden on healthcare services;
- pressure/burden on transport/traffic congestion;
- pressure/burden on sanitation/need more sanitation;
- housing shortage/shanty town development/homelessness;
- unemployment/not enough jobs/growth of informal economy;
- environmental degradation/more noise/air/water/land pollution;
- more waste generated/rubbish tips/rubbish in streets;
- increased load shedding/shortage of electricity;

- increased crime/theft.

(c) Explain two physical factors that affect the population distribution of Pakistan. You should develop your answer.[4]

Markscheme:

- topography/landscape/relief (1); e.g. flat land/plain area - more people able to settle there/build houses (dev);
- climate (1); e.g. no extremes of temperature or rainfall - more people live there (dev);
- soil fertility (1); e.g. rich fertile soil so able to grow crops and feed the population - so more people live there (dev);
- availability of natural resources raw materials or named examples (1); provides employment opportunities/settlements grow up around resources - more people live there (dev);
- availability of water (1) near to rivers/lakes/fresh water/water a necessity for life/irrigation - more people live there (dev);
- natural routes (1) e.g. gaps through mountains/confluence of valleys/natural harbours provides transport opportunities between countries/inaccessible areas - more people live there (dev);
- proximity to coast/beach/mountains/forests (1) for fishing opportunities/development of tourism/mountaineering/recreation -more people live there (dev);

(d) Read the following two views about the impact of migration on Pakistan's future economic development.

A

The emigration of working-age people from Pakistan will encourage further economic development.

B

The immigration of skilled and professional people to Pakistan will encourage further economic development.

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 and View B in your answer.[6]

Markscheme:

Agree with View A more

- Pakistan has a large population so encouraging people to move abroad will alleviate the burden of unemployment/encourage development;
- people who migrate will send remittances home which will improve household income/quality of life and increase revenue in Pakistan through domestic spending and investment in health/education;
- people may move abroad and gain training and expertise then return to Pakistan and help to develop the country by sharing skills/educating others/generating high income;
- less money has to be spent on training and/or benefits in Pakistan saving the balance of payments;
- people may diversify with this income/build wealth/invest in assets;
- reduced labour supply can lead to increased wages in local labour

markets;

- increased demand for local goods/services from increased remittances;

Etc.

Agree with View A less

- people who move abroad tend to be young economically active males; which changes the population composition and may leave a gap/skills shortage in Pakistan for filling certain jobs;

- loss of labour may lead to reduced production in agricultural/cottage industries;

- young and elderly dependants need the economically active to work in Pakistan to contribute towards GDP and balance of payments;

- encouraging the economically active to migrate creates more problems than it solves;

Etc.

Agree with View B more

- Pakistan has a lack of skilled and professional people which may hold back further economic development;

- skilled and professional people can teach/educate/train the people in Pakistan;

- skilled and professional people can set up businesses and create further employment opportunities;

Etc.

Agree with View B less

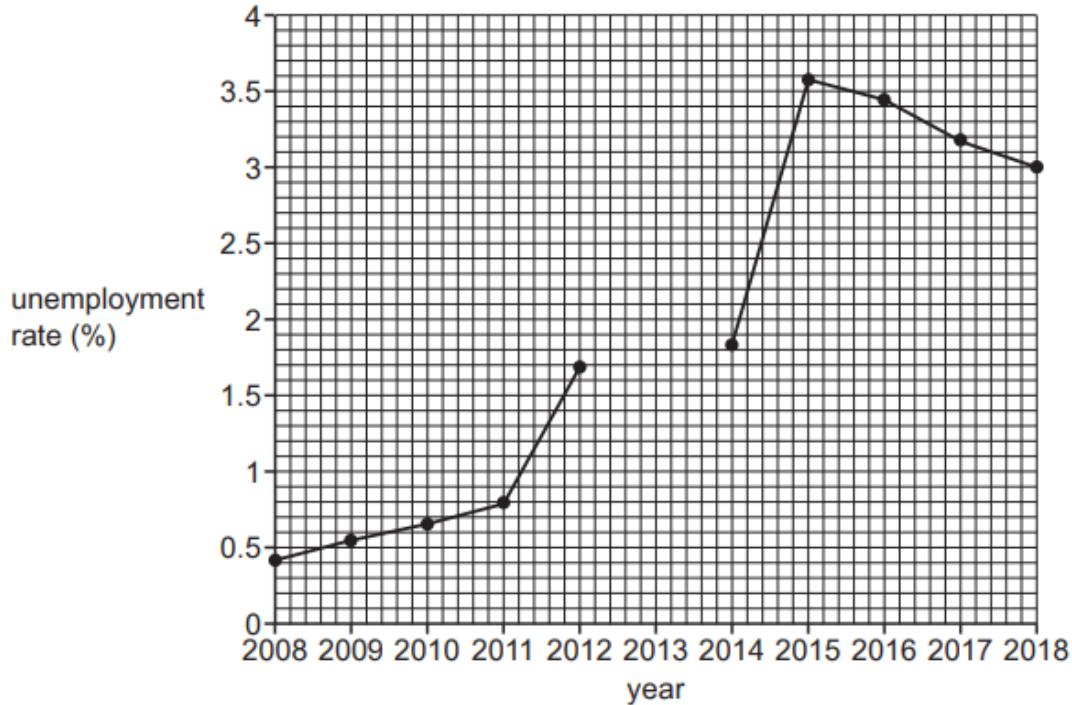
- it may lead to further unemployment of Pakistani people as foreigners will take the jobs that are available;

- Pakistani people may be put off from training and education if this does not lead to secure employment;

- foreign workers will send remittances to their home country which will not benefit Pakistan economically;

Etc.

5 (a) (i) Study Fig. , a line graph showing the unemployment rate (as a percentage of the population) in Pakistan between 2008 and 2018.



Complete Fig. to show that 3% of the population were unemployed in 2013. [1]

Markscheme:

Point plotted at 3% and line joined up.

(ii) In which year was the unemployment rate lowest?[1]

Markscheme:

2008

(iii) Which of the following statements best describe the change in the unemployment rate between 2008 and 2018? Tick (3) two boxes in the table below:

Unemployment rate has:	Tick (✓)
decreased then increased	
fluctuated	
generally decreased	
generally increased	
stayed the same	

[1]

Markscheme:

fluctuated, generally increased

(iv) In 2018 the total working-age population of Pakistan was 127 million and the

unemployment rate was 3 per cent.

Calculate the number of unemployed people in Pakistan in 2018. Show your working.[2]

Markscheme:

$$127\,000\,000 \div 100 \times 3 = 3\,810\,000 \text{ (people)}$$

(b) (i) Define 'underemployment'[1]

Markscheme:

People are working fewer hours than they wish/people who are not fully employed/doing jobs that they are over qualified for.

(ii) Suggest two reasons for unemployment and two reasons for underemployment in Pakistan.[4]

Markscheme:

Reasons for unemployment:

- rapidly growing population;
- mechanisation of farming;
- increased use of technology;
- rural to urban migration;
- reduction in demand for some products;
- natural disasters or examples e.g. floods/earthquakes;
- not enough jobs for the number of people;
- some of the workforce have lower levels of education/literacy/skills;

Reasons for underemployment:

- jobs may be seasonal e.g. cotton picking;
- increased mechanisation of farming;
- increased use of technology;
- mainly part time jobs available;
- cultural restraints/traditions/family ties;

Etc.

(iii) Describe how unemployment and underemployment can influence GDP in Pakistan.[3]

Markscheme:

- reduced/low GDP/negative impact;
- under-utilisation of human resources results in low GDP;
- wages decrease therefore taxes collected are reduced leading to low GDP;
- lower consumer expenditure which reduces a country's earnings/slows economic growth;
- leads to out migration/international migration/emigration affecting GDP;

Etc.

(c) (i) Name two jobs in Pakistan's informal sector.[2]

Markscheme:

- rug making;
- making pottery/ceramics;
- weaving/making textiles;
- street vendors;
- fruit seller;
- cleaners;
- handicrafts at home/tailor/pedlar.

Etc.

(ii) Explain how employment opportunities are affected by the availability of manual labour and skilled labour in Pakistan. You should develop your answer.[4]

Markscheme:

manual labour

- abundance of manual labour will promote low paid primary activities; thereby reducing employment opportunities and/or higher earnings;
- less manual labour means fewer people to do the low paid primary jobs such as farming/mining; resulting in low output and/or food shortages;

skilled labour

- abundance of skilled labour will encourage international companies to invest in Pakistan; thereby promoting employment opportunities;
- less skilled labour limits employment opportunities and/or industrial development in the secondary and tertiary sectors; limiting competition with other countries;
- industries need skilled labour to operate; due to high cost of machinery/prefer people over machines or examples;
- literate people/entrepreneurs create job opportunities; reduces unemployment/boosts the economy;

Etc.

(d) Pakistan's literacy rate was 60 per cent in 2020 and was predicted to be 68 per cent by 2025. To accelerate this growth, a new government initiative was introduced with the target of achieving a national literacy rate of 90 per cent by 2025.

Assess the extent to which higher literacy rates may increase employment opportunities for people in Pakistan. Give reasons to support your judgement and refer to examples you have studied. You should consider different points of view in your answer.[6]

Markscheme:

higher literacy rates may increase people's employment opportunities

because:

- it would make people more attractive to employers;
- more skilled people bigger range of jobs open to them especially in the public sector;
- people in education and training for longer will not join unemployment statistics at 16;
- may encourage people to seek jobs overseas;

Etc.

higher literacy rates may not increase people's employment

opportunities because:

- may not be enough jobs for people with literacy skills;
- Pakistan needs to invest further in secondary and tertiary industry to create jobs;
- Pakistan needs to attract increased foreign investment to create jobs;

Etc.

Examples can be job types.

(a) (i) Define 'population distribution'. [2]

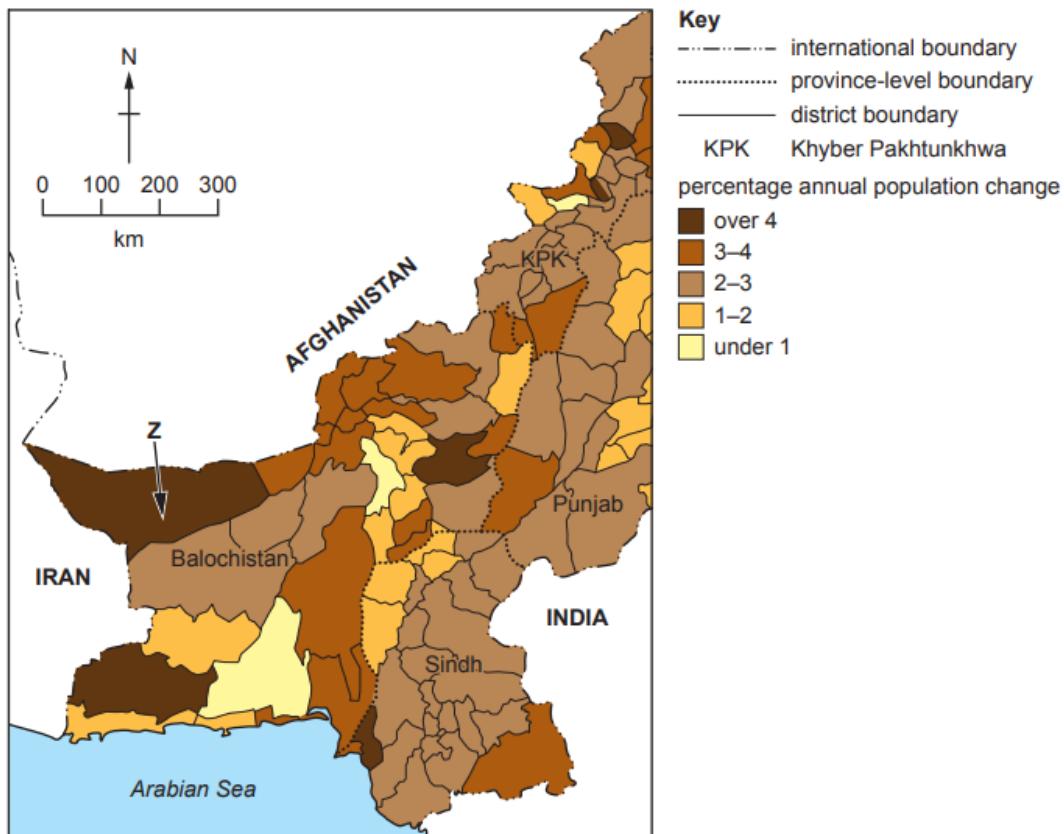
Markscheme:

is the way that people are spread/scattered over an area

or

it is the pattern of where people live

(ii) Study Fig. , a map showing average annual population change by district in southern and western Pakistan between 1998 and 2017.



Using Fig. only, describe the distribution of the districts within southern and western Pakistan with over 4 per cent annual population change.[3]

Markscheme:

- uneven distribution/more in south than in north
- on/near international borders with Iran/Afghanistan
- mostly in Balochistan
- in central area of Pakistan
- south-west/west/north-east part of Balochistan
- south-west part of/coast of Sindh/Balochistan-Sindh boundary
- central/north/north-east/north-west part of Khyber Pakhtunkhwa

(iii) Suggest two reasons for the annual population change of the district labelled Z in Fig.[2]

Markscheme:

- international migration
- internal migration between provinces/districts
- rural to urban migration
- displaced people/refugees
- push or pull factors (two from below):
 - in search of jobs/education/healthcare, etc.
 - fleeing war/conflict/disaster/hazards, etc.
- increasing birth rates
- decreasing death rates/infant mortality rates
- birth rate is increasing while death rate is decreasing
- people are living longer/longer life expectancy
- people having larger numbers of children

(b) (i) Study Fig. , a photograph of part of a tent city in Pakistan.



Using Fig. only, describe two features of the area shown.[2]

Markscheme:

- Large/vast area of land/flat land/barren
- wood/wooden poles/wooden beds
- fabric/cloth/plastic sheets/tarpaulins
- low/small/single storey (homes/dwellings)
- densely populated/high density/close together (homes/dwellings)
- white/bright coloured (homes/dwellings)
- tracks/non-metalled roads
- little vegetation/few trees
- arid/dry/dusty/sandy ground
- land pollution/litter/waste/rubbish on ground

- clothes on roofs
 - pylons/water tower/large building in distance
- (ii) State two reasons for the growth of tent cities in Pakistan.[2]

Markscheme:

- migration/rural-urban migration/growing population/overpopulation
- overcrowding/lack of land in cities
- demand for housing is higher than supply/there is a lack of housing
- difficult to keep pace with the large number of houses needed
- formal housing is unaffordable/poverty/unemployment
- tent homes are cheap to construct
- tent homes can be built quickly

(iii) Describe four problems faced by many people living in tent cities.[4]

Markscheme:

- overcrowded/crammed/congested living conditions/lack of privacy
- noisy/noise pollution/not soundproof
- little protection from weather/sun/rain/wind/dust
- homes are poorly built/easily destroyed/leak/fall down/lack foundations
- homes catch fire/fires spread easily
- rubbish piles/lack of rubbish disposal/waste attracts vermin and flies/smells
- lack of security/possible wild animal attacks/high crime rates/difficult to police
- often unemployed/employed in low paid/informal jobs/unskilled jobs/poverty/poor
- can be evicted/land can be cleared/no rights of ownership
- disease can spread more easily
- food shortages/lack of food/malnutrition
- lack of sanitation examples; taps/kitchens/(running/piped) water/drains etc/have to travel to collect water/standing water attracts mosquitoes
- lack of infrastructure/utilities examples; metalled roads/toilets/sewerage disposal/internet/ telephone/no electricity supply/unable to have appliances, e.g., fridges/lights
- lack of services examples;
doctors/healthcare/hospitals/schools/education/public transport, etc.

(c) Explain two strategies which could be used to improve living conditions in existing tent cities in Pakistan. You should develop your answer. [4]

Markscheme:

- build hospitals/health services; for vaccinations against disease
- build schools/education/self-help/resident training schemes; teach skills to improve housing/improve employment options/improve health
- clean/drinking water/water taps/wells/pipes/ water tanks installed; providing a supply of running water to each house/to reduce the chance of catching disease
- toilets/sewerage system installed; reducing the spread of infectious diseases or example
- gas/electricity provided; allowing people to heat and light their homes

- roads built; provides jobs in construction/allows people to access more employment/education opportunities
- streetlights installed; makes people feel safer and/or reduces crime
- building materials provided; to make the houses brick/more private/stable/better insulated
- rubbish collections: to clean up the area and reduce the vermin/spread of disease
- open spaces/parks created; provides space for recreation/play/sports/trees create shade
- loans/funding from government/NGOs; pay for education/allow them to get qualifications/ to make their houses more secure/safer
- government/NGOs build/provide affordable homes; which have running water/electricity provided (d)

(d) Read the following two views about approaches that could be taken to further develop Pakistan's economy

A

Reducing death rates and the spread of disease in Pakistan is the best way to develop the economy further.

B

Improving literacy rates and educational provision in Pakistan is the best way to develop the economy further.

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 and view B in your answer. [6]

Markscheme:

agree with A because:

- less people will be ill so can go to work
- government won't have to spend as much money on hospital care
- if infant mortality rate is reduced people will have fewer children, lowering the birth rate
- widespread vaccination programmes can reduce the spread of disease, therefore less burden on healthcare

Etc.

disagree with A because:

- reducing death rates will mean that there will be more dependents to support which places more burden on the government
- reducing death rates will lead to higher unemployment
- reducing death rates will put more pressure on healthcare facilities
- there are not enough doctors/vaccines to enable a lower death rate/reduce the spread of disease

Etc.

agree with B because:

- improved literacy rates and educational provision will lead to a more skilled workforce
- an educated and literate population can improve technology and innovate new ideas
- rise of entrepreneurs to develop businesses
- will attract investment from abroad

Etc.

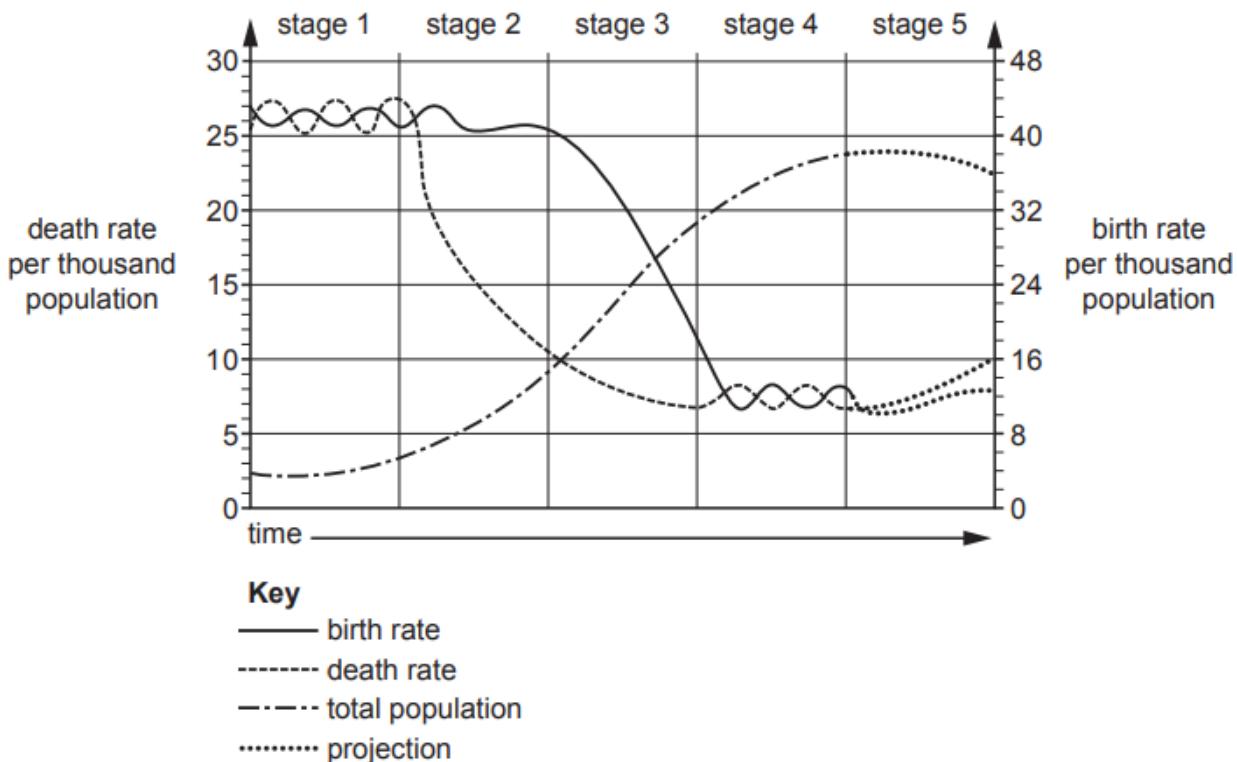
disagree with B because:

- literacy rates tend to be higher in city areas so development will be patchy/uneven
- educational provision is limited and not everyone has access to schools/higher education
- some families do not send their children to school so this is difficult to achieve

Etc.

[October/November 2022]

(a) (i) Study Fig. , a diagram showing the Demographic Transition Model (DTM).



Using Fig. only:

– What is the birth rate at its highest point?

Markscheme:

- birth rate = 43 – 45

– What is the death rate at its highest point?

Markscheme:

- death rate = 27 – 28

– What happens to the total population in stage 2? [3]

Markscheme:

- increases/rises/goes up/gets bigger

(ii) In 2018 Pakistan's birth rate was 25 per thousand population and the death rate was 7 per thousand population. Using Fig. , identify which stage of the DTM Pakistan was at in 2018. [1]

Markscheme:

Stage 3

(iii) On Fig. , shade a stage of the DTM which shows high natural population increase.[1]

Markscheme:

shade Stage 2 or Stage 3 or both

(iv) State three reasons for a reduction in the death rate in stages 2 and 3 of the DTM.[3]

Markscheme:

- improvements in hygiene or examples of that, e.g. clean/drinking water
- improved sanitation/introduction of sewage systems
- improved housing/shelter or examples of that, e.g. electricity
- improvements in diet/food intake/safer food storage/better access to food, e.g. shops/markets
- improved/more/better access to healthcare/medical facilities or examples of that, e.g. hospitals
- more/better/educated/improved access to medical workers or examples of that, e.g. doctors
- vaccinations
- cures for diseases/medicines/medical procedures
- fewer people doing dangerous jobs/improved working conditions
- healthier lifestyle choices/more health conscious or examples of that, e.g. exercise/not smoking

(b) (i) Explain two reasons why birth rates are high in Pakistan. You should develop your answer.[4]

Markscheme:

- (religious) beliefs; people have many children
- strong desire for sons; to carry on the family name
- need/desire for large families; to provide labour/work on farms/bring in extra income/help look after the family in old age
- may lack knowledge about family planning/use of contraceptives
- lack of/high cost of contraceptives; people cannot afford them/don't have access to them
- early marriages; increases the span for reproductivity
- high infant mortality rate; so people have more children
- unsuccessful population welfare projects; limited success in tackling high birth rates/so fewer people benefit/fewer people are educated by such projects

(ii) Describe how birth rates are being reduced in Pakistan.[4]

Markscheme:

- more people want/have/are choosing to have fewer children
- more people are educated/literate
- more people have a career/job
- people are having children later in life
- reduced reproductivity span
- having a legal age for marriage/women are marrying later
- government and NGOs are raising awareness/educating about the benefits of having smaller families

- promoting/funding/investing in family planning projects methods/services across the country/in rural/urban areas

- examples of projects, e.g. Greenstar/Sabz Sitara clinics

- providing better access to/awareness of using (free/cheap) contraceptives/making family planning socially acceptable

- banning child labour/reducing dependence on children for income

(c) Suggest three likely changes to Pakistan's population structure over the next 50 years.[3]

Markscheme:

- narrowing base/fewer babies being born/fewer children/fewer 0–14 age groups

- fewer young dependents

- wider middle/still a high number of young adults (in proportion to the rest of the population)/more 20 – 40 age groups

- more economically active/working age in the population

- broader top/there will be more older people/longer life expectancy/more in 60 – 75 age groups

- increasing number of very old/elderly groups/more over 75+

- increasing older/elderly dependents

(d) Read the following two views about ways of slowing Pakistan's population growth rate:

A

B

Reducing infant mortality in Pakistan is the best way to slow the rate of population growth in the future.

Increasing family planning in Pakistan is the best way to slow the rate of population growth in the future.

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 and view B in your answer.[6]

Markscheme:

Reducing the infant mortality will slow the population growth rate because:

- with a reduction in infant mortality people will choose/need to have fewer children

- pressure on healthcare services will be reduced and more babies will survive

- pressure on education services will be reduced so more of the population will be well-educated/literate

- population growth will slow down as people have more confidence in healthcare systems and that their children will survive

Reducing the infant mortality will not slow the population growth rate because:

- some people will still have large families so that their children can work for them/send money home/look after them in old age

- high cost of pre/anti-natal care

- more doctors/nurses needed to help reduce the infant mortality rate
- to begin with population will grow, it will take time for people to react to a lower infant mortality rate and have fewer children
- education to be improved before infant mortality rate can be reduced; to train more midwives/doctors/so the birth rate falls due to higher literacy
- improved nutrition is needed to help reduce the infant mortality rate and some families cannot afford better diets
- living conditions for some families require further improvement, e.g. sewerage/reliable power supply

Increasing family planning will help slow the population growth rate

because:

- more access to family planning clinics/centres will inform people (especially women) of the options available to them
- educating women about family planning will help them to make informed choices about how many children to have
- availability and use of contraception can be improved through more widespread access
- educating girls from a young age about sexual health and career opportunities will encourage them to delay having families and choose to have fewer children

Increasing family planning will not help slow the population growth

rate because:

- males are still the decision makers in some families
- religious beliefs/cultural traditions mean some couples continue to want large families
- many poorer families want a large family to help look after them financially and/or in old age
- family planning is not widely available in remote rural areas
- investment in education is needed to ensure everyone attends school

Evaluations could include ideas such as:

- view A will be achieved by implementing view B, therefore view B is a better starting point for slowing population growth
- view B challenges cultural/religious beliefs; so there may be resistance to it, whereas view A would be acceptable to all
- education is key to both views which work best if used together