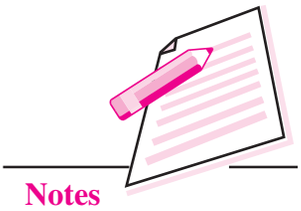

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4

FUNDAMENTALS OF TRAVEL AND TOURISM GEOGRAPHY

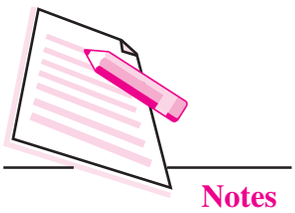
Tourism involves the action of travel. But all travel is not tourism. A person may travel due to a wide variety of reasons, of which tourism may be one. Many travelers may be motivated to become tourists if they are convinced by information about the importance of the place and its natural beauty. Hence a study of the geographical aspects which enhances and increases the possibility of tourists travelling to these destinations is important. If a traveler is equipped with proper information about the attractions of the these places, they turn into tourists. Generally, the term travel and tourism both are used interchangeably and sometimes as synonyms. But the term tourism has a larger perspective. It encompasses bigger meaning and concept than travel. Travel, implies undertaking journeys from one place to another for any purpose including journey to work place. Tourism refers to activities assumed for purpose of leisure, recreation, enjoyment, rejuvenation or parting with the hectic work schedules. In this lesson, we shall study about the fundamentals of tourism geography.

OBJECTIVES

After studying this lesson, you will be able to:

- describe the significance of geography in travel and tourism;
- locate a place on the map with the help of latitude and longitude lines;
- calculate the time-lag between two places at different longitudes;
- explain the effect of crossing International Date Line on time maintained in the watches;

- follow the steps to calculate the standard time of any place and
- understand the presentation of information given in different charts.



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4.1 SIGNIFICANCE OF GEOGRAPHY IN ENHANCING TRAVEL AND TOURISM

Geography interprets the surface of the earth in terms of every phenomena existing at a particular point of time as well as in chronological perspective. Hence, geography portrays the surface through maps, diagrams, photograph and charts in visual form in addition to the written descriptions. Tourism on the other hand involves aspects like transport, travel distance, time-lag between origin and destination, stay and food facility, means of travel at local level, site and location. The prevailing environmental situation besides other information for tourist's interests can very well be explained through a geographical analysis

Geography plays a very significant role in travel and tourism. Some of the ways are as follows:

It helps us:

- to locate a specific area on the globe/map
- to find out the geographical time-lag between source and destination,
- to set the time of the clock in global perspective,
- to illustrate factual data through maps and charts,
- to understand different types of maps,
- to read maps with comprehension,
- to understand different types of charts,
- to study other useful maps and charts pertaining to tourists.

4.2 LOCATION ON THE GLOBE/MAP

We all know that the globe is a three-dimensional object, a replica of our earth. The earth is almost round in shape and is a member of our solar system. When we prepare a map, it may show the entire earth or a part of it. Since earth's surface is a curve, it is not very easy to represent the curved surface on a flat piece of paper. So, to represent it, we take the help of geographical coordinates. This is done by showing latitude and longitude of the respective area. With the help of these two coordinates, any point can be located with precision. It is just like a graph paper on which by assuming 'X' and 'Y' coordinates, we plot any value.

Latitude

Latitude of any place is an angular distance measured at the center of the earth from the equatorial plane either to the north or south direction (figure 4.1). The main characteristics of a latitude are:

- It ranges from 0° equator to 90° North Pole in northern hemisphere and 0° equator to 90° South Pole in the southern hemisphere.
- All the latitudes are imaginary lines drawn on the globe running in east-west direction and are parallel to the equator.
- All the latitudinal lines are complete circles.
- Since, all of them run parallel to one another, they are also known as parallels.
- As the values of the parallels keep increasing pole-ward their circumferences keep on decreasing.
- Equator passes through the center of the two poles North and South of the earth.
- Equator is the only latitude whose plane passes from the center of the earth. Hence, it is known as great circle.
- If you travel along the equator, it will represent shortest distance falling on the equator.
- The distance travelled along other latitude is not the smallest distance.

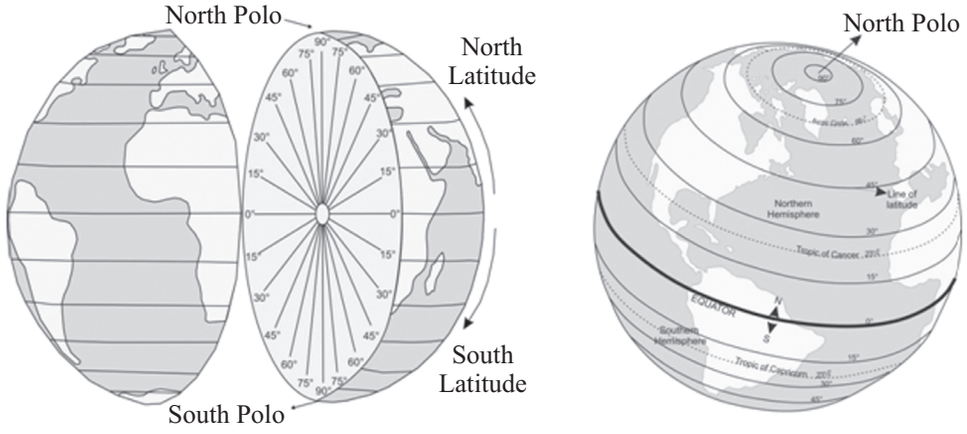


Figure 4.1: Latitude

Longitude

Longitude of any place is the angular distance measured along the axis of the earth between the prime meridian plane and the plane of the parallel of the place of which the longitude is sought (figure 4.2). The main characteristics of

longitude are:

- It is an imaginary line which runs from North Pole to South Pole.
- The line passing through 0° to the prime meridian. It passes through Greenwich near London.
- It is distance in degree east or west of the prime meridian.
- Point west of prime meridian are numbered from 0° to 180° west longitude (W).
- Points east of the prime meridian are numbered from 0° to 180° east longitude (E).
- Lines of longitude are not parallel; they are large semicircles that extend vertically from pole to pole.
- The prime meridian divides the earth into two hemispheres – The part to the east of prime meridian is the eastern hemisphere and the part lying to the west is the western hemisphere.
- All lines of longitude cut lines of latitude at 90° (right angles)
- The inter longitude space decreases towards the pole.
- All lines of longitude when seen from one side are half circles. But when other half is combined, it becomes a full circle.

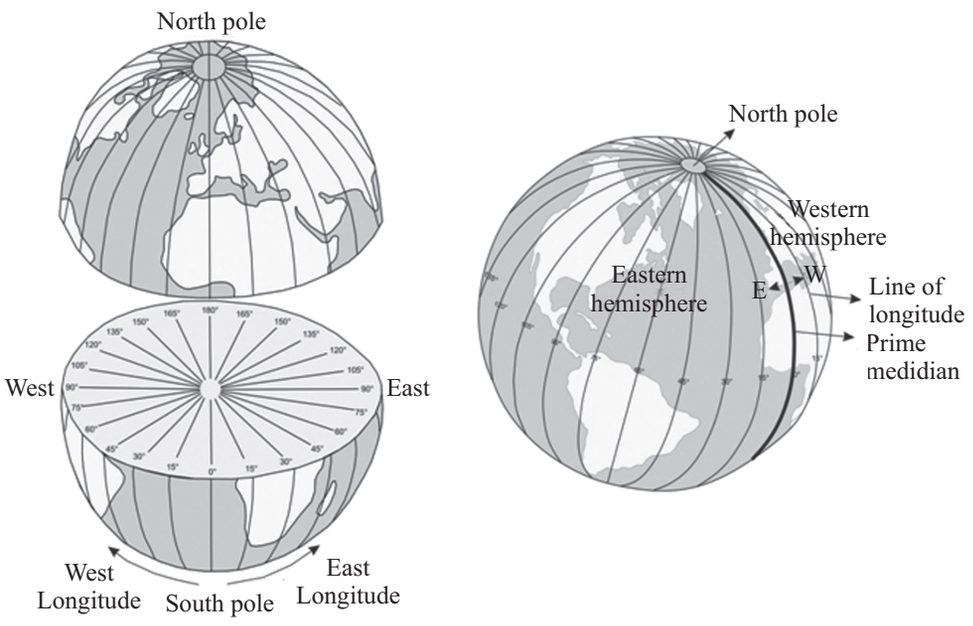


Figure 4.2: Longitude

Latitude, Longitude and Hemisphere

The figure no. 4.3 shows the lines of both latitudes and longitudes:

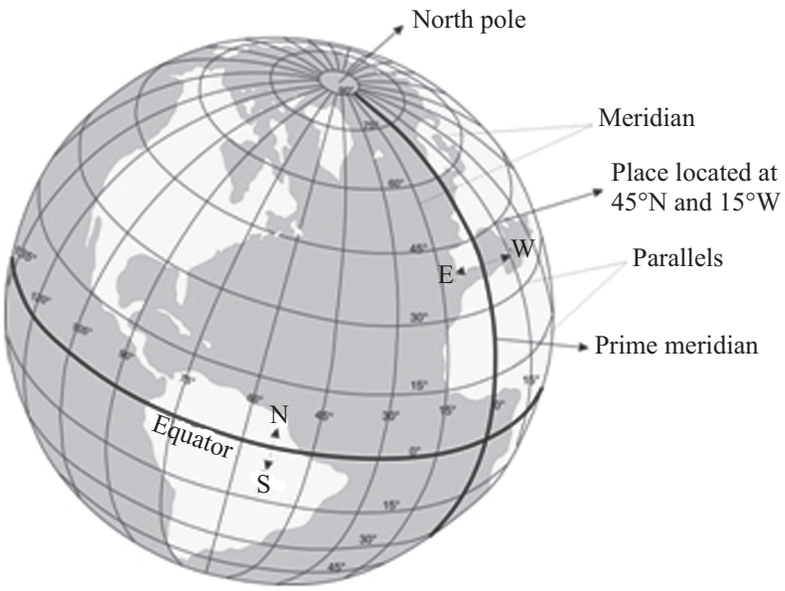


Figure 4.3: Hemisphere

As mentioned earlier, the equator passes through the middle of the two Poles – North and South. From equator to the North Pole, the area is called the northern hemisphere. In the same way, from equator to the South Pole, the area is called the southern hemisphere. The prime meridian of 0° and 180° are opposite to each other. Combining together, they form a complete circle. From 0° to180° through east is eastern hemisphere and from 0° to180° through west is western hemisphere (Fig. 4.4).

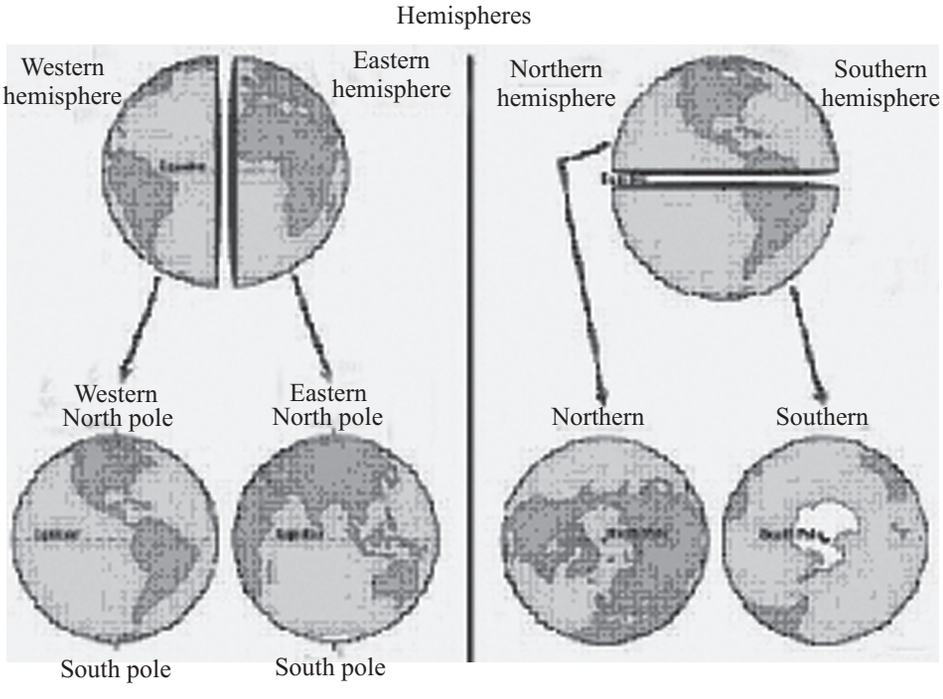
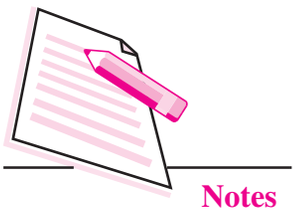


Figure 4.4: Division of hemisphere



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INTEXT QUESTIONS 4.1

(A) Fill in the blanks

(i) …… is the only latitude whose plane passes from the centre of the earth.

(ii) Equator divides the earth into two …… .

(iii) 0° degree longitude passes through the …… near London.

(iv) India lies in …… hemisphere.

(B) Answer the following questions in brief:

1. Describe the role of geography in travel and tourism.
2. What is meant by latitude and longitude?
3. Why should travelers have basic knowledge of latitude and longitude?

4.3 GEOGRAPHICAL TIME-LAG

We all know that the earth is rotating on its axis in twenty-four hours. The rotation of the earth is a complete circle. A complete circle has 360° which is covered in twenty-four hours. If the angle of 360° is divided by 24 hours, the result would be that one hour is covered by 15°. One hour is equal to 60 minutes which means that the earth rotates by 1° in four minutes. This is an apparent position of the earth surface in relation to the sun. The actual time of a particular place is determined by the position of the sun. When the sun is exactly over the head, it is considered to be noon and accordingly the time is distributed in next twenty-four hours. The adjustment of the time in our clock in this way gives an idea of local time of the place.

The longitudinal extent of any country is not very small and hence, no country follows the local time of any place to be a representative time of the country. To avoid different timings in a single country, a standard time of the country is computed/ determined by considering the central meridian as the representative standard time. For example, the longitudinal extent of India is from 68° to 97° East longitudes. The central meridian for India is 82° 30' East longitude (Naini Allahabad). If it is multiplied by 4 minutes, it would be 330 minutes which is equal to 5 hours and 30 minutes. The numbering of 82° 30' East longitude is from the prime meridian (0°) which is passing from the Greenwich, near London. Hence, the time is 5 hours and 30 minutes forward to the Greenwich time because it is towards east of Greenwich. The local time difference between the easternmost and the westernmost points is approximately two hours. When

people of Arunachal Pradesh are taking breakfast to leave for their offices, the people of Gujarat are just waking up. Still the time for whole of the country is considered to be the same everywhere. This is done to avoid the problems of dual/multi timings.

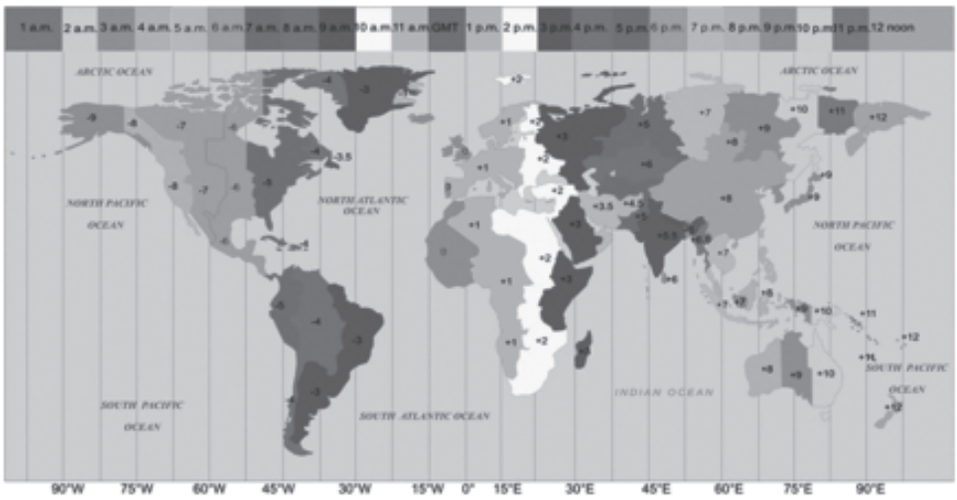


Figure 4.5: Time Lag

Some countries are very big in their longitudinal extent. Such countries have many time zones as one time zone does not serve the purpose. Australia has three time zones, the mainland of USA has four, Canada has six and Russia has nine time zones. The well accepted time zones of the world are shown on the figure 4.5. An international tourist visiting any country has to adjust the time of their watch as per the destination. Hence, information about the time is very important as it helps to understand the location of the visited place in relation to their own country. It also helps in understanding the time-lag. The human body needs acclimatisation in terms of the climate as well as the problem of time arising out of the longitudinal distance travelling. It determines the sleep disorder as tourists need to adjust their biological clocks. This problem arises more with east-west departure.

4.4 INTERNATIONAL DATE LINE

The International Date Line (IDL) is an imaginary line on the surface of the earth that runs from North Pole to South Pole and separates one calendar day from one side to another. Figure 4.6 shows that International Date Line follows the meridian of 180° longitude, roughly down the middle of the Pacific Ocean. To avoid passing through the International Date Line from a single nation the line deviated around the Far East of Russia and then around various Island groups in the Pacific Ocean. These various deviations (East or West) generally accommodate the Political and/or Economic affiliations of the affected areas. A tourist crossing the International Date Line eastbound reduces one day or

24 hours so that the calendar date to the west of the line is repeated. A tourist crossing the IDL westbound adds 24 hours or one calendar day. The International Date Line is necessary to calculate date and time correctly.

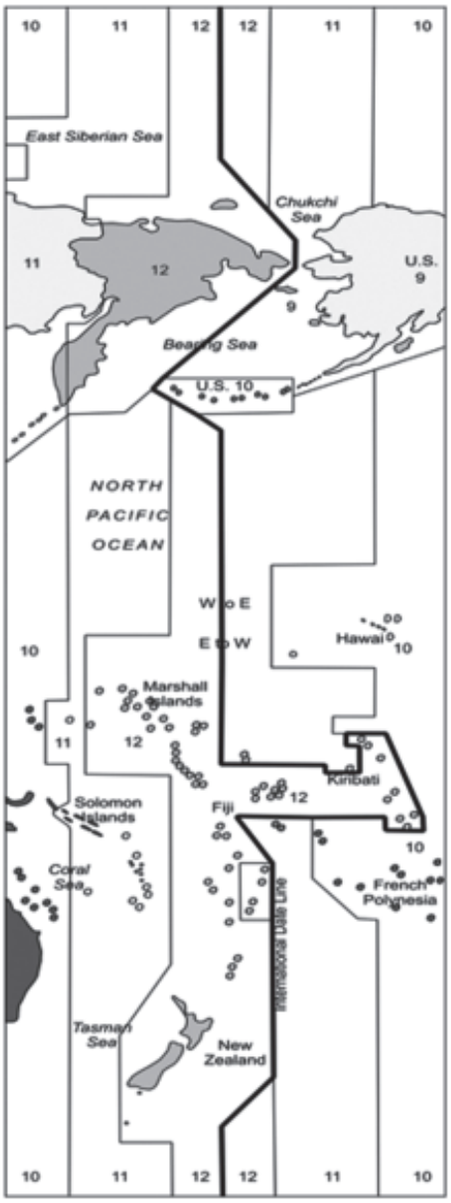


Figure 4.6: International date line

4.5 DETERMINING TIME ON THE GLOBE

As mentioned above, the spinning of earth along every longitude of the earth takes four minutes to come in front of the sun. If the globe is kept in front of you and you are looking at the globe, the spinning direction of the earth on its axis is anti clock-wise. The sun is supposed to be stationed in the east

direction. The surface of the earth is changing due to its rotation. The western part of the globe moves eastward (sunward). Therefore, the places nearer east come first in front of the sun and those to be west come later. Due to this, the place lying towards east has advance time in comparison to the place lying towards west. East or west is again decided by the values of the longitudes. The place/ country lying in the east has advance time. The advancement of the time is determined by the east-west expansion. Our country's local time is decided by the longitude and time on this central meridian is known as the Indian Standard Time (IST) which is 82°30' East from the Greenwich. Hence, the time in India is 5 hours and 30 minutes in advance as compared to the Greenwich time.

4.5.1 Steps to Calculate the Time

The following steps should be followed:

- Determine the longitude of both the places between which you are trying to find out the time.
- Calculate the difference between the longitudes in degrees.
- If both the places are in the same hemisphere (east or west), the difference is found by subtracting the smaller value from the bigger one.
- If both the places lie in different hemisphere, the figures are to be added to get the difference.
- After getting the difference, multiply the value by four, because earth takes four minutes to rotate one degree of longitude.
- The value thus arrived would be in minutes.
- Divide this value by 60 to convert into hours, because one hour is equal to 60 minutes.
- The time difference you get the difference would be between those two places.
- If the time of reference is to be taken from west to east, then that much time should be added to get the time of eastern place, because east time is forward in comparison to west.
- If the time of reference is from east to west, then that much time would have to be deducted to get the time in the western place, because west time is behind the time in East.

Let us study some examples: place "A" is at 45° East longitude where the time is 8 am. Another place "B" is at 120° East longitude. What would be the time at place "B"?

SOLUTION: difference between the two longitudes (120° – 45°) is 75°.

75 × 4 minutes = 300 minutes

300 minutes ÷ 60 minutes = 5 hours.

Since, the reference is from "A" (west) to "B" (east), the time at "B" would be more then the time at "A" by 5 hours. Hence, the time at "B" is (8+5 = 13 hours) 1 pm.

Let us take another example: the longitude of place "P" is at 45° East longitude where the time is 8 am. Another place "Q" is at 120° West longitude. What would be the time at place "Q"?

SOLUTION: difference between the longitudes (120° + 45°) is 165°.

165 × 4 minutes = 660 minutes

660 minutes ÷ 60 minutes = 11 hours.

Since, the reference is from "P" (east) to "Q" (west), the time of "Q"

would be less than the time of "P" by 11 hours. Hence, the time at "Q" is (8 am-11 hours)

24 (previous date) + 8 hours = 32 hours-11 hours = 21 hours, i.e.,

9 pm of the previous date if the date at place "P" is February 01, 2013. The time at "Q" would be 9 pm of January 31, 2013 (previous date in comparison to the date of place "P").

ACTIVITY 4.1

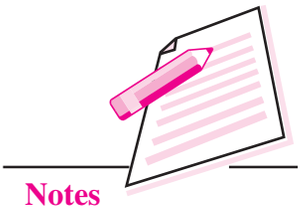
Make a telephonic call to your friend or relative who lives in a different country. Ask the local time of his city and calculate the time difference between his/ her and your city. Also calculate the longitude difference and comply with time difference between these two cities.

INTEXT QUESTIONS 4.2

1. Define international date line

2. How much is the time difference between Allahabad and London?

3. What is the effect of crossing international date line?



Notes

4.6 COMMUNICATING THROUGH MAPS AND CHARTS

Illustration of information through maps and charts is one of the techniques used in geography. They help a lot to represent many things very clearly and help in making the information more understandable. If a person has visited any particular area with keeping the mind open to visualise the space, he/she could explain it well what he/she has already seen at the time of visit. But if the events are illustrated through maps, it could be understandable even for a person who has not visited the area.

Map is of great importance because:

- it brings a large area/surface of the earth more comprehendible by plotting various items of the surface,
- visualisation through map for a bigger area is easily understandable,
- spatial differentiation and pattern of distribution can easily be understood than expressing it in words,
- map is a well-organised and substantiated form of storing spatial information and
- map speaks louder and appropriately than words.

4.6.1 Types of Maps

There are many types of maps depending upon the use and information they provide. But for the convenience they may be put into two major categories:

(i) General Reference Map, and

(ii) Special or Thematic Map

4.6.2 General Reference Map

A General reference map gives general information about any spatial unit like world, continents, countries, districts, cities, rivers, mountains, plateaus, plains, oceans etc. These types of maps are available in books or Atlases generally used by students. Therefore, an Atlas is the collection of various types of maps which provides information about common features of concerned aspects of those areas.

4.6.3 Special or Thematic Map

Special or thematic map give thematic information such as climate, vegetation, rainfall, temperature, distribution of crops, minerals, industries, roads, railways, air routes, wind direction and circulation, cyclones etc. These maps can further be divided into sub-parts depending upon the specific requirements of a person. Some of the important maps are discussed below:

POLITICAL MAP: Political map represents the area of a particular continent/ country/state or any unit of political administration. Many colours are used to differentiate one political unit from another. But there is no special significance of any colour assigned to any political unit. If you see the political map of India (figure 4.7) or any political map in an Atlas you will see that it shows international, state, coastal boundaries and also rivers, lakes, seas, important roads, railways, state capitals, important cities, and ports, including major industrial and commercial centers. This type of map helps the tourists by providing the information about the location of the tourist places and the country. It also gives details about the mode of travel from one place to another as well as the approximate distances they need to travel. It is helpful for travelling tourists and people flying to different countries.

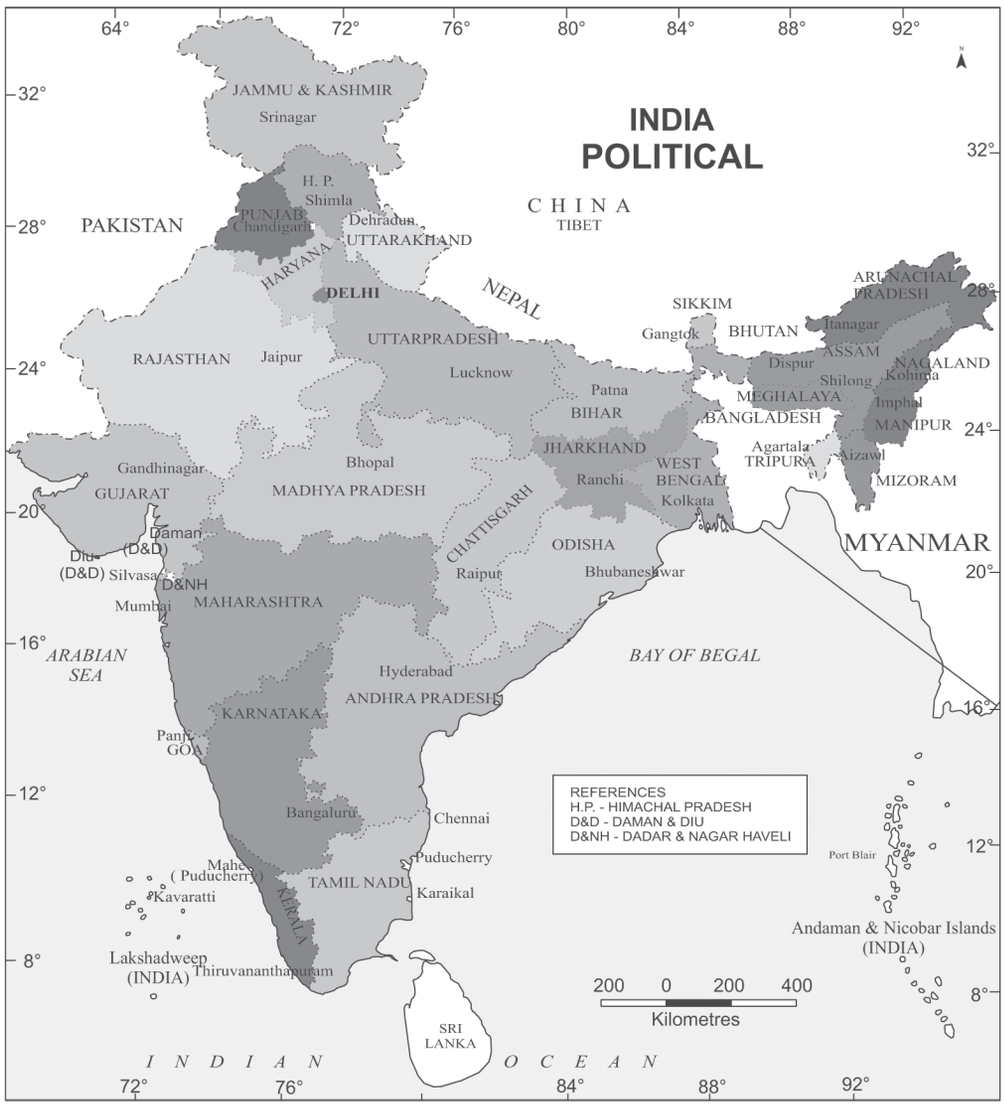


Figure 4.7: Political Map of India

PHYSICAL MAP: Physical map represents the physical features/height of an area. Many colours are used in this type of map. The colours are in shaded form. Generally darker shade represents higher elevation and the lighter shade as the lower altitude. Different types of altitudinal variations like mountain ranges, hills, hot and cold deserts, plateaus or plains are featured. Apart from these; rivers, waterfall, lakes, forested areas, swamps, waterlogged areas etc. are also shown (figure 4.8). This type of map helps the tourists to know the physical characteristic of the places they intend visiting and prepare themselves to face the effects of elevation by considering the temperature conditions. The climatic condition of plains is completely different from that of mountains. Visit to both the places can be planned in different seasons. Hence, the knowledge of the physical map, its reading and understanding is quite essential for the tourists.

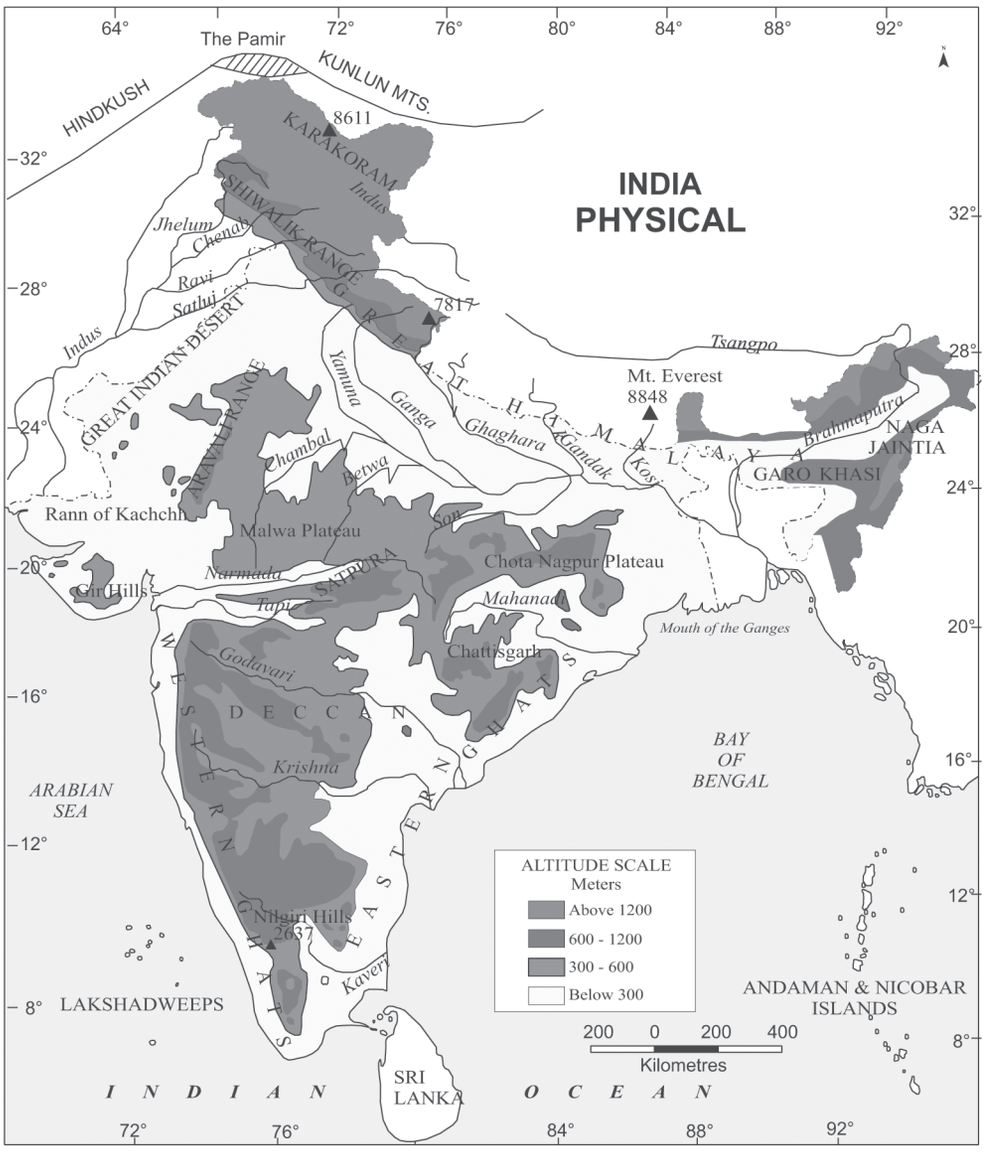


Figure 4.8: Physical Map of India

ROAD MAP: Road map represents the roads found in any particular area with the information of motorability in different seasons. This road map also shows the availability of petrol pumps, boarding and lodging facilities and places of public assistances. Different type of roads like National Highways, State Highways, District Highways, and Village Roads are highlighted in different ways. Among these roads, National Highways and State Highways are very important because of the services they provide to the smooth movement of people and goods in general and tourists in particular.

The roads are important for the domestic tourists because they travel by roads to different destinations. The higher order of roads provides good facilities and services to the user. Tourists are also interested in knowing the distances to be travelled by them. For this, the distance matrix table (Fig. 4.9) becomes very important for them to decide their journey and planning their time.

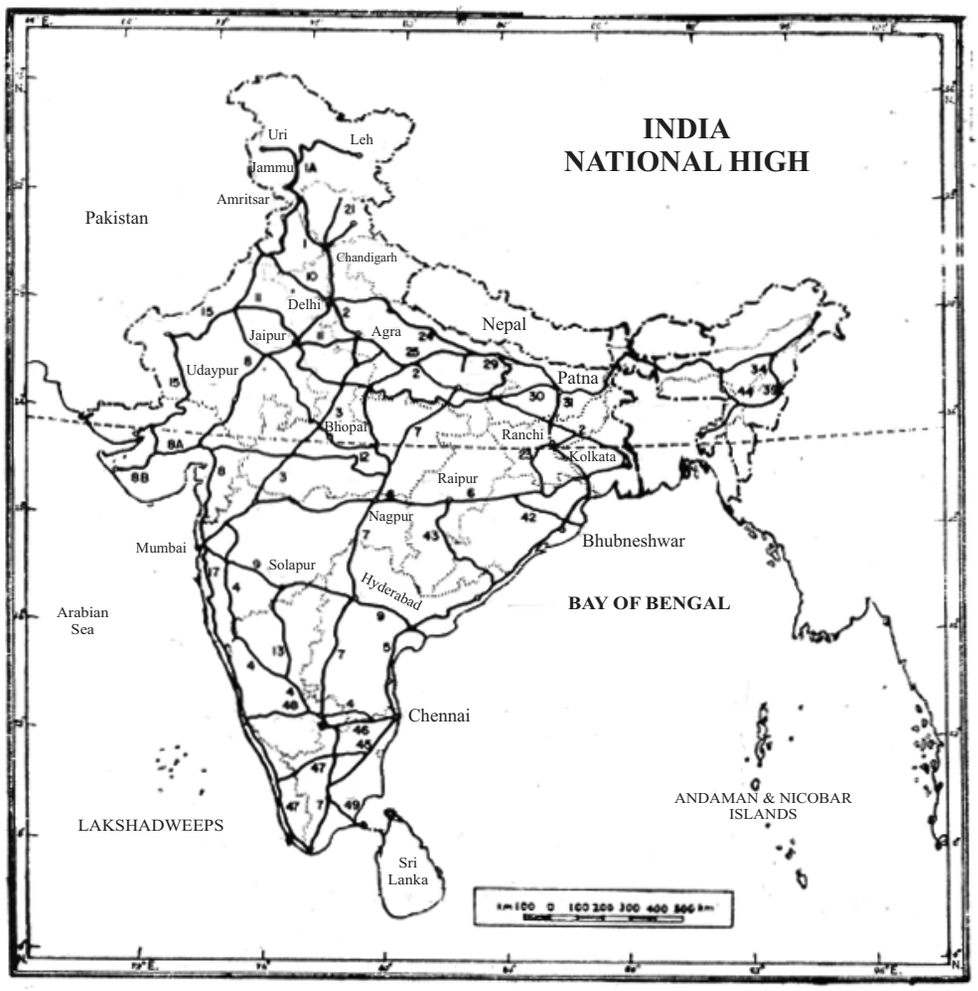


Figure 4.9: National highway

RAILWAY MAP: Railway map (Fig. 4.10) gives the information about the railway network in a country or even the connectivity with the adjoining country in a contiguous manner. This type of map provides information about:

- nature of gauge of the railway track in a certain section,
- route length of such a gauge section,
- types of engines in operation like electrified or diesel operated,
- nature and type of tracks on different sections like single, double, under gauge conversion or under construction.

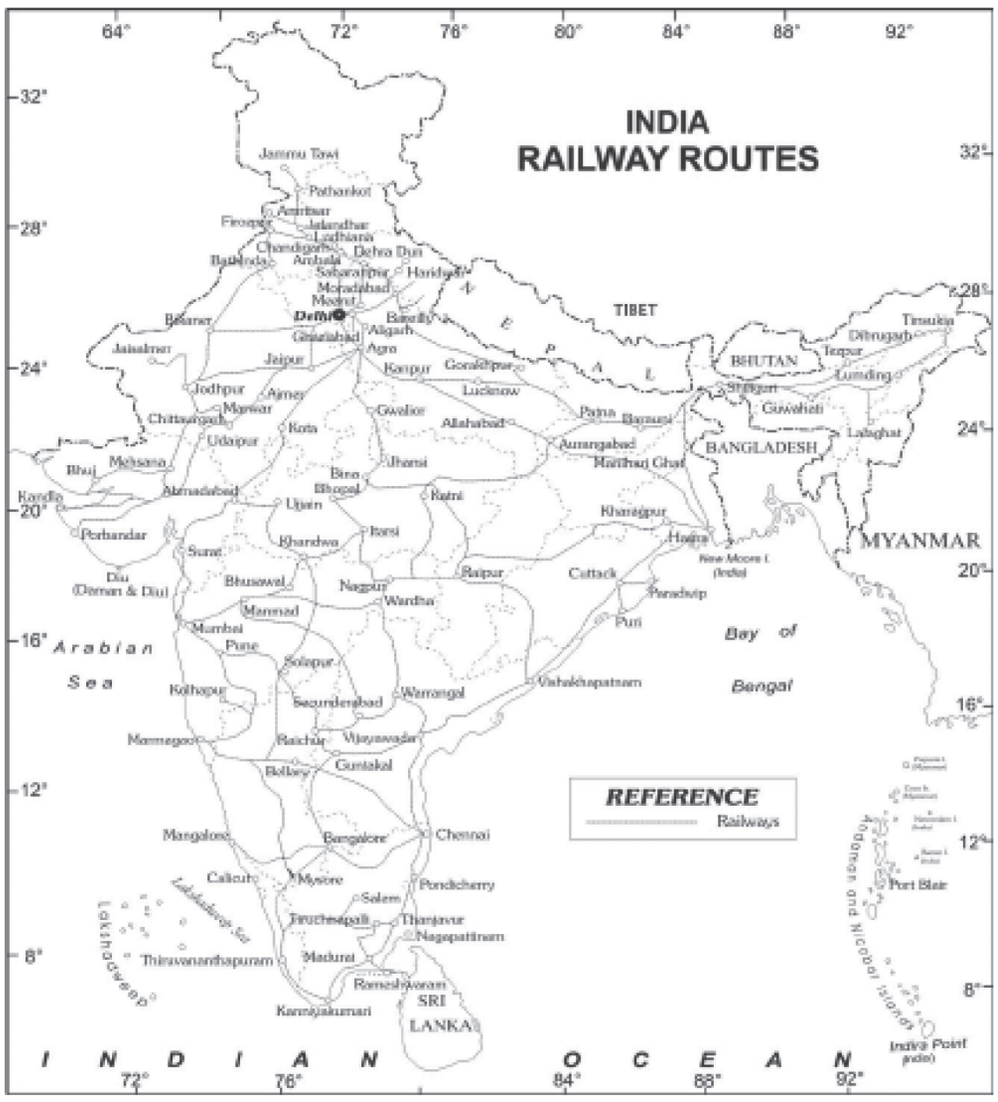


Figure 4.10: Railway Map

The railway map helps tourists in planning their journey to their destinations just by looking at the map. It is helpful in providing information about the connectivity and availability of trains to their destination places. Sometimes, it happens that the tourist center is not directly linked by railway. In that case, tourists prefer to cover the larger distance by train and get the connectivity by road to reach the destination. For example, tourists coming from Mumbai and going to Jammu and Kashmir Valley may decide to go by train till Jammu and then by bus to reach the Valley.

AIR ROUTE MAP: Air route map shows the major and minor national and international airports, air routes under operation with available connectivity among them. Air network map is very helpful for tourists to get the informations about shorter air routes for their distination.

TOURIST MAP: Tourist map is definitely very important for the tourists as it is related to their requirements and needs. This type of map is prepared keeping

Figure 4.11: Tourist map

in mind destinations of tourist interest like places of scenic beauty, hill stations, monuments, religious places, beaches, wildlife sanctuaries, parks, places of historical importance, cultural sites, trekking routes and mountaineering, and many more. This map also depicts other features like location of places with reference to rivers, lakes, oceans, mountains, hills, forests etc. Though this information could be put into many maps but generally they are synthesised into a single map for the tourists so that they could get the composite picture of places where they are visiting. The tourist maps are prepared from national to local level such as map of India, Delhi, Agra or Mumbai. Figure 4.11 represents location of different tourist centres in India. Tourist information center of any state provides tourist map in details.

TREKKING ROUTE MAP: Trekking route map shows the tracks in the mountainous areas along which the trekking is possible. Some tourists who like adventure in nature are interested in trekking and for them this type of map is of great help. On this map trekking path, height at different locations, camp pitching ground, along with river and mountain system are also shown (figure 4.12).

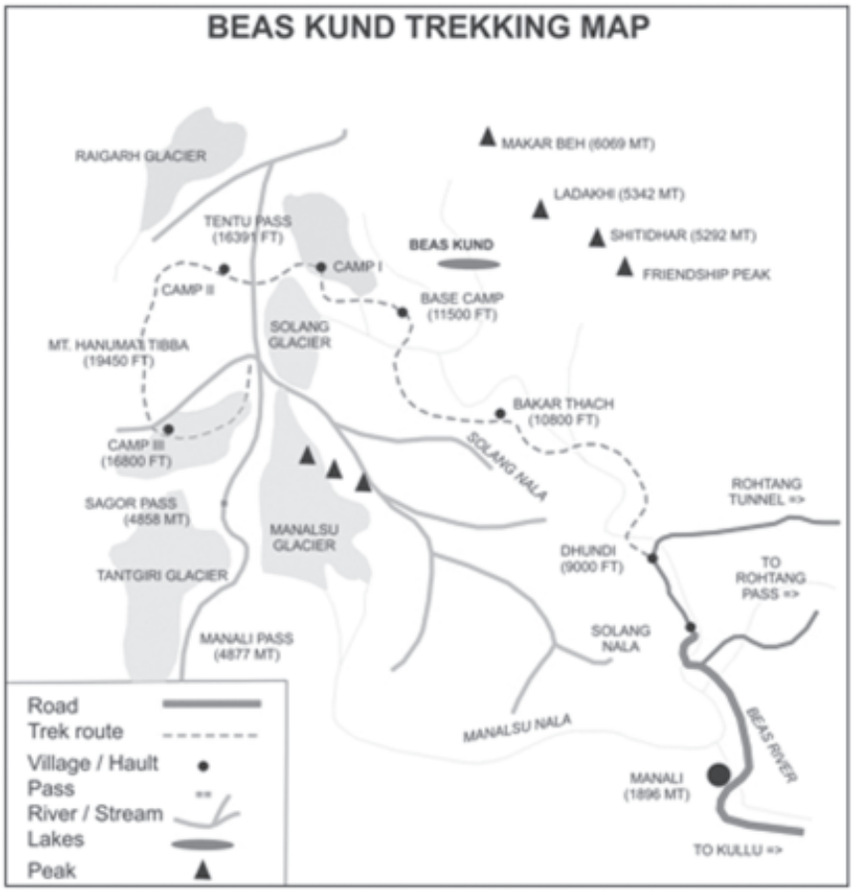
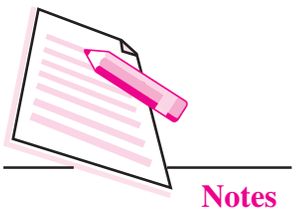


Figure 4.12: Trekking route map



Notes

ACTIVITY 4.2

You want to visit "Dal Lake" of Kashmir from Delhi. Take a map and collect all relevant and required information like location, surface and air route connectivity, distance etc.

4.6.4 How to Read a Map

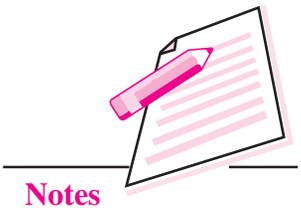
Maps are very useful for the tourists. They can understand the location of places of their visit well before they reach there. Tourists guide and books are there to cultivate the interest in tourists. Therefore, guide books sometimes act as the medium to motivate the tourists to go on tour. Maps provide every type of information like topography, climate, rainfall, drainage, distance, routes, suitable days to visit the area, and mach more. To understand the map well, one should be very particular about the latitudes and longitudes of the place for location. The scale given on the map is very much important to estimate the distance from one place to another. Similarly the direction is equally important to know the respective location of a place. This can be found by looking at the direction given on the map. If the direction is not given, the latitude and longitude line drawn on the map can help to know the direction. Various types of information are given on the map. Those could very easily be understood by reading the legend given at the bottom. Distribution of any phenomena should be seen by looking at the spatial pattern shown on a map.

4.6.5 Types of Charts

Numerical information can be easily understood by transforming it into a visual presentation. This makes the data easily graspable, comparable, and helps in arriving at conclusion. Some of the important methods used to represent the data are **bar charts, pie charts, line charts, scatter diagram, histogram and flow charts.**

BAR CHART: Bar is a rectangular shaped two dimensional representation of information. It is one of the most common ways to compare information simply by visualising the prepared bar. Bar chart is very effective when the numerical data are grouped into different categories. For example, if the number of tourists arriving at different tourist centers is available, the bars could be created for different centers by selecting the appropriate scale. After plotting the data, a comparative visualisation helps arrive at conclusion. Bars could be single or multiple and can be used on a map or on a separate sheet.

LINE CHART: Line chart is used to study the trend of any phenomena over a certain time period. Line chart connects individual numeric data points. This results into a simple, straightforward way to visualise a series of values over



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a time period. For example, if the numbers of tourists arriving at a certain tourist center for different years are available; they could be plotted against various years. The final outcome of plotting will give a visual trend of an increase or decrease or an erratic variation of tourists over that time period.

PIE CHART: Pie chart represents the proportionate share of values constituted by different sectors. In this method, all the values are added together to represent 100% for which a circle is drawn. The same circle is divided into various sectors depending upon the items contained by those sectors. For example, if the tourists are divided into different groups on certain basis like religion, income group, source of their origin etc. and their numbers are available then a pie chart can easily be prepared to see sectoral strength of the number of tourists.

ACTIVITY 4.3

Get foreign tourist arrival data of last 10 years of tourists who visited your state. Represent the figures for each year on a bar chart.

INTEXT QUESTIONS 4.3

Answer the following questions in brief:

1. What are the two major categories of Maps?
2. Describe thematic maps
3. A foreign tourist intends to visit various tourist places in India. Which maps would you suggest to him for reference?
4. What are the features of a trekking Route Map?

WHAT YOU HAVE LEARNT

- Geography is a core and significant discipline and integral part of Travel and Tourism. It gives a lot of in depth understanding of a place. It contributes a lot in the growth and development of tourism industry.
- Tourism is a kind of travel with the purpose of leisure, recreation, enjoyment, rejuvenation or way of parting with the hectic work schedule.

- Travel and Tourism geography talks about the geographical aspects which increase the possibility of tourism. This discipline imparts various types of information to help the tourist which in turns promotes tourism.
- Latitude and Longitude lines help us to locate any place on the earth's surface. Besides this, we can also understand the climate and different time zones. Determining time on the globe is very essential for tourists.
- Our country's time is decided by the longitude that passes from the centre and bears the longitude value of 82° 30' East from the Greenwich. Hence, time of India is 5 hours 30 minutes advance in comparison to International Standard Time or the Greenwich time.
- Preparing and reading maps is very important area of Geography. Maps are broadly put into two major categories:

  (a) General Reference Map and

  (b) Special or Thematic Maps
- General reference maps provide information about any spatial unit like continents, countries, districts, cities, rivers, mountains, plateaus etc. But, special on thematic maps showing vegetation, rainfall, temperature, mineral, industry, roads, railways, air routes are useful for travellers.

TERMINAL EXERCISE

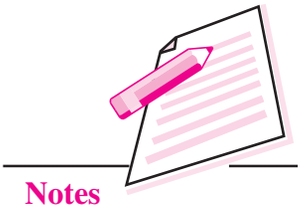
1. How does the understanding of Geography help promote tourism.
2. Distinguish between latitude and longitude.
3. What are special or thematic maps? Explain any four thematic maps?
4. Define international Date Line.
5. Explain geographical time lag.
6. Distinguish between Bar and Pie chart.

ANSWER TO INTEXT QUESTIONS

4.1 (A)

(i) Equator (ii) Hemispheres

(iii) Greenwich (iv) Northern



Notes

(B)

1. Tourism phenomena like travel distance transport, time-lag between origin and destination of tourism site and location, current environmental conditions can be understood by geographical analysis.
2. Latitude - An angular distance measured at the centre of the earth from equatorial plane, either to the north or south direction.

   Longitude - An angular distance measured along axis of the earth between the prime meridian plane and plane of the parallel of the place of which the longitude is sought.
3. – To locate any place on the earth surface.
   – Determining time on the globe requires understanding of longitude.
   – Understanding of latitude helps to know about the climate of any place on the earth's surface.

4.2

1. International Date Line is an imaginary line on the earth surface which runs from North to South Pole and separates one calendar day from either side.
2. Time difference between Delhi and London is 5 hours 30 minutes as there is total longitude difference of 82° 30' because London is on Prime Meridian (0°) and Allahabad's time is decided by 82° 30' East.
3. One day is added when a person is crossing International Date Line from east to west and when he or she is crossing from west to east then there is reduction of one day (24 hours).

4.3

1. (a) General Reference Map

   (b) Special or Thematic Map
2. Thematic maps give general information about climate, vegetation, rainfall, temperature, minerals, industries, roads, railways, air routes etc.
3. Tourist map and transport map of India.
4. Trekking route map shows the treks in mountainous areas along which trekking is possible. It indicates trekking path, height at different locations, camp pitching ground along with river and mountain system.