

TRANSPORT AND COMMUNICATION

29.1 INTRODUCTION

You must have seen buses, bullock carts, trains, ships, boats, aeroplanes, etc. all around you. Bullock carts, buses, trucks, etc. run on the roads, trains on the railway tracks, boats and ships sail on water while the aeroplane flies in the air.

The maintenance, organisation, location and position of roads, rails, rivers and sea coast, as well as the vehicles which run on them, all combined, can be put in the category of transportation. Bullock carts, trains, aeroplanes, etc. are the means of transportation. Means of transportation are needed to carry passengers and goods from one place to another.

Similarly, we can pass on information from one place to the other very quickly and easily. This is called communication. Post, Telegraph, Telephone, Fax, Satellite, etc. are various means of communication.

In this lesson, we will study about these two facilities namely transport and communication.

29.2 OBJECTIVES

After going through this lesson, you will be able to :

- explain the meaning of economic infrastructure;
- list and explain the various means of transport in India;
- explain the various means of communication;
- explain the importance of transport;
- explain the importance of communication.

29.3 MEANING OF ECONOMIC INFRASTRUCTURE

In today's world an economy cannot function without certain common facilities such as

power, water, transport, communication, bank credit etc. To achieve higher growth rates of industry, agriculture and service sectors, it becomes necessary that these common facilities are also developed. All these facilities are called infrastructural facilities. These facilities are in the nature of universal inputs i.e. inputs common to all or most units of production. These facilities link the producers with other producers as well as consumers of their products. Energy, in different forms, is a requirement for all units of production. Transport is a means of linking producers with other producers and consumers.

Transport moves machinery for setting up a production unit. It also moves men and materials from other places for production to take place. Further, it moves the finished goods from their places of production to the places of consumption.

Take for example, tea and salt are day to day consumption items. Tea which we buy in the market is not produced by the person who is selling it. It is produced in the tea gardens of Assam and Tamilnadu from where it is brought to the factories for being processed and from there through transport, it is brought to the market for sale. Salt may not be produced where you live. It may be produced somewhere else. If it does not reach the users, then there is no point in producing it because the salt producer is not able to sell it.

Besides transport services, industry and agriculture use infrastructure like power, water, communication, banking facilities etc. for day to day functioning. Take for example the steel industry. Besides using some direct inputs like iron ore, coking coal, etc. it uses some infrastructural facilities like roads and railways for movement of raw materials and finished goods, communication for getting as well as placing orders and flow of information, power for making the machines work and bank credit for investments.

Therefore, without infrastructural facilities no economic activity is possible. Broadly, these facilities consist of the following :

- (a) Transport : Road, rail, water and air transport.
- (b) Communications : Post and telegraph, telephones, telecommunication, etc.
- (c) Energy : Coal, electricity, oil and non-conventional sources as a fuel.
- (d) Water : Dams, canals, tube-wells etc.
- (e) Credit facilities : Commercial banks, financial institutions.

Table 29.1 provides information on the availability of infrastructural facilities in the Indian economy. It shows that over the years there has been an improvement in the infrastructural facilities.

Table 29.1
Availability of Infrastructural Facilities in India

	Unit	1950-51	1994-95
Energy			
1. Coal	Lakh tonnes	320	2538
2. Electricity generated	100 Crore KWH	5	351
3. Petroleum - oil crude	Lakh tonnes	3	322
Transport			
1. Railway revenue - earning goods traffic	Lakh tonnes	730	3650
2. Cargo handled at ports	Lakh tonnes	190	1973
Telecommunications			
3. New telephones provided	in thousands	NA	1770

Source: Economic Survey, 1996-97

From these data it becomes clear that there has been an alround expansion of infrastructural facilities in India since Independence. Between 1950-51 and 1994-95 coal production has increased by nearly eight times, electricity generated has gone up by more than seventy times. Railway goods traffic has increased by five times whereas the cargo handled at ports in India has increased by more than 10 times. It is the growth of these infrastructural facilities which has helped in the industrial and agricultural growth. Future growth of the economy is also dependent upon the rapid growth of such infrastructural facilities. It is well known that shortage of power restricts industrial production. Lack of transport and communication facilities likewise causes hurdles in the growth of the economy.

POINTS TO REMEMBER

- Facilities like transport, communication, energy, water constitute the infrastructural facilities.
- Without these facilities no economic activity is possible.
- There are four means of transport - road, rail, water and air transport.
- Future growth of industry and agriculture is not possible without the development of infrastructural facilities.

INTEXT QUESTIONS 29.1

State whether the following statements are true or false:

- (i) Railways, roads, banking, etc. are examples of infrastructural facilities.
- (ii) Briefcase, toothpaste, shaving cream, etc. are examples of infrastructural facilities.
- (iii) Infrastructural facilities are required by industry and not by agricultural sector.
- (iv) Post, telephone, fax, satellite etc. are various means of communication.

29.4 TRANSPORT

Now we discuss in detail the transport infrastructure. Transport helps in the circulation of men and materials. It helps to widen the market for goods. In the agricultural sector if there is no transport no inputs will be available because fertilisers, pesticides, seeds are produced somewhere else and from there they are brought within the reach of the farmer through transport. Transport also helps in carrying the goods from farms to the market. Similarly, in industry, take the example of any product, say sugar. Production of sugar requires sugarcane which is produced on the farms. From there it is carried to the mills. It is processed and converted into sugar. It is then transported for sale in the market. All these activities are possible only because we have transport facilities available which allow different activities to be carried on at different places at various stages. It is clear that transport links the producer with other producers as well as consumers.

Expansion of transport facilities itself helps industrialisation directly. The demand for locomotives, motor vehicles, ships, etc. leads to the setting up of the industries which specialise in the production of these goods.

There are four different modes of transport in India :

1. Road Transport
2. Rail Transport
3. Water Transport
4. Air Transport

The first three modes viz. road transport, rail transport and water transport are together clubbed as surface transport as distinguished from the fourth i.e. air transport. The surface transport modes depend on the development of the tracks on which the means of transport move. Roads are needed for the road transport. Building of roads is thus essential for road transport. Expansion of the network of roads can only help in the expansion of road transport. For the increase in transport facilities there is a need to increase the number of vehicles.

Similarly railway lines must be laid to run trains on them. Increase in rail transport, however, can take place not merely by more rail-lines but it also needs more trains to carry goods and passengers. Waterways are in the form of canals, rivers and sea. Ships and boats are used to move over these waterways to carry goods and passengers. Thus, tracks and means of

transport are two essential components of all modes of surface transport. Both are to be developed if surface transport is to expand. For example, transport of goods by rail will suffer if there is a railway line but it does not have necessary number of wagons to carry goods.

INTEXT QUESTIONS 29.2

State whether the following statements are true or false:

- (i) Transport system helps in broadening the market for finished goods.
 - (ii) Expansion of transport facilities itself helps industrialisation directly.
 - (iii) There are five types of Indian transport services.
 - (iv) Means of transport are needed to carry passengers and goods from one place to another.
 - (v) Vehicles are not an essential component of road transport system.
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29.5 ROAD TRANSPORT

(a) Roads

Roads in India are classified into four types

1. National highways :

These roads are of national importance which connect various state capitals, important parts and places of the country. Some of these roads link India with neighbouring countries like Bangladesh, Nepal and Burma. At present there are twenty four national highways in India. Their total length is approximately 34,000 kms. The maintenance of these roads is the responsibility of the Central Government.

2. State highways :

These are important roads of the states which connect national highways with main business centres. State government is responsible for the maintenance of State highways and their total length is 11,250 thousand kms.

3. District highways :

These are important roads of the district. These roads connect the important roads of a district with the roads of different States. The maintenance of these roads is the responsibility of district administration.

4. Village roads :

These roads connect one village with another and different villages with the district. The maintenance of these roads is the responsibility of Zila Parishads and Panchayat Samities.

In 1950-51 only 39% of the total road length was surfaced. This has risen to 46.7%. This includes all the highways. But most of the roads in cities and villages are unsurfaced.

To meet the increasing requirements of vehicular traffic further development of roads is very essential. That is why private sector has now been invited for the construction and maintenance of roads.

Road transport is ideally suited for short and medium distances because of its advantages such as easy availability and flexibility of operations, adaptability of individual needs, door to door services and reliability. It is also the main mechanised means of transport in hilly and rural areas not served by railways.

(b) VEHICLES

During the period 1951-1990, road transport has rapidly gained importance in the overall transport system of the country. The total number of mechanised motor vehicles increased from a mere 3 lakhs at the end of 1950-51 to 192 lakhs at the end of 1989-90 (see table 29.2)

Today's requirement is fast moving, efficient and pollution free vehicles.

Table 29.2
Registered Motor Vehicles

(in 000 numbers)

	March 1951	March 1990
1. Goods vehicles	82	1289
2. Buses	34	312
3. Car Jeeps and Taxis	159	2733
4. Two wheelers	27	12525
5. Other vehicles (Tractors, trailers and three wheelers and other vehicles)	4	2314
Total	306	19173

Source: Eighth Plan Vol.II

(c) Importance of roads in the Indian economy

Roads occupy an important place in the Indian economy because of the following reasons:

1. Convenience :

Road transport is quicker and more convenient for short and medium distances. Door to door collection and delivery is possible in the case of road transport. In the case of railways,

the lines are fixed and they do not have the flexibility of roadways.

2. Multipurpose service :

Roads are used by various means of transportation, for example, trucks, buses, bullock carts, cars, scooters, bicycles, etc. For different purposes different types of vehicles can be used.

3. Only means of transport for interior areas :

There are regions, particularly hilly areas, where railway transport is not possible or suitable. In these regions, the only alternative is to depend on roads.

4. Development of villages :

Roads are a necessary complement of railways. Railways can connect towns but India is a country of villages and it is only roads which can connect villages to the towns and cities and to one another.

5. Less expenditure :

The amount of capital involved in road construction is not large as compared to that in railway construction. Therefore for a developing country like India, road construction can be less expensive.

INTEXT QUESTIONS 29.3

State whether the following statements are true or false :

- (i) Road transport is ideally suited only for long distances.
 - (ii) There is only one national highway in India.
 - (iii) For interior areas especially hilly areas road transport is the main mode of transport.
 - (iv) Maintenance of national highways is the responsibility of Central Government.
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29.6 RAIL TRANSPORT

Rail transport consists of two things (a) Railway track and (b) Rail wagons/engines. Both are absolutely necessary for the rail transport to function. Shortage of one will affect the efficiency of the other component.

The Indian Railway system is one of the largest systems in the world under a single management. It is a multi gauge system operating in three gauges :

- (i) Broad gauge (BG) - accounting 56% of total route
 - (ii) Metre gauge (MG) - accounting to 38% of total route
 - (iii) Narrow gauge (NG) - accounting to 6% of the total route.
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Broad gauge is the railway track where the gap between the rails is 160 cms., metre gauge is where the gap is 100 cms. and for the narrow gauge it is 76 cms.

At the end of March 1990, the route length of the rail network comprised 63,000 kms approximately. Table 29.3 gives information about the passengers and goods carried by different types of rail network in the year. Out of these three types of rail system broad gauge is the fastest and that is why the MG and NG are being converted into the BG.

Over the years changes have been made in the types of the engines to make the network more efficient. Earlier we had steam engines, then came diesel engines and now electric engines are being used. Out of these electric ones are the least polluting and the fastest. Indian railway network operates very fast trains such the Rajdhani and the Shatabadi which are fast as well as fuel-efficient.

Table 29.3
Gauge wise movement of passengers and goods
(percentage)

Gauge	Goods carried	Passengers carried
Broad gauge	90.5	83
Metre gauge	9.4	16.4
Narrow gauge	0.1	0.6
Total	100.0	100.0

Railways have a fleet consisting of 8590 locomotives, 38,000 coaches and 3.5 lakh wagons spread over 7076 railway stations.

(a) Importance of Rail Transport

Let us now see how railways have helped in the economic development of our country. It has done so in the following manner.

1. Help to Indian agriculture :

Railways have helped Indian agriculture. Before the advent of railways, the Indian farmers had only local markets to sell their products. The railways have broadened the market for agricultural goods because the farmers can have access to other markets as well.

2. Expansion of trade :

The Railways have helped in the expansion of trade of all types of commodities, particularly perishable goods. The market for fish, eggs, milk, fruits and vegetables have been expanded because of railway traffic.

3. Setting up of industries :

Railways are helpful in carrying raw materials, machines, etc. from one place to the other.

4. Mobility of labour :

It helps man to move easily from one place to another in search of employment. So the railways have promoted mobility of labour which in turn has increased production.

(b) Rail Road Coordination

There should be cooperation and coordination between railways and roadways. The roads have certain advantages such as adjustment of its time table to the convenience of customers which railways cannot do. The railways have fixed places for loading and unloading. Further, the working hours of the personnel are so regulated and the time table so fixed that not much flexibility is possible in its operation. However, certain commodities like steel, coal, wood, etc. can be carried only through railways. Rail journey is very cheap and comfortable for long distances and overnight. Roads are preferred for short distances. So each has its own advantage and it is not possible to do without either of them.

INTEXT QUESTIONS 29.4

State whether the following statements are true or false :

- (i) With the development of railways, the mobility of labour has increased.
 - (ii) Indian Railways have a single gauge system.
 - (iii) The share of narrow gauge in total movement of goods is higher than broad gauge.
 - (iv) Wagons and engines are essential components of any rail transport.
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29.7 WATER TRANSPORT

Water transport is an ancient mode of transport. This was very important at a time when there were no buses and trains. All those vehicles which run on water e.g. boat, ship are included in waterways. Indian water transport is of two types :

- (a) Inland Waterways
- (b) Shipping and Ports

(a) Inland Waterways

Inland water transport is considered to be the cheapest mode of transport for both long and short distances. Readymade routes have been provided by nature.

There are many cities in the country where the development of some industries, such as the tea industry of Assam and the indigo industry of Bihar, are the result of inland waterways.

The inland waterways are very old. However, with the introduction of railways and roadways, the importance of inland waterways has declined. After Independence, the government has paid a lot of attention to inland waterways.

At present, inland water transport is important only in certain river and canal systems and in certain regions of the country e.g. on the river Brahmaputra in the North Eastern region, the Ganga in the Eastern region, on the deltas of Krishna and Godawari, on the backwaters of Kerala and Goa, etc.

(b) Shipping and Ports

With the help of shipping we can easily import and export commodities. Shipping also helps in maintaining relations with foreign countries. It is much safer to use this particular mode of transport for carrying such fragile goods as glassware, electrical goods, etc. which need smooth movement and delicate handling and also to carry bulky and heavy goods like timber, coal, heavy machines, etc..

Indian vessels carried about 29 per cent of the total sea borne cargo during 1994-95. It is only after Independence that an acceleration in the growth of Indian shipping took place and the number of ships has increased from 94 in 1950 to 438 in 1994.

Ports are also an important constituent of the water transport infrastructure. Along with the increase in the number of ships, the number of ports has also increased. At present India has 10 major harbours, which largely handle ships on international routes. Some of these ports are as follows:

- | | | | |
|------------------|----------------|-------------|--------------|
| 1. Mumbai | 2. Calcutta | 3. Cochin | 4. Kandla |
| 5. Chennai | 6. Marmagao | 7. Paradeep | 8. Mangalore |
| 9. Visakhapatnam | 10. Tuticorin. | | |

These ports handle ships on international routes and are helpful in the export of such commodities as coconut, copra, coir yarn, spices, fish, oil cake, groundnut, timber, etc.

For the trade purposes it is essential that ports have sufficient loading and unloading capacity. It is also essential that they are efficient. For example, if due to bad weather it is not possible to unload on a port then it will lead to wastage of goods. Similarly, if you have brought goods but there is no storage facility on the port, then also it leads to wastage of goods.

The capacity at major ports has increased from 133 million tons in 1984-85 to 168 million tons in 1991-92.

The commodity wise capacity are given in Table 29.4

Table 29.4
Commodity wise capacity at major ports

(Lakh Tons)

Commodity	1984-85	1989-90	1991-92
Petrol, Oil and Lubricants	552	720	770
Iron Ore	415	415	425
Coal	60	65	65
Containers	34	58	65
General Cargo	220	280	287
Total	1281	1538	1612

Source: Eighth Plan Vol. II pg.242

Despite the fact that Indian shipping has made progress in the post-independence period, the facilities available are still grossly inadequate for a vast country like India.

(c) Significance of water transport in India

1. The cheapest

Water transport is considered to be the cheapest mode of transport because it involves no cost since nature provides readymade routes.

2. Large capacity

The carrying capacity of a ship is much more than that of so many bogies of railways geared together and an even larger number of trucks put to service.

3. Foreign trade

Water transport is very significant for developing trade relations with foreign countries because the ships can carry large volumes of cargo from one country to another.

4. No environmental hazards

This particular mode of transport is free from pollution and hence has no environmental hazard.

INTEXT QUESTIONS 29.5

1. Fill in the blanks with appropriate words:

- (i) Water transport can be divided into _____ types.
- (ii) Means of inland waterways operate _____ the country.

- (iii) Among all the modes of transport, water transport is the _____ mode.
2. State whether the following statements are true or false :
- (i) Port facilities in India are quite adequate.
 - (ii) All those vehicles which run on water are included in water transport.
 - (iii) Movement of goods from India to other countries and vice-versa takes place mainly through water transport.

29.8 AIR TRANSPORT

All services rendered by aeroplanes are included in air transport. It is the most modern, the quickest and most expensive means of transport. Speed is its greatest advantage. It is of great help to managerial, technical and administrative personnel of the country. Where railway travel takes two days to reach it is possible to reach the same place in a few hours through air transport but of course at a higher price.

The activities of civil aviation are broadly divided into three areas: operational, infrastructural and regulatory-cum-developmental. On the operational side, Indian Airlines and private airlines (seven in number) (e.g. Jet Airways, Modiluft, East West Airlines, etc.) provide domestic air services. Air India provides international air services. Indian Airlines also provides air services to neighbouring countries. Pawan Hans Helicopters Limited provides helicopter support services.

Infrastructural facilities are provided by the Airports Authority of India (AAI). The regulatory and developmental functions are looked after by the Ministry of Civil Aviation and the Directorate of Civil Aviation.

There has been a phenomenal increase in the volume of air traffic, both domestic and international over the last two decades. For instance during the last 25 years, domestic air traffic has registered an annual growth of 10 per cent and Air India traffic registered an annual growth of over 12 per cent.

There are, at present, 85 aerodromes in India out of which international airports are the following:

1. Santa Cruz (Mumbai)
2. Dum Dum (Calcutta)
3. Indira Gandhi International Airport (Delhi)
4. Kamaraj International Airport (Chennai)
5. Thiruvananthapuram (Kerala)

Air transport is contributing a lot to the development of tourism. New aerodromes have been added to the tourist centres so that more facilities could be provided to the foreign tourists.

Importance of Air Transport

1. Expansion of trade :

Perishable, costly and decorative goods can be sent to and brought from foreign countries in a short span through air transport.

2. Helpful in the development of agriculture :

Sometimes, aeroplanes also provide help to agriculture by sprinkling medicines in the fields and protect the crops from being destroyed.

3. Means of defence :

Aeroplanes are an important means of a country's defence. Foreign attacks can be prevented with the help of aeroplanes.

4. Relief in natural calamities :

Air transport helps in sending medicines and food supplies to the flood, earthquake, typhoon affected areas.

5. Development of tourism :

Air transport has helped in the development of tourism a lot. Many new aerodromes have been added near the tourist centres to provide airways facilities to the tourists.

INTEXT QUESTIONS 29.6

State whether the following statements are true or false:

- (i) The infrastructural facilities required for civil aviation are provided by Indian Airlines.
 - (ii) Air India operates on internal routes.
 - (iii) There are at present 85 aerodromes in India.
 - (iv) Air transport has been successful in promoting tourism.
 - (v) Perishable goods can be quickly sent from one place to another by air transport.
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29.9 COMMUNICATIONS

Have you ever wondered how it comes about that in the newspapers or the radio we hear so quickly about events that have occurred in the distant parts? By wireless it is possible to send a message round the world in a fraction of a second, so why should not we be told by the news reader what has happened only an hour before, say, in Moscow? It is possible today to exchange information over long distances.

Passing of information or messages from one place to another is communication. This is done through various means namely, posts, telegraph, telephone, fax, newspapers, television, satellite, internet, etc. With the help of these means it is possible for a businessman to obtain information that helps him make important trade decisions. Similarly, an agriculturist can plan in advance how much to produce in the next season depending upon the reigning market price of the crop.

Means of Communication

There are two important means of communication : (a) Post, and (b) Telecommunication.

(a) Post

Expansion of postal services has been very rapid since Independence. Today the country has 150 thousand post offices against 23 thousand at the time of Independence. Of these about 17 thousand are in urban and 133 thousand in the rural areas.

A post office serves on an average a population of nearly 6000 persons and a distance of 21.4 sq. kms. The profile of the postal system also has been changing into that of a modern, dynamic organisation. Postal Index Number (PIN) was introduced in India 1972 to facilitate prompt delivery of mail.

Speed post was introduced on 1st August 1988. In this service, mail is delivered within a definite time-frame, failing which full refund of postage is made. This network consists of 67 major towns in India.

The postal network consists of four categories of post offices viz., head post office, sub post offices, extra departmental sub post offices and extra departmental branch post offices. The volume of mail is increasing due to industrialisation, increase in population and rise in the rate of literacy. Due to its vast network the postal system is able to send messages to very far-flung areas where telephones and other means of communication have not reached.

However, much is to be said about the efficiency of this system. It lacks speed and mechanised handling of posts.

(b) Telecommunications

Though postal system is quite useful for flow of information, it is the telecommunication network which has made this flow much faster and effective. For example, if you are interested in a cricket match being played in Bangalore, you may get the information with regard to the outcome of the match through a letter from a friend in Bangalore, but this way of getting information does not excite you. Rather you would like to see the match 'live' on television and enjoy every minute of the proceedings. Similarly, if you want to request your father for some money due to some emergency, you would like to do so through a telephone call rather than depending on a letter which may take 2 - 3 days to reach him.

However, telecommunications is not only used for entertainment and emergency alone. Now-a-days, this has become a part and parcel of all kinds of business, trade or commercial activities. Suppose, a trader in Delhi wants to export some items to another trader in London. However, the London trader wants the specifications or details of the items. If this information is passed through a letter, it may take a week and in the process the trader in Delhi may lose his order. He therefore types the specifications and sends the same through a fax machine. The fax machine takes only a few seconds to transmit this information. Therefore, telecommunications include all modern and quick means of communication.

The various types of telecommunication services are as follows:

1. Telephone :

The use of telephones is increasing day by day and the network is growing at an annual rate of 22 per cent. There are three types of telephone calls - local, STD and ISD. STD stands for Subscriber Trunk Dialling. It simply means 'dial it yourself'. It enables a subscriber to dial to any part of India himself on his own telephone. ISD stands for International Subscriber Dialling. It enables the subscriber to dial directly the telephone numbers in other countries. The number of telephones in the country is increasing. According to National Telecom Policy (NTP) 1994 one Village Public Telephone (VPT) in every village of the country was to be provided by 1997. This has now been revised to be completed in the Ninth Five Year Plan.

2. Radio and TV Broadcast (Akashvani and Doordarshan) :

The Seventh Five Year Plan saw the maximisation of the reach of All India Radio (AIR) signal almost over the entire country, both in terms of population and geographical area.

The coverage of AIR has increased to about 93% of the population and the number of broadcasting centres has risen to 134.

The coverage of Doordarshan has increased to about 53% of the population, the number of its studios being 31. Nearly every State has a Doordarshan centre. Programmes are also telecast in regional languages.

3. Wireless Planning :

Through advancements in science and technology modernisation of the communication system has taken place. Emphasis now is on the quickest and cheapest mode of communication. The main areas of work include better transmission to far-flung areas (both of AIR and TV) through satellite and antenna development. Through satellite it becomes easier to get information from other countries and equally easy to pass this information to various parts of the economy.

Many new communication services have also been introduced in the economy. For example.

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Many new communication services have also been introduced in the economy. For example,

- (a) **Paging service**, where a written message can be sent to a person with the help of a device called pager.
- (b) **Cellular mobile phone** : This is different from the normal telephone in the sense that through this device we can give and receive messages while in motion - either walking or in a car or bus.
- (c) **Internet services** : This is a computer to computer communication. The message is typed on a computer. This message is received on another computer wherever located. Internet is a network which provides an opportunity for exchange of valuable information with the rest of the world in the field of education, research and business. An example of use of Internet is an operation carried on by a doctor in China, the steps for which were narrated by an American doctor on television.

4. Information Media :

Newspapers and magazines are the major component of information media. Besides giving information of day to day happenings they provide useful information with regard to business and industry.

INTEXT QUESTIONS 29.7

State whether the following statements are true or false :

- (i) Due to use of telephones the volume of mail is decreasing.
- (ii) India has around ten thousand post offices.
- (iii) Speed post was introduced soon after Independence.
- (iv) PIN does not help in faster delivery of letters.
- (v) Telecommunication system is used only for entertainment.
- (vi) Newspapers also give useful information of business and industry.
- (vii) Cellular phones can be used to give/receive messages while you are moving in a vehicle.
- (viii) Internet services are not available in India.

WHAT YOU HAVE LEARNT

- Facilities like transport, communication, power, comprise the infrastructure of an economy.
- There are four types of transport services in India - Rail, Road, Water and Air Transport.
- There are four categories of roads in India - National highways, State highways, district and village roads.
- Rail network in India is of three types: Broad gauge, metre gauge and narrow gauge. Broad gauge is the fastest among the three.
- Water transport is the cheapest and pollution free mode of transport.
- Air transport is the fastest mode of transport.
- Passing of information from one place to the other is called communication.

- (a) **Paging service**, where a written message can be sent to a person with the help of a device called pager.
- (b) **Cellular mobile phone** : This is different from the normal telephone in the sense that through this device we can give and receive messages while in motion - either walking or in a car or bus.
- (c) **Internet services** : This is a computer to computer communication. The message is typed on a computer. This message is received on another computer wherever located. Internet is a network which provides an opportunity for exchange of valuable information with the rest of the world in the field of education, research and business. An example of use of Internet is an operation carried on by a doctor in China, the steps for which were narrated by an American doctor on television.

4. Information Media :

Newspapers and magazines are the major component of information media. Besides giving information of day to day happenings they provide useful information with regard to business and industry.

INTEXT QUESTIONS 29.7

State whether the following statements are true or false :

- (i) Due to use of telephones the volume of mail is decreasing.
- (ii) India has around ten thousand post offices.
- (iii) Speed post was introduced soon after Independence.
- (iv) PIN does not help in faster delivery of letters.
- (v) Telecommunication system is used only for entertainment.
- (vi) Newspapers also give useful information of business and industry.
- (vii) Cellular phones can be used to give/receive messages while you are moving in a vehicle.
- (viii) Internet services are not available in India.

WHAT YOU HAVE LEARNT

- Facilities like transport, communication, power, comprise the infrastructure of an economy.
- There are four types of transport services in India - Rail, Road, Water and Air Transport.
- There are four categories of roads in India - National highways, State highways, district and village roads.
- Rail network in India is of three types: Broad gauge, metre gauge and narrow gauge. Broad gauge is the fastest among the three.
- Water transport is the cheapest and pollution free mode of transport.
- Air transport is the fastest mode of transport.
- Passing of information from one place to the other is called communication.

- Posts and Telecommunications are the two main means of communication.
- It is possible to send information through posts wherever telecommunications are not available.

TERMINAL EXERCISE

1. What are the various components of the Indian transport system?
 2. How many types of roads are there in India?
 3. Why is rail-road coordination necessary? Explain.
 4. Define water transport. How many types can it be divided into?
 5. Write the names of ten major ports in India.
 6. "Air transport is important for the Indian economy". Explain.
 7. Why is postal network important for communication?
 8. What do you understand by the term infrastructure?
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ANSWERS

Intext Questions 29.1

- (i) True (ii) False (iii) False (iv) True

Intext Questions 29.2

- (i) True (ii) True (iii) False (iv) True (v) False

Intext Questions 29.3

- (i) False (ii) False (iii) True (iv) True

Intext Questions 29.4

- (i) True (ii) False (iii) False (iv) True

Intext Questions 29.5

1. (i) two (ii) within (iii) cheapest
2. (i) False (ii) True (iii) True

Intext Questions 29.6

- (i) False (ii) False (iii) True (iv) True (v) True

Intext Questions 29.7

- (i) False (ii) False (iii) False (iv) False (v) False (vi) True (vii) True (viii) False

Terminal Exercise

1. Read section 29.4
 2. Read section 29.5(a)
 3. Read section 29.6(b)
 4. Read section 29.7
 5. Read section 29.7(b)
 6. Read section 29.8
 7. Read section 29.9
 8. Read section 29.3
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