

# 7

## CHAPTER



12097CH08

## TRANSPORT AND COMMUNICATION

- Horses are used as a draught animal even in the Western countries.
- Dogs and reindeer are used in North America, North Europe and Siberia to draw sledges over snow-covered ground.
- Mules are preferred in the mountainous regions; while camels are used for caravan movement in deserts.
- In India, bullocks are used for pulling carts.
- In Germany inter-state highways are called Autobahns.
- North America has the highest road density and the highest number of vehicles registered.
- Highways are metalled roads connecting distant places, vehicles ply in an unobstructed manner, 80 meters wide, dual-carriage, bridges and traffic lanes.
- Roads laid along international boundaries are called border roads. They play an important role in integrating people in remote areas with major cities and providing defence.
- Peaks (high points) and troughs (low points) of traffic flow can be seen on roads at particular times of the day, for example, peaks occurring during the rush hour before and after work.
- Railways are suitable for carrying heavy goods and large number of passengers over a long distance.
- Commuter trains are very popular in UK, Japan, USA and India.
- Belgium has the highest rail density.
- Underground railway - Channel Tunnel connects London with Paris.
- Length of railway line per 100 sq. km is called rail density.
- North Atlantic sea route is also called Big Trunk Route.
- Coastal shipping is a convenient mode of transportation in countries with long coastlines, e.g. U.S.A, China and India.
- At present no place in the world is more than 35 hours away due to airways.
- There are limited air services between 10<sup>0</sup>-35<sup>0</sup> latitudes in the Southern hemisphere due to sparser population, limited landmass and low economic development.
- U.S.A. alone accounts for 60 per cent of the airways of the world.
- Internet is the world's largest electronic network.

### Importance of trade, Transport and communication

Q.1 Explain the **importance** of trade, Transport and communication?

Ans.

- i. Natural resources, economic activities and markets are rarely found in one place. Transport, communication and trade establish links between producing centres and consuming centres.
- ii. Each region produces the items for which it is best suited. Trade or the exchange of such commodities relies on transportation and communication.
- iii. Likewise, the high living standards and quality of life depend on efficient transportation, communications and trade.
- iv. Transport provides the network of links and carriers through which trade takes place.
- v. It promote cooperation and unity among scattered peoples.

### Factors affecting mode of TRANSPORTATION

Q.2 Explain the three factors on which the significance of a mode of transport depends.

Ans. The three factors on which the significance of a mode of transport depends are:

- i. Type of goods to be transported: - if the goods which are to be carried are bulky and heavy they can be transported easily by the water ways. If the goods are of high value and perishable they are transported by airways. Liquids and gasses are transported easily by pipelines.
- ii. Transportation cost: - road transportation is cheaper for short distances while railways are used when the distance is long. Inter national trade is done through waterways as it is cheaper.
- iii. Means of transport available: - remote and hilly areas can be reached by airways as no other transportation is available. For transport of goods from ports roadways are used.

### LAND TRANSPORT

Q.3 Describe the developments which brought revolution in land transport in the world.

Ans. In early days the humans and animals were the carriers. Revolution in land transportation came after:

- i. Invention of steam engine in the eighteenth century. It resulted in the introduction of public railway lines. Railways became popular in the nineteenth century. It opened up continental interiors for commercial grain farming, mining and manufacturing.
- ii. The invention of the internal combustion engine. The road quality and vehicles (motor cars and trucks) plying over them increased many folds.
- iii. Among the newer developments in land transportation are pipelines, ropeways and cableways. Liquids like mineral oil, water, sludge and sewers are transported by pipelines.
- iv. The great freight carriers are the railways, ocean vessels, barges, boats and motor trucks and pipelines.

Q.4 State the significance of old and elementary forms of transportation.

- i. Human porter, pack animal, cart or wagons are the most expensive means of transportation.
- ii. They supplement modern means of transportation and penetrate the interiors in large countries.
- iii. In the densely populated districts of India and China, transport still takes place by human porters or carts drawn or pushed by humans.

### Roadways

Q.5 What are the problems/limitations of road transport?

Ans. Road transport suffers from some limitations such as:

- i. Unmetalled roads are not effective and serviceable during the rainy season. These become unmotorable.
- ii. Even the metalled ones are seriously handicapped during heavy rains and floods.
- iii. The quality of roads varies greatly between countries because the construction and maintenance is very high.
- iv. Many cities suffer from traffic congestion during peak hours.

Q.6 Describe some of important highways of the world.

Ans. Important highways of the world:

- a. European highways face a lot of competition from railways and waterways.
- b. In Russia, Moscow-Vladivostak highway. Due to the vast geographical area, highways in Russia are not as important as railways.
- c. North American highways link cities of east coasts with that of west coasts. Every place is within 20 km distance from a highway.

- d. Trans Canadian highway links Vancouver with St. John city.
- e. Pan –American highway links cities of South America, Central America, and the United States of America.
- f. The Trans-Continental Stuart Highway connects Darwin (north coast) and Melbourne in Australia.
- g. Golden Quadrangle in India links metropolitan cities.

Q.7 Suggest a few urban transport solutions for chronic traffic congestion.

Ans. They are –

- Higher Parking Fee
- Mass Rapid Transit (MRT)
- Improved Public Bus Service
- Expressways

### **RAILWAYS**

Q.8 Describe the major regions of dense rail network in the world.

Ans. Major Rail network is found in following regions of the world:

- i. The industrial regions have the highest densities of rail network. Europe has one of the most dense rail networks in the world.
- ii. In Russia, 90 per cent of total transport is through railways. It is very dense in European west. Moscow is the most important station.
- iii. North America: in the highly industrialised and urbanised region of East Central U.S.A. and Canada.
- iv. Australia has dense network in New South Wales.
- v. In South America, the rail network is the most dense in two regions, namely, the Pampas of Argentina and the coffee growing region of Brazil. Railways link coastal centres with the mining sites in the interior.
- vi. In Asia, rail network is the densest in the thickly populated areas of Japan, China and India. West Asia is the least developed in rail facilities because of vast deserts and sparsely populated regions.
- vii. In Africa continent, South Africa has dense network due to the concentration of gold, diamond and copper mining activities.

### **Trans-Continental Railways**

Q.9 What are Trans-Continental Railways? Name any five important transcontinental railways in the world. Give important features of each.

Ans. Trans-continental railways run across the continent and link its two ends. They were constructed for economic and political reasons to facilitate long runs in different directions. The following are the most important of these:

#### **1. Trans-Siberian Railway line-**

- a. It is in Russia from St. Petersburg in the west to Vladivostak on the Pacific Ocean in the east passing through Moscow.
- b. The total length of this line is about 9332 km, longest in Asia.
- c. It is double track route and electrified railway.
- d. It connects Russian agro-centres, fur centres.
- e. It has helped in opening up its Asian regions to west European markets.
- f. It runs across Ural mountains and Ob and Yenisei rivers.
- g. It has connecting links with many other countries. Therefore it is regionally very important.

#### **2. Trans-Canadian Pacific Railway-**

- a. It is in Canada from Halifax in the east to Vancouver on the west on Pacific Ocean.
- b. It was constructed in 1886 & its total length is about 7050 km.
- c. It gained significance because it connect industrial region of Quebec-Montreal with softwood forest region and wheat belt of the Prairies.
- d. A loop line from it connects the important waterway of Great Lakes.

- e. This is the economic artery of Canada.
  - f. Wheat and meat are the important exports on this route.
3. **Australian Trans-Continental Railway** –
    - a. It connects Sydney on the east with Perth on the west coast.
    - b. It runs east-west through the southern part of the Australia.
    - c. It was constructed for the economic development of the region.
  4. **Trans-Asiatic Railway line** – this railway line is proposed to be build connecting Istanbul with India and Myanmar.
  5. **The Union and Pacific Railway:**
    - a. This rail-line connects New York on the Atlantic Coast to San Francisco on the Pacific Coast.
    - b. The most valuable exports on this route are ores, grain, paper, chemicals and machinery.
  6. **The Orient Express:**
    - a. This line runs from Paris to Istanbul.
    - b. The journey time from London to Istanbul by this Express is now reduced to 96 hours as against 10 days by the sea-route.
    - c. The chief exports on this rail-route are cheese, bacon, oats, wine, fruits, and machinery.

### **WATERWAYS**

Q.10 What are the four advantages of water/ocean transport?

Ans.

1. It does not require route construction.
2. The oceans are linked with each other and are negotiable with ships of various sizes.
3. It is much cheaper because the friction of water is far less than that of land.
4. The energy cost of water transportation is lower.
5. The oceans offer a smooth highway traversable in all directions with no maintenance costs.
6. Compared to land and air, ocean transport is a cheaper means of haulage (carrying of load) of bulky material over long distances from one continent to another.
7. The development of refrigerated chambers for perishable goods, tankers and specialised ships has also improved cargo transport.
8. The use of containers has made cargo handling at the world's major ports easier.

### **IMPORTANT ROUTES of ocean transport**

Q.11 Name the busiest ocean transport in the world. Why it is the most important and busiest route in the world?

Describe important ocean transport route in the world.

Ans. IMPORTANT ROUTES

#### **1. North Atlantic route-**

- a. It connects the two most industrially developed regions of the world namely North-East USA and West Europe.
- b. It is the busiest route of the world. One fourth of the world's foreign trade moves on this route. Also called Big Trunk Route.
- c. Important ports are New York, London, Lisbon, and Amsterdam
- d. Both the coasts have highly advanced ports and harbour facilities.

#### **2. the Mediterranean and the Indian ocean route-**

- a. This sea route passes through the heart of the Old World and serves more countries and people than any other route.
- b. Port Said, Aden, Mumbai, Colombo and Singapore are some of the important ports on this route.
- c. The construction of Suez Canal has greatly reduced the distance and time as compared to the earlier route through the Cape of Good Hope.

### 3. The Cape of Good Hope-

- a. This trade route connects the highly industrialised Western European region with West Africa, South Africa, South-east Asia and the commercial agriculture and livestock economies of Australia and New Zealand.
- b. The volume of trade and traffic between both East and West Africa is on the increase due to the development of the rich natural resources such as gold, diamond, copper, tin, groundnut, oil palm, coffee and fruits.

### 4. The Southern Atlantic Sea Route

- a. This sea route connects West European and West African countries with Brazil, Argentina and Uruguay in South America.
- b. The traffic is far less on this route because of the limited development, similar products and resources, and population in South America and Africa.

### 5. The North Pacific Route-

- a. Trade across the vast this route converge at Honolulu.
- b. The direct route on the Great Circle links Vancouver and Yokohama and reduces the travelling distance (2,480 km) by half.
- c. This sea route links Vancouver, Seattle, San Francisco and Los Angeles on the American side and Yokohama, Shanghai, Hong Kong and Singapore on the Asian side.

## SHIPPING CANALS

Q.12 Name two shipping canals in the world. State four features of both.

Ans. The two manmade navigation/shipping canals in the world are:

i. **The Suez Canal route-**

- a. It is man-made waterway in Egypt which connects Port Said on Mediterranean Sea with Port Suez on the Red Sea.
- b. It is the sea level canal without locks & about 160 km long and 11 to 15 m deep.
- c. It was constructed in 1869.
- d. It is a gateway to the Indian Ocean and reduces the distance between Western Europe and South East Asian countries by 6400 km.
- e. It has helped in the development of surrounding countries such as India.
- f. About 100 ships travel daily and each ship takes 10-12 hours to cross this canal. The tolls are so heavy that some find it cheaper to go by the longer Cape Route

ii. **The Panama Canal-**

- a. It is man-made waterway in Panama Isthmus.
- b. It connects Colon city on Atlantic Ocean in the east with Panama city on Pacific Ocean in the west.
- c. It separates the land mass of North America from South America.
- d. It provides shorter route between east and Far East Asia and Western Europe.
- e. It has six lock systems. Ships cross the canal through these locks.
- f. The economic importance of this canal is less than that of Suez Canal. However, it is vital to the economies of Latin America.
- g. The Canal is about 72 km. long.
- h. It shortens the distance between New York and San Francisco by 13,000 km by sea.

## INLAND WATERWAYS



Q.13 Explain the three factors on which the development of inland transport depends.

- Ans. The inland transport depends on three factors for its development. They are:
- Width and depth of channel: silt (sand) deposited in the river/channel bed obstructs movement of boats therefore channels having large width and deep bed is suitable for inland transport.
  - Continuity in the flow of water: lack of water due to divergence for irrigation hinders the development of inland transport.
  - Transport technology in use: poor maintenance of inland waterways and inefficient transport restricts its development.

Q.14 Why riverways have lost its advantages in many parts of the world?

Ans. Riverways have lost its advantages due to:

1. Competition from railways.
2. Problem of silt in rivers and canals.
3. Lack of water in the river due to diversion for irrigation.
4. Poor maintenance of river channels.

Q.15 Mention three measures taken to improve the navigability of river channel.

Ans. Despite inherent limitations, many rivers have been modified to enhance their navigability by:

- a. Dredging (removing the silt) river bed.
- b. Stabilising river banks by concrete.
- c. Building dams and barrages for regulating the flow of water.

### Important inland waterways

Q.16 Describe important inland waterways of the world.

Ans. Important inland waterways of the world are:

- The Rhine Waterways:**
  - a. The Rhine River flows through Germany and the Netherlands.
  - b. It is navigable for 700 km from Rotterdam, Netherlands to **Basel** in Switzerland.
  - c. It flows through a rich coalfield and the whole basin has become a prosperous manufacturing area.
  - d. This waterway is the world's most heavily used.
  - e. It connects the industrial areas of Switzerland, Germany, France, Belgium and the Netherlands with the North Atlantic Sea Route.
- The Danube Waterway:**
  - a. This important inland waterway serves Eastern Europe.
  - b. The Danube river rises in the Black Forest and flows eastwards through many countries.
  - c. The chief export items are wheat, maize, timber, and machinery.
- The Volga Waterway:**
  - a. The Volga is one of the most important waterways in Russia.
  - b. It provides a navigable waterway of 11,200 km up to the Caspian Sea.
- The Great Lakes – St. Lawrence Seaway:**
  - a. The Great Lakes of North America Superior, Huron Erie and Ontario are connected by Canal to form an inland waterway.
  - b. The estuary of St. Lawrence River, along with the Great Lakes, forms a unique commercial waterway in the northern part of North America.
  - c. The ports on this route are equipped with all facilities of ocean ports.
  - d. As such large oceangoing vessels are able to navigate up the river deep inside the continent to Montreal.

## **AIRWAYS**

Q.17 Explain the significance of air transport.

Ans. Air transport has brought about a connectivity revolution in the world in following ways:

1. It is the fastest means of transportation, but it is very costly.
2. Being fast, it is preferred by passengers for long-distance travel.
3. Valuable cargo can be moved rapidly on a world-wide scale.
4. It is often the only means to reach inaccessible areas.
5. Air transport has brought about a connectivity revolution in the world.
6. It is the easy way to reach inaccessible areas such as mountainous snow fields or inhospitable deserts.
7. In the Himalayan region, the routes are often obstructed due to landslides, avalanches or heavy snow fall. At such times, air travel is the only alternative to reach a place.
8. Airways also have great strategic importance.

## **PIPELINES**

Q.18 Name the longest pipeline in the world. Give four advantages of pipelines.

Why pipelines are extensively used in the world to transport oil and gas?

Ans. PIPELINES

1. Pipelines are used to transport liquids and gasses such as water, mineral oil and natural gas for uninterrupted flow.
2. Cooking gas or LPG and milk (in New Zealand) is supplied through it.
3. They are used to transport coal mixed with water.
4. Pipelines carry mineral oil from oil fields to refineries.
5. The famous pipeline of USA is 'Big Inch' which carries mineral oil from Gulf of Mexico to eastern part of USA.
6. The proposed Iran-India via Pakistan international oil and natural gas pipeline will be the longest in the world.

## **COMMUNICATION- IMPORTANCE**

Q.19 Describe the importance of communications.

Ans.

1. Telegraph has helped in the past to colonize American West.
2. Telephone has promoted urbanization of America
3. Now due to telephone many firms have their offices and branches in smaller towns.
4. In developing countries, the use of cell phones, made possible by satellites, is important for rural connectivity.
5. Major breakthrough came after Optical Fiber Cable which allows large quantities of data transmitted rapidly, securely and error free.

## **SATELLITE COMMUNICATION-**

Q.20 State the importance of satellite communication.

- a. Artificial satellites, now, are successfully deployed in the earth's orbit to connect even the remote corners of the globe with limited onsite verification.
- b. These have rendered the unit cost and time of communication invariant in terms of distance.
- c. It cost same to communicate over 500 km as it does over 5000 km.
- d. Through it information on weather, weather forecasting about storm and news is collected efftetely.

### Cyber Space – Internet

Q.21 What is cyberspace?

Ans. Cyberspace (internet) is the world of electronic computerised space. It is encompassed by the Internet such as the World Wide Web (www). In simple words, it is the electronic digital world for communicating or accessing information over computer networks without physical movement of the sender and the receiver. Cyberspace exists everywhere. It may be in an office, sailing boat, flying plane and virtually anywhere.

Q.22 State the importance of cyber space in modern world. **OR** Describe how the modern communications has converted the world into global village.

Ans.

1. Electronic network has spread in an unprecedented way.
2. There were less than 50 million Internet users in 1995, about 400 million in 2000 A.D. and over two billion in 2010.
3. In the last few years there has been a shift among global users from U.S.A. to the developing countries.
4. Now the majority of the world's users are in U.S.A., U.K., Germany, Japan, China and India.
5. Cyberspace has expanded the contemporary economic and social space of humans through e-mail, e-commerce, e-learning and e-governance.
6. Internet together with fax, television and radio will be accessible to more and more people cutting across place and time.
7. It is these modern communication systems that have made the concept of global village a reality.