

About

PAKISTAN STUDIES ENVIRONMENT OF PAKISTAN (YEARLY)

About **COMMENT QUESTION**

Misinterpretation of questions can cost candidates precious marks. Make sure you fully understand what the examiners want before answering!

About **COMMENT ANSWER**

It reveals the extra but relevant information which is not required as part of the solutions but are extremely useful.

Period	2013 to 2025
Contents	June & November, Paper 2, Worked Solutions
Form	Year By Year
Compiled for	O Levels
special features	

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COMMENT QUESTION

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Classification

Revised Syllabus

	June / November 2013 Paper	2
	June / November 2014 Paper	2
	June / November 2015 Paper	2
	June / November 2016 Paper	2
	June / November 2017 Paper	2
	June / November 2018 Paper	2
	June / November 2019 Paper	2
	June / November 2020 Paper	2
	June / November 2021 Paper	2
	June / November 2022 Paper	2
	June / November 2023 Paper	2
	June / November 2024 Paper	2
	June / November 2025 Paper	2

CLASSIFICATION

2012 - 2024

TOPIC 1 *The Land and Location of Pakistan*

J2012/Q2(a)	N2013/Q3(c)	J2014/Q3(a,i,ii)	N2014/Q1(a)
J2016/Q1(a)	J2016/Q5(a,i)	N2017/Q4(a)	J2018/Q1(a,d)
J2019/Q1(a,b)	N2019/Q1(a,b)	J2020/Q1(a,i,ii)	J2020/Q2(a,i)
N2021/Q1(a)(b,i)	J2022/Q1(a,b)	J2022/Q2(a)	N2022/Q4(a)
J2023/Q1(a,b,c)	N2023/Q1(a,b,c)	J2024/Q2(a)	N2024/Q1(a)

Topic 2 *Climate of Pakistan*

J2012/Q2(b,c)	N2012/Q2(a,b,c)	J2013/Q1(a)	J2013/Q3(a)
N2014/Q3(a)	J2015/Q1(a,b)	N2015/Q2(c)	N2016/Q1(a,b)
N2017/Q5(a,c)	J2018/Q1(b,c)	J2019/Q1(c,d)	J2020/Q2(a,ii,iii)(b,c,d)
J2021/Q3(b,i)	N2021/Q2	J2022/Q2(c,d)	N2022/Q1
J2023/Q2(a,b)	N2023/Q2		

Topic 3 *Water Resources*

N2012/Q3(a)(b,iii,iv)	J2013/Q1(b)	N2013/Q1(a)	J2014/Q1(c,d)
N2014/Q1(c)	N2015/Q1(a,b)	J2017/Q4	N2019/Q2
N2020/Q1(b)(c,iii)	J2021/Q2	N2022/Q2(c,d)	J2023/Q1(d)
J2024/Q2(b,c,d)			

Topic 4 *Forest Resources*

J2012/Q1	J2014/Q4(a,b,c,d)	N2014/Q1(d,e)	N2015/Q1(c,d)
J2016/Q4(b)	N2016/Q1(c)	N2017/Q4(c)	J2018/Q2
N2019/Q1(c,d)	N2020/Q4	N2023/Q3(a)	N2024/Q1(b,c,d)

Topic 5 *Mineral Resources*

N2012/Q1	J2015/Q2(a,b)	N2016/Q2(a)	J2021/Q1(a,b)(c,i)(d)
N2021/Q1(b,ii)(c,d)	J2024/Q1(a,b,d)		

Topic 6 *Fishing Industry*

J2013/Q2	J2016/Q4(c,d)	N2016/Q5(c,d)	N2017/Q3(a)
J2019/Q2	N2023/Q3(c,d)		

Topic 7 *Power Sources*

N2012/Q2(d)	J2013/Q4	N2013/Q4	J2014/Q2
J2015/Q2(c)	N2015/Q2(a,b,d)	J2016/Q4(a)	N2016/Q3
J2017/Q3(b)	J2017/Q5	N2017/Q2(b)	N2018/Q2
J2019/Q3	J2020/Q3	N2020/Q3	J2022/Q3
J2023/Q2(c,d)	N2023/Q4	J2024/Q1(c)	N2024/Q3

Topic 8 Agricultural Development

J2012/Q2(d)	J2012/Q3(a,b,c)	N2012/Q3(b,i,ii,c)	J2013/Q3(b,c,d)
N2013/Q1(b,c,d,e)	J2014/Q1(a,b,e)	J2014/Q4(e)	N2014/Q1(b)
N2014/Q3(b,c)	J2015/Q3(a)	N2015/Q3	J2016/Q2(a,b,c)
N2016/Q2(b,d)	N2016/Q4	J2017/Q1(a,c,d)	N2017/Q1(b)
N2017/Q3(b,c,d)	J2018/Q3	N2018/Q1	J2020/Q4
N2020/Q1(a,c,i,ii,d)	J2021/Q3(a,b,ii,iii,c,d)	N2021/Q3	J2022/Q4
N2022/Q2(a,b)	J2023/Q3	N2023/Q3(b)	J2024/Q3
N2024/Q2			

Topic 9 Secondary and Tertiary industries

J2012/Q4	N2012/Q4(a,b,c)	J2013/Q1(c)	N2013/Q2
N2013/Q3(d,e)	N2014/Q2(a,b,c)	N2014/Q5(c,d)	J2015/Q4(a)
N2015/Q4(a)	N2015/Q5(a,b,i,ii,c,d)	J2016/Q3(c,d)	J2016/Q5(a,ii)(b)
N2016/Q1(d)	N2016/Q5(a)	J2017/Q2(b,d)	N2017/Q2(a,d)
N2017/Q5(b,iii)	J2018/Q4	J2019/Q4	N2019/Q3
J2020/Q1(a,iii,iv,b,i,c)	J2021/Q1(c,ii)	J2021/Q4	J2022/Q1(c)
N2022/Q3	J2023/Q4 & Q5(a)	N2023/Q5	N2024/Q5

Topic 10 Trade

J2014/Q3(c)	J2015/Q4(c,d)	N2015/Q4(b,c,d)	N2016/Q2(c)
J2017/Q3(a,c)	N2018/Q3(b,c,d)	N2021/Q4	N2022/Q4(b,c,d)
J2024/Q5(b,c,d)			

Topic 11 Transport and Telecommunications

J2012/Q3(d)	N2013/Q3(a,b)	N2014/Q5(a,b)	J2014/Q3(a,iii)(b,d)
J2015/Q1(c,d)	J2015/Q2(d)	J2015/Q4(b)	N2015/Q5(b,iii)
J2016/Q2(d)	J2016/Q5(c)	J2017/Q2(a)	J2017/Q3(d)
N2017/Q4(b,d)	N2017/Q5(d)	N2018/Q4	N2019/Q4
J2020/Q1(b,ii,iii)(d)	N2020/Q2	N2021/Q5	J2022/Q1(d)
J2022/Q2(b)	N2023/Q1(d)	J2024/Q5(a)	

Topic 12 Population and Employment

J2012/Q5	N2012/Q4(d)	N2012/Q5	J2013/Q5
N2013/Q5	J2014/Q5	N2014/Q2(d)	N2014/Q4
J2015/Q3(b,c,d)	J2015/Q5	J2016/Q1(b,c,d)	J2016/Q3(a,b)
J2016/Q5(d)	N2016/Q5(b)	J2017/Q1(b)	J2017/Q2(c)
N2017/Q1(a,c,d)	N2017/Q2(c)	N2017/Q5(b,i,ii)	J2018/Q5
N2018/Q3(a)	N2018/Q5	J2019/Q5	N2019/Q5
J2020/Q5	N2020/Q5	J2021/Q5	J2022/Q5
N2022/Q5	J2023/Q5(b,c,d)	J2024/Q4	N2024/Q4

June 2024 Paper 2

Answer any *three* questions

Question 1

(a) (i) Study Fig. 1.1, a map showing limestone deposits in southern and western Pakistan.

**Key**

- limestone deposits
- - - international boundary
- province-level boundary

Fig. 1.1

Name the province-level area labelled X on Fig. 1.1.

X

[1]

- (ii) Using Fig. 1.1 **only**, describe the distribution of limestone deposits in southern and western Pakistan.

.....

.....

.....

.....

.....

..... [3]

- (iii) Name **three** metallic mineral resources extracted in Pakistan.

1

2

3 [3]

- (b) (i) Study Fig. 1.2, a photograph of an area in south-western Pakistan.



Fig. 1.2

Using Fig. 1.2 **only**, describe **two** natural features of the landscape shown.

1

.....

2

..... [2]

(ii) Describe **three** environmental impacts of mineral extraction.

1

.....

2

.....

3

..... [3]

(c) (i) State **one** use of coal in Pakistan.

..... [1]

(ii) **Complete** the statements about how coal and natural gas are obtained. Choose the correct words from the box and place them in the spaces provided.

Coal is extracted by

Natural gas is extracted by

burning	deforestation	dredging
drilling	mining	pipelines

[2]

(ii) Explain **two** challenges of providing natural gas to some areas of Pakistan. You should develop your answer.

1

.....

.....

.....

(d) Read the following two views about mineral resources and economic development in Pakistan:

B

Importing mineral resources to Pakistan is the best way to support economic development.

[6]

[Total: 25]

(iii) Describe how flooding in Pakistan can impact transport and communications.

.....

.....

.....

..... [2]

(b) (i) **Complete** Fig. 2.2, a divided bar graph showing the percentage use of total water consumed in Pakistan. Use the information in the table and the key.

use	percentage (%) of total water consumption
agriculture	91%
manufacturing	5%

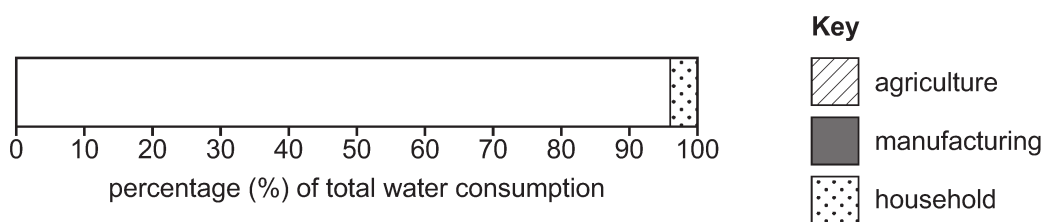


Fig. 2.2

(ii) Using Fig. 2.2, calculate the difference between the percentage of water used in agriculture and the percentage of water used in households.

..... % [1]

(iii) Describe how rivers and streams may become polluted.

.....

.....

.....

.....

.....

..... [3]

(iv) State **two** strategies used to reduce the pollution of rivers and streams in Pakistan.

1

.....

June 2024 Paper 2

Suggested Answers**Suggested Answer 1**

(a) (i) **X:** Balochistan

(ii) There are widely distributed deposits, most of which are located in Balochistan, especially in its eastern and northern parts. There are four deposits that can be seen in the north of Karachi. Two deposits are located at the junction of Punjab and Balochistan.

(iii) 1. Copper 2. Chromite 3. Iron ore

Alternatively

Antimony, bauxite, aluminium, gold, lead ore, magnesium, silver, tin, zinc ore.

(b) (i) 1. There is rugged landscape with cone shaped elevations.
2. It is a barren area without any vegetation.

(ii) 1. Mineral extraction causes air pollution with dust particles rising in the air.
2. Drilling and blasting by explosive causes noise pollution.
3. Deforestation for clearance of land leads to soil erosion.
4. Waste seeping into ground water (or river) causes water pollution.

(c) (i) *Any one from,*

It is used as a fuel by brick kilns.

It is used in running thermal power stations to generate electricity.

It is used in the process of making steel/cement/ceramics.

(ii) **Coal is extracted by:** Mining

Natural gas is extracted by: Drilling

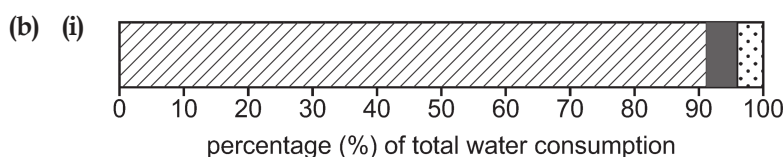
(iii) 1. It is difficult and expensive to extend gas pipeline network to the mountainous regions in the Gilgit-Baltistan region. It requires special equipment and machinery to maintain the pressure, and temperature at such heights where winter temperatures fall many degrees below zero. So, in order to keep gas from freezing requires expensive and sophisticated devices.

2. It is not economically feasible to supply gas to remote and sparsely populated rural areas of Pakistan. The cost of supplying will be greater than the expected revenue generation through the payment of the bills. Moreover, there are more chances of theft of gas in such areas due to a lack of supervision staff.

(d) Importing minerals will further worsen Pakistan's trade deficit. Pakistan has already been spending heavily on imports of capital and consumer goods like electronic devices and machinery equipment. With a depreciating Pakistani currency, the cost of imports will significantly increase, and Pakistan will have to borrow more from the IMF and donor countries like the US and the Arab states. Therefore, Pakistan should exploit local mineral wealth. There are huge deposits of several minerals in Balochistan. They include copper, gold, silver and fossil fuels. If Pakistan starts extracting and exploiting these minerals, it may earn a lot from the export of these minerals and manufactured products from them. So, it will be wise to seek Chinese investment and aid to exploit local mineral reserves because China will initiate many development projects in Pakistan.

Suggested Answer 2

- (a) (i) 1. There is wide floodplain located between high mountains.
2. There are many meanders and braided channels spread across the plain.
- (ii) *Any three from,*
1. They are used for arable farming (crop farming).
 2. Fish farms can be set up in these plains.
 3. They are suitable for building houses.
 4. Floodplains are suitable for growing trees and support sustainable forestry
 5. They can be used for recreational activities e.g. fishing, boating, attracting tourism.
- (iii) Floods cause blockage of roads and railways. Moreover, it requires funds to repair the damaged roads, houses and power supply lines.

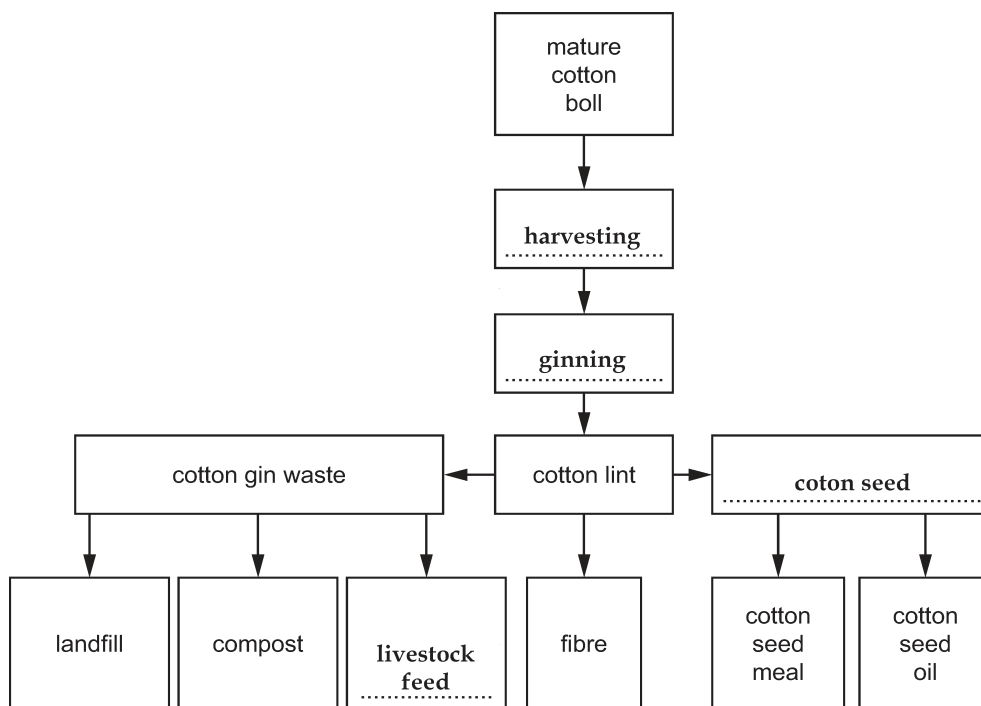


- (ii) **Difference between percentage of water in agriculture and household** = $91\% - 4\% = 87\%$
- (iii) Industries like chemical and leather tanneries release untreated and chemicalised water into various water channels like rivers and streams. Farmers use chemicals such as fertilizers, pesticides and insecticides for better crop yield. These chemicals keep seeping into water channels. Untreated mineral waste makes way into rivers and lakes by seepage.
- (iv) *Any two from,*
1. Waste treatment plants should be installed in all large scale industries.
 2. Sewage treatment plants should be set up for recycling of contaminated water.
 3. Farmers should be encouraged to use organic fertilisers.
 4. Afforestation should be done near rivers to reduce soil erosion and filter pollutants
 5. Strict laws should be enforced for industries to treat waste water before dumping
- (c) 1. There are interprovincial water conflicts over the use of the IRS / Indus River System. Sindh and KPK are opposed to building large dams such as Kalabagh Dam. KPK points towards flooding of its major cities if the dam is completed. Similarly, Sindh expresses its reservations about a decreased flow of water from the IRS to the tail end areas such as the Indus Delta.
2. India's violation of the Indus Water Treaty since the 1990s has reactivated the international water conflict between India and Pakistan. India has control over the rivers flowing from its Kashmir territory to Pakistan, and thus, it is in a position to build reservoirs on Jhelum and Chenab rivers. Under the 1960 Indus Water Treaty these rivers were given to Pakistan.
- (d) Investing in clean water supply is an economically feasible option as it may not involve heavy investment. Pakistan has set up two desalination plants, one on the Indus delta coast while another, the Gwadar Seawater Desalination Plant, on the Makran coast. Clean drinking water ensures good health. A healthy workforce contributes to Pakistan's economic growth. Moreover, it attracts a greater number of rich foreign tourists, and may contribute to growth of tourism industry. However, heavy investment is needed for building large dams. Moreover, the inter-provincial conflicts over such projects is a major limiting factor. Various governments have failed to address the grievances of Sindh and KPK about the Kalabagh Dam that has a very large capacity to store water. It may be concluded that Pakistan can easily invest in the projects of clean water supply by utilizing the available funds honestly, and motivating various investors in the water industry for investing in water filtration plants.

Suggested Answer 3

- (a) (i) Scale given on the map is 1 cm = 100 km
On the map, distance between Karachi and Multan = 7.3 cm
therefore distance in kilometres = $7.3 \times 100 = 730$ km.
Compass direction from Karachi to Multan: North–East
- (ii) Sugarcane growing areas are located mainly along the eastern and south-eastern parts of Pakistan. They are located around the Indus and its eastern tributaries. There is a cluster of sugarcane areas south-west and north of Multan.
- (iii) 1. It requires high temperature, 25-35 °C.
2. High rainfall is needed, 1100-1520 mm.
3. Rich loamy soil with an impervious subsoil to retain water.

(b) (i)



- (ii) Lahore. (Alternatively: Multan, Faisalabad, Muzaffar Garh, Okara, Hyderabad, Jhang, Rahimyar Khan, Rawalpindi, Kotri, Sargodha)
- (iii) 1. Farmers should use chemical fertilizers in order to enhance the soil fertility. This will add the required nutrients like sulphates and phosphates. Thus, the soil fertility will be enhanced leading to an increased crop output.
2. Use of GM / genetically modified or HYV / high yield variety seeds, such as NIAB-846, will ensure a longer and stronger stalk. These seeds also make crop more resistant against drought and insects/pests attacks like the leaf curl virus, resulting in a greater yield.

(c) (i)

	waterlogging	salinity
amount of salt in the soil		✓
amount of water absorbed in the soil		
saturation of the soil	✓	
irrigation of the soil		

November 2024 Paper 2

Answer any *three* questions

Question 1

- (a) (i) Study Fig. 1.1, a map showing the locations of three deserts in southern and western Pakistan.

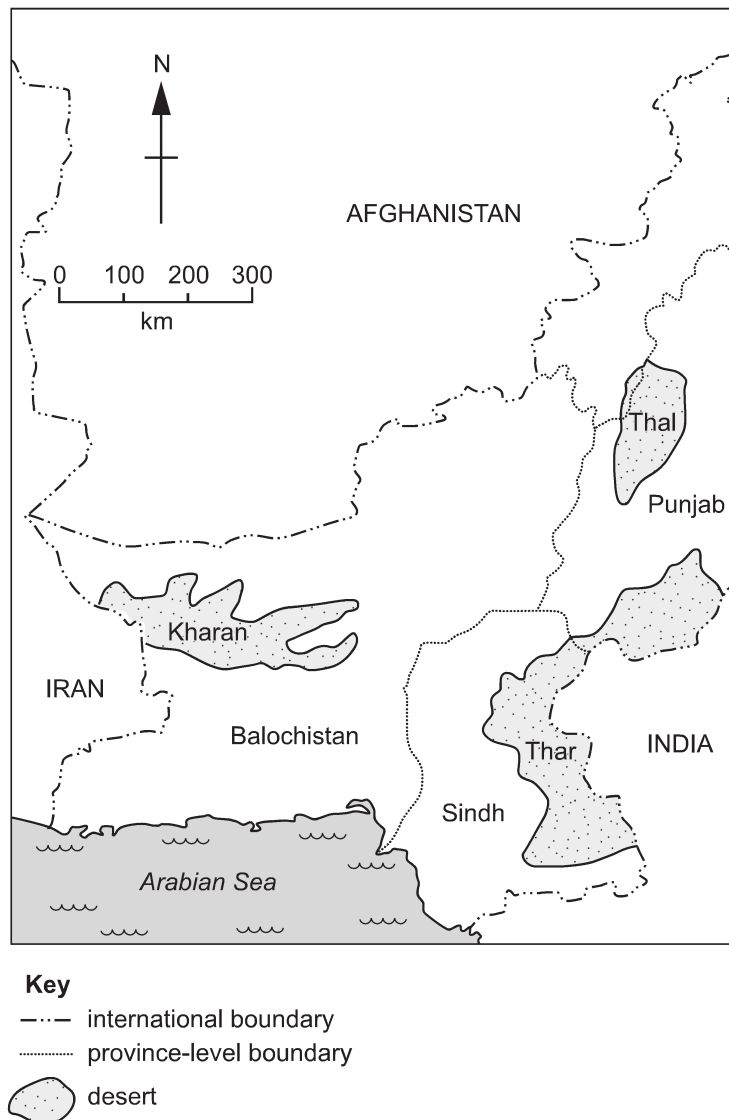


Fig. 1.1

Using Fig. 1.1 **only**, estimate the distance from east to west across the Kharan desert. **Circle** the correct answer.

150 km

400 km

650 km

[1]

(ii) Using Fig. 1.1 **only**, identify the desert which is:

- north-east of the Kharan desert
- located along the international border with India. [2]

(iii) Describe **two** natural features of a desert landscape in Pakistan.

- 1
- 2 [2]

(iv) Give **two** reasons why it is difficult to live in a desert in Pakistan.

- 1
- 2 [2]

(b) (i) Study Figs. 1.2 and 1.3, photographs of two different types of forest in Pakistan.
Using Figs. 1.2 and 1.3 **only**, identify **two** differences between the forests shown.



Fig. 1.2



Fig. 1.3

1
.....

2
..... [2]

(ii) Explain **two** physical factors that can affect the distribution of forests in Pakistan. You should develop your answer.

1
.....
.....
.....

2
.....
.....
..... [4]

(iii) Describe the importance of forests to people living in Pakistan.

.....

.....

.....

..... [2]

(c) (i) Define 'deforestation'.

.....

..... [1]

(ii) State **three** effects of deforestation in Pakistan.

1 [3]

2

3

(d) Read the following two methods to improve sustainability of forests in Pakistan:

method 1	method 2
planting more forest areas using afforestation schemes	protecting existing forest areas using laws and regulations

Which method do you think would be more effective? Give reasons to support your answer and refer to examples you have studied. You should consider method 1 **and** method 2 in your answer.

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November 2024 Paper 2**Suggested Answers****Suggested Answer 1**

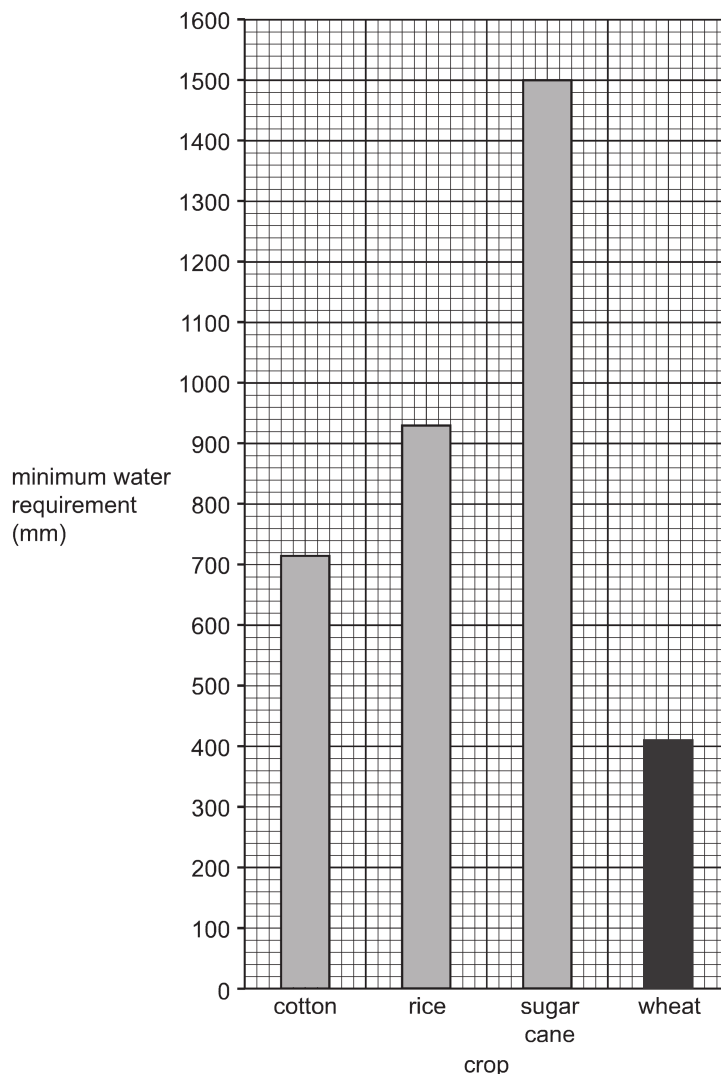
- (a) (i) 150 km 400 km 650 km
- (ii) **North-east of the Kharan desert:** Thal
Located along the international border with India: Thar
- (iii) 1. It comprises vast sandy plains with scarce vegetation.
2. The sandy plain is marked by ridges, dunes and hills.
- (iv) *Any two from:*
1. Very high summer temperatures.
2. Very low rainfall with serious shortage of water.
3. Due to lack of fertile soil, it is difficult to grow crops.
4. Lack of vegetation for livestock.
- (b) (i) 1. Forests in figure 1.2 are taller.
2. Forests in figure 1.3 are shorter and located on the coast.
- (ii) 1. Most of the forests grow well at lesser altitude as there are tolerable temperatures and no snowfall. At a height of below 1000 m, usually deciduous trees grow easily. They do not have to withstand stormy winds that are a feature of high mountainous areas.
2. Mangrove forests are capable of growing in hot climatic conditions with little rainfall on the Indus Delta coast. Their roots have the mechanism of filtering out excess salt as they are bathed by a mix of fresh water of the Indus river, and saline water of the Arabian Sea.
- (iii) Forests provide timber for construction industry. People living in the mountainous areas cut down trees to get firewood.
- (c) (i) It is defined as 'large scale cutting down of trees'.
(ii) 1. There is loss of scenic beauty, and hence adverse effect on tourism industry.
2. Floods become more destructive.
3. There is more soil erosion and siltation in reservoirs.
- (d) There are two major official afforestation schemes under which several thousand saplings are planted twice a year. They are launched in March, the Spring Afforestation, and in July, the Monsoon Afforestation Schemes. However, the follow up of these campaigns is very poor. As a result, they fail to achieve their objectives. The concerned officials also do not take due interest in ensuring the growth of these trees due to their corruption and inefficiency. Moreover, afforestation is a long term investment as most of the trees take 5-10 years to grow fully. Therefore, it will be a wiser strategy to look after the existing forests by adopting a strict policy. More strict laws should be enforced to preserve the forest wealth. Salaries of the staff of the Forest Department and bodies like the Parks and Horticulture Authority (PHA) should be increased to make them incorruptible. People living in various housing schemes should be

motivated by offering them cash prizes for monitoring various parks and irrigated forests. By such strategy, burden on the public sector bodies may be reduced, and more successful results may be achieved. In conclusion, we should launch a more aggressive campaign to ensure growth of the forest cover by a policy of public-private partnership and imposing heavy fines on the spot on those found guilty of illegal cutting of trees.

Suggested Answer 2

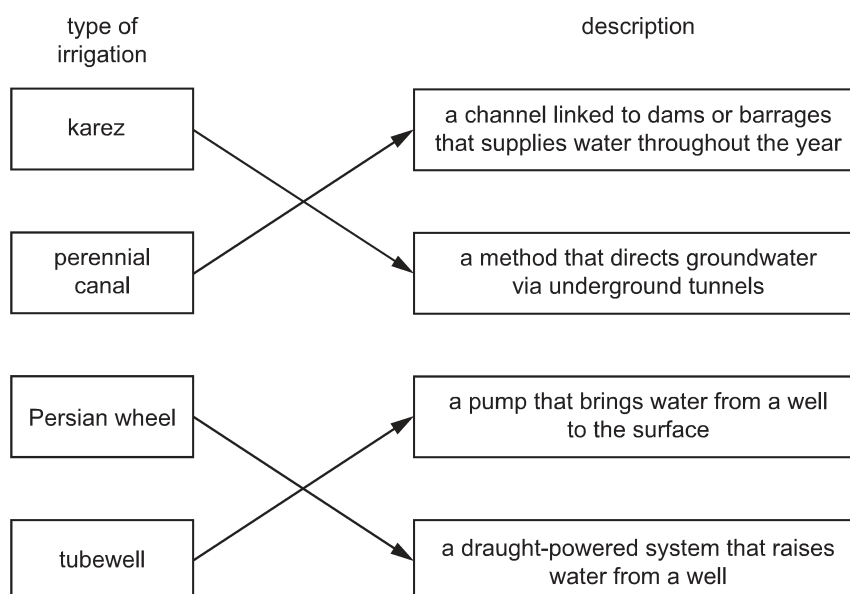
- (a) (i) X: Quetta
Y: Hyderabad
Z: Karachi
- (ii) There is uneven distribution of barrages. There are more barrages in Punjab than in Sindh. A greater number of barrages is located in the eastern part of Pakistan, closer to the Indian boundary.
- (iii) **Barrage:** Barrages are built to control and regulate floodwater.
Dam: They are built to produce hydro-electric power (HEP).

(b) (i)



(ii) Difference = 1500 mm – 930 mm = 570 mm

(iii)



- (iv) 1. Use of pesticides and insecticides causes land and water pollution. The sprayed amounts gradually seep from the land into the water supply, contaminating the drinking water. When consumed, the polluted water causes health problems in humans as a result of weakened immunity.
2. Use of chemical fertilizers leads to eutrophication. This means the growth of algae as chemical fertilizers stimulate growth of all plants. Algae cover the surface of water channels, and this reduces the oxygen and sunlight for marine life living there.

(c) (i) It is the law aimed at a fairer distribution of land holdings.

(ii) Owners of consolidated holdings can take loans to improve crop yield. Previously wasted land of rich landowners is made arable and more productive.

(d) Modern GM / HYV seeds are expensive, and so, poor subsistence farmers cannot afford them. These seeds need greater amounts of water as compared to Desi variety, and they exhaust soil nutrients rather quickly. This makes them more unaffordable for the subsistence farmers who rely on traditional methods of irrigation and manure for crop cultivation. Therefore, educating and training the farmers is more effective strategy for a better crop production. Educated farmers can get loans from such institutions as the ZTBL (Zara'i Taraqqiyati Bank Ltd) by reading newspapers or using the Internet. They can use the loan in a planned way to maximize crop yield. This will also enable them to use modern irrigation techniques like solar powered tube wells. Moreover, education and technical training will enable farmers to repair and maintain agricultural machinery. To conclude, education along with training is more useful for farmers as they will also train their children to share their burden on farm, and help them reduce illiteracy and lack of awareness.