

7

The Smiling Face of our Mother Land

7.1 Introduction

Our beloved country, India is a large one. During ancient times, the name of our beloved country was Aryavart. Later on, it was known by different names such as Bharat Varsh, Bharat, Hindustan and India. The constitution of India has recognised the names Bharat and India only.

Do you know that India is the seventh largest country of the world. You will be surprised to know that it is as large as Europe without Russia, and twenty times as big as Great Britain. That is why it is called a Sub-continent. The geographical location of India is advantageous to us in many ways. Our country extends from Leh in Kashmir in the north to Indira Point in the South; from Arunachal Pradesh in the east to Gujarat in the west.

India can be divided into four physical divisions. In studying these physical divisions, you will be able to understand that a great variety of types of physical features are found on the land of India. These features have got closely associated with our culture and civilization. You can well imagine that a country as large as India will naturally have a variety of conditions—both geographical and sociological. No other country has such a mixture of diverse physical conditions in terms of climate, flora. (plant life) and fauna (animal life), natural resources, etc.

In spite of all this diversity in different fields—physical, social, linguistic, cultural and religious—there is a fundamental unity of India underlying this diversity. We must understand that in spite of diversity, there is unity in our culture; we are Indians before anything else. This consciousness of national identity is important for making our lives worth living. None can deny the fact that the progress of people depends on their unity.

In this lesson we will study about the smiling face of our motherland, its location, extent and physical shape.

7.2 Objectives

After reading this lesson, you will be able to:

- state the latitudinal and longitudinal location of India.
- Clarify the importance of India with reference to her neighbouring countries, continents, hemispheres and Indian Ocean with the help of globe and map.
- compare the area of India with some other countries of the world.
- describe the characteristics of major physical divisions of our country.
- compare the Himalayan rivers with the rivers of peninsular India.
- explain the contribution of rivers in the economic development of the country.
- analyse the factors responsible for river water pollution.
- suggest measures for controlling river water pollution

7.3 Location and Extent

With reference to the world, the geographical location of India is favourable to the country. India is located to the north of the equator. Hence, India lies completely in the northern hemisphere. The tropic of cancer passes from the middle of India in east west direction. As a result, the southern part of India lies in the tropical zone and the northern in the sub-tropical zone. See the 0° line of longitude on the globe which connects the north and south poles. This line of 0° longitude which passes from a place near London, is called the prime meridian. India is located to the east of the prime meridian. Hence, India lies completely in the eastern hemisphere. The latitudinal and longitudinal location of India is expressed in north latitudes and eastern longitudes respectively. As you may be knowing, our earth is divided into land and water hemispheres. India is located in the land hemisphere. This has helped in making strong cultural and trade relations with different countries of the world through the surface routes.

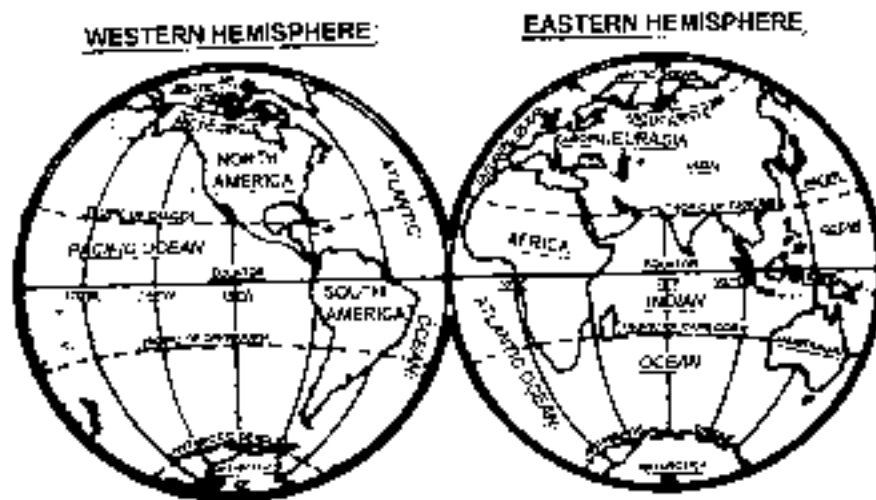


Fig. 7.1: Location of India in relation to Western and Eastern Hemisphere

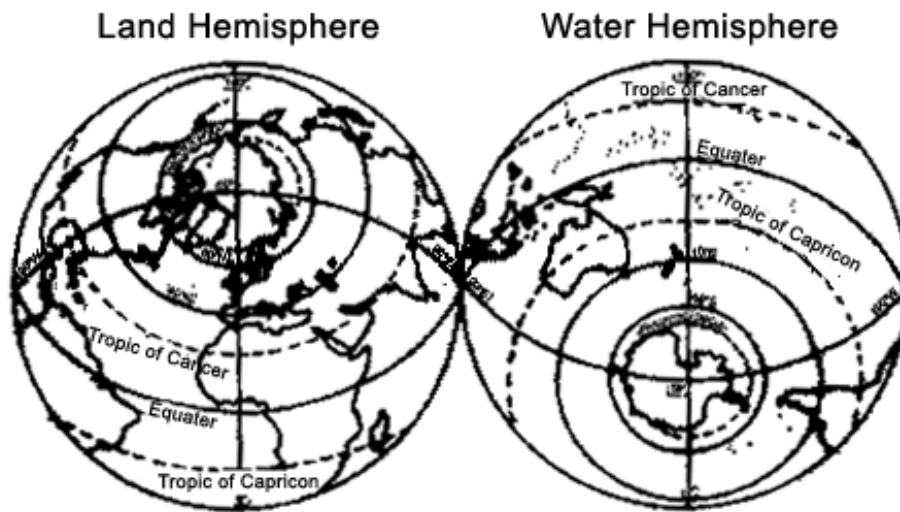


Fig. 7.2: Location of India in relation to Land and Water Hemisphere

In the map, see the location of India at the top of Indian ocean. It lies at the head of Indian ocean. There lie many countries of Africa and West Asia to the west of India. To the south-east of the country, lie the countries of south east Asia and Australia. India lies in the sea trade route moving towards east and west. It is because of this that our trade relations have been strong with different countries. These trade relations further help us to strengthen our cultural relations with so many countries.

Ours is the only country of the world after whose name an ocean has been named, viz. the Indian Ocean. This fact clearly indicates that our trade has been quite good since ancient times, and it also denotes that we as a country were quite famous. No wonder that our country was referred to as 'Sone Ki Chidya' the Golden Bird.

The main land of India lies between $8^{\circ}4' N$ to $37^{\circ}6' N$ latitudes. Cape Comorin is the southern end of mainland of India. But, the southernmost end of India lies further south in Andaman and Nicobar Islands. This southernmost end of India is called 'Indira Point'. It lies on $6^{\circ}45' N$. latitude. The longitudinal extent of India is from $68^{\circ}7' E$ to $97^{\circ}25' E$ longitude. Thus, the latitudinal and longitudinal extent of India is almost equal in degrees. Broadly, the latitudinal extent of India is about 30 degrees and the longitudinal extent is also 30 degrees. The north-south distance of India is about 3200 Km. and east-west distance is about 3000 km.

Let us find out what influences this big latitudinal and longitudinal extent of our country exert on our lives. The northern margin of Kashmir is very far from the equator, while the last point of main land of India in the south i.e. Cape Comorin is near to the equator. The amount of solar insolation goes on decreasing from the equator towards poles. Hence, the southern parts of India are more hot as compared to the northern parts, The latitudinal extent also influences the duration of day and night. The difference in the duration of day and night increases as one moves from low latitudes to high latitudes. Therefore, the maximum difference in the duration of day and night at Indira Point, the

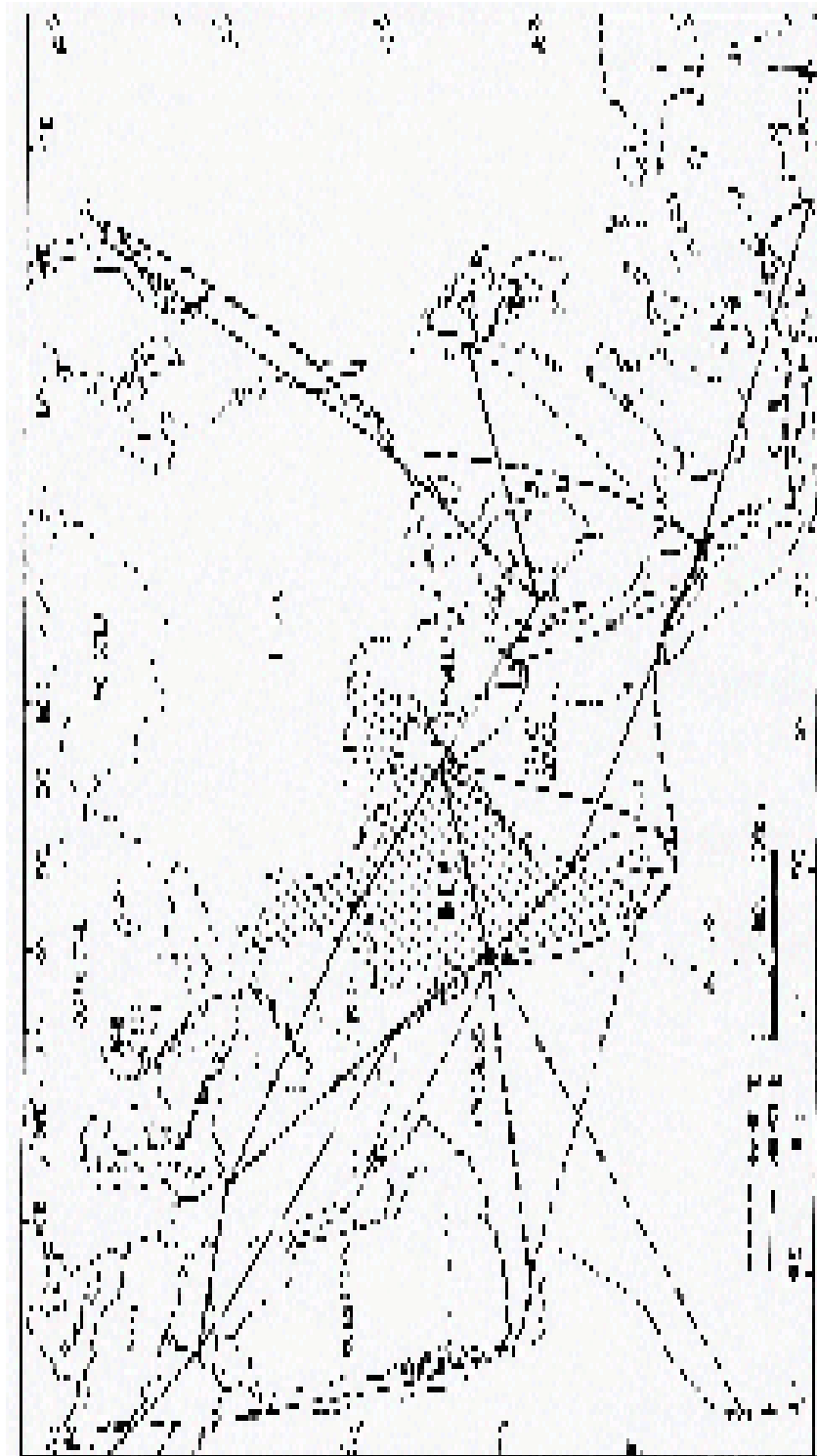


Fig. 7.3 Location of India with respect to important trade routes



7.4 Political Map of India

southern most point of India, is only 45 minutes, where as, it is 5 hours in the northernmost margins of the country. Thus days are long in the north than in the south. This affects our day to day activities.

The sun rises in the east. The earth rotates on its axis from east to west. It takes 24 hour or $24 \times 60 = 1440$ minutes in rotating its 360° longitudes. This way, the earth takes 4 minutes in the rotation of 1° longitude. The longitudinal extent of India is about 30° . Therefore, the difference between the local times of far east and far west parts of India is of two hours. For example, the sun rises at the eastern margin of Arunanchal Pradesh at 5 A.M., then the sun will rise at city of Dwaraka of Gujarat after two hours i.e. 7 A.M. For removing the confusion of difference in local times of different places, one standard meridian has been selected for India. While selecting the standard meridian it is kept in mind that it should pass through the middle of the country and it should be divisible by 7.5° . 82.5° east longitude satisfies both these conditions. Hence, 82.5° east longitude is accepted as the standard meridian of India. The local time of this meridian is taken as the standard time of the whole of India.

- India is located at the head of Indian ocean.
- India is located in northern hemisphere, eastern hemisphere and land hemisphere.
- The mainland of India lies between $8^\circ 5'$ N latitude and $37^\circ 6'$ N latitude.
- The southern end of India is Indira Point. Its latitude is $6^\circ 45'$ north.
- The longitudinal location of India is between $68^\circ 7'$ east and $97^\circ 25'$ east longitude
- The standard meridian of India is 82.5° east longitude. The local time of this is taken as the standard time of whole India.

Intext Question 7.1

Answer the following questions:

1. What are the north-south and east-west distances of India?
 2. Which three hemispheres is India located in?
 3. What is the latitudinal and longitudinal location of India?
 4. What is the maximum difference between the duration of day and night at the north and southern most margins of India?
 5. Which longitude has been selected as the standard meridian of India?
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7.4 India and the World

In terms of area, India is the seventh largest country of the world. The six countries, which are larger than India are Russia, Canada, China, United States of America, Brazil and Australia. Leaving Russia, the area of India is equal to that of the continent Europe. The total area of India is 32,87,613 sq. km which is 2.4 percent of the total area of the world. The developed countries like Japan, Germany, France etc. are very small in area as compared to India. 16 percent of the world population

lives in India. Leaving China, the population of India is more than one and a half times as compared to the combined population of the remaining five largest countries of the world.

S. No.	Country	Area (in thousand sq. km)	Population (in millions)
1	Republic of Russia	17075	146
2	Canada	9971	30
3	China	9508	1254
4	United states of America	9365	278
5	Brazil	8547	168
6	Australia	7741	19
7	India	3287	1027

Pakistan, Afghanistan, China, Nepal, Bhutan, Myanmar and Bangladesh are our bordering countries. Pakistan and Afghanistan lie to the north west; China, Nepal and Bhutan to the north; Myanmar and Bangladesh to the east of India. Although, Srilanka and Maldives are not our bordering countries, they are our close neighbours.

Hence, it is but natural that India has very strong cultural and economic relations with all these countries. The total length of land border of India is 15200 km. The total length of the coast line of our country is 7500 km including the coast of Lakshadweep and Andaman and Nicobar Islands. Indian ocean lies beyond the southern boundary of India. It looks as if it is washing the feet of our mother land. Further it helps in making its climate mild. The Bay of Bengal is like the right arm of the Indian ocean. It forms our eastern water boundary. The Arabian sea extends in the form of left arm of the Indian ocean. It forms our western water boundary. The gulfs of Cambay and Kutch are parts of this sea.

- India is the seventh largest country of the world.
- Total length of its water and land boundary is 22700 km.
- Indian ocean, Arabian sea and Bay of Bengal form the water boundary of India.

Intext Question 7.2

1. Fill in the blanks :

- India is the largest country of the world.
- The total area of India is

- (iii) The land boundary of India is km.
 - (iv) The water boundary of India is Km.
-

7.5 Physical Divisions

India is a country of physical diversity. The land of India is not the same every where. There are high mountain peaks in some areas while in others, lie the flat plains formed by rivers. In some areas, lie the high mountain ranges while the extensive high plateau region is lying in the other areas. While some areas have narrow coastal plains, in other areas, the islands predominate. It won't be unjustified to say that India is a unique country of the world. On the basis of physical features, India can be divided into the following five divisions.

1. Northern Great Mountain Complex
2. Northern Great Plains.
3. Peninsular Plateau
4. Coastal Plains
5. Islands.

Great Northern Mountain Complex

Different mountain ranges are lying along the north and north eastern frontiers of India. The north great mountain complex can be divided into three groups (i) the Himalayas (ii) Trans-Himalayan ranges and (iii) Purvanchal or the hills of the east.

(i) The Himalay : They are the highest mountain ranges of the world. They extend from Kashmir to Arunachal Pradesh. They lie between the Indus river in the west and the Brahmaputra river on the east.

The Himalayas have three major mountain ranges. (a) Himadri or greater Himalays (b) Himanchal or lesser Himalayas (c) Shivalik or outer Himalayas. Extending from west to east, these mountain ranges are parallel to each other. Valleys and plateaus lie between these mountain ranges. Some of these valleys are very deep and inaccessible.

(a) Himadri : This is the northern most range of the Himalayas. It is also the highest range. Therefore it is caled greater Himalayas. The peaks of this range are always covered with snow. Hence, it is called Himadri – ‘house of snow.’ Most of the high peaks of the world are in this mountain range. Many mountain peaks are higher than 8000 metres height. Kanchanjunga, Dhaulagiri, Nanga Parvat, Maikalu, Annapurna and Everest peaks are in this range. Everest is the highest peak of the world. Its height above sea level is 8848 metres. It lies in Nepal. Kanchanjunga is the highest peak of the Himalayas in India. Its height is 8598 metres. This is the second highest peak of the Himalayas.

(b) Himachal Himalaya: This mountain range is the southern Himalaya. It is also called lesser Himalaya and Middle Himalaya. Some of its peaks are higher than 5000 metres. The local names of this range are Pir Panjal in Kashmir and Dhauladhar in Himachal Pradesh. The beautiful valley of Kashmir and Kangara and Kullu valleys of Himachal Pradesh lie in this ragne. Hill stations of Simla, Nainital, Mussourie, Darjeling etc. are in this range. These hill resorts have become centres

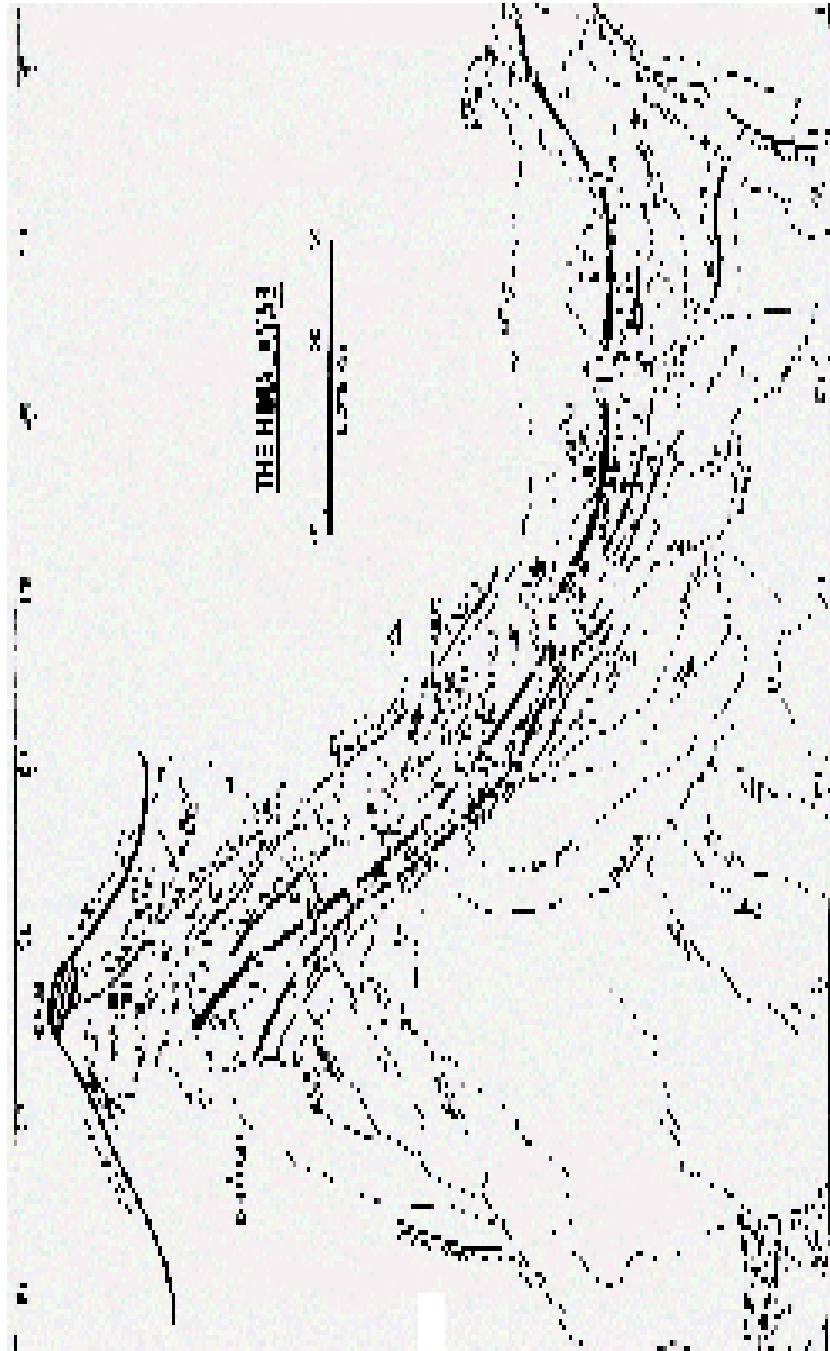


Fig. 7.6 The Great Northern Mountains

of attraction for international tourists. This area particularly Kashmir, has been called 'heaven on earth' by poets.

(c) Shivalik : this is the outer range of the Himalayas. It is the southern most range of the Himalayas. The breadth of this range is from 10 to 30 km. Its height is between 400 metres to 1100 metres. Earthquakes are common in this part of the Himalayas. Landslides are common during rainy season. Soil erosion is also more in this range.

(ii) Trans -Himalayan mountain ranges : Three mountain ranges lie the north – west of Himadri in Jammu & Kashmir state. These ranges are also parallel to each other. Karakoram is the northern most range. Ladakh range lies between Karokaram and Jaskar ranges. Kz is the highest peak of Karakoram range. This is the highest peak of India and the second highest peak of the world. Its height is 8611 metres from sea level.

(iii) The hills of the east : To the east and south of the Brahmaputra river, lie many hills in the north east parts of India. Collectively, these hills are called Purvachal. The average height of these hills is between 500 to 3000 metres from sea level. Mishmi, Patkai Bum, Naga, Manipur, Mizoram and Tripura are the major hills, Garo, Khasi, Jaintia hills of Meghalaya are also included in the hills of Purvachal.

The great mountains of the north have never been uncrossable completely. Nature has provided natural passages for crossing over the Himalayan ranges. These natural passages formed within the mountains are called passes. Karakoram, Leh, Shipkila, Nathula, Boundila are main passes of the Himalaya.

- The great Northern mountain complex has been divided into three groups – the Himalayas, trans-Himalayan mountains ranges and Purvachal.
- Everest is the highest mountain peak of the world. Its height is 8848 metres from sea level.
- K₂ is the highest mountain peak in India. Its height is 8611 metres.
- Important hill stations or resorts and valleys of India lie in lesser Himalayas.
- Shivalik is the youngest and unstable range.
- Karakoram, Ladakh and Jaskar are the trans-Himalayan mountain ranges.
- The mountain ranges lying east and south of the Brahmaputra are collectively called Purvachal.
- The natural passages formed within mountains and used for crossing over them are called passes.

Intext Question 7.3

1. Answer the following questions after selecting the current alternative given in the brackets.
 - (a) Which is the highest mountain peak of India?
(Naga Paravat, K₂, Nanda Devi)
 - (b) Which is the highest peak of India in the Himalaya?
(Kanchanjunga, Everest, Nanda Devi)
 - (c) Which range of the Himalayas are the hills stations situated in? (Himadri, Himachal, Shiwalik, Purvachal)

- (d) Name the range of the Himalayas where earthquakes are common. (Shiwalik, Himadri, Himachal, Purvachal)

2.Fill in the blanks.

- (a) The natural passages for crossing over the mountains are called.....
(b) The north eastern hills lying to the south and east of the Brahmaputra river are called.....
(c) is the youngest mountain range of the Himalayas.
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7.6 The Great Northern Plain

This great plain lies to the south of the Himachal and to the north of southern plateau. This plain is formed by rivers originating from the Himalayas and the peninsular plateau. It is formed by the alluvium brought by these rivers. Therefore, it is an alluvial plain. This plain extends from Punjab in the west to Assam in the east. It is almost uniform plain. Its average height from sea level is below 200 metres. The elevation of land around Ambala is comparatively more, but it is less than 300 metres. This portion divides water of the Ganga and Sutlej into two different river basins. Therefore, this area is called the water divide of the Ganga – Sutlej. To the west of it, the Sutlej moving towards south – west flows to the Indus, while Yamuna moving towards east flows into the Ganga.

This great plain is one of the most fertile and densely populated plains of the world. This plain is 3200 km long. Its breadth is between 150 km to 300 km. Its breadth generally decreases from west to east.

Three major rivers flow in this plain. These include the Indus, the Ganga and the Brahmaputra the basis of these rivers this plain is divided into three parts. The names of these are (a) the Indus-plain (b) the Ganga plain and (c) the Brahmaputra plain.

(a) The Indus Plain: Sutlej, Beas, Ravi, Chenab and Jhelum are the tributaries of the Indus. The drainage system of the Indus in India is limited to the areas of Jammu and Kashmir, Himachal Pradesh and Punjab. The drainage area of this river system is more in Pakistan. The northern part of this plain is made of sandy soil and the southern part is made of sandy-limy soil. It extends from the Himalayan foot hills in the north – east to Arabian sea in the south – west. It has the world's most dense network of irrigation – canals. The area lying between two rivers is called 'doab'. There are many 'doabs' in this plain. Since this plain is made of the alluvium brought by five rivers, it is called Punjab plain. Sutlej and Beas played an important role in the formation of the plain of Haryana.

(b) The Ganga Plain :The Ganga plain includes most of the part of the northern great plain of India. This plain is formed by the alluvium brought by the Ganga and its tributaries. The tributaries of the Ganga include Yamuna, Ram-ganga, Ghaghara, Gomti, Gandak, Kosi etc. All these tributaries originate from the Himalayas.

Many rivers of southern plateau region have also contributed in the formation of this plain. of these, Chambal, Ken and Betwa are the tributaries of river Yamuna. Son river is tributary of the Ganga, All these rivers originate from the peninsular plateau and flow from south to north – east. When the slope of the land near the mouths of the rivers is negligible, then the water of rivers starts dividing into channels due to silting of fine alluvium in their beds. These channels are called distributaries. Such a tributary is called sub-river. Hoogli is a major subriver of the Ganga. The tributaries of a river build a special type of land form through silting near their mouths. Its shape is generally triangular. Such triangular and fertile land near the mouth of a river is called 'delta'.

Allahabad is an ancient and important town situated on the river Ganga. It is believed that three great rivers, namely Ganga, Yamuna and Saraswati converge over here. The river Saraswati is believed to have dried up. The Government of India has undertaken a prestigious project to rediscover the course of the river Saraswati.

(c) The Brahmaputra Plain : It is the eastern part of the great northern plain of India. This plain is formed by the mighty Brahmaputra and its tributaries. It is the north – eastern part of our country. This part of the country receives high rainfall. Hence, devastating floods in the Brahmaputra are a common phenomena. Some times, this river changes its course after the flood. This has resulted in the formation of many Islands in the river bed. Manjuli Island of the Brahmaputra is the largest of its kind in the world. It is spread in an area of 1250 sq. km. The Brahmaputra plain is narrow and is surrounded by hills. Ultimately, the Ganga and the Brahmaputra merge with each other in Bangladesh before flowing into the Bay of Bengal. The delta formed by the Ganga Brahmaputra is the largest delta of the world. This delta is still enlarging very fast. It is famous for its fertility and dense population.

On the basis of structure, the northern great plain is divided into four parts. These parts are – (a) Bhabar (b) Tarai (c) Bangar and (d) Khadar,

(a) Bhabar region extends along the foot of shivaliks from river Indus to river Tista. It is a narrow belt of only 8 to 16 km in width. The rivers having their source in Shiwaliks bring with them large amount of pebbles, gravels and coarse sand. Their velocity becomes low as they come near the Bhabar zone due to decrease in the slope of Siwaliks. After reaching the Bhabar region, these rivers deposit their transported material here. Due to deposition of this material, a thinly porous depositional belt has been formed. The rivers flowing through this zone become underground.

(b) Tarai : Tarai region is parallel to the south of Bhabar zone. Its width is 15 to 30 km. Some of the rivers which become underground in the Bhabar zone emerge on the surface in tarai region. The water of these rivers spreads on a wide area. It is a humid and marshy land area. It is covered with dense forests. Different types of wild animals are found in these forests. Now, most of the Tarai land has been brought under the plough and it is an area of intensive farming.

(c) Bangar : The plain formed by the old alluvial soil is called ‘Bangar’. This is a part of flood plain which usually remains out of the reach of floods.

(d) Khadar : This area is generally affected by floods. The rivers deposit alluvium over vast area at the time of flood every year. This area remains fertile due to deposition of new alluvium every year.

- Northern great plain is spread to the south of the Himalaya and to the north of the peninsular plateau.
- It is formed by the materials brought by the rivers – the Indus, the Ganga and the Brahmaputra.
- The Ganga and its tributaries have largely contributed in the formation of this plain.
- This plain can be divided into the form of river basins of the Indus, the Ganga and the Brahmaputra.
- Structurally, the northern plain is divided into Bhabar, Tarai, Bangar and Khadar.

Intext Questions 7.4

Answer the following questions:

Below are given few statements. Tick the correct statements and put a cross at the wrong ones :

- (a) The northern great plain has been formed due to materials brought by rivers.
 - (b) The peninsular rivers have also contributed in the formation of the northern plain.
 - (c) The width of the northern plain decreases from east to west.
 - (d) The water divide of northern plain is near Ambala city in Harayana.
 - (e) Khadar is more fertile than Bangar.
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7.7 Peninsular Plateau of India

Peninsular plateau of India lies to the south of northern plain. This is the largest natural part of the country. Geologically, it is the most ancient part too. It is made of hard igneous and metamorphic rock. Aravalis form its north west boundary. To the west of Aravalis, this plateau merges with the Thar desert. This desert is called the great desert of India. The shape of peninsular plateau is triangular. Its base is in north and vertex is in south. Its height is generally 600 metres to 900 meters above sea level. The slope of northern part of peninsular plateau is towards north. To the south of Satpura and Maikal ranges, its slope is towards east and south east.

Vindhyachal mountain range has divided this great plateau into two parts. Its northern part is called central upland and the southern part, the Deccan plateau.

(a) Central up land: Extends to the north of Narmada river and to the south of northern great plain. In the west, Aravali mountain range forms its western boundary which extends from northern part of Gujarat to Delhi. These mountain ranges are broken in between. Vindhyachal mountain ranges and Kashmir hills form its southern boundaries. The land lying between Aravali and Vindhyachal ranges is called Malwa plateau. This plateau is broad in the west and it narrows down towards east. Its eastern part which lies in southern Uttar Pradesh and northern Madhya Pradesh is known as Bundel Khand and Baghel Khand. To the east of river Son, it is known as Chhota Nagpur plateau in Jharkhand. Flow of surface water of central upland is in two different directions. Rivers Chambal, Ken and Betwa flow towards north. These rivers take the water of this region towards north and flow into river Yamuna. Flowing towards north east, river Son merges with the Ganga rivers Narmada and Tapti flow along its southern boundary. These two major rivers of India flow east to west and later on flow into the Gulf of Cambay.

(b) Deccan plateau: To the south of Satpura, Mahadev and Maikal mountain ranges, the peninsular plateau is called Deccan Plateau. It extends up to Cape Comorin in the south. The Western Ghats form its western boundary. This plateau slopes towards east. Western Ghats extend from north to south and are parallel to Arabian sea. They are known by many local names. These are called Sahyadri in Maharashtra and Karnataka. They are known as Nilgiri hills in Tamilnadu, and Annamalai as well as Cardamon hills along the boundary of Kerala and Tamilnadu. The height of western Ghats is more in south as compared to north. Annamalai is the highest mountain peak of this range.

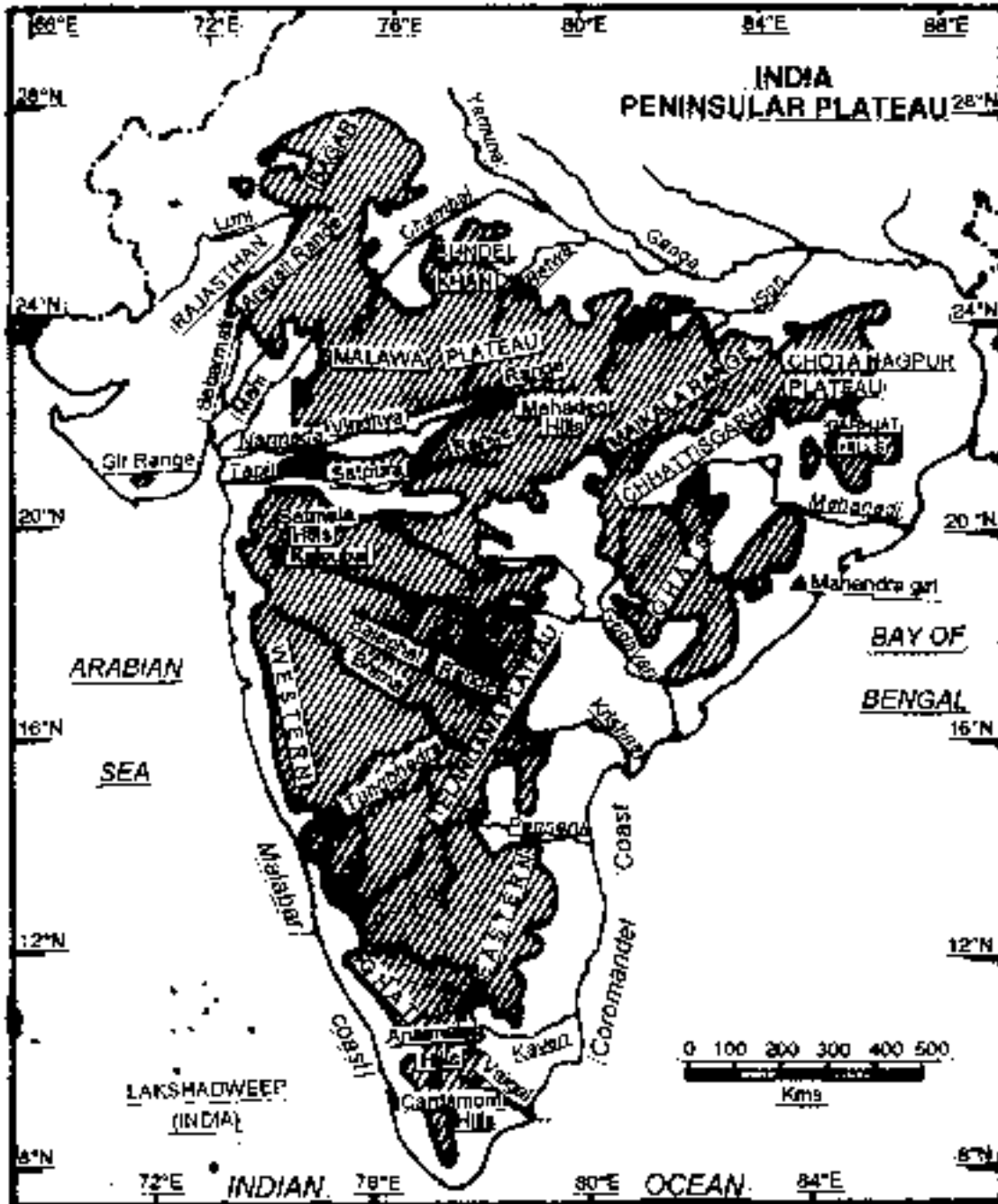


Fig. 7.7 The Peninsular plateau of India

Its height is 2695 meters above sea level ; Udagmangalam (Ootty) is the famous hill resort of south India. It lies in Tamilnadu state.

The Eastern Ghats form the eastern boundary of deccan plateau. Eastern Ghats are not as high as that of Western Ghats . These ranges have been broken at many places. Rivers such as Mahanadi, Godavari, Krishna, Kaveri have eroded the villages across these ranges. North-western part of Deccan Plateau is made of deccan trap rocks which are formed by lava flow. The black soil of this area is fertile Peninsular plateau is also rich in mineral wealth.

- Peninsular plateau is the greatest and ancient physical division of India.
- It is triangular in shape.
- It is made of igneous and metamorphic rocks.
- Its western boundary is formed by Western Ghats and eastern by Eastern Ghats.
- Peninsular plateau is divided into two parts-Central up Land and Deccan Plateau.

Intext Question 7.5

Answer the following question in one sentence:

1. Which type of rock is the peninsular plateau made of ?
2. Name the Ghats which form the western and eastern boundary of peninsular plateau.
3. Which is the highest mountain peak of south India?
4. Name the famous hill resort of south India.
5. Which two parts has the peninsular plateau been divided into?

7.8 Coastal Plains

Coastal Plains lie to both eastern and western side. The western coastal plain of the peninsular plateau extends from Gujarat in the north to Kerala in the south. It is a part which lies between Arabian sea and Western Ghats. It is a narrow strip of plain area, except in Gujarat. The northern part of this coastal plain is called Konkan. The southern part from Goa to Cape Comorin is called Malabar. Sand dunes and saline water lakes are found along Malabar coast. These saline water lakes are called lagoons. The western coast is highly deserted. Hence, many national parks have been developed here. Narmada and Tapi are west flowing major rivers of this region. These rivers form estuaries.

Eastern Coastal Plain – It lies between Eastern Ghats and Bay of Bengal. It extends from West Bengal in the north to Tamilnadu in the south. The eastern coastal plains are more even, fertile and broad as compared to the western coastal plains. Northern part of eastern coast is called northern sarkar and the southern part is known as Coromandal coast.

Almost all the major rivers form deltas on this coast. Numerous lakes are found along the coast of this plain. Chilka and Pulient are famous lakes among them.

7.9 Island Groups

There are numerous small and big islands in India. These are in two groups one known as Lakshadweep and the other as Andaman and Nicobar Islands. Both these island groups are union territories. Lakshadweep has many islands. Minicoy is the largest of these islands. Its total area is 4.5 sq. km. Lakshadweep islands have been formed due to coral deposits. Kavaratti is the capital of this union territory. These islands are of specific strategic importance.

Andaman and Nicobar Islands lie in Bay of Bengal. These are large in size. These are also more in number. These islands are located far off the main land of India. Their extension is in a form of belt from north to south. Some of these Islands have originated due to volcanic eruptions. Baren island of Andaman is the only active volcano of India. The southern most point of India lies in Nicobar island. It is called Indira point. Port Blair is the capital of this union territory.

- Western coastal plain lies between Arabian sea and Western Ghats.
- The northern part of western coastal plain is called Konkan coast and the southern part is called Malabar coast.
- Many Lagoons are found along this coast.
- Eastern coastal plain lies between Bay of Bengal and the Southern Ghats.
- The northern part of this coast is called Northern sarkar and the southern part, coromondal coast.

Intext Question 7.6

Answer the following questions in one sentence each :

1. Name the northern and southern parts of eastern coast.
 2. What are the northern and southern parts of western coast called?
 3. Where is Lakshadweep located?
 4. Where do Andaman and Nicobar islands lie?
-

7.10 Rivers of India

On the basis of their origin, the Indian rivers have been classified into two groups.

- 1 The rivers originating from the Himalayas
2. The rivers originating from peninsular plateau.

(a) The Himalayan Rivers

These rivers originate from the snow-covered areas of the Himalayas. The amount of water increases greatly in these rivers during rainy season. Due to melting of snow in summer season, these rivers get water continuously throughout the year. Therefore, these are called perennial rivers. These rivers, after originating from the Himalayas enter into the northern plains. Taking out

canals from these rivers in plain areas is easy. Therefore, these rivers are highly useful for irrigation.

(b) Peninsular Rivers

Peninsular plateau is the most ancient landmass of India. Rivers of this plateau region have reached old stage. These rivers have reached their base level. Therefore, these rivers are not in position to continue vertical erosion.

These rivers are short in length as compared to the Himalayan rivers. During summer season, these rivers are short of water as these rivers are not perennial. In rainy season, these rivers get enough water which is used for irrigation after constructing dams over these rivers. Hydro-electricity is also generated from the water which flows down from these dams. Taking out canals from these dams is a costly endeavour.

Narmada and Tapi are the major rivers which flow into the Arabian sea.

- Rivers of India can be classified into two groups – the rivers originating from the Himalayas and the rivers originating from peninsular plateau.
- The Himalayan rivers are perennial.
- Peninsular rivers depend on rain-water. Their water is used for irrigation and generation of electricity after constructing big dams over them.

7.11 Drinking Water

Water is life. Life is not possible without water. Of the total water available on the earth, only less than three percent is sweet or drinkable. Remaining water is saline and hence is not drinkable. Sweet or drinkable water is also found in the form of snow, ground water and rivers lakes, tanks etc. Rivers are the major source of sweet water.

The demand of pure/sweet drinking water is increasing day by day due to increase in population.

The needs are increasing. Growing population and its need for drinking water are closely related to each other. The demand of water has increased many times in agriculture and industries. Growing industrialisation and urbanisation has faltered the position of water supply. Human activities have polluted clean water and changed it into dirty, black and undrinkable water.

7.12 Water Pollution

Now, let us see, how water is being polluted. Lakhs of tonnes of dust and soil is mixing with the streams and sources of water. Chemically charged water from industrial units, the urban waste, sewage and remains of pesticides and fertilizers used in fields are all reaching and mixing in rivers. The increase in water pollution results in the fast growth of algae and micro plants or plant algae. Water plants are worst hit and lost. Their remains are deposited beneath the water. The decomposition process of these dead plants through bacteria needs more oxygen. The bacteria get the oxygen from water. With the result, the oxygen of water is lost. Fish and other water animals die due to shortage of oxygen in water. Due to this, the water starts giving bad smell and its colour becomes black. The black and dirty water does not allow sun rays to penetrate inside water. Thus

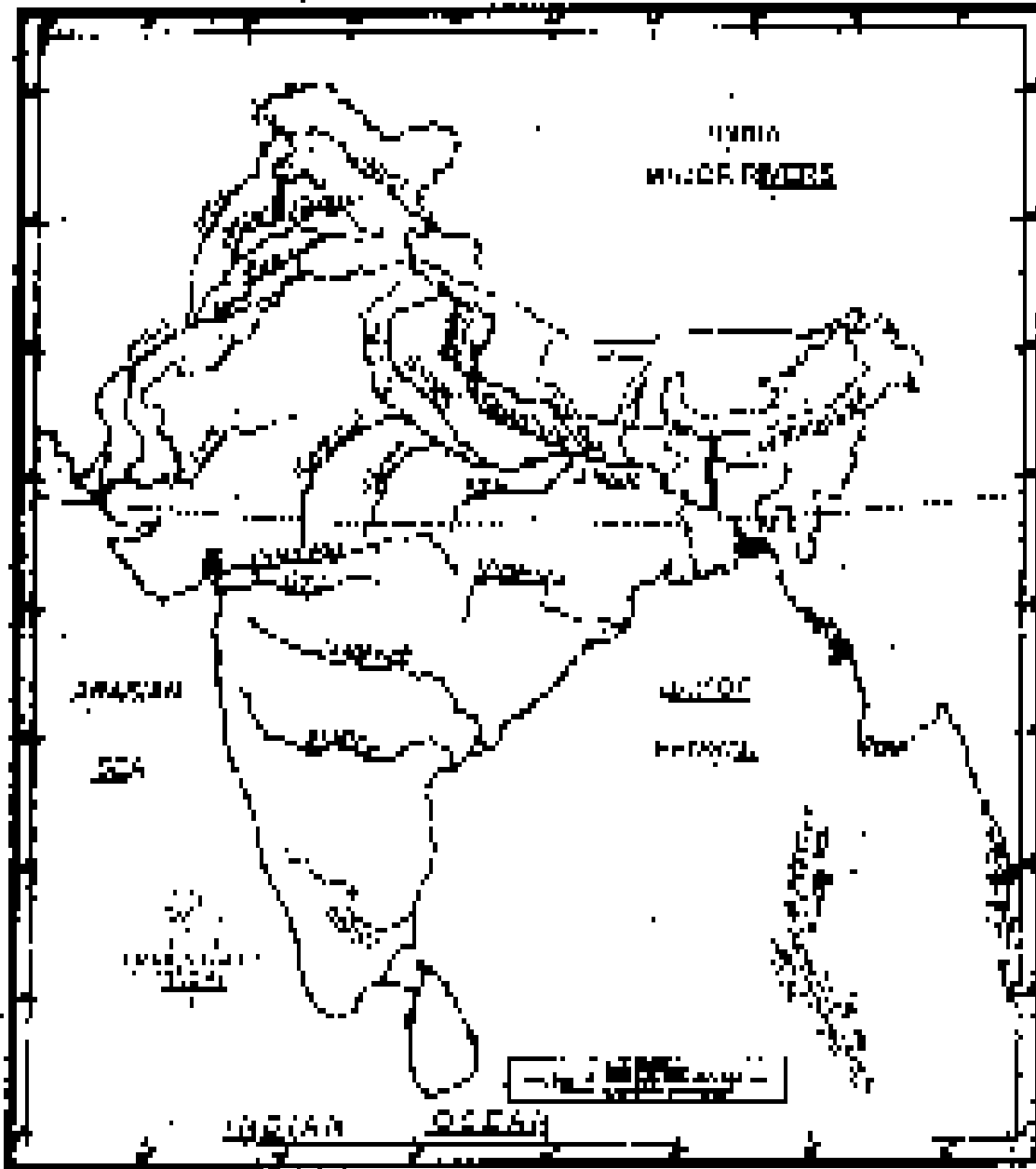


Fig. 7.8 Major Rivers of India

polluted water interferes with the production of oxygen by plants.

Scarcity of clean water is increasing every day. We are using already used and dirty water after treating or purifying it. It is called recycling of water. Polluted water can be made useful after purifying or treating it with the help of treatment plants. For this, it is necessary that the water of urban settlements along the rivers be checked so that it should not mix with the river water directly. Judicious water management is desirable in this regard. Only then, the water can be saved from becoming polluted and poisonous. Drives to save water of rivers like the Ganga, Yamuna, Gomti, Narmada etc. from pollution are in progress. By the order of the Supreme Court, direct filling of polluted water of drains into river Yamuna has been prohibited completely. As a result, their water is being used in irrigation after making it free of solid pollutants with the help of treatment plants.

- Sweet or pure water is less than three percent of the total water of the earth.
- Rivers are the major source of sweet water.
- Growing population has resulted in the increase in demand for drinking water.
- Rivers can be saved from becoming poisonous by prohibiting the dumping of dust, phosphate, used oil chemicals, atomic waste and urban waste directly into them.

Intext Question 7.7

Find out with the help of Atlas:

1. Which river flows in the rift valley?
(a) Kaveri (b) Krishna (c) Brahmaputra (d) Narmada.
2. Which is the longest river of Peninsular India?
(a) Krishna (b) Kaveri (c) Narmada (d) Godavari.
3. From which states do the following rivers flow from their source to mouth; write the names of three states for each:
(a) The Ganga– 1..... 2..... 3.....
(b) Narmada - 1..... 2..... 3.....
(c) Krishna 1..... 2..... 3.....

7.13 What You Have Learnt

With regard to area, India is the seventh largest country of the world. Due to its location at the head of Indian Ocean, we have had trade relations with the countries of Asia and Africa since long. Tropic of cancer passes through the middle of India. Hence India lies in both the tropical and subtropical zones. Latitudinal and longitudinal extent of India is about 30° each. The difference in duration of day and night in the southern and northern areas of India varies between 45 minutes to 5 hours. Likewise, the difference in the time of sunrise and sunset at the eastern and western

margins of the country is 2 hours. Therefore, to solve the problem of local time the local time at $82\frac{1}{2}^{\circ}$ E Longitude has been accepted as the standard time for the whole country. Now, the maximum difference between the local time of a place and the standard time can be one hour only.

India is divided into five physical zones. Every zone is different from the other. Every zone has its own characteristics. Each physical division helps in the economic development of the country. Nobody is unaware of the importance of mountains, plateaus and plains.

Indian rivers can be divided into two groups-the Himalayan rivers and the peninsular rivers. The eastern and the western coastal plains are of additional importance. Our two island groups Lakshadweep – Minicoy and Andaman and Nicobar-are of special strategic importance.

The Himalayan rivers or three river systems. These are called the Indus, the Ganga and the Brahmaputra river systems. All the major peninsular rivers flowing into the Bay of Bengal form delta; while, Narmada and Tapi flowing into the Arabian sea make estuaries.

Rivers are the major source of our drinking water. River water is used in different forms. The rivers provide us with life giving water. But, we, as selfish human beings, are polluting them. Industrialisation and urbanisation has deformed cleanliness of the rivers. Now, the time has come for making the rivers free from pollution. For this, everybody can contribute without spending any money. We should not involve ourselves directly or indirectly in any activity that leads to river pollution.

7.14 Terminal Exercise

1. The latitudinal and longitudinal extent of India is 30° each. However, there is difference in the north south and east-west distances of the country. Why is it so?
2. “Geographical location of Inida is highly favourable to the country” Discuss this statement with examples.
3. Compare the area of India with that of a few countries of the world.
4. Which are the five divisions of India on the basis of physical features?
5. Divide the northern great mountain complex into three parts and describe each one of them correctly.
6. Divide the peninsular plateau of India into major parts and describe each one of them correctly.
7. Compare the Himalayan and peninsular rivers. Give four points of difference for each group of rivers.
8. Discuss the contribution of rivers in economic development of the country.
9. Why are rivers highly polluted these days? Suggest measures for cleaning them.

7.15 Answers to Intext Questions

7.1

1. N to S. 3200 km; E. to W, 3000 km.
2. Northern, eastern and land hemispheres.
3. $6^{\circ}45'$ North to $37^{\circ}6'$ North latitude $68^{\circ}7'$ Est to $97^{\circ}25'$ Est longitude.

4. 45 minutes in the southern most place and 5 hours at the northern most place.
5. $82^{\circ} 30'$ East longitude.

7.2

- (a) Seventh
- (b) 32 lakh 87 thousands sq. km.
- (c) 15200 km
- (d) 7500 km

7.3

1. (a) K2
- (b) Kanchan Junga
- (c) Himachal
- (d) Shiwalik

7.4

- (a) ✓ (b) ✓ (c) ✓ (d) ✓ (e) ✓

7.5

1. Igneous and metamorphic
2. Western Ghats and Eastern Ghats
3. Annamalai
4. Udagmandalam (Ooty)
5. Central upland and Decan plateau.

7.6

1. Northern sarkar, Coromondal coast
2. Konkan and Malabar
3. To the west of Kerala
4. In the Bay of Bengal

7.7

1. (d)
2. (d)
3. 1. (i) Uttaranchal, (ii) Uttar Pradesh (iii) Bihar (iv) W. Bengal
2. (i) Madhya Pradesh (ii) Maharastra (iii) Gujarat
3. (i) Maharastra (ii) Karnataka (iii) Andhra Pradesh

7.16 Hints to Terminal Exercise

- (1) 7.3 (2) 7.3 (3) 7.4 (4) 7.5 (5) 7.5.1 (6) 7.5.3 (7) 7.5.7 (8) 7.5.9 (9) 7.5.10