

Transport and Communication

PART 1

Objective Questions

• Multiple Choice Questions

1. Transport industry is comprised of which of the following components?

(a) Transport arteries
(b) Vehicles to carry people and goods.
(c) Organisation to maintain routes
(d) All of the above

Ans. (d) Transport industry is comprised of transport arteries (transport routes), vehicles to carry people and goods and organisations to maintain such routes and handle loading, unloading and delivery of good and services.

2. With the invention of the internal combustion engine, which of the following transport became important?

(a) Railways (b) Road Transport
(c) Water Transport (d) Pipelines

Ans. (b) With the invention of the internal combustion engine road transport became important.

3. The Trans-Canadian highway connects

(a) Edmonton to Anchorage
(b) Vancouver to St. John's city
(c) Edmonton to Vancouver
(d) Vancouver to Anchorage

Ans. (b) The Trans-Canadian Highway connects Vancouver in British Columbia (West Coast) to St. John's city in Newfoundland (East coast).

4. Which type of transport is most suitable for large volume of bulky materials over long distances within a region?

(a) Airways (b) Roadways
(c) Railways (d) Seaways

Ans. (c) Railways are most suitable for large volume of bulky materials over long distances within a region.

5. Which river supplies freshwater to the Suez canal?

(a) Amazon (b) Nile (c) Congo (d) Murray

Ans. (b) A navigable freshwater canal from Nile river supplies freshwater to Suez canal.

6. Which of the following pairs is not correctly matched?

(a) Unmetalled roads – All weather roads
(b) Autobahns – In Germany
(c) Peaks – High traffic flow
(d) Troughs – Low traffic flow

Ans. (a) Metalled roads are considered as all weather roads. It is due to the fact that these roads have a level surface made of small pieces of stone concretes, cement and used especially for country roads and tracks.

7. Which is the following pairs is not correctly matched?

(a) Highest road density in the world – North America
(b) Highest number of registered vehicles in the world – South America
(c) Longest National Highway in India – NH 7
(d) Highest density of railways network in the world – USA

Ans. (b) Highest number of vehicles in the world have been registered in the North American (not South America) continent.

8. Match the following.

Column-I (Railway Gauges)	Column-II (Features)
A. Broad gauge	1. 1.44 m
B. Standard gauge	2. 1 m
C. Metre gauge	3. Below 1 m
D. Smaller gauge	4. More than 1.5 m

Codes

A	B	C	D	A	B	C	D
(a) 1	2	3	4	(b) 4	1	2	3
(c) 3	1	4	2	(d) 1	2	4	3

Ans. (b)

9. Match the following.

Column-I (Highways in the World)	Column-II (Connected regions)
A. The Trans-Canadian Highway	1. Vancouver to St. John's city
B. The Alaskan Highway	2. Edmonton to Anchorage
C. The Pan-American Highway	3. South America to Central America
D. Trans-Continental Stuart Highway	4. Darwin to Melbourne
E. African Highway	5. Algiers to Conakry
F. The National Highway No. 7	6. Varanasi to Kanyakumari

Codes

A B C D E F	A B C D E F
(a) 1 2 3 4 5 6	(b) 2 4 5 6 1 3
(c) 6 5 4 3 2 1	(d) 3 1 4 5 6 2

Ans. (a)

10. Consider the following statements and choose the correct option from the given options.

- I. Trade of commodities depends upon transport.
- II. Transport provides a network of links which is essential for trade.

Codes

- (a) Only I is correct
- (b) Only II is correct
- (c) Both the statements are incorrect.
- (d) Both statements are correct and statement II correctly explains the statement I.

Ans. (d) Trade of commodities depends upon transport network. It is due to the fact that transport provides a network of links which is essential for trade.

11. Consider the following statements and choose the correct option from the given options.

- I. Higher living standards and quality of life also depend upon efficient transportation and communication.
- II. Assured and speedy transportation supplemented by efficient communication systems also promotes cooperation and unity among people living at different places in a country.

Codes

- (a) Only I is correct.
- (b) Both I and II are correct
- (c) Only II is correct
- (d) Both are incorrect.

Ans. (b) Both the statements I and II are correct.

12. Consider the following statements and choose the correct option from the given options.

- I. Freight transport by road has become important.
- II. Road transport provides door to door services.

Codes

- (a) Only I is correct
- (b) Only II is correct
- (c) Both statements are incorrect
- (d) Both statements are correct and statement II correctly explains statement I.

Ans. (d) Freight transport by road has become important. It is due to the fact that road transport provides door to door services.

13. Consider the following statements and choose the correct option from the given options.

- I. Rail transport cannot serve the vast and developing countries at lower costs.
- II. Rail kilometrage is smaller in the developing countries.

Codes

- (a) Only I is correct
- (b) Only II is correct
- (c) Both statements are incorrect
- (d) Both statements are correct and statement II correctly explains statement I.

Ans. (d) Rail transport cannot serve the vast and developing countries at lower costs. It is due to the fact that rail kilometrage is smaller in the developing countries.

14. Arrange the following seaports of South American continent from North to South direction.

- I. Rio De Janeiro sea port
- II. Montevideo sea port

- III. Callao sea port
- IV. Belem sea port

Codes

- (a) I, II, III, IV
- (b) IV, III, II, I
- (c) I, IV, III, II
- (d) IV, III, I, II

Ans. (d) The correct order is Belem sea port, Callao sea port, Rio de Janeiro sea port and Montevideo sea port.

15. Arrange the following satellites in chronological order.

- I. Rohini
- II. APPLE
- III. Aryabhata
- IV. Bhaskar-I

Codes

- (a) I, II, III, IV
- (b) IV, III, II, I
- (c) III, IV, I, II
- (d) I, IV, III, II

Ans. (c) Aryabhata Satellite was launched on 19th April, 1979, Bhaskar-I on 7th June, 1979, Rohini on 1980 and APPLE on 18th June, 1981.

• Case Based MCQs

- 16.** Read the case/source given and answer the questions that follow by choosing the correct option.

Most of the movement of goods and services takes place over land. In early days, humans themselves were carriers. Later animals were used as beasts of burden. With the invention of the wheel, the use of carts and wagons became important. The revolution in transport came about only after the invention of the steam engine in the 18th century. Perhaps the first public railway line was opened in 1825 between Stockton and Darlington in Northern England and then onwards, railways became the most popular and fastest form of transport in the 19th century. It opened up continental interiors for commercial grain farming, mining and manufacturing in U.S.A. The invention of the internal combustion engine revolutionised road transport in terms of road quality and vehicles (motor cars and trucks) plying over them. Among the newer developments in land transportation are pipelines, ropeways and cableways. Liquids like mineral oil, water, sludge and sewers are transported by pipelines. The great freight carriers are the railways, ocean vessels, barges, boats and motor trucks and pipelines. In general, the old and elementary forms like the human porter, pack animal, cart or wagon are the most expensive means of transportation and large freighters are the cheapest. They are important in supplementing modern channels and carriers which penetrate the interiors in large countries. In the densely populated districts of India and China, overland transport still takes place by human porters or carts drawn or pushed by humans.

- (i) Continental interiors in USA were opened due to which of the following?
 (a) Large scale manufacturing (b) Commercial agriculture
 (c) Network of railways (d) All of these

Ans. (c) Continental interiors in USA were opened due to network of railways.

- (ii) Which of the following technology revolutionised road transport?

- (a) Invention of Tyres (b) Internal Combustion Engine
 (c) Cart and Wagon (d) Metalled Roads

Ans. (b) Invention of Internal Combustion Engine revolutionised road transport.

- (iii) Semi solid liquids can be transported to long distance through

- (a) Airways (b) Pipelines (c) Oil tankers (d) Helicopters

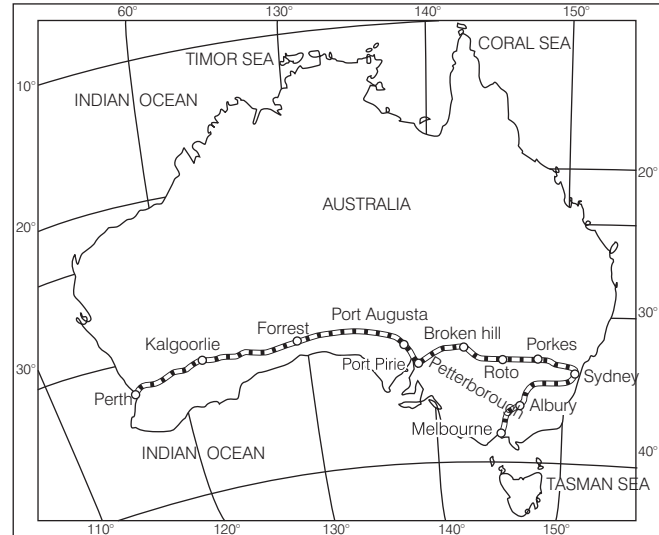
Ans. (b) Semi-solid liquids can be transported to long distance through pipelines.

- (iv) Which type of transport is suitable to connect a village in the hilly area with cities?

- (a) Railways (b) Shipping canals
 (c) Inland waterways (d) Roadways

Ans. (b) Roadways is suitable to connect a village in the hilly area with cities.

- 17.** Read the map given below and answer the questions that follow by choosing the correct option.



- (i) Which of the following railway lines is shown on the map?

- (a) Trans-Canadian Railways
 (b) The Union and Pacific Railways
 (c) The Australian Trans-Continental Railways
 (d) The Orient Express.

Ans. (c) The Australian Trans-Continental Railways line is shown on the map.

- (ii) Which of the following is the terminal station of this railway line?

- (a) Forrest (b) Port Pirie (c) Perth (d) Albury

Ans. (c) Perth is the West terminal point of the Australian Trans-Continental Railway line.

- (iii) Which of the following is the Southern most station of this railway line?

- (a) Broken hill (b) Albury (c) Melbourne (d) Sydney

Ans. (c) Melbourne is the Southern most station of the Australian Trans-Continental Railway line.

- (iv) Which of the following ports is located on the coast of Spencer Gulf through which this railway line passes?

- (a) Forrest (b) Port Augusta
 (c) Port Pirie (d) Both (b) and (c)

Ans. (d) Port Augusta and Port Pirie are two ports located on the coast of Spencer Gulf through which the Australian Trans-Continental Railway line passes.

PART 2

Subjective Questions

• Short Answer (SA) Type Questions

1. What are the different roles played by pack animals in transportation in different parts of the world?

Ans. Pack animals are those animals which are used as a means of transportation. Some of the roles played by pack animals are

- In Western countries horses are used as a draught animal.
- Dogs and reindeers are used to draw sledges over snow covered area in North America, North Europe and Siberia.
- Camels are used in desert for caravan movement and bullocks carts in India.
- Mules are used in mountain areas for carrying people as well as goods.

2. Distinguish between National Highways and State Highways.

Ans. Differences between National Highways and State Highways are

National Highways	State Highways
They connect state capitals and big cities across the nation.	They connect all the big cities within a particular state.
They are managed and maintained by the Public Works Department under Central Government.	They are managed and maintained by the Public Works Department under State Government.
These are important for the economy of the whole nation.	These are important for the economy of a particular state and surrounding regions.
In India, the total length of National Highways is 65,000 km.	Total length of State Highways in India is about 1,32,000 km.

3. What are the important characteristics of border roads?

Ans. The important characteristics of border roads are

- These roads are constructed on the international borders by some specialised agency in a country.
- These roads are important for strategic as well as defence purposes as they help in providing access to strategically important areas along the borders.
- These roads are important for the economy of the people living along the border areas as these are used to supply goods and connect the border areas with major cities.

- It helps in providing security to the country as in case of any conflict at the borders, sufficient action can be taken early.
- These roads also provide a good transport system to the people living in the border areas of a country.

4. Describe any three major problems of road transport in the world. (All India 2018)

Ans. Major problems of road transport in the world are

- (i) During rainy days, the roads which are unmetalled are damaged seriously. Even unmetalled roads are washed away by floods, which results in breaking up the road network.
- (ii) The road transport system records heavy traffic. When roads cannot cope up with the demands of traffic on the road, roads are heavily congested.
- (iii) Huge amounts of money is required for construction and maintenance of roads which affects the quality of roads, mainly in developing countries. Road networks of the world are not fully developed.

5. Explain any three points of economic significance of 'Trans-Siberian railways.' (Delhi 2013)

Ans The Trans-Siberian railways is a major rail route of Russia. It runs from St. Petersburg in the West to Vladivostok in the East on the Pacific coast. The economic significance of these railways is

- (i) It has made it possible to link Asian markets with the European markets. Now goods can be easily transported between the two continents, which provides a boost to the economies of both continents.
- (ii) It connects various commercial centres in Europe and Asia and provides push to trade and commerce. For example, it runs through Ural mountains and connects Chita (agro centre) to Irkutsk (fur centre).
- (iii) This railway network has improved connectivity towards its South by the connecting links such as towards Odessa (Ukraine), Ulan Bator (Mongolia), Beijing (China) etc. Thus, the economies of these regions have also integrated by the network.

6. In what ways rail transport is better than any other means of transport?

Ans. The ways in which rail transport is better than other means of transport are

- It is a cheap mode of transport for carrying bulky goods and passengers over long distances in a country or within two continents.

- Rail transport connects the commercial centres of a country and provides a boost to the economy and industry in the country. For example, development of railways has supported mining and manufacturing in USA.
- In the densely populated regions of the world, passenger trains carry millions of people to and from their work places. Thus, it is very important for commuting purposes in these regions.
- With the construction of trans-continental railways, movement of goods and people have become easier and provide a connecting link between continents.

7. Mention the three major regions of the world which have a very dense network of railways.

Ans. Three major regions of the world having a very dense network of railways are

- North America** It accounts for 40 per cent of the world's total railway network. The densest rail networks are present in the highly industrialised and urbanised region of East Central USA and adjoining Canada.
- Europe** There are about 4,40,000 km of railways in Europe. London, Paris, Brussels, Milan, Berlin and Warsaw are some of important rail headquarters.
- Asia** The rail network is dense in the thickly populated areas of Japan, China and India.

8. Discuss briefly the North Atlantic Sea Route and the South Atlantic Sea Route.

Ans. The North Atlantic Sea Route connects the two industrially developed regions of the world which are North-Eastern USA and North-Western Europe. It accounts for one-fourth of world's foreign trade. It is the busiest route in the world. The other name of this route is Big Trunk Route. This route has highly advanced ports and harbour facilities. The South Atlantic Sea Route links West European and West African countries with Brazil, Argentina and Uruguay in South America. There is limited development and population in South America and Africa. Hence, there is little traffic on this route. The traffic is very low on the route between Rio de Janeiro and Cape Town.

9. Explain any two inland waterways of Europe. Explain any two factors that influence inland waterways.

Ans. The two inland waterways of Europe are

- The Rhine Waterway** The Rhine river flows through Germany and Netherlands. It is navigable for 700 km from Rotterdam in Netherlands to Basel in Switzerland. It connects industrial areas of

Switzerland, Germany, France, Belgium and Netherlands with the North Atlantic sea route.

- Danube Waterway** It rises near the Black forest mountains and flows Eastwards through many countries. It serves Eastern Europe. It is navigable upto Turnu Severin.

Factors that influence inland waterways are

- The navigability width and depth of the channel affect inland waterways. Rivers are modified so that they can be used as waterways.
- The continuity in water flow and the level of technology also affect inland waterways.

10. Why is Rhine the world's most heavily used waterway? Explain any three reasons. (Delhi 2013)

Or 'The Rhine waterways is the world's most heavily used inland waterway'. In the light of this statement, examine the significance of waterway. (All India 2016)

Ans The reasons for the Rhine to be the world's most heavily used waterway are

- The river Rhine is navigable for 700 km from Rotterdam in Netherlands to Basel in Switzerland. It flows through a rich coalfield which has made the whole region a prosperous manufacturing area.
- The waterway links the industrial areas of Germany, France, Switzerland, Belgium, Netherlands with North Atlantic sea routes.
- The Ruhr river joins the Rhine from its East. There is movement of huge volumes of freight to the South of Ruhr river. More than 20,000 ships and 20,00,000 inland vessels exchange their cargoes annually in this region.

11. What are the five factors of development which have enhanced the efficiency of ocean transport?

Ans. The factors of development that have enhanced the capacity of ocean transport are

- Use of radar, wireless and other navigation aids in modern passenger ships.
- The introduction of refrigerated chambers for transporting perishable goods.
- The development of tankers and other specialised ships and use of container.
- The oceans provide smooth flow of traffic in all directions with no maintenance costs.
- The introduction of technology including advanced data capturing system has also enhanced the efficiency of ocean transportation.

12. Air transport has brought about a connectivity revolution in the world. Explain this statement.

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

- More than 250 commercial airlines offer transport services throughout the world.
- The areas which were previously inaccessible due to difficult terrain and harsh climate can now be accessed easily by air transport services. For example, the airplanes supply various items of common use to the Eskimos living in regions where the ground is permanently frozen and roads and railways cannot reach there.
- The areas in mountain regions, which become inaccessible due to landslide and avalanches can be reached by air transport.
- The travelling time has reduced from months to days and hours. With new developments such as supersonic aircrafts, the distance between places is reduced greatly like between London and New York.

13. Write briefly about inter-continental air routes.

Ans. Inter-continental air routes are the routes that connect different parts of the world by air routes. A distinct East-West belt of inter-continental air routes is found in the Northern Hemisphere. Eastern USA, Western Europe and South-East Asia have a dense network of air routes. USA accounts for almost 60 per cent of the airways of the world.

These air routes are important for transporting goods and passengers between two continents. It has reduced the travel time and improved trade, commerce as well as relations between various countries in the world.

The important nodal points where air routes converge or radiate to all continents are New York, London, Paris, Amsterdam, Frankfurt, Rome, Moscow, Karachi, New Delhi, Mumbai, Bangkok, Singapore, Tokyo, San Francisco, Los Angeles and Chicago.

14. Mention the famous oil pipeline of the USA. How are pipelines one of the most convenient modes of transport? (Delhi 2011)

Ans. Big Inch is the famous pipeline in USA among a dense network of oil pipelines which run from the oil producing areas to consuming areas. It carries petroleum from the oil wells of the Gulf of Mexico to the North-Eastern states.

Pipelines are one of the most convenient modes of transport in the following ways.

- They are used extensively to transport liquids and gases such as water, petroleum, oil and natural gas.
- They can carry liquid and gaseous materials for long distances without any interruption or delays.
- The pipelines directly link the producing areas to the consuming areas.

15. "Communication through satellites emerged as a new area in communication technology since the 1970s". State the advantages of satellite communication in India.

Ans. The advantages of satellite communication in India are

- Satellites are an important mode of communication. The use of satellite in getting a continuous and synoptic view of larger area has made satellite communication very useful.
- India has made great strides in satellite development. Bhaskar, Challenger and INSAT I-B have made long distance communication, television and radio very effective.
- With the use of satellite communication, people can get weather updates of an area. It is also easier to monitor the natural calamities.
- Satellites are used to forecast monsoon rains in India. These forecasts help farmers in planning their crops during monsoon.

16. In modern times, communication has become specialised. Explain.

Ans. It is true that Communication has become specialised in modern times as earlier people majorly used transport system not only for movement of goods and people but also to send their messages through men. Communication system was not much developed in that period.

Gradually, communication developed and use of different means came into existence, like telegraphs, pagers, telephones, etc. In modern times, new forms of communication like mobile phones, satellite communication, internet, television, radio have been developed which have enhanced the connectivity and brought people more closer to each other. These specialised and modern communication systems have globalised the world.

17. What is cyberspace? Describe any two advantages of Internet. (Delhi 2013)

Ans. Cyberspace or internet refers to the electronic digital world that is used for communicating or accessing data information over computer networks without any physical movement of the sender and the receiver. The cyberspace works within the World Wide Web (WWW). It can be accessed anywhere, e.g. in offices, at homes, in schools etc. In the last few years, it has expanded rapidly. The user base has shifted from the developed countries like USA to less developed countries such as China and India.

The advantages of internet are

- (i) It expands the social and economic space of people with the help of e-mail, e-commerce, e-learning, e-governance etc.
- (ii) Internet communication has connected more and more people across the world. It has made the concept of global village a reality.

• Long Answer (LA) Type Questions

1. Describe the journey of development of land transport from the days of humans as carriers and the cable ways of today. (Delhi 2015)

Ans. There is a significant development of land transport from the days of humans as carriers to the cable ways of today. In older days, human and animals were important carriers. For example, Palanquin (*palki/doli*) was used to carry brides by four persons (*Kahars* in North India). Later, animals were used as means of transport. For example, mules, horses, camels, oxen, etc were used in rural areas. With the invention of the wheel, the use of carts and wagons became important.

The 18th century marks the revolution in transport which came about only after the invention of the steam engine. In the 19th century, railways became the most popular and fastest form of transport with the opening of the first public railway line in 1825 between Stockton and Darlington in Northern England.

The invention of the internal combustion engine revolutionised road transport in terms of road quality and vehicles (motor cars and trucks) flying over them.

The newer forms of land transportation have also emerged in recent times. It includes are pipelines, ropeways and cableways. These are faster and more efficient as compared other means of transport.

2. Elucidate the statement-“In a well managed transport system, various modes complement each other.”

Ans. It is true that transport system is considered to be well managed if various modes of transport complement each other. This happens when production centres and consumption centres are well connected through transportation. Transport is the facility or service which provides movement of the goods and persons by using various modes.

Land, air, water and pipelines are important modes of transportation. These modes are used for transportation of man and materials within the country or between the two countries and continents. Trans-continental railways are constructed to facilitate long distance travel in different directions.

There are some factors like type of goods and services to be transported, costs of transport and the mode available, which determine the importance of a mode.

Every mode of transport has its own significance, like road transport is cheaper for short distance travel as compared to railway. Railways are most suited for large volume of bulky materials. Airways are preferred for long distance travel and for the rapid movement of valuable goods on a worldwide scale. Pipelines are used to carry liquids and gaseous materials without any interruption.

Hence, these modes complement each other in providing an efficient and well managed transport system.

3. Explain the merits and demerits of road transport in the world. (All India 2012)

Ans. Merits of road transport are

- **Economical** Road transport is cheap and most economical mode of transport for short distance travel and freight movement.
- **Connectivity** Road transport offers the best connectivity among all the means of transport as it offers door to door services.
- **Transporting Perishable Goods** Perishable goods such as milk, vegetables etc. are transported by road transport. It is best suited for transporting these items.
- **Trade and Commerce** Road transport plays an important role in promoting trade and commerce in the country. It also promotes tourism and other economic activities.
- **Flexible** Road transport is flexible in nature as multiple routes can be travelled to reach a particular place.

Demerits of road transport are

- **Heavy Expenditures** The construction and maintenance of roads require heavy expenditures. This affects road quality.
- **Traffic** Road transport is severely affected by traffic and congestion. When roads are not able to cope up with the demands of the traffic, then congestion occurs.
- **Not Sustainable for All Seasons** During the rainy season, the unmetalled roads are severely damaged. Even the metalled roads are damaged during floods.
- **Difficulty in Construction** Roads are difficult to construct in various areas such as mountains. Here, specialised agencies are required to construct roads.

4. Which continent has the highest road density? Why do traffic congestions occur on road? Explain any three measures to solve the problem of traffic congestion. (Delhi 2012)

Ans. North America has the highest road density. About 33% of world's total motorable road length is present in North America. North America also accounts for the highest number of vehicles as compared to Europe.

There is a problem of chronic traffic congestion in most of the cities of the world because of the failure of the road networks in meeting the demands of traffic. In recent years, the traffic on roads has substantially increased. Peaks and troughs of traffic flow on roads can be seen at different times of the day.

The measures to solve the problem of traffic congestion are

- (i) **Increasing Parking Fee** The parking fee for private vehicles should be increased. It will discourage them in using their private vehicles. This will reduce the number of vehicles on the roads and reduce traffic congestion.

(ii) **Public Transport** Public transport facilities such as public bus service, metro rails, trains etc. should be improved. It will encourage people to use public transport facilities which will substantially reduce the road traffic. Public transport connectivity should be enhanced.

(iii) **Expressways** Highways and expressways should be constructed. These expressways and highways are wider and larger. They provide seamless connectivity to the people and also accommodate more number of vehicles. This also reduces congestion considerably.

5. What is the importance of railways as a mode of land transport? Explain any four main features of the railway network in Europe. (All India 2015)

Or Explain any five characteristics of rail transport in Europe. (All India 2012)

Ans. Importance of railways as a mode of land transport are

- Railways provide the cheapest and most convenient mode of passenger transport both for long distance and sub-urban traffic.
- Railways have played a significant role in development and growth of industries. These help in supplying raw materials and other facilities to the factory sites and finished goods to the market.
- They also form the connecting link between the ocean vessels, barges, boats, motor trucks and pipelines.
- Railways are specially suited for transport of bulky materials like coal, petroleum and ores over long distances.

The characteristics of rail transport in Europe are

- The density of rail network is high in Europe. It is considered as one of the most dense rail networks in the world.
- The rail network is either double tracked or multiple-tracked. The total length of rail network is 4,40,000 km.
- Railways carries more passenger traffic as compared to freight in European countries.
- The rail network has underground railways in Europe. For example, underground railways in London, Paris, Moscow.
- There are various cities that form important nodes in the rail network. These are London, Paris, Milan, Berlin, Warsaw etc.

6. 'Trans-Canadian railway line is considered as the economic artery of Canada.' Support the statement with suitable examples. (All India 2016)

Or Which is the longest Trans-continental railway of North America? Describe its any four features. (All India 2015)

Or Describe the significance of 'Trans-Canadian Railway'. (All India 2019)

Ans. Trans-Canadian railway line is considered as the economic artery of Canada. It is the longest Trans-continental railway line in North America. It covers a distance of 7050 km, running from Halifax in the East to Vancouver on the Pacific Coast. It is economically significant in Canada because

- It connects the important industrial cities of Montreal, Ottawa, Winnipeg and Calgary. Goods and people can be easily transported to and from these economic centres with the railways.
- It connects Quebec-Montreal industrial region with the wheat but of Prairie region. Thus, raw materials and finished products are transported with these railways.
- The line also connects the Coniferous forest region in the North to the Quebec Montreal and the Prairies. All these regions have become complementary to each other and they support economic activities.
- A loop line from Winnipeg to Thunderbay (Lake Superior) connects this rail line with one of the most important waterways in the world. This is used for exporting various products.

7. Name the longest Trans-continental railway of the world. Describe its any four features. (Delhi 2015)

Or Describe the significance of 'Trans-Siberian' Railway. (All India 2019)

Ans Trans-Siberian railway is the longest Trans-continental railway of the world. The Trans-Siberian railways runs from St. Petersburg in the West to Vladivostok the Pacific coast in the East. It is Asia's most important route.

Features and significance of the Trans-Siberian railways are

- It connects various important commercial and industrial centres such as Moscow, Ufa, Irkutsk, Chita etc. These centres are important for the economy of the region.
- In Asia, it is the longest as well as double tracked and electrified railways. Due to this, it is possible to link Asian and European markets.
- This railway line has connecting links further Southwards. It connects Odessa in Ukraine, Baku on the Caspian Coast, Tashkent in Uzbekistan etc.
- This railway line is important for trade and commerce between the continents of Asia and Europe. It provides integration of both continents in terms of their economy and society.

8. State any three characteristics of water transport. Why is traffic far less on the South Atlantic sea route? Delhi 2012

Ans. Three characteristics of water transport are

- (i) Water transportation does not require route construction. The oceans are linked with each other and offer smooth routes travelable in all directions with less maintenance costs.

- (ii) It is cheaper means of transportation because the friction of water is less than that of the land and energy cost is lower.
- (iii) Very heavy cargo like coal, cement, timber and metallic ores can be transported through inland waterways.

The reasons for less traffic on South Atlantic Sea route are

- (i) The population is very less in South America and Africa. There is less development in the countries of South America as well as Africa. Due to this, the demand in these regions is very less and trade is very low.
- (ii) Both South America and Africa have similar products and resources. Due to this, the trade declines as trade of similar products is not economically feasible.
- (iii) There are very few industrial regions in both the continents. Only parts of South Africa and South-Eastern Brazil and Plata Estuary have industrial regions. This leads to lesser trade between these regions and lesser traffic on the South Atlantic Sea route.

9. What is the significance of inland waterways?

Explain the three factors responsible for the development of inland waterways in the world.

(All India 2010)

Or Analyse the three factors that affect the development of inland waterways. Explain the significance of Rhine inland waterways. (Delhi 2019)

Ans. The significance of inland waterways is

- Inland waterways are suitable for transportation with the help of rivers, canals, creeks etc.
- These are used for carrying both passengers and cargo.
- These are the only means of transport in the dense forests.
- They are suitable for carrying heavy cargo like coal, cement, timber, metallic ores etc.

The three factors responsible for the development of inland waterways in the world are

- (i) **Navigability** This means proper width and depth of the inland waterway that makes navigation possible.
- (ii) **Water Flow** If there is continuous flow of water throughout the year then ships, boats can easily move in the waterways so waterflow is an essential factor.
- (iii) **Transport Technology** Development of proper technology so that heavy cargo like coal, timber, metallic ores can also be easily transported factor for development of inland waterways.

The significance of Rhine waterway is

- It flows through a rich coal field which has made the whole region a prosperous manufacturing area of Germany.
- The waterway links the industrial areas of Germany, France, Switzerland, Belgium, Netherlands with North Atlantic sea routes, which boosts the industries.
- Ocean going vessels can reach up to Cologne through this waterway as it is navigable for 700 km.

- It is the busiest waterways as 20,000 ships and 2,00,000 inland vessels exchange cargos making it a centre of international trade and commerce.

10. 'The Suez and the Panama canals are two vital man-made navigation canals, which serve as the gateways of commerce for both the Eastern and Western worlds.' In the light of this statement, explain the economic significance of these two canals. (Delhi 2016)

Ans. The Suez and Panama Canals are very important navigational canals that are significant for the Eastern as well as Western Worlds. The Suez canal connects Mediterranean Sea and Red Sea. It was constructed in 1869 in Egypt between Port Said in North and Port Suez in South. The significance of this canal is

- After the opening of this canal, the sea distance between Europe and Asia has reduced. This has led to rise in trade between both the continents.
- It is important for the economies of Europe as well as African nations as ships carrying essential goods part through this canal.
- It has boosted the economy of the region by generating employment opportunities.
- Railway lines have also been constructed from the Suez canal to supply goods and improve trade even in the interior parts of the region.

The Panama Canal joins the Atlantic Ocean in the East to the Pacific Ocean in the West. The significance of this canal is

- It is important for the economies of North America as well as Latin America as it is used for carrying out trade between these regions.
- Many European countries use the Panama canal to supply their products to the Latin American countries.
- The distance between Eastern and Western coasts of USA is significantly reduced due to the opening up of this canal. It has resulted in boosting the US economy and easing World Trade.
- There has been a significant reduction in the distance between Western Europe and America. This results in improvements in their trade and commercial relations.

11. Which means of transport is extensively used for carrying water, petroleum, natural gas and other liquids? Describe the network of this means of transport in the world. (Delhi 2015)

Or Name the principal mode of transportation in the world which is used for carrying liquid and gaseous materials only. Mention any four characteristics of this mode of transportation. (Delhi 2010)

Or Analyse any five points of importance of 'pipelines' as means of transportation. (Delhi 2019)

Ans. The means of transport used extensively for carrying water, petroleum, natural gas and other liquids is pipeline transport.

The characteristics and importance of pipelines are

- (i) It is most convenient and efficient means of transporting liquids and gases over long distances.
- (ii) Pipelines can also transport solids after converting them into slurry (wet mixture).
- (iii) Its initial set up cost is high, but after that, pipelines transport liquids and gases very cheaply.
- (iv) It does not require much space.
- (v) Pipelines are energy efficient and environment friendly.

The regions in which pipeline network can be found are

- In New Zealand, pipelines are used to supply milk from farms to factories.
- In USA, about 17 per cent of all freight per tonne-km is carried through pipelines.
- In many parts of the world like Europe, Russia, West Asia and India pipelines are used to connect oil wells to refineries, and to ports or domestic markets. Pipelines are expanding very fast. For example, Turkmenistan in Central Asia has extended pipelines to Iran and also to parts of China.
- The proposed Iran-India *via* Pakistan international oil and natural gas pipeline will be the longest in the world.

12. Explain the importance of 'communication services' in the world. (All India 2016)

Ans. The importance of communication services is

- Communication connects the people in different parts of the world. They can exchange, information, ideas and make it easy to send or receive message.
- Communication through optic fibre networks allows large amount of data to be transmitted rapidly, securely and error free.
- Development of communication networks has become a crucial factor in developing urbanisation in various countries. e.g. in America.
- In developing countries, use of cell phones has made it possible to connect the rural areas of the country.
- New technologies such as satellite communication has made it possible to communicate with anyone anywhere in the world. Thus, communication has become faster.
- The use of internet for communication has made the concept of global village a reality.

• Case Based Questions

1. Read the case/source given and answer the questions that follow.

Cyberspace 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. It is also referred to as the Internet. Cyberspace exists everywhere. It may be in an office, sailing boat, flying plane and virtually anywhere.

The speed at which this electronic network has spread is unprecedented in human history. There were less than 50 million Internet users in 1995, about 400 million in 2000 A.D and over two billion in 2010. In the last few years there has been a shift among global users from U.S.A. to the developing countries. The percentage share of U.S.A. has dropped from 66 in 1995 to only 25 in 2005. Now the majority of the world's users are in U.S.A., U.K., Germany, Japan, China and India.

As billions use the internet each year, cyberspace will expand the contemporary economic and social space of humans through e-mail, e-commerce, e-learning and e-governance. Internet together with fax, television and radio will be accessible to more and more people cutting across place and time. It is the modern communication systems, more than transportation, that has made the concept of global village a reality.

- (i) Which term is used to refer to accessing information over computers?

Ans. The term used to refer to accessing information over computers is called cyberspace. It is the world of electronic computerised space.

- (ii) How has internet revolutionised the world?

Ans. Internet has revolutionised the world in the following ways

- It has widened the economic and social space of humans through e-mail, e-commerce, e-learning and e-governance.
- Internet together with fax, television and radio is accessible to more and more people cutting across place and time. It is the modern communication system that has made the concept of global village a reality.

- (iii) Why there has been a shift among global users in internet?

Ans. There has been a shift from USA to developing countries among internet users as internet is spreading rapidly to India, China, Japan and other developing countries of the world. The number of users is much higher in these countries.

2. Read the case/source given and answer the questions that follow.

One of the great advantages of water transportation is that it does not require route construction. The oceans are linked with each other and are negotiable with ships of various sizes. All that is needed is to provide port facilities at the two ends.

It is much cheaper because the friction of water is far less than that of land. The energy cost of water transportation is lower. Water transport is divided into sea routes and inland waterways.

Rivers, canals, lakes and coastal areas have been important waterways since time immemorial. Boats and steamers are used as means of transport for cargo and passengers. The development of inland waterways is dependent on the navigability width and depth of the channel, continuity in the water flow and transport technology in use. Rivers are the only means of transport in dense forests. Very heavy cargo like coal, cement, timber and metallic ores can be transported through inland waterways. In ancient times, riverways were the main highways of transportation as in the case of India. But they lost importance because of competition from railways, lack of water due to diversion for irrigation and their poor maintenance. The significance of rivers as inland waterways for domestic and international transport and trade has been recognised throughout the developed world. Despite inherent limitations, many rivers have been modified to enhance their navigability by dredging, stabilising river banks and building dams and barrages for regulating the flow of water. The following river waterways are some of the world's important highways of commerce.

(i) What is water transport?

Ans. Water transport is the process of moving people, goods etc by boat ferries, ships or sailboats over water bodies like sea, oceans, lakes, canals, rivers etc.

(ii) How inland waterways are different from sea routes?

Ans. Inland waterways are rivers, lakes, canals used for transportation within the country but sea routes are water transportation routes on seas and oceans.

(iii) In what ways, oceanic routes are beneficial for us?

Ans. Oceanic routes are beneficial in the following ways

- There is no need to construct routes over the oceans due to which the construction cost is saved.
- It is much cheaper mode of transport because of the less friction of water as compared to land.

3. Read the case/source given and answer the questions that follow.

Air transport is the fastest means of transportation, but it is very costly. Being fast, it is preferred by passengers for long-distance travel. Valuable cargo can be moved rapidly on a world-wide scale. It is often the only means to reach inaccessible areas. Air transport has brought about a connectivity revolution in the world. The frictions created by

mountainous snow fields or inhospitable desert terrains have been overcome. The accessibility has increased. The airplane brings varied articles to the Eskimos in Northern Canada unhindered by the frozen ground. 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. The manufacturing of aircrafts and their operations require elaborate infrastructure like hangars, landing, fuelling and maintenance facilities for the aircrafts. The construction of airports is also very expensive and has developed more in highly industrialised countries where there is a large volume of traffic. At present no place in the world is more than 35 hours away. This startling fact has been made possible due to people who build and fly airplanes. Travel by air can now be measured by hours and minutes instead of years and months. Frequent air services are available to many parts of the world. Although, UK pioneered the use of commercial jet transport, USA developed largely post-War international civil aviation. Today, more than 250 commercial airlines offer regular services to different parts of the world. Recent developments can change the future course of air transport. Supersonic aircraft, cover the distance between London and New York within three and a half hours.

(i) Which regions of the world are experiencing major developments in air transport? Explain.

Ans. US and UK are among the top regions of the world that are experiencing major developments in air transport. They have developed civil aviation facilities and technology. Highly industrialised countries that have large volume of traffic are also experiencing major developments in air transport.

(ii) What are the reasons for the increasing popularity of air transport in the recent time, in spite of its high cost?

Ans. The reasons for the increasing popularity of air transport in the recent time inspite of its high cost are

- Valuable and perishable goods can be easily transported rapidly on a worldwide scale from one country to another.
- The areas which were previously inaccessible have become easily accessible due to air transport. For example, Himalayan region, Alaska region, etc.

(iii) State any one disadvantage of air transport.

Ans. A disadvantage of air transport is that it is very costly as compared to other modes of transport and thus, beyond the reach of poor people.

• Map Based Questions

1. Identify the following on the political map of the world.

(i) A major airport.

(All India 2015, Delhi 2013)

(ii) An important airport.

(Delhi 2015)

(iii) A major sea port.

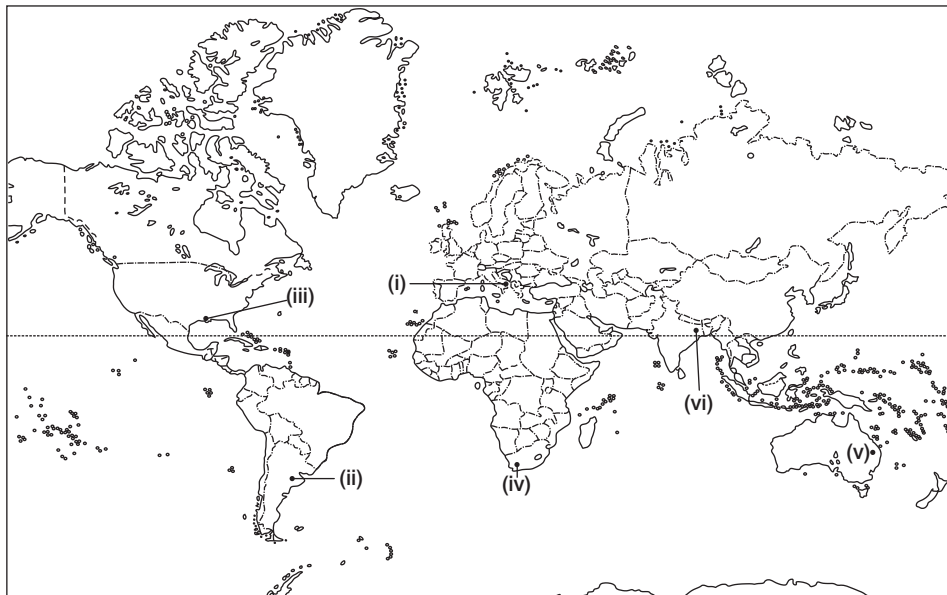
(Delhi 2015, 2014, 2012)

(iv) A major sea port.

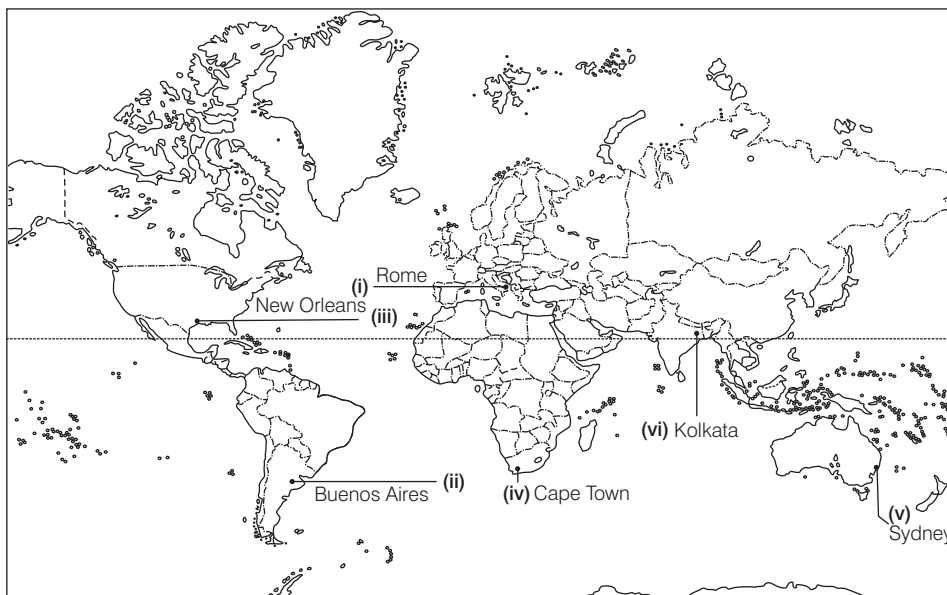
(All India 2018)

(v) The terminal station of Trans-continental Railway.

(vi) A major sea port.



Ans.



2. Identify the following on a political map of the world.

- (i) A major airport.
- (ii) Eastern terminal station of Trans-Siberian railway.
- (iii) A major airport.
- (iv) An international airport.
- (v) An international airport.
- (vi) A canal.
- (vii) A seaport in South America.

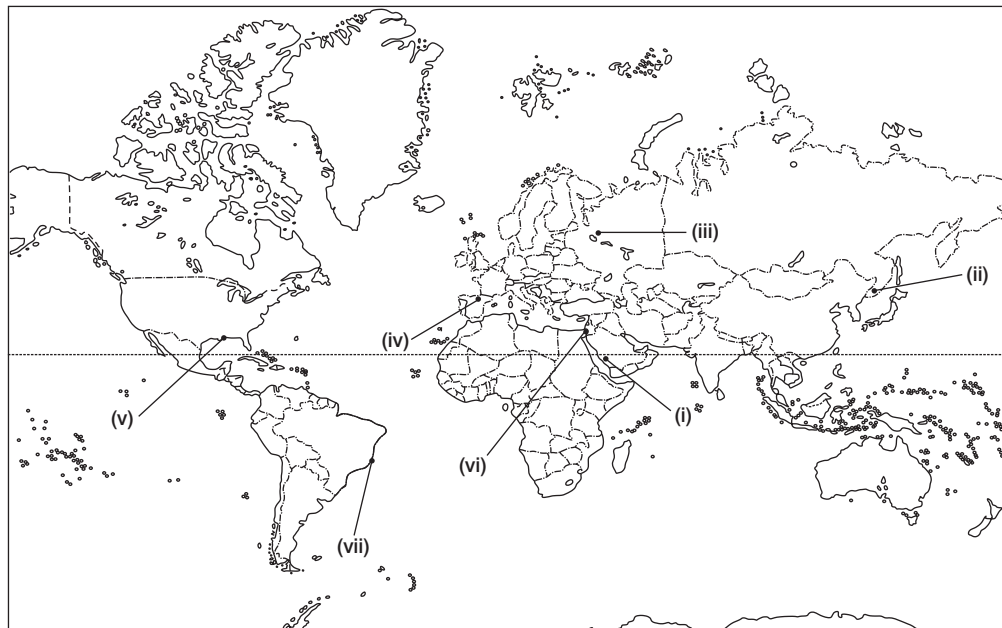
(Delhi 2013)

(All India 2012)

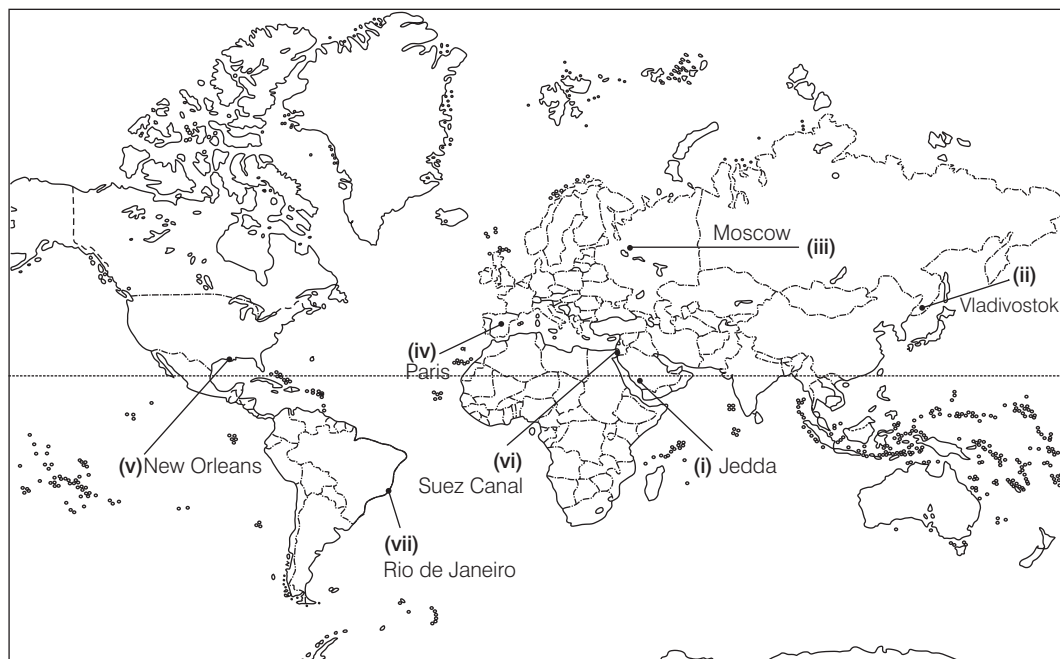
(All India 2010)

(All India 2018, 2016)

(All India 2019)



Ans.



3. Identify the following on a political map of the world.

(i) A major sea port.

(All India 2016)

(ii) A major sea port.

(All India 2016)

(iii) A major sea port.

(Delhi 2016, 2013, 2011, 2008)

(iv) An international airport.

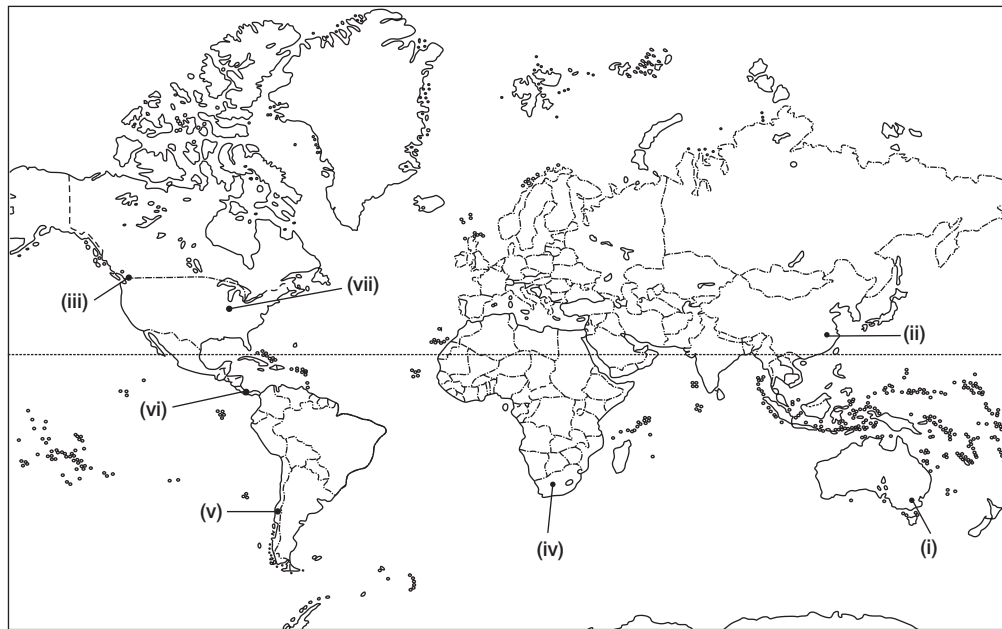
(Delhi 2016)

(v) An major sea port.

(All India 2015)

(vi) A canal.

(vii) A major airport.



Ans.



4. Identify the following on a political map of the world.

(i) A terminal station of Trans-Canadian railway line.

(All India 2014)

(ii) An important sea port.

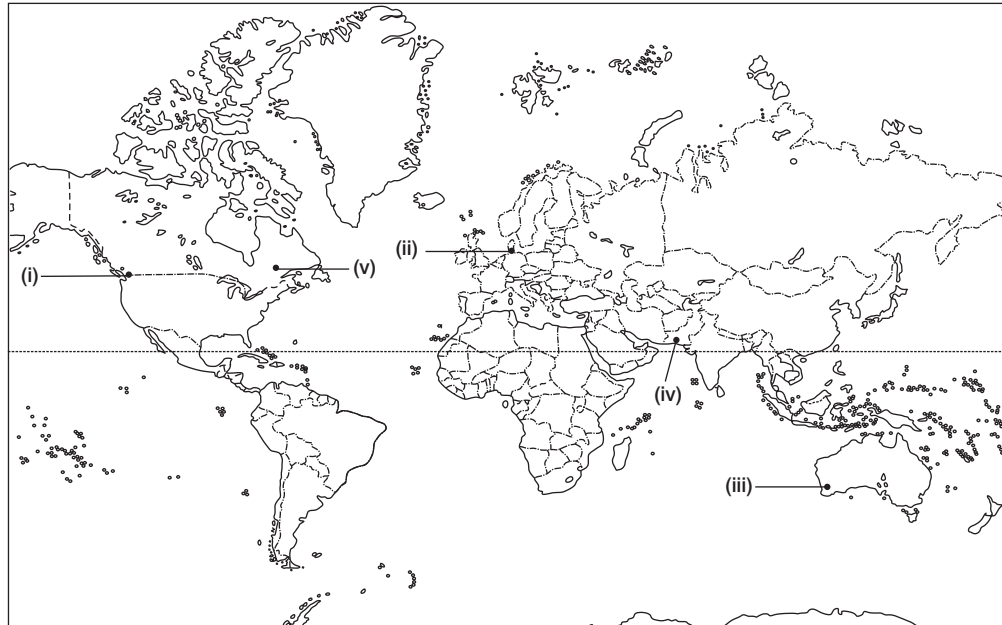
(All India 2014)

(iii) A terminal station of Australian trans-continental railway.

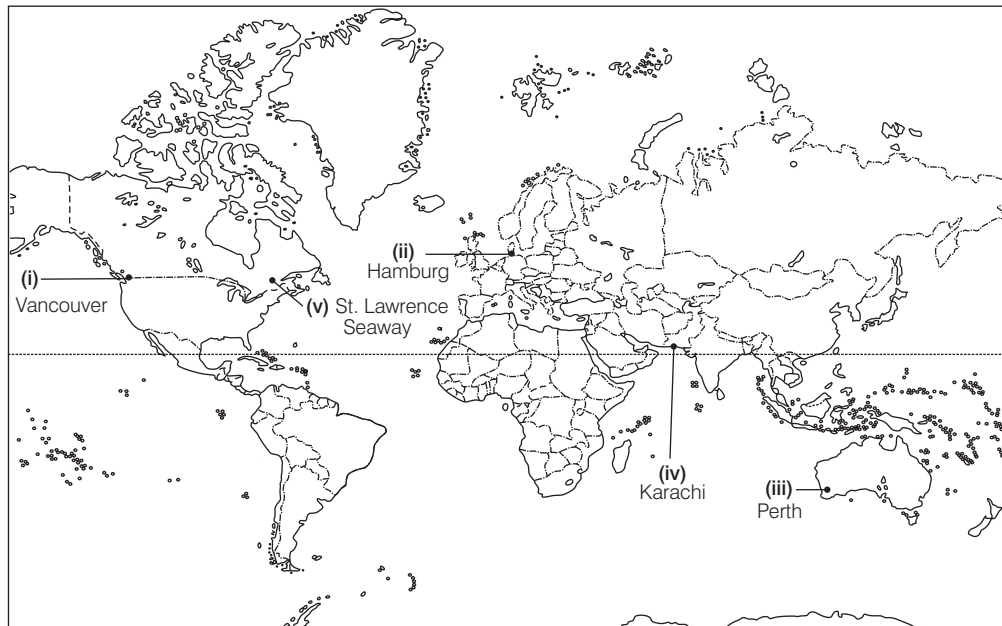
(Delhi 2014, All India 2019)

(iv) A major sea port.

(v) Inland waterway.

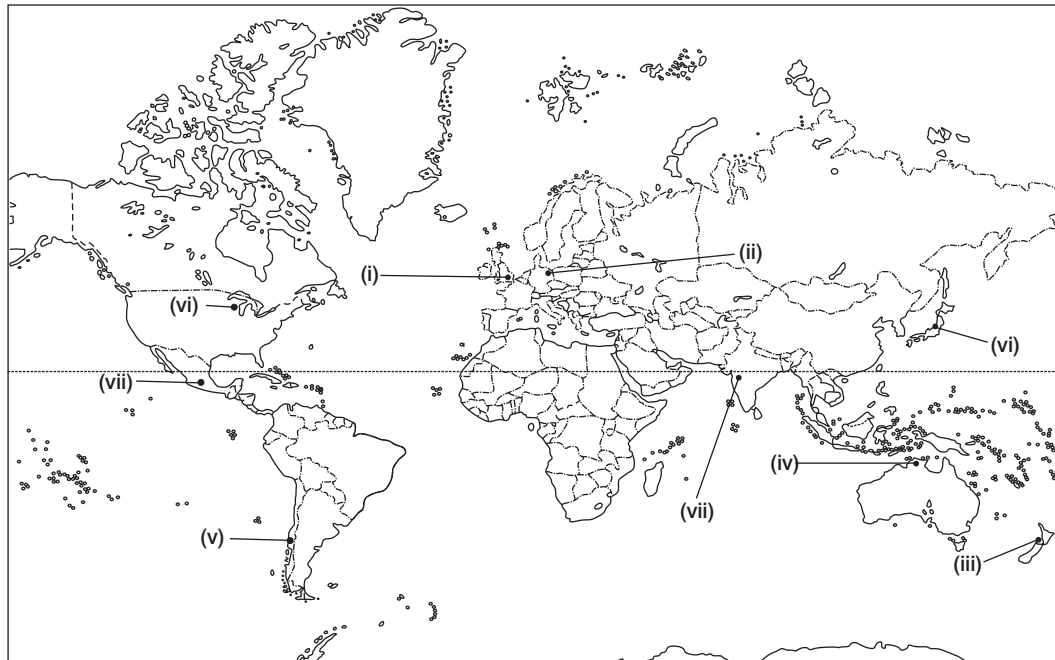


Ans.

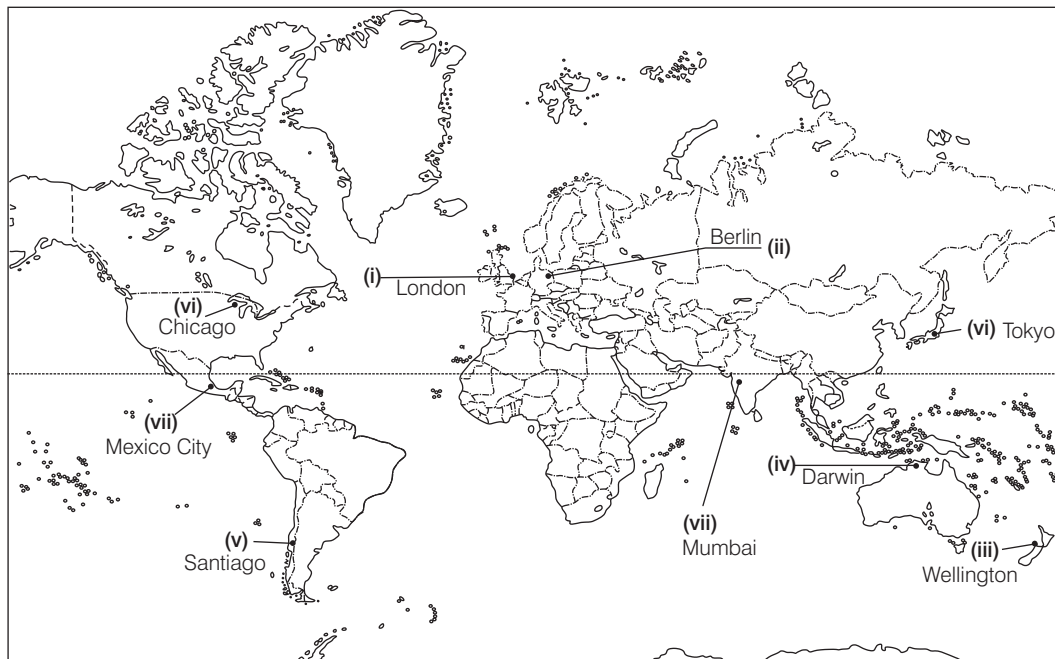


5. Identify the following major airports on the political map of the world.

(Delhi 2012, Delhi 2011, Delhi 2010)



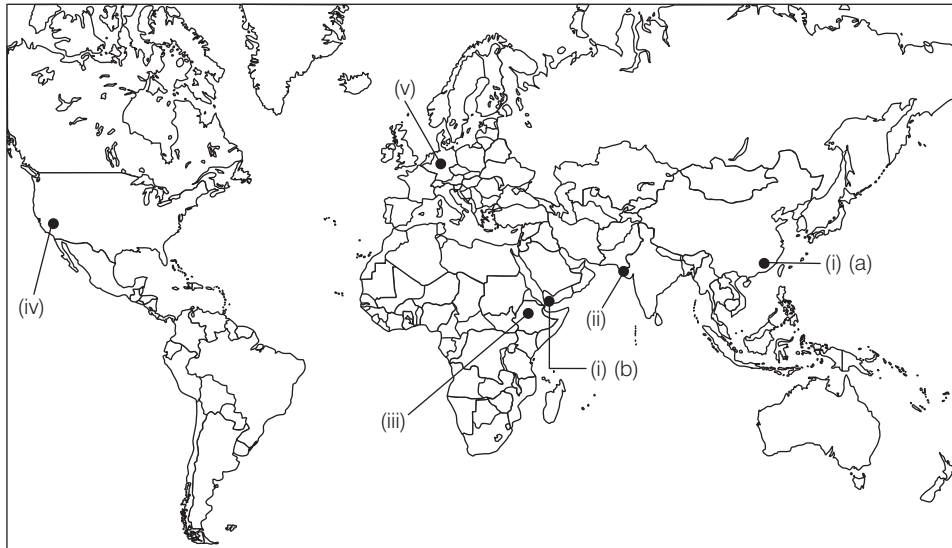
Ans.



6. Identify the following in the political map of the world.

Delhi 2019

- (i) Two seaports in Asia.
- (ii) An important seaport.
- (iii) Airport in Africa.
- (iv) A sea port in North America.
- (v) An Inland waterway in Europe.



Ans.



Chapter Test

Objective Questions

1. With the invention of road transport became an important form of transportation across the world.
(a) wheels (b) internal combustion engine
(c) concrete (d) steam engine
2. The length of Australian rail network is about km.
(a) 6000 (b) 50,000
(c) 40,000 (d) 120,000
3. The Union and Pacific Railways connects which of these two cities?
(a) New York to Los Angeles (b) New York to San Francisco
(c) New York to Chicago (d) Chicago to San Francisco
4. Consider the following statements.
I. Golden quadrilateral connects four big metro cities of India.
II. It comprises of high density traffic corridors.
Which of the above statements is/are correct ?
(a) Only I (b) Only II
(c) Both I and II (d) None of these
5. Arrange the following stations of Trans-Australian railways starting from East to West.
I. Port Augusta II. Perth III. Sydney IV. Forrest
(a) III, I, IV, II (b) II, I, III, IV
(c) IV, II, III, I (d) III, IV, II, I

Short Answer Type Questions

8. How do transport and communication unite scattered people?
9. How is the Trans-Siberian railway economically significant?
10. Give an account of the rail network of Asia.
11. What are the changes which have occurred in last few years in the use of internet?
12. "The Danube waterway is an important waterway." Comment on the statement.
13. The highways in North America are very important for the continent. Discuss the statement.
14. What is the reason for the high energy efficiency of waterways?

Long Answer Type Questions

15. Give the two phases of the communication development in the world.
16. Discuss in brief the important highways of the world.
17. Discuss the important inland waterways of the world.
18. What are the obstacles in the path of development of railway? Give important rail routes of the world.
19. "The different modes of transportation provide important trade links." Discuss the statement with examples.

Answers

1. (a) wheels
2. (c) 40,000
3. (b) New York to San Francisco
4. (c) Both I and II
5. (a) III, I, IV, II