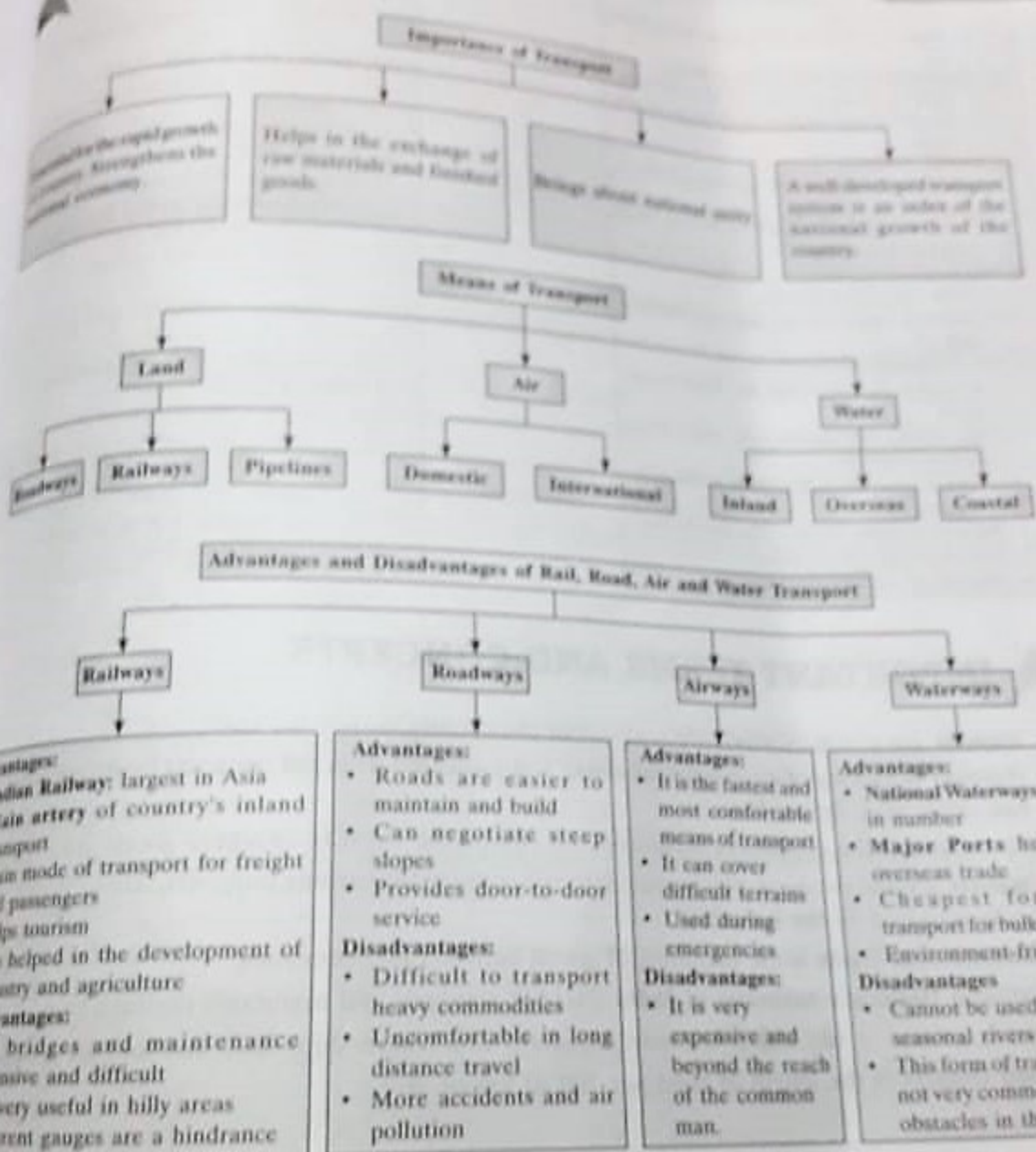


## CHAPTER AT A GLANCE



## Major Seaports of India

### West Coast

- (a) **Mumbai (Maharashtra)**
  - Biggest port, natural, spacious and sheltered
  - Exports – cotton textiles, leather, tobacco, chemical goods
  - Imports – crude oil, raw cotton, instruments etc.
- (b) **Jawaharlal Nehru Port (Maharashtra)**
  - Built to release pressure on Mumbai port
  - Equipped with modern facilities to handle cargo
- (c) **Kandla (Gujarat)**
  - Handles trading in oil, fertilizers, cotton, sugar
  - Large hinterland and well connected to all parts of the country.
- (d) **Marmagao Port (Goa)**
  - Main exporter of iron ore
  - Items of export are manganese, coconut, nuts etc.
- (e) **New Mangalore (Karnataka)**
  - It exports iron ore from the Kudremukh mines
  - Tea, coffee, rice, cashewnuts, fish, rubber are also exported
  - Imports – crude oil, fertilizers, edible oils
- (f) **Kochi (Kerala)**
  - Natural harbour, sheltered backwater bay
  - It exports tea, coffee, spices
  - Imports oil and chemical fertilizers

### East Coast

- (a) **Kolkata (West Bengal)**
  - Exports—jute products, tea, coal, steel, iron ore, leather etc.
  - Imports—machinery, crude oil, paper, fertilizers etc.
  - Problem of silting
  - Rich hinterland consists of the north and north-east states
- (b) **Haldia (West Bengal)**
  - Developed to release congestion at Kolkata port
  - Exports – petrochemical products, minerals
- (c) **Paradip (Odisha)**
  - Exports iron ore and coal to Japan
- (d) **Vishakhapatnam (Andhra Pradesh)**
  - Deepest landlocked port
  - Exports – iron ore, manganese ore, wood and spices
  - Imports – mineral oil, coal, luxury items etc.
  - Has a large shipbuilding industry
- (e) **Chennai (Tamil Nadu)**
  - Has an artificial harbour
  - Exports – rice, leather goods, coffee, fish, coconut etc.
  - Imports – coal, crude oil, paper, cotton
  - Does not have a deep harbour
  - Affected by cyclones

## IMPORTANT TERMS AND CONCEPTS

- Exports** are products which are sent out of the country mainly for sale.
- Harbour** is an area of water near the coast. It is protected from the open sea by strong walls. Ships can safely take shelter here.
- Hinterland** is the productive area around a city on the coast from where goods are exported.
- Imports** are the products which come into the country for various purposes. These items are generally required by the industries.
- International Trade** is the exchange of goods between two countries.
- National Highways Authority of India (NHAI)** manages and maintains the highways.
- Port** is a town or city with a harbour, especially one where ships load and unload goods.
- Road Density** is the length of road per 100 sq km of area.

## Transport in India

A cheap and efficient means of transport is essential for a country like India which has a very large longitudinal and longitudinal extent. India is blessed with vast natural resources and has great diversity in economic, social, cultural and ethnic structure. A well-knit transport system is essential to bring about unity by bringing the people close to one another and to strengthen the national economy. Transport is required not only for people but also for carrying goods from one place to another. The growth of a country does not depend only upon the production of goods and services but also on their movement. The movement can be on land, water and air. So we can divide the modes of transport into:

- (a) Roadways
- (b) Railways
- (c) Airways
- (d) Waterways

### Roadways

India has the 2nd largest road network in the world. Road transport is much more popular due to the following reasons.

#### ADVANTAGES OF ROADWAYS

1. It provides door-to-door service and thus the cost of loading and unloading is much lower.
2. It is more economical in the transportation of less number of people and smaller amount of goods over short distances.
3. Roads can negotiate steeper slopes and sharp turns.
4. Vehicles on roads can stop anywhere and at anytime.
5. Road transport is also used as a feeder to other modes of transport.
6. Roads are comparatively easy to construct and cheap to maintain.
7. Perishable goods like vegetables, fruits and milk are transported more easily and quickly by roads than by railways.

#### DISADVANTAGES OF ROADWAYS

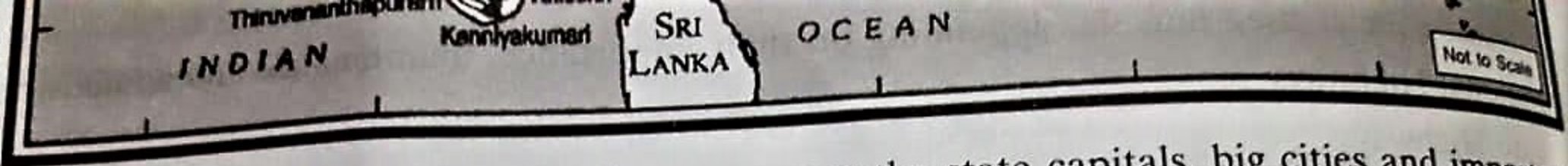
1. Roads are uncomfortable and not suitable for long-distance travel.
2. It is more expensive than rail transport.
3. Increase in vehicles has led to more road accidents and air pollution.
4. Heavy commodities like coal and iron, are difficult to transport by road.

#### TYPES OF ROADS

In India, roads are classified into six, depending on their importance, maintenance and administration.

1. National Highways
2. State Highways
3. District Roadways
4. Village/Rural Roads
5. Border Roads
6. Golden Quadrilateral Super Highway





**National Highways:** National Highways connect the state capitals, big cities and important cities and are constructed and maintained by the Central Public Works Department (CPWD). Some of the important National Highways are:

- (a) **N.H. 1** : also called the Sher Shah Suri Marg between Delhi and Amritsar.
- (b) **N.H. 2** : connects Delhi to Kolkata

- (c) **N.H. 3** : connects Agra to Mumbai  
 (d) **N.H. 7** : connects Varanasi and Kanniyakumari  
 (e) **N.H. 8** : connects Delhi to Mumbai  
 (f) **N.H. 15** : covers Rajasthan
- State Highways:** These roads link the state capitals with district headquarters and other important towns. They are constructed and maintained by the State Public Works Department. These are also connected to the National Highways.
  - District Roads:** These connect the district headquarters with other towns of the district and are maintained by the Zila Parishad.
  - Village Roads:** These are generally unmetalled and dusty and connect the villages with the towns and cities nearby.
  - Border Roads:** The Border Roads Organisation was established in 1960 to develop the roads in the northern and north-eastern border areas. These roads have helped in the economic development of those areas which were difficult to access due to difficult terrain.
  - Golden Quadrilateral Super Highway:** The Prime Minister, Atal Behari Vajpayee laid the foundation stone for the project on 6<sup>th</sup> January 1999. It is one of the largest programmes of road development taken up in the country. The highway projects are being implemented by the National Highway Authority of India (NHAI). It links the four cities of Delhi, Kolkata, Chennai and Mumbai by six-lane Super Highways.

Name	Length (in km)
(a) North-South corridor (Connecting Srinagar with Kanniyakumari)	4000
(b) East-West Corridor (Connecting Silchar with Porbandar)	3300

(a) Delhi — Mumbai	1417 km
(b) Mumbai — Chennai	1290 km
(c) Chennai — Kolkata	1684 km
(d) Kolkata — Delhi	1453 km

With the construction of these super highways the time and distance between the mega cities India will be considerably reduced and help generate employment.

### Express Highways

With the increase in traffic there has been a need to improve the highways so that the traffic move at a faster rate. So Express Highways have been built which are much wider with multi-lanes. Some of them are:

- Eastern Express Highway in Mumbai
- Highway between Kolkata and Dum Dum Airport.

### Railways

The Indian railway network is the largest in Asia and the fourth largest in the world and forms the main artery of the country's inland transport. It contributes to the economic growth and promotes national integration. The Indian railways transports over 110 lakh passengers and 8 lakh tonnes of goods every day.



## ADVANTAGES OF RAILWAYS

1. Main mode of transportation for freight and passengers.
2. Railways has helped in developing tourism in India.
3. It has helped in the development of industry and agriculture.

## DISADVANTAGES OF RAILWAYS

1. Theft and damage of railway property has led to great loss.
2. Most of the bridges were constructed long ago and maintenance is expensive and difficult.
3. They are of not much use in hilly areas.
4. Different gauges prove very inconvenient and time-consuming for passengers and goods.

## Air Transport

Air transport, though the most expensive, is the fastest and most comfortable mode of transport. At the time of Partition, there were four companies but after nationalisation in 1953 two corporations were created.

1. **Air India** operates from international airports. Its main services are to USA, Canada, Europe, Russia, Gulf, etc.
2. **Indian Airlines** handles domestic traffic and carries passengers, cargo and mail to different parts of the country. It also provides services to 42 countries via Pakistan, Maldives, Nepal, Sri Lanka, Singapore, Bangladesh, Thailand, etc.
3. **Vayudoot**: This airline was set up in 1981 and provided links with the remote areas of the country.
4. **Pran Hans Limited**: The Pran Hans Helicopter Limited was established in 1985. It provides helicopter services to the Oil and Natural Gas Commission, Oil India Ltd. and connects remote and inaccessible areas. It also provides services to some state governments and public sector undertakings like NTPC, GAIL and BSE.

Besides these there are many private companies providing air services at low cost. Some of them are Indigo, Go Air, Spice Jet, King fisher etc.

## ADVANTAGES OF AIR TRANSPORT

1. It is the fastest and most comfortable.
2. It can cover difficult terrains like mountains, deserts, forests and oceans with great ease.

## DISADVANTAGES OF AIR TRANSPORT

It is expensive and beyond the reach of the common man.

## APRIS

The Airports Authority of India, formed on 1<sup>st</sup> April, 1995 is responsible for providing safe and efficient air traffic service. It manages 11 international and 112 domestic airports including 28 passenger terminals and other facilities.

The four major international airports are:

1. The Indira Gandhi International Airport at New Delhi.
2. Netaji Subhash Chandra Bose International Airport at Kolkata.
3. Chhatrapati Shivaji International Airport at Mumbai.
4. Mambalam International Airport at Chennai.

## Waterways

Since time immemorial, India has been well known for its seafaring activities. Waterways are the cheapest form of transport suitable for carrying heavy and bulky goods.

It is a fuel efficient and environment-friendly means of transport. Water transport in India is mainly confined to navigable rivers, canals and backwaters. Most of the rivers in Peninsular India are seasonal so the Ganga and Brahmaputra are the only two rivers which are navigable.

The government has declared the following waterways as National Waterways.

1. **National W. No. 1:** The Ganga river between Allahabad and Haldia (1620 km).
2. **National W. No. 2:** The Brahmaputra river between Sadiya and Dhubri (891 km).
3. **National W. No. 3:** The West Coast Canal in Kerala (205 km).

The other inland waterways include the Godavari, Krishna, Sunderbans, Damodar Valley Corporation canal, etc.

Indian's international trade with foreign countries is carried on from the ports located along the coast.

## MAJOR SEAPORTS

India has a long coastline of 7,516.6 km and has 12 major ports and nearly 200 minor ports. The major ports are:

### Seaports on the West Coast

1. **Mumbai:** It is located on the west coast of India. It is the biggest port with a spacious, natural and well-sheltered harbour. It handles about 1/5 of India's foreign trade mainly oil from the Gulf countries and other products from the western and east African countries. It has a vast hinterland rich in agricultural and industrial resources. A dense network of roads and railways connects Mumbai to other parts of the country. The main items of export are cotton textiles, leather, tobacco, chemical goods, machinery, etc. Imports include crude oil, raw cotton, drugs, instruments, etc.
2. **Jawahar Lal Nehru Port:** Earlier known as the Nhava Sheva Port, it was opened on May 1989 with the main purpose of releasing pressure on the Mumbai port. It is equipped with the most modern facilities and at present handles about 45 lakh metric tonnes of cargo.
3. **Kandla** in the Gulf of Kachchh was constructed in 1951 due to the loss of Karachi after Independence. It handles the trade of oil, fertilizers, food grains, salt, cotton, cement, sugar, etc. It has a very large hinterland and is well connected to all parts of the country.
4. **Marmagao port** in Goa is the main exporter of iron ore (50%). The other items of export are manganese, coconut, cotton and other nuts.
5. **New Mangalore:** It is an important port located at the southern tip of the Karnataka coast. It was upgraded to accommodate bigger ships later on by constructing a harbour. Tea, coffee, rice, cashewnuts, fish, rubber, etc. are exported through this port. It also exports iron ore from the Kudremukh mines and imports crude oil, fertilizers, edible oils, etc.
6. **Kochi** is a natural harbour located on the west coast of India in the state of Kerala. It has the added advantage of a sheltered backwater bay and has a shipbuilding centre here. It exports tea, coffee and spices and imports oil and chemical fertilizers.

### Seaports on the East Coast of India

7. **Kolkata** situated on the east coast of India, is called the 'Gateway to Eastern India' as it handles goods coming from south-east Asia, Australia and New Zealand. It mainly exports jute products, tea, coal, steel, iron ore, copper, leather, etc. and imports machinery, crude oil, paper, fertilizers, etc.

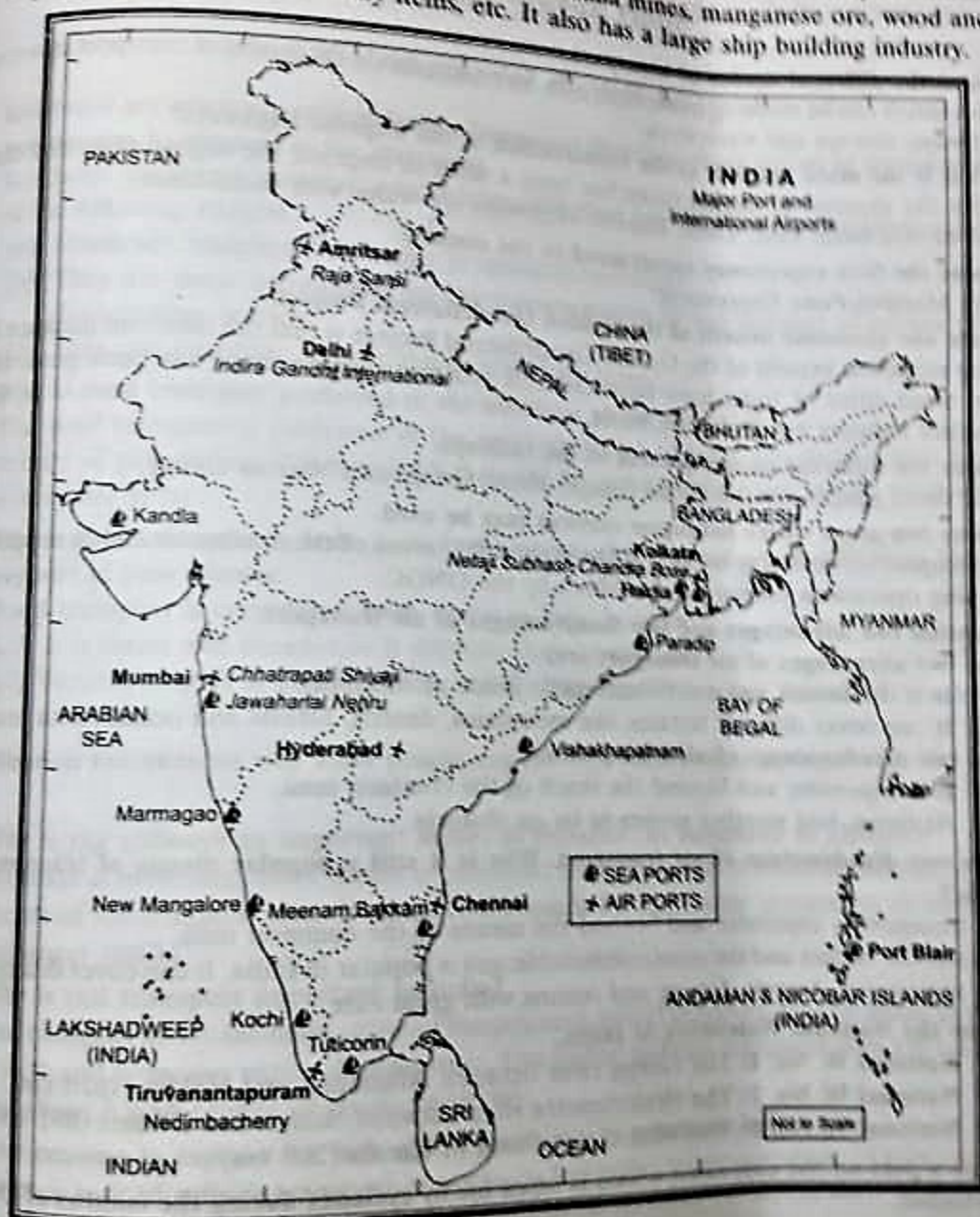


This port is now suffering from problems due to silting as it is located on the banks of the R. Hoogly. Things have eased out slightly due to the construction of the Farakha barrage. Kolkata has a vast hinterland comprising mainly the north and north-eastern states.

8. **Haldia** has been developed to release congestion at the Kolkata port. It mainly accommodates large vessels which cannot go up to Kolkata. It is important for its petrochemical plant, oil refinery and a fertilizer factory. The main items exported from here are mineral oil and petroleum products. The main problem it faces is that of silting by the river nearby.

9. **Paradip** is located on the Odisha coast and mainly exports iron ore and coal to Japan.

10. **Vishakhapatnam** is located in the state of Andhra Pradesh and is the deepest landlocked port. The main items of export are iron ore from Bailadila mines, manganese ore, wood and spices. It imports mineral oil, coal, luxury items, etc. It also has a large ship building industry.





11. Chennai is located on the east coast of India and has an artificial harbour. The major items of exports are rice, textiles, leather and leather goods, coffee, fish, coconut, copra, etc. Its imports consist of coal, crude oil, paper, cotton, etc. It suffers a major disadvantage due to the cyclones in October and is not suited to larger ships as it does not have a deep harbour.
12. Tuticorin has been recently developed on the coast of Tamil Nadu to carry on trade with Sri Lanka. Its main trade items include coal, salt, food grains, edible oils, sugar and petroleum products.

## SOLVED QUESTIONS

### Short Answer Questions

- Q.1. Name the different modes of transport.**  
**Ans.** Movement can be made on land, water, air. So we can divide the modes of transport into roadways, railways, airways and waterways.
- Q.2. What is the main purpose of the construction of the Express Highways?**  
**Ans.** With the increase in traffic, there has been a need to improve the highways so that the traffic moves at a faster rate. These Express Highways are wider with multi-lanes.
- Q.3. Name the first expressway constructed in the country.** [2013]  
**Ans.** The Mumbai-Pune Expressway.
- Q.4. State one economic benefit of the Golden Quadrilateral Project.** [2013]  
**Ans.** One economic benefit of the Golden Quadrilateral Project is that the time and distance between the mega cities of India have been reduced and more employment has been generated. The tourism industry has also got a boost. (any one)
- Q.5. Name the different gauges present in the railways.**  
**Ans.** The three gauges are the Broad Gauge, Metre Gauge and Narrow Gauge.
- Q.6. Name two areas where helicopter services may be used.** [2013]  
**Ans.** Helicopter services may be used in the inaccessible areas of the north-east and to support the mining operations onshore and offshore by the ONGC.
- Q.7. Mention two advantages and two disadvantages of air transport.**  
**Ans.** The two advantages of air transport are:  
 (a) It is the fastest and most comfortable mode of transport.  
 (b) It can cover difficult terrains like mountains, deserts, forests and oceans with ease.  
 The two disadvantages of air transport are:  
 (a) It is expensive and beyond the reach of the common man.  
 (b) At times, bad weather proves to be an obstacle.
- Q.8. Give one disadvantage of air transport. Why is it still a popular means of transportation in India?**  
**Ans.** Air transport is expensive and beyond the means of the common man. It is still the fastest and the most comfortable and is popular in India. It can cover difficult terrain like mountains, deserts, forests and oceans with great ease.
- Q.9. Name the National Waterways in India.**  
**Ans.** (a) National W. No. 1: The Ganga river between Allahabad and Haldia (1620 km)  
 (b) National W. No. 2: The Brahmaputra river between Sadiya and Dhubri (891 km)  
 (c) National W. No. 3: The West Coast Canal in Kerala (205 km)
- Q.10. Name a port on the east coast which is often hit by cyclones during the months of October and November.**  
**Ans.** Chennai and Vishakhapatnam are hit by cyclones in the months of October and November. [2013]

## Differentiate between the following

Q.11. Metalled Roads and Unmetalled Roads.

Ans. Metalled	Unmetalled
Metalled roads are roads which are surfaced with stones. These have a hard smooth surface of bitumen or tar.	Unmetalled roads are also known as 'Kachcha roads' as they are not tarred.

Q.12. National Highways and State Highways.

Ans. National highways	State highways
National highways connect state capitals, big cities and important ports.	State highways link the state capitals with district headquarters and are connected to national highways.

Q.13. Broad Gauge and Narrow Gauge.

Ans. Broad Gauge	Narrow Gauge
In a broad gauge there is a distance of 1.676 metres between two rails.	In a narrow gauge the distance between the two rails is less than a metre. These are confined mainly to hilly areas.

## PRACTICE QUESTIONS

1. How many seaports are there in India?
2. Mention a reason why rail transport is possible on the east coast but not on the west coast.
3. Define village roads.
4. Differentiate between a port and a harbour.
5. (a) What is the Golden Quadrilateral?  
(b) Which four cities does it join?  
(c) Who is responsible for its implementation?
6. Mention any three problems being faced by the Indian Railways.
7. Name the following:  
(a) A major seaport of Andhra Pradesh.  
(b) A tidal seaport located in Gujarat.  
(c) A riverine seaport of India.



## Self-evaluation Test

### Level 1

1. Name the three modes of transport used on in our country.
2. What are the National Highways?
3. Name the largest Express Highway Project in India. Which cities does it connect?

### Level 2

4. Mention three ways in which road transport is becoming more popular than other means of transport.
5. Name two products exported from the port of Cochin (Kochi).
6. Why is air transport the only convenient means of travel to the north-eastern states?

### Level 3

7. In which region does the narrow gauge mainly operate? Why?
8. Why has inland waterways not developed as much as the other means of transport?
9. Which is the only fully mechanised port of India?
10. Name the port situated on the River Hoogly. What is its main disadvantage?