The pace of development of a country depends upon the production of goods and services as well as their movement over space. Today, the world has been converted into a large village with the help of efficient and fast moving transport. Today, India is well-linked with the rest of the world. In CBSE Notes Class 10 Geography Chapter 7 - Lifelines of National Economy, you will see how modern means of transport and communication serve as lifelines of our nation and its modern economy.

Transport
Movement of goods and services can be over three important domains of our earth i.e. land, water and air. Based on these, transport can also be classified into the land, water and air transport. Let’s discuss them in detail:

Roadways
India has one of the largest road networks in the world, aggregating to about 54.7 lakh km. The growing importance of road transport over rail transport is mentioned below:

1. The construction cost of roads is much lower than that of railway lines.
2. Roads can cover more geographically harder locations that cannot be done by the railways.
3. Roads can negotiate higher gradients of slopes and can be easily built in traverse mountains such as the Himalayas.
4. Road transport is economical.
5. It also provides door-to-door service.
6. Road transport provides links between railway stations, air and seaports.

In India, roads are classified in the following six classes according to their capacity.

Golden Quadrilateral Super Highways
Golden Quadrilateral is a network of Highways connecting India’s four top metropolitan cities, namely Delhi, Kolkata, Chennai, Mumbai. These highway projects are being implemented by the National Highway Authority of India (NHAI).

National Highways
The National highways are a network of trunk roads that are laid and maintained by the Central Public Works Department (CPWD). The historical Sher-Shah Suri Marg is called National Highway No.1, between Delhi and Amritsar.

State Highways
Roads linking a state capital with different district headquarters are known as State Highways. These roads are constructed and maintained by the State Public Works Department (PWD).

District Roads
These roads connect the district headquarters with other places of the district. These roads are maintained by the Zila Parishad.

Other Roads
Rural roads, which link rural areas and villages with towns, are classified under this category. These roads received special impetus under the Pradhan Mantri Grameen Sadak Yojana.

**Border Roads**

Border Roads Organisation constructs and maintains roads in the bordering areas of the country. This organisation was established in 1960 for the development of the roads of strategic importance in the northern and north-eastern border areas.

Roads can also be classified on the basis of the type of material used for their construction such as:

- **Metalled roads** may be made of cement, concrete or even bitumen of coal. These are all-weather roads.
- **Unmetalled roads** go out of use in the rainy season.

**Railways**

Railways are the principal mode of transportation for carrying huge loads and bulky goods for long and short distances in India. Railways have become more important in India’s economy. However, rail transport suffers from certain problems as well, which are mentioned below:

1. Construction of bridges is required across rivers’ wide beds for lying down the railway lines.
2. In the hilly terrains of the peninsular region, railway tracks are laid through low hills, gaps or tunnels.
3. The Himalayan mountainous regions are also unfavourable for the construction of railway lines due to the highest elevation points in the surface, sparse population and lack of economic opportunities.
4. It is difficult to lay railway lines on sandy plains.

**Pipelines**

Pipeline network uses pipes, usually underground, to transport and distribute fluids. These are used to transport water, crude oil, petroleum products and natural gas, fertilizer factories and big thermal power plants. Solids can also be transported through a pipeline when converted into slurry.

There are 3 important networks of pipeline transportation in the country.

1. From oil field in upper Assam to Kanpur (Uttar Pradesh)
2. From Salaya in Gujarat to Jalandhar in Punjab
3. From Hazira in Gujarat to Jagdishpur in Uttar Pradesh

**Waterways**

Waterways are the cheapest means of transport. They are most suitable for carrying heavy and bulky goods. It is a fuel-efficient and environment-friendly mode of transport.

The National Waterways in India are:

- **N.W. No.1** - The Ganga river between Allahabad and Haldia (1620 km).
- **N.W. No.2** - The Brahmaputra river between Sadiya and Dhubri (891 km).
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- **N.W. No.3** - The West-Coast Canal in Kerala (Kottapurma-Kollam, Udyogamandal and Champakkara canals-205 km).
- **N.W. No.4** - Specified stretches of Godavari and Krishna rivers along with Kakinada Puducherry stretch of canals (1078 km).
- **N.W. No.5** - Specified stretches of river Brahmani along with Matai river, delta channels of Mahanadi and Brahmani rivers and East Coast Canal (588 km).

Inland waterways in India are Mandavi, Zuari and Cumberjua, Sunderbans, Barak and backwaters of Kerala through which transportation takes place.

**Major Sea Ports**

India’s trade with foreign countries is carried from the ports. There are 2 major and 200 notified non-majors (minor/intermediate) ports in India.

Here is the list of major ports in India:
1. Kandla in Kachchh was the first port to be developed after independence. It is also known as the Deendayal Port.
2. Mumbai is the biggest port with a spacious natural and well-sheltered harbour.
3. Marmagao port (Goa) is the premier iron ore exporting port of India.
4. Mangalore port, located in Karnataka caters to the export of iron ore.
5. Kochchi is the extreme south-western port, located at the entrance of a lagoon.
6. Tuticorin port is situated at the extreme south-east.
7. Chennai is one of the oldest artificial ports of India.
8. Vishakhapatnam is the deepest landlocked and well-protected port.
9. Paradwip port located in Odisha, specialises in the export of iron ore.
10. Kolkata is an inland riverine port.
11. Haldia port was developed as a subsidiary port, in order to relieve growing pressure on the Kolkata port.

**Airways**

The airway is the fastest, most comfortable and prestigious mode of transport. Air travel has made access easier to the terrain areas like high mountains, dreary deserts, dense forests and long oceans. The air transport was nationalised in 1953. Air India provides domestic and international air services.

Pawanhans Helicopters Ltd. provides helicopter services to Oil and Natural Gas Corporation in its off-shore operations, to inaccessible areas and difficult terrains. But, air travel is not within the reach of the common people.

**Communication**

The major means of communication in India are television, radio, press, films, etc.

The **Indian postal network** is the largest in the world. It handles parcels as well as personal written communications.
- First-class mail is airlifted between stations covering both land and air.
Second-class mail includes book packets, registered newspapers and periodicals. They are carried by surface mail, covering land and water transport.

India has one of the largest **telecom networks** in Asia. The Subscriber Trunk Dialling (STD) facilities all over India have been made possible by integrating the development in space technology with communication technology.

- Mass communication provides entertainment and creates awareness among people about various national programmes and policies. It includes radio, television, newspapers, magazines, books and films.
- India Radio Channel (Akashwani) broadcasts a variety of programmes in national, regional and local languages.
- Doordarshan, the national television channel is one of the largest terrestrial networks in the world.
- India publishes a large number of newspapers in about 100 languages and dialects.

**International Trade**
The exchange of goods among people, states and countries is referred to as trade. Trade between two countries is called **international trade**. It is considered as the economic barometer for a country.

Export and import are the components of trade. The **balance of trade** of a country is the difference between its export and import.

- When the value of export exceeds the value of imports, it is called a **favourable balance of trade**.
- If the value of imports exceeds the value of exports, it is termed as an **unfavourable balance of trade**.

The commodities **exported from India** to other countries include gems and jewellery, chemicals and related products, agriculture and allied products, etc.

The commodities **imported to India** include petroleum crude and products, gems and jewellery, chemicals and related products, base metals, electronic items, machinery, agriculture and allied products.

**Tourism as a Trade**
More than 15 million people are directly engaged in the tourism industry. Tourism in India:

- Promotes national integration
- Provides support to local handicrafts and cultural pursuits
- Helps in the development of international understanding about Indian culture and heritage.

Foreign tourists visit India for heritage tourism, eco tourism, adventure tourism, cultural tourism, medical tourism and business tourism.