

UNIT 15 TRANSPORT AND WAREHOUSING

Structure

- 15.0 Objectives
- 15.1 Introduction
- 15.2 Trade and Barriers to Trade
- 15.3 Transport – Its Importance
- 15.4 Essentials of a Good Transport System
- 15.5 Modes of Transport
 - 15.5.1 Road Transport
 - 15.5.2 Rail Transport
 - 15.5.3 Sea Transport
 - 15.5.4 Air Transport
 - 15.5.5 Miscellaneous Modes
- 15.6 Choice of Mode of Transport
- 15.7 Containerisation
- 15.8 Clearing and Forwarding Agents
- 15.9 Warehousing
- 15.10 Types of Warehouses
- 15.11 Let Us Sum Up
- 15.12 Key Words
- 15.13 Answers to Check Your Progress
- 15.14 Terminal Questions

15.0 OBJECTIVES

After studying this unit you should be able to:

- explain the role and importance of transport **as** an adjunct of trade
- state the essentials of a good transport system
- enumerate the various modes of transport
- describe the procedures involved in different modes of transport
- explain the suitability of the various modes of transport
- discuss the basis on which choice of a mode of **transport** can be made
- describe the meaning and importance of containerisation in transport
- enumerate the functions of forwarding and clearing agents
- describe the **purposes** served by **different types** of warehouses.

15.1 INTRODUCTION

Modern business involves manufactures of goods on a large and making them available to consumers in distant **places**. Thus goods must be moved from the place of production to the place of consumption to create place utility to them. Similarly, trading involves distribution ensuring the availability of goods to consumers as and when needed. **This** involves holding of **stocks** by traders as near as possible to the markets and supplied to buyers. Thus transportation and warehousing functions ensure consumers to get a ready supply of goods as the right place and right time. In this unit you will study these functions in detail. You will study the nature and importance of transport service modes of transport, procedure involved and the suitability of various **modes** . You will also learn the meaning and **usefulness** of warehousing and the purpose served by different types of warehouses.

15.2 TRADE AND BARRIERS TO TRADE

Trade, as a business activity involves buying goods from producers and selling the same to consumers. In other words, those who are engaged in trade need to procure goods produced or manufactured at particular places and supply them to customers in different places. Goods which may have little use at the place of production thus **become** useful when these are made **available** to customers by traders. In the modern world, there are goods produced in a country **may be** exported and sold abroad. However, production and manufacture as well as buying and **selling** include operations which need certain facilitating **services** to be provided. Markets of goods produced on a large scale are spread over the length and breadth **of** the country and even **extent** to countries across the borders to help traders bridge the distance between the places of production and the markets **i.e.** to enable traders to create place utility for goods and **earn their** income, facilities must exist for carrying the goods **i.e.** **transportation** of goods (to **over come** the distance barrier) for warehousing (to overcome the barrier of **time** lag between **procurement and sale**) banking facilities (to meet the credit and financial requirements), and insurance **service** (to cover the risks of loss or damage due to theft, burglary, fire, accident **etc.**)

15.3 TRANSPORT – ITS IMPORTANCE

Transport, simply stated, **means** carrying of goods **and** passengers **from** one place to another. **In** the context of trade, transport involves carriage of goods from places of production to centres of distribution and sale, which may be within the country or abroad. Thus, transport facilitates trading activities to create place utility to goods by removing the **barrier** of distance between production and **consumption**.

In modern societies the scope of trade has increased not only due to the range of goods produced, but also on account of large scale production and widening of the market geographically. Transport plays an important role in the continuous supply of raw material to the industry and distribution of goods to ultimate consumers. It also contributed to the growth of large-scale industries by facilitating the inflow of raw materials and outflow of finished goods. Transport enables traders to adjust the supply of goods at different places according to changing demand from time to time. Thereby price fluctuations are reduced to the minimum.

Consumers derive benefits from transportation in three ways. **Firstly**, a large variety of products manufactured at different places are available to consumers all over the country as well as abroad. This is known as the benefit of diversified consumption. **Secondly**, as **economics** of scale achieved due to large-scale production and extension of markets with the help of transportation, goods are available at lower prices to the consumers. **Thirdly**, goods are available at stable prices as transport enables supplies to be moved quickly from surplus to deficit areas.

Economic benefits which are derived from transport facilities may be outlined as follows:

- (i) Development of industry and trade depends a great deal on the availability of transport. Easy transportability of raw materials, finished products and also movement of labour, have contributed immensely to the growth of trade and industrial activities.
- (ii) Extension of markets through transport development enables buyers to have a wider choice of goods at competitive prices. Extended markets also provide opportunities to the sellers to sell at the most profitable markets. Thus, buyers as well as sellers are benefited due to proper transport facilities.
- (iii) International competition is encouraged with the improvements in transport system. It makes markets accessible to sellers and buyers of different countries, and leads to wider choice of quality products.
- (iv) Well-developed sea and ocean transport have led to increased imports and exports. This has made it possible for each country to specialize in the production of goods for which it has competitive advantage.
- (v) Transport has facilitated economic interdependence of countries, which has, in turn, enabled people to interact, and promote material welfare of the human kind.

15.4 ESSENTIALS OF A GOOD TRANSPORT SYSTEM

A good transport system is one which should serve the purpose of transportation and satisfy the following requirements.

- 1. It should be *economical*. The cost of transport service should be low enough to enable the users to carry their goods at the lowest possible charge so that the ultimate consumer get the products at a reasonable price.
- 2. It should be capable of *carrying goods as speedily as possible*. There should **not** be any delay in reaching the destination except for natural calamities or unavoidable causes.
- 3. The transport service should be *available regularly* as and when required. It must ensure the safety of the goods.
- 4. It should be *operated by the properly skilled and efficient* persons capable of handling problems in emergency.
- 5. It should provide *for insuring the risks of loss* or damage to goods in transit, and assure payment of due compensation in case of delay causing loss to the owner of goods.
- 6. There should be *proper arrangements for loading and unloading* of goods promptly and at minimum cost.
- 7. As far as possible, *delivery of goods should be made at locations* convenient to the receiver of the goods.

Check Your Progress A

- 1. Which of the following statements are true and which are false ?
 - a) Transport removes the barrier of distance in trade.
 - b) Transport facility is needed only by traders, not by manufactures.
 - c) Trade can take place even without transport facility.
 - d) Efficient Transport system leads to adequate supply of goods in the market.
- 2. Fill in the blanks with the appropriate words given within brackets:
 - a) Transport helps traders to create.....utility (time/place/form).
 - b) Traders having transport facility can goods in the most profitable market (buy/sell/hold).
 - c) Large manufacturers need transport facility forraw materials (holding/procuring/using).
 - d) Movement of goods from one country to another improves goods (supply/quality standard/variety).

15.5 MODES OF TRANSPORT

Modes of transport or means of transport, can be divided into the following four broad categories:

- 1, Road transport
- 2, Rail transport
- 3. Sea transport
- 4. Miscellaneous modes

Transport by road may be possible by means of: (a) pack animals like horses, camels, bullocks, mules, donkeys, etc., (b) vehicles drawn by animals **e.g.** bullock-carts, horse-drawn carts, **camel**-drawn carts, etc., (c) motor vehicles **e.g.** trucks, vans, tempos, etc. However, use of pack animals **and** carts drawn by animals have limited use only in rural areas and short distance local transport **in urban** areas. These are slow-moving means and wherever motor vehicles can be brought to use, these means of road transport are not preferred.

Rail transport by land consists of carriage of goods by trains which move on railway tracks **laid** for the purpose. Loading and unloading of goods for rail transport may be possible at rail stations or sidings.
Sea or ocean transport by vessels provide transportation facilities in coastal areas or **across the** sea and ocean. It is also possible by rivers and canals by boats and steamers.

Transport by air requires specially constructed airports for take **off and** landing of aircraft. Transportationby aircraft is possible within a country as well as between different countries.

Miscellaneous modes of transport include pipelines; postal mail and courier services. **Let us examine** the procedures involved in transportation by different modes and the suitability **of the** respective modes.

15.5.1 Road Transport

Large producers and dealers of goods **often** use their own motor trucks, delivery vans and other vehicles for inward and outward transport of goods. There are also public transport agencies which operate trucks and vans on hire. Vehicles owned by producers and dealers are put to **use** whenever required. A separate department is generally entrusted with the task of proper maintenance of the vehicles and regulating their movement.

Hired vehicles are generally used on a contract basis for regular purposes. Alternatively vehicles **are** hired from agencies as and when required. A truck service can also be arranged for less then **full truck** load. Before they are loaded into the vehicle, goods are required to be packed in crates **or** wooden cases or in bales or any other form depending on the nature of the product. However, packing may not be needed in the case of goods like iron rods, beams, bricks, sand, stone chips, minerals, coal, etc., which are carried in bulk. Motor vehicles are also specially made known as tankers, for carrying liquids in bulk.

Advantages

There are several advantages of motor transport by road.

1. The user gets complete service by way of loading of goods at the desired location and unloading at the exact place where required. The **time** of loading and unloading can also be adjusted according to convenience. The truck service can be arranged for varying quantities of goods. Besides, the transport operator can serve a number of places on the way for loading and unloading. Overall, the road transport service offers a lot of flexibility in operation.
2. For short distances, motor transport is speedier as well as cheaper. It is cheaper than rail transport because the truck operators are not required to construct or maintain the roads.
- 3.. Goods do not have to be loaded and unloaded more than once. There is no necessity of transshipment on the way. Thus, handling operations are minimum. Loading and unloading can be done in shorter time and at lesser expense. Fragile goods and goods susceptible to damage can be taken care of at the loading and unloading stages as the sender and receiver have the opportunity to supervise the handling operations.
4. The regularity of service (schedules of operation) is maintained by most established transport agencies. The reliability **i.e.** safety of goods and timely service, is also assured with little or no difference in cost.
5. The pressure on railway transport has been taken over by road transport, which also serve as feeder to railways.
6. Inaccessible terrains like hilly and mountainous areas can be reached by road transport, which is the only means of **transport** available in such terrains.

Limitations

There are some limitations of road transport as outline below:

1. Services may be delayed on account of break down of vehicle or road congestion.

2.

There is no uniformity of rates charged by different agencies. The rates are neither competitive nor stable over time.
3.

In the case of small operators, there is no fixed time schedule and thus the service is not dependable.
4.

Adequate protection against loss or damage is often lacking and risks cannot be insured easily.
5.

For heavy and bulky loads to be carried over long distances as also for goods of small value, road transport is relatively costlier than railway transport due to the limited carrying capacity of motor trucks and high cost of fuel.

Suitability of Road Transport

Considering the advantages of road transport, it may be found more suitable in the following cases:

1.

For small consignments over short distances.
2.

Where speedy movement is required and the distance is short.
3.

When loading and unloading of goods are required at locations and at hours convenient to the sender and receiver of goods.
4.

For handling goods to and from railway stations and sidings i.e. as a feeder service.
5.

In hilly and mountainous terrains which are not accessible by rail transport.
6.

Fast movement of perishable goods like vegetables, milks, fruits, etc., for limited distances.

15.5.2 Rail Transport

In terms of carrying capacity over long distances, rail transport is unequalled by any other mode of land transport. In India railways are controlled by the Government of India. To avail of the rail transport facility for sending the goods, you have to follow the following procedure:

1.

You have to fill in a prescribed form known as *Forwarding Note* or Consequent *Note* giving particulars of the goods to be sent. Printed forms of this note are available from the railway goods offices. The terms and conditions on which goods are carried by the railways are printed at the back of this note. In this note you have to mention the description of goods, number of packages, weight, identifying marks, and the names and addresses of the sender (consignor) as well as the receiver (Consignee). The note is marked either 'Freight Paid' or 'Freight to Pay' depending on whether the sender or the receiver is to pay the freight.

The form of forwarding note is to be marked either 'Railways Risk' or 'Owner's Risk'. Higher freight rate is charged if goods are sent at 'Railway's Risk' because in such case the railway authorities can be held liable for any delay, loss or damage of goods except which is due to natural causes beyond the control of the railways. Freight rates are lower for goods sent at 'Owner's Risk', in which case the railway authorities can be held liable for delay, loss or damage only if it is due to will full negligence or default.

When the forwarding note is submitted to the 'parcel' office, the sender is given a receipt known as *Railway Receipt (R/R)*. The R/R is an acknowledgement of the goods received with an undertaking from the railways to carry the goods as per instructions and subject to the terms and conditions specified in the forwarding note. This R/R serves as a document of title to the goods. Goods are delivered to the receiver after the submission of R/R at the inward parcel office at the destination, The Railway Receipt is, therefore, forwarded by the sender to the receiver (consignee) to enable him to take the delivery of goods.

On arrival of goods at the destination, the consignee (receiver) is expected to take delivery immediately within a specified period. Otherwise he has to pay an additional charge per day of delay, which is known as 'Demurrage'. If delivery is not taken within a reasonable period of time, the railways can dispose of the goods by public auction.

Advantages

Transportation of goods by rail has certain distinct advantages:

1. For sending goods over a long distance by land, the railways happen to be the speediest means as trains can run at high speed over along distance.
2. Compared with road transport, it is relatively economical to carry heavy and bulky goods to distant places due to lower cost of traction by power on smooth rails.
3. The number of wagons and rakes can be adjusted for handling larger volume of **traffic** and thus the carrying capacity is quite flexible.
4. It provides a dependable service as railway movement is not much obstructed by weather conditions like rain and storm.
5. Goods can be carried safely without risk of total loss or severe damage, except when goods are transported on open wagons at the request of the sender.
6. As trains run very smoothly, damage of goods during transit is very limited.
7. A variety of services are provided by railways besides transportation of goods, **e.g.** warehousing of goods, express freight and delivery service, private sidings for factories, dock-sidings for immediate delivery and dispatch, depots at railway terminals, facility for transport of special categories of **goods** like animals, explosives, valuables, perishable, etc.

Limitations

Transportation by rail has **the** following limitations:

1. It proves to be a more expensive means of transport for small consignments over short distances. Expenditure on packing and handling are higher than in road transport. The speed of rail transport for short hauls is much slower than that of motor trucks.
2. Goods are transported by railways only between certain fixed places (**i.e.** railway stations). Hence it is necessary to carry goods to the railway station by the senders and the receiver has to **obtain** the goods at railway stations and arrange other modes of transport to carry it **from** station to his premises. Only in the case of large and regular users, sidings are provided at the factory site.
3. Railway transport facility is very limited in **hilly** and **mountainous** areas.

Suitability

Taking into account the advantages and limitations of rail transport, you may infer that it is most suitable as a means of transportation in the following cases:

1. Where heavy and bulky goods are to be carried over a long distance.
2. When regularity and reliability of transport are important factors to be kept in view.
3. Where goods are bulky but have low unit value like minerals, coal, etc.
4. Where the goods need to be sent speedily over a long distance.
5. When weather conditions on the way are uncertain and goods are likely to be damaged in course of transit.

15.5.3 Sea Transport

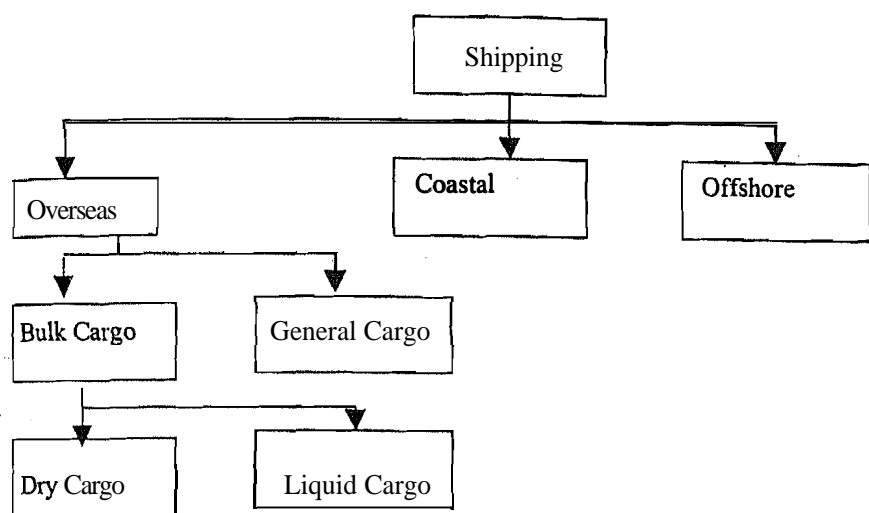
Water transport in general may be classified as : (1) river and canal transport by boats and steamers **i.e.** inland waterways, **and** (2) sea or ocean transport by ships.

In the case of inland water transport, loading and unloading of goods can be arranged by setting up private jetties on the route. For instance, transport of jute takes place along the Hooghly river for jute mills in the Calcutta industrial area. The cost of transport is relatively lower than road or rail transport. However, it is a slow moving means of transport. Natural calamities like rains, floods and droughts make inland water transport unreliable. Its limited use is due to the limited areas served by waterways.

Transportation by sea and ocean is most useful in coastal areas and for international trade. Rail and road connections do not exist between many countries and sea transport is the only means for imports and exports.

For overseas transport, two types of vessels are available: (1) Liners which undertake regular voyages between ports according to a fixed schedule and itinerary, and (2) Tramps which do not have any fixed schedule or itinerary of voyages, but move from port to port and undertake transportation of goods as per agreement with the shippers.

Figure 15.1 : Classification of shipping based on area of operation



Look at Figure 15.1 carefully and examine the classification of shipping. Shipping can be broadly divided into three segments viz., coastal, offshore and overseas. The coastal shipping segment encompasses the movement of cargo between different ports belonging to the same country. The offshore shipping segment is limited to the supply of manpower, spares and necessities to offshore installations. The overseas shipping encompasses import and export of merchandise between different countries. This overseas segment can be further divided into two categories as bulk cargo which is concerned with the movement of commodities in bulk and general cargo which involves in the movement of various items in various quantities. Bulk Cargo is further divided into: (1) dry bulk cargo which includes dry commodities like grain, coal, iron ore, etc. and (2) liquid cargo which includes liquids like crude oil, diesel, furnace oil, etc.

Procedure

- 1) Whenever goods are desired to be transported by sea, it is essential for the consignor to enter into a contract with shipping company. This is known as a contract of **affreightment** whereby the shipping company agrees to carry goods, and there is hiring of space in a ship for transportation of cargo of the consignor as per **terms** and conditions laid down in the contract. When the contract of affreightment involves hiring of a ship or a part of it for a particular voyage or for a specified period, it is known as Charter Party. If it is for a particular voyage, the contract is known as **voyage** Charter, whereas if it relates to a specified time period, it is known as Time Charter.
- 2) Having booked the cargo to be **carried**, the shipper obtains a 'Shipping Order' from the shipping company or its agent. This is an order **hereby** the captain of the ship is asked to receive on board the ship specified goods from the shipper.
- 3) At this stage, to comply with customs **formalities**, you have to fill up Shipping Bill in triplicate and submit to the customs **office**, which **scrutinizes** the Bill and passes an

order for export of **the goods**. Then you have to pay warfare at the office of the port trust upon which a *Customs Export Pass* is issued to the shipper.

- 4) You have to deliver the goods at the dock and receive *Dock's Receipt*. When the goods are loaded, the Shipping Order and the Shipping Bill are to be handed over to the Mate, the captain's assistant. After checking the number of packages and packing, the Mate issues a receipt to the shipper, known as the *Mate's Receipt* which is *an* acknowledgement of receipt of the goods specified in it on board the ship.
- 5) The Mate's Receipt is a provisional receipt which has to be produced at the office of the shipping company for obtaining the *Bill of Lading*. This is a document which is *issued* by the master of the ship or the ship owner or an agent, stating that the goods *mentioned* in it have been taken on board the ship for transportation as per terms and conditions specified in it. The Bill of Lading, besides being an acknowledgement of receipt of the goods, also serves as a contract of affreightment and as a document of title to the goods. It is freely transferable by delivery, with or without endorsement, and the transferee, as a holder in due course, obtains a valid title to the goods.
- 6) A freight note is then sent to the shipper giving details of the freight payable on the consignment plus a charge for supervision of the loading, known as *primage*. *Payment* of the amount *may* be arranged by the shipper. However, if the freight is to be paid by the consignee, the Bill of Lading is marked 'Freight Forward'.
- 7) When the consignor (exporter) has shipped the goods, he sends an advice note to the consignee (importer) intimating the date of shipment and the probable date by which the ship is likely to reach the port of destination. The exporter also draws a bill of *exchange* on the importer for the full amount as per the invoice of the goods sent. Along with the bill of exchange, exporter also sends the invoice, bill of lading, insurance policy, etc. These are forwarded to a branch or agent of the exporter's bank, with the instruction that the documents may be handed over to the importer either on acceptance or payment of the *bill* of exchange.
- 8) When the ship has reached the port of destination, the importer has to arrange *payment* of the freight, if it has not been already paid by the shipper. The shipping company *then* makes an endorsement on the back of the Bill of Lading which is *known as* 'Endorsement for Delivery'.
- 9) At the same time, a Bill of Entry giving details of the **goods** is prepared by the importer in the form supplied by the customs authorities for payment of customs duties, if the goods are dutiable. He is also supposed to pay Port Trust dues and obtain a receipt.
- 10) Delivery of goods is finally obtained when the above formalities have been *completed* and the documents of title to the goods are surrendered.

Advantages

Transportation of goods by sea or ocean is relatively more economical for bulky goods to be carried over a long distance. This is because there is no necessity of constructing or *maintaining* tracks on sea routes. Countries with a long coast line as India, can also make use of sea transport for movement of goods by coastal shipping.

Disadvantages

Although sea transport is the only means of transporting goods economically where land connections do not exist between countries, it is a relatively slow-moving means of transportation as compared with air transport or land transport. Moreover, seas and oceans in some parts of the world *e.g.*, in Northern Europe (Scandinavia), North America, etc., are not navigable round the year, Although modern devices have made such waterways navigable, but it is more expensive.

Sea transport is obviously the cheapest mode of transport particularly for heavy and bulky goods. However it is not so suitable, even though cheap, for the fast movement of goods. None the less, it is indispensable for trade between countries which are separated by seas.

15.5.4 Air Transport

Though air transport is largely used for passenger traffic, its importance as a mode of transport for goods is no less. Its use has considerably increased as a result of the large cargo planes. Besides, certain categories of goods like perishable items, costly goods of light weight as well as products like sensitive electronic goods and ready made garments are now transported by air.

Procedure

For sending goods by airways, the consignor has to prepare an air *Consignment Note* which is a document containing particulars such as the number of packages, method of packing, marks on the packages, weight, quantity, volume, freight to be paid, party to pay, value of the goods, make and address of the consignor and the consignee, the place of departure and destination, etc. The Air Consignment Note has to be prepared in three parts. One part is signed by the consignor and marked 'For the Carrier'. The second part is signed by the airways and the consignor and marked 'For the Consignor'. The third part is signed by the airways as an acknowledgement of the goods received for carriage. This is forwarded to the consignee who is to receive delivery of the goods at the destination.

Advantages

Transport by air has certain distinct advantages to the user. The airways follow the shortest and the most direct route for carrying goods. It is the speediest means of transport. Where time is valuable, airways constitute the only choice. The transport cost which is relatively higher is compensated by quick delivery of goods, increased turnover, reduced inventory holding and storing cost.

Disadvantages

There are two serious limitations of air transport. One is that transport of bulky goods of small value involves prohibitive costs. Secondly, unfavourable weather conditions may delay flights,

Suitability

Air transport is the most expensive means of transport. But it is the speediest means and provides the quickest means of transportation. Hence it is most suitable for the transport of perishable goods, articles of high value and low volume as well as items urgently needed, such as life saving drugs, spare parts of machinery or electronic components.

15.5.5 Miscellaneous Modes

Besides roadways, railways and airways, liquids are transported through pipelines also. Moreover, postal services and courier services also provide facilities for transport of goods. However, these courier service agencies make use of rail, road and air transport for carrying goods. Let us discuss about courier each of these modes in detail.

Pipelines

One of the most economical means of transporting crude petroleum and oil products, natural gas, and coal gas is through pipelines. Though heavy capital expenditure is involved for constructing the pipeline, the recurring expenditure to maintain it is very low. The volume and the duration of supply (long duration) of oil/gas justify the capital expenditure on construction of pipeline. Although waterways may cost less than pipelines, navigable canals and rivers are not there

between many places. Thus, use of water transport for oil is restricted. There are several examples in India where pipelines are used to transport petroleum. **Imported** crude petroleum is transported by 1,222 Km long pipeline from **Salaya** in the **Gulf of Kutch** to Koyali and **Mathura** refineries via Viramgam in Gujarat. Oil wells in Naharkatiya are connected by pipelines with refineries at **Nunmati** in **Assam** and **Barauni** in **Bihar**. **Coal** gas is transported from **Durgapur** to Calcutta by pipelines.

Postal Office

Postal service undertakes transport of parcels of goods within India and abroad by surface **mail** or air **mail**. Parcels may be registered or unregistered. However for a parcel weighing **4 kg. or more**, registration is compulsory. For registered parcels, acknowledgement of the consignee **is also** available to the sender by post. For this purpose the parcel has to be sent within 'Acknowledgement Due' and an additional amount is charged to the postage payable.

Another facility provided by the postal department is the **speed post service** whereby parcels **can** be sent to selected destinations within and outside the country very quickly. Large post offices in the major cities of India offer this service. Postage is to be paid by the sender. Charges **are very** high and vary according to the weight of the parcel and destination.

High volume users are given special privileges, such as delivery under contract to any **place in** India, even a remote village or a far flung town. Besides, regular users can avail of the **facility of** scheduled pick ups from their own premises at no extra charge. Credit facility is also given to high volume users who can pay only once a month.

Advantages: Postal service, as a means of transport, has the following advantages : (1) It is a convenient means of transport where the quantity is small and the volume is low. (2) Post Offices are located mostly near market places. Hence despatch of parcels can be arranged easily. (3) Parcels are delivered at the doorstep of the addressee's. (4) The parcel may also be sent under VPP (Value Payable Post) and the amount due from the consignee can be realised by the sender through the post office. (5) Main advantage of the speed post service is the assured and speedy delivery of goods.

Disadvantages: The disadvantages of postal services are: (1) Sending large quantities of goods by parcel post is more expensive than rail or sea transportation. (2) The maximum weight of a parcel peimitted is 20 kg. The packages should not to be more than one metre long. Thus, heavy and bulky goods cannot be sent by parcel post. (3) The main disadvantages of speed post service are that it is very expensive and is available at selected places only.

Suitability:-On the whole, postal service is useful for sending small quantities urgently, where such quantities are **uneconomical** to carry by other modes such as trucks, trains or ships. For bulky and heavy goods, parcel post or speed post are expensive and not ordinarily found suitable means of transport.

Courier Service

Many private agencies known as couriers operate from different cities and towns and undertake to carry goods to places within the country and abroad. The courier service actually involves transportation of goods by **road/rail** or airways. For short distances, mostly **within town/city**, they use messengers. Quick and assured delivery is the main advantage of courier service. It also provides the pick up service at no extra charge. The limitations of courier service are it is quite expensive, and available only in cities and towns between which traffic is regular and substantial.

15.6 CHOICE OF MODE OF TRANSPORT

We have already discussed the advantages and disadvantages of various modes of transport and their suitability. Naturally, which mode of transport should be chosen by a business firm will depend upon the nature, weight, bulkiness and volume of goods to be transported. Generally four

major factors viz., **cost**, speed, flexibility and regularity of the service influence the choice of a particular mode. Let us discuss these factors briefly.

Cost

The most important factor **is** the cost of transport. Sea transport is by far the cheapest **means** of transporting bulky and heavy goods, provided the speed of carriage is not an essential requirement. Rail **transport** is also a relatively cheaper mode of transport for heavy and bulky goods to be carried over long distances: It is also speedier than sea transport. But **transport** by rail is possible only when places are connected by railways. Transport by motor trucks is cheaper and speedier than rail transport for small consignments over short distances. But the cost of road transport by trucks is higher **than** that of rail transport for bulky goods of small value to be carried over long distances. This **is** due to the limited carrying capacity of trucks. Air transport is the fastest mode of transport but it is also the costliest mode. Its use is thus restricted to the carriage of perishable goods, valuable goods or spare parts of machinery urgently needed.

Speed

As regards speed of transport, motor transport **by** road is speedier than rail transport over short distances. But railways are potentially a speedier means than road transport for long distances. The quickest **mode** of transport is of course, air transport, and the slowest is water transport.

Flexibility

While choosing a **particular** mode of transport, you have to consider the **flexibility** of service also. In this respect, road transport is the most flexible mode. Carriage of goods by motor trucks is possible between all places. Goods can be picked up and delivered at any point and loading as well as unloading **can** be arranged at any convenient time. Rail transport is relatively less flexible, as it is **generally** available for carriage of goods only between certain definite places. Sea transport provides services only between sea ports and to that **extent** is inflexible, but it is indispensable for trade between countries without common land frontiers. Air transport is also inflexible as a mode of transport. Carriage of goods is possible only between airports which are fewer and far between.

Regularity

In the case of rail transport, regularity of service is most assured. The scheduled movement of railways is relatively less affected by weather conditions. Motor trucks may or may not have scheduled services but transport by trucks is somewhat affected by bad **weather** conditions. Sea transport is also available according to some schedule. Only in certain parts of the world, storms and freezing of sea water may affect this mode of transport. Air transport is also available according to a **fixed** schedule but the services are **very** much affected by weather conditions.

Check Your Progress B

1. Which of the following statements are true and which are false ?
- a) Both road transport and rail transport can be arranged for varying quantities of goods.
 - b) Higher freight is charged for goods sent by railways at owner's risk.
 - c) For heavy and bulky goods, rail transport is cheaper than road transport irrespective of the distance.
 - d) Mate's Receipt is issued when goods are loaded and the Shipping Order and the Shipping Bill are handed over to the mate of the ship.
 - e) The Bill of Lading serves as a document of title to the goods carried by a ship and hence it is not transferable.
 - f) High cost of air transport is compensated by reduced inventory holding and storing cost.
 - g) Sea transport is ruled out for transportation of petroleum due to the low cost of transport by pipelines.
 - h) Speed post service is available only at selected cities.

i) Choice of the mode of transport is mainly determined by the cost and speed of carriage, and less by flexibility and regularity of service.

2. Prepare a chart showing the relative merits and shortcomings of road and rail transport.

Road Transport	Rail Transport
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3. Define the following terms:

i) Air Consignment Note
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ii) Railway Receipt
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iii) Bill of Lading
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iv) Charter Party
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v) Demurrage
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vi) Primage
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vii) Bill of Entry
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viii) Shipping Bill
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15.7 CONTAINERISATION

Containerisation refers to the technique of using specially made containers for transportation of goods. It involves carriage of goods in large box like containers that can be loaded and unloaded to and from trains, trucks, ships and air crafts by mechanical devices instead of manual labour

being engaged in transferring packaged lots. Actually, **containerisation** is **intended** to eliminate manual handling of cargo, **mechanising** the operation and ensuring automatic control over transfer of goods in containers from storage to carriers and from one type of carrier to another. Containers can be hauled by trucks to railway yards, docks or airports and can be transferred readily to rakes, flatcars, **ships** or airplanes, **thus**, the main advantage of containerisation is its adaptability to **efficient** transfer between different modes of transportation. The transfer can be made by mechanical devices **with minimum** use of manual labour. For sea transport, operation of larger and faster general cargo vessels has become possible due to containerisation. **Specialised** container ships are required for the purpose, and it involves heavy capital expenditure. Even then **it** is found economical since loading big containers is easier, less time consuming and less costly **compared** with loading of small boxes or pieces.

Movement of cargo by air may also be possible more conveniently with the prospect of containerisation enabling goods to be loaded and unloaded using highly automatic mechanical devices. However, it remains to be seen whether it is economically feasible to operate huge air freighters which are required to cany containerised cargo.

In the West European countries and the United States, containerisation has become an integral part of the transport system. **It** is gradually gaining ground in India. At present Inland Container Depots (ICDs) serve as dry ports to promote exports and imports from and to inland locations. In **India**, presently ICDs function at **seven** places : Bangalore, **Guntur**, Anaparti, Coimbatore, New Delhi, **Aimngaon (Guwhati)** and Ludhiana. Besides, there is a Container Freight Station (CFS) at **Patparganj** in Delhi, for consolidation and dispersal of less than container load cargo. The highly **computerised** and automated Jawaharlal Nehru Port at **Nhava** Sheva is linked with the **ICD** at Delhi. A public sector enterprise namely Container Corporation of India was set up in 1988 under the administrative control of the Ministry of Railways. The main objective of this Corporation is to bring containerisation to hinterland, and to set up a network of ICDs and **CFSs** all over the **country** to serve as dry ports in order to promote multi-modal transport of containers between gate-way ports and inland locations.

15.8 CLEARING AND FORWARDING AGENTS

Clearing and forwarding agents are generally engaged by importers and exporters to comply with various formalities prescribed by the customs and port authorities for goods to be imported or exported. Clearing agents not only undertake to complete all the formalities for receiving delivery of the **imported** goods, but also to deliver the goods at the importer's warehouse. They charge a **commission** for all their services. Importers find it worthwhile to entrust the work to clearing agents instead of employing separate staff for the purpose.

Forwarding agents **are** similarly engaged by exporters to comply with the customs formalities **and** other requirements of the port and dock authorities in connection with shipping goods for export. Forwarding agents are also engaged to look after the arrangements for transportation of goods from the exporter's premises to the dock or ship. Consignment and despatch of goods within the country are often arranged by merchants with the help of forwarding agents. Their **services** are rendered for a commission on fixed charge which vary with the volume and nature of goods.

15.9 WAREHOUSING

Warehousing refers to the storage of goods on a large scale and as a specialised function. It involves providing facilities for preservation of goods in proper condition so **as to** prevent loss or damage, and making the goods available to traders or dealers for sale. Warehouses are places where storage facility exists. Thus, warehousing is an essential aid to trade or ancillary of trading activity. **It** creates both time and place utilities, as goods stored in warehouses can be available whenever and wherever needed by buyers. Manufacturers, wholesalers as well as dealers can **make** use of warehousing facilities to bridge the gap between **the** time when goods are procured or manufactured and the **time** they are demanded by customers. The warehousing also arised **from** the modem systems of production and distribution of goods. Large scale production generally takes place in anticipation of demand for goods, but not necessarily in response to

specific orders of customers. Such goods cannot be sold immediately after production. The manufacturers thus need adequate facilities for storage of their products to meet the demand schedule of customers.

Again, there are certain products which have seasonal demand, but produced **throughout** the year. For example, woolen mills have to keep wool or woolen textiles in storage until the winter season. Many agricultural crops like wheat, cotton, tobacco, rice, etc., are harvested during specific seasons while they have continuous demand throughout the year. Thus, storage is necessary in all such cases. Warehousing enables wholesalers to buy goods in bulk **from** manufacturers and sell the same in small lots to retailers. Warehousing also performs the function of price stabilisation. Prices normally go down due to excess supply and increase due to shortage. Fall in price can be controlled by storing the excess supply and also price rise can be **minimised** by supplying the product from storage. Storage may enable better prices to be secured by the producer or wholesaler as supply can be adjusted **to** demand.

15.9.1 Types of Warehouses

There are three types of warehouses which provide facilities for proper storage of goods:

- 1) **Bonded Warehouses**
- 2) Public Warehouses
- 3) Private Warehouses

Let us examine the nature and characteristics of each of three categories.

Bonded Warehouses are those which are located in or near ports where imported goods are stored till importers fulfill all formalities and take delivery of them. Actually when an **importer** is unable to take delivery of the goods by paying the required customs duty, the customs authorities permit the goods to be kept in a bonded warehouse, and allow delivery as and when the duty is paid.

The bonded warehouses are licensed specially for storing imported cargo on which customs duty is yet to be paid. Goods stored are said to be 'in a bond'. These warehouses are generally owned by government, but can also be privately owned in which case they are subject to government supervision and control.

Bonded warehouses enable importers to pay customs duty on the goods as and when it is convenient. The import duty is not required to be paid on the entire lot at the same time. Delivery of a part of the goods be taken on payment of the proportionate amount of duty. Besides, these warehouses also can provide services of branding, blending and packaging, **thereby, facilitate** re-export of the same. Moreover, buyers are allowed to inspect the goods there. Thus, importers can recover the amount of duty included in the price when the goods are delivered directly to the buyers.

Public Warehouses are those which provide warehousing facilities to manufacturers, producers, as well as traders on payment of specified charges. These warehouses are located at favourable sites on railway routes and **highways** and near ports. Railway sidings are also provided with many of these warehouses.

Public warehouses are privately owned by organisations, as well as by the central and state governments. The Central Warehousing Corporation of India, established in 1957 by the **Government** of India, operates public warehouses at centres of all India importance. There are State Warehousing Corporation which **run** public warehouses at the state and district level. Besides, co-operative warehouses are also existing. Privately owned public warehouses are allowed subject to certain government regulations. Public warehouses run by dock authorities facilitate storing of goods which cannot be immediately shipped on reaching the port, or imported goods where importer is not able to take immediate possession. Mechanical handling of heavy goods is **also** possible at warehouses on railway routes and at ports.

Small scale manufacturers and traders cannot afford to build warehouses of their own and can make use of public warehouses located in different regions. The receipts issued by public warehouses are accepted by banks as collateral security for loans granted. The warehouses also provide the facilities of grading, blending and packaging. These warehouses also undertake loading and unloading of goods, and arrange delivery according to the owner's direction.

Private Warehouses are owned by large manufacturers and wholesalers for storing goods of their own. The maintenance of these warehouses is the responsibility of the owners. These warehouses are not available to the traders and producers in general and hence **have limited usefulness**.

Check Your Progress C

1. Which of the following statements are true and which are false ?
a) Containerisation is possible only in sea transport.
b) Forwarding agents may act on behalf of exporters as well as merchants for domestic consignments.
c) Warehousing is essentially concerned with storage of goods.
d) All private warehouses are owned by large scale manufacturers.
e) Buyers can inspect goods in bonded warehouses.
2. What is 'Containerisation' ?
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3. What is a bonded warehouse ?
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4. Why is a public warehouse so called ?
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15.10 LET US SUM UP

Transportation involves carriage of goods from places of production to places of consumption. Thus, transport services remove the barrier of distance that separates producers from consumers and creates 'place utility'. Transport helps raw materials and goods to be carried to places within a country as well as places abroad.

A good transport system should be economical, that is, involve minimum cost, fast moving, flexible enough for goods to be loaded and unloaded conveniently, and regular in operation. Besides it should provide for insurance of the risks of loss or damage in transit.

Road transport, Rail transport, sea transport and air transport are the principal modes of transport. Road transport by motor trucks is most suitable for carriage of small consignments of goods over short distances. For transporting heavy and bulky goods over long distances, railways are better suited. Sea transport is the cheapest mode for carrying **bulky** and heavy goods . It is the only mode of transport available where there is no road or rail connection between countries. Air transport is most suitable for carriage of perishable goods, high value and low volume goods, and **emergency** supply of goods. It is the speediest mode of transport but is also the most expensive. Pipelines constitute another mode of transport. It is most economical and **useful** for transporting liquids and gases such as petroleum products, natural gas, coal gas, **etc.** Parcels and packaged goods can be sent through post offices for destinations within the country and abroad, provided the weight and size of the parcels are within permissible limits. **Post** offices offer 'speed post' service from **selected** centres to ensure quick delivery. Private agencies known as couriers

provide similar services for sending parcels. However, the appropriate mode should be chosen on the basis of the cost involved, the speed of transport, flexibility and regularity of services.

Containerisation is the technique of transporting goods in large box like **containers** which can be moved by mechanical devices to and from ships, railways, **trucks** and aircrafts.

Clearing and forwarding agents are generally engaged by importers' and exporters to comply with the various formalities prescribed by the customs and port authorities for obtaining delivery of imported goods or shipping goods for export.

Storage of goods on a large scale undertaken as a specialised function is known as warehousing. It consists of all arrangements for storing goods in proper condition **and** protecting the goods from loss or damage till required by the owners. Warehousing results in the creation of both time and place utilities. There are three types of warehouses **viz.**, bonded warehouses, public warehouses and private warehouses. Bonded warehouses, located at or nearer to ports, are used by importers for storage of imported goods before payment of customs duty. Delivery of the goods can be obtained as and when customs duty paid. Public warehouses provide storage facilities to manufacturers, wholesaler and traders on payment of prescribed rent or charges. These warehouses are generally located at **favourable** sites on railway routes and high ways, and are operated by private parties or the government. Private warehouses are owned and run by large manufacturers or wholesalers for storage of their own goods.

15.11 KEY WORDS

Air Consignment Note: A document to be submitted by the consignor of goods by airways containing all particulars relating to the goods, one part of which is signed by the airways in acknowledgement of the goods received for carriage and has to be forwarded to the consignee to receive delivery of the goods.

Bill of Entry: A document continuing details of goods imported which is prepared by the importer for payment of customs duty.

Bill of Lading: Document issued by the ship owner or captain of the ship in acknowledgement of the goods taken on board the ship under the terms specified in it.

Bonded Warehouse: Warehouse for storage of imported goods on which customs duty is yet to be paid.

Clearing Agent: One who is engaged by importers for getting delivery of imported goods after complying with the necessary formalities prescribed by the customs and port authorities.

Charter Party : A contract for hiring a ship or a part of it for a particular voyage or specified period.

Demurrage: Extra charge payable to the railways when the consignee delays taking **delivery** of the goods at the destination.

Forwarding Agent : One engaged, on behalf of the exporter, to comply with the customs and other formalities in connection with export of goods.

Linear Ship which undertakes regular voyages between ports according to a fixed schedule.

Mate's Receipt : Receipt issued by the Mate of a ship in acknowledgement of the goods having been received on board the ship.

Primage : charge payable for supervision of the loading of goods on board the ship.

Railway Receipt: Acknowledgement receipt issued by the railways for goods received for carriage, which has to be presented by the consignee for taking delivery at the destination.

Shipping Bill: A document which contains the order passed by the Customs office for export of goods.

Shipping Order: Written order issued by the shipping company to the captain of a ship to receive the goods specified in the order on board the ship.

Time Charter: A contract for hiring a ship for a specified period.

Tramp: A ship which does not have any fixed schedule or itinerary of voyage.

Voyage Charter: A contract for hiring a ship or part thereof for a particular voyage.

Warehouse: A place providing facilities for proper storage of goods on a large scale and as a specialised function.

15.12 ANSWERS TO CHECK YOUR PROGRESS

- A. 1. (a) True (b) False (c) False (d) True
2 (a) Place (b) Buy/Sell (c) Procuring (d) Quality standard
- B. 1 (a) False (b) False (c) False (d) True (e) False (f) True (g) False (h) True (i) False
- C. 1 (a) False (b) True (c) True (d) False (e) True

15.13 TERMINAL QUESTIONS

- 1. Explain briefly the advantages and disadvantages of road transport. What are the circumstances in which roadways are more suitable for transport of goods than other modes ?
In what respects is rail transport superior to road transport? What are the limitations of rail transport ?
- 3. What are the essential features of a good transport system ? briefly explain.
- 4. What are the factors to be taken into account while selecting the mode of transport for goods ?
- 5. 'Sea Transport is the cheapest means of transport'. Why ? Outline the procedure to be followed for transport of goods to a foreign country by sea.
- 6. Discuss the role of clearing and forwarding agents in connection with import and export of goods.
- 7. Briefly explain the usefulness of warehousing as an adjunct of trading operations.
- 8. What is a bonded warehouse ? What purpose does it serve ?
- 9. Write notes on:-
 - a) Railway Receipt,
 - b) Mate's Receipt,
 - c) Bill of Lading,
 - d) Air Consignment Note
 - e) Shipping Bill,
 - f) Public Warehouse
- 10. What are the advantages of air transport? What are its disadvantages ?

Note : These questions will help you to understand the unit better. **Try** to **write** answers for them. But do not submit your answers to the University for **assessment**. These are for your practice only.

SOME USEFUL BOOKS

Gartside, *L. Commerce - A Guide to the Business World*, Pitman Publishing, London.

Ghosh, *P. K and Y. K. Bhushan, Business Organisation and Office Management*, Sultanchan Co., Delhi.

Singh *B. P and Chhabra, T. N. Business Organisation and Management*, Dhanpat Rai & Sons Delhi.

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