UNIT 4

Logistics Management and Information Technology

4.0 Unit Overview & Description

The unit is expected to provide information about Information Technology and Logistics, use of information technology in logistics, different latest technology. It also helps to understand about the kind of documentation used in domestic and international trade cargoes including international chamber of commerce term. Moreover, the unit also provides information about sea borne trade, ports and ships management in India, logistics and supply chain uses in world industry.

Knowledge and Skill Outcomes

The unit is expected to impart the following knowledge and skill:

- Exposure to information technology and logistics.
- Understanding the use of domestic and international trade cargoes documentation.
- Develops awareness relating to INCO -International Chamber of Commerce Terms.
- Provides exposure to sea borne trade and ports and ships management in India.
- Helps to understand logistics and supply chain uses in world industry.

Resource Material

1. Nabhi's Board of Editors: How to Export 2012, 19th Edition August 2012, Nabhi Publications, New Delhi.
2. Nabhi's Board of Editors: Exporters Manual and Documentation 2009, Nabhi Publications, New Delhi.
3. Sople, Vinod V., Logistics Management: The Supply Chain Imperative, Pearson, New Delhi (2010).
4. Muthiah Krishnaveni, Logistics Management and World Sea Borne Trade, 2nd Edition; Himalaya Publishing Books, New Delhi (2001).
5. Reji Ismail, Logistics Management, Excel Books, New Delhi (2008).

Learning Outcomes

Unit IV	Logistics Management and Information Technology	Outcomes
4.1	Information technology and logistics.	Explain relation between logistics and information technology.
4.2	Consignment note.	Discuss the new terms of technology in logistics. Write down important documents used in domestic and international trade cargoes. Discuss the different international chambers of commerce terms.
4.3	Sea borne trade and ports in India.	What is the importance of sea borne trade. Discuss ports and ship management. Write down the utility of logistics and supply chain in world industry.



Assessment Plan

Unit IV	Topic	Assessment Method	Time Plan	Remarks
4.1	Information technology and logistics.	Exercise: Q & A, Match the following, T & F		
4.2	Consignment note.	Exercise: Q & A, Match the following		
4.3	Sea borne trade and ports in India.	Exercise: T/F, Fill in blanks, Match the following		

4.1 Information Technology and Logistics

It has become appallingly obvious that our technology has exceeded our humanity

- Albert Einstein

Technology is playing a major role in the operational effectiveness and efficiency of various functional areas of management. It helps in real-time information processing and analysis. As a result, accuracy and speed in material and information flow in the supply chain has increased manifold leading to productivity, effectiveness and efficiency in logistics operations.

Many new technologies in logistics are in use in the developed countries, while in India the adoption process is a bit slower. Competitive pressure is building up and the only option for

competitiveness is to go in for technology enabled operations. Latest technologies used are in the areas of:

1. Automatic Identification
2. Communication
3. Material Handling
4. Facility Design

The World Wide Web is responsible for a transformation of the global economy and with it the supply chain management practices.

In increasingly competitive business environments, driven by customers growing demand for service, speed and customization, the ability to deliver becomes the key differentiator. Customers expectations have been shown to increase as their level of sophistication increases. Net result is that companies are paying far more attention to their customers need than ever before.

A second driver is technology which has enhanced the capability of companies to connect with their suppliers and customers. Leveraging the power of technology has facilitated a move toward real time visibility and optimization of the supply chain.

4.1.1 Customer -Centric Value Web Models

Figure 4.1: E-Commerce Sites

Figure 4.2: Name of Some More E-commerce Sites

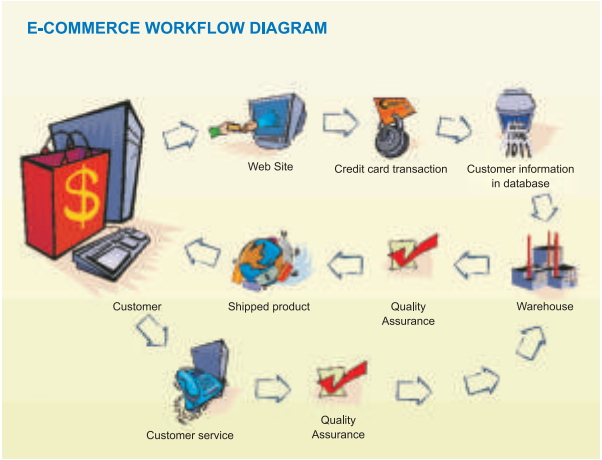

Figure 4.3: Work Flow Diagram of E-Commerce

The power of the internet to deliver convergence, speed and connectivity has changed many customers expectations toward suppliers. Customer - Centric Value Web Model reveals that the internet has the ability to connect everyone, everywhere, in real time. Traditional supply chain boundaries are disappearing, to be replaced by a merging of activities and processes in areas such as manufacturing, distribution and transportation. The end result is that the traditional, liner supply chain model is being replaced by new customer centric approaches.

Customer- centric supply chain model enables:

- Global visibility of customer, product, or supply information throughout the supply chain.
- Enhanced customer relationships leading to repeat business through fast, accurate and professional customer response services.
- Flexible infrastructure and partnering.
- Analytical assessment and optimization of material movement, price, placement actions on demand.
- Co-ordinated, rapid decision making environment that synchronizes the global supply chain.
- Disintermediation diminish the involvement of certain traditional firm in the supply chain.



Contemporary Technologies

- GPRS
- Bar Coding
- EDI
- Imaging
- RF Technology

4.1.2 Automatic Identification Technology

Automatic Identification (Auto Id) is the term used to describe the direct entry of data or information in the computer system, programmable logic controllers or any microprocessors-controlled device, without operating a key board. Auto-Id includes such technologies as bar coding, radio frequency identification technology (RFID), data communication, magnetic strip and voice recognition.

Benefits of Auto-Id are many such as:

- **Accuracy:** Error-free data entry is possible ,as there is no human involvement.
- **Cost Saving:** Reliable and correct information is made available to reduce the risk element in decision making on resource allocations. The technology also facilitates economies of scale for voluminous and repetitive operations.

- **Speed:** Voluminous data can be stored, retrieved and transferred within a fraction of a second.
- **Convenience:** These technologies are user-friendly and provide ease in connectivity to a wide range of processing and controlling equipment.

4.1.3 Bar Code

Bar codes are used for identification, handling, retrieval and storage of goods in warehouses and stores. It is the most popular identification technology in many applications.

- Bar code is assigned to a particular inventory items to show its identity during storage, retrieval and dispatch.
- Bar codes are also used for communication of dispatched items for the preparation of bills by accounts departments and making periodic reports on inventory status and sales.
- It facilitates the tracking of specific items in the warehouse during inventory audit or material pick-up.
- Information that may be required generally relates to the country code, manufacturer's name, product details, date of manufacture, material content etc.
- Bars are nothing but items of information in codified form which can be decodified or read with the help of a scanner.



4.1.4 Commercial Use of Bar code

Bar code was first used in the US supermarkets in 1952, whereas food stores used it in US on trial basis 1960. It is presently used in all industries. Besides speed, accuracy and reliability, they offer following advantages:

- Easy identification
- Reduce paperwork and processing time leading cost reduction.
- Eliminate human error
- Increase productivity of the warehouse
- Facilitate system automation

Bar codes are described by the symbologies used. Symbologies means the pattern of lines and spaces used within the bar code to represent a no. or an alphabet. There are 260 symbologies available for different applications.

The various barcode symbologies differ in the way they represent data and in the type of data they can encode. Some symbologies can encode numbers, while others both numbers and letters, and some can encode letters, numbers as well as characters i.e. ASCII Codes.

Bar code symbologies divided into three:

1. **Linear:** Consists of a single row of bars.
2. **Stacked:** Several rows of bars and spaces and can be read by a multiple ID scanner with moving laser beam.
3. **Matrix:** A polygonal array of data cells and are read from a 2D image scanner.

Scanners are used for automatic identification of the bar code.

Pattern of bars and spaces reflect the light pattern, which is converted into electronic signals to be decoded by the computer with reference to the memory file in the computer system.

- Two type of Scanner:
  1. Contact Scanner-zero depth field
  2. Non-contact scanner

Figure 4.4: Different Bar Code

Figure 4.5: Bar Code

4.1.5 Radio Frequency Identification

It is one of the preferred forms of auto-identification of goods in manufacturing, retailing and logistics industries. Such identification relies on storing and remotely retrieving data using device called an RFID tag or transponder. The tag is an object that can be applied to or incorporated into a product, animal, or person for the purpose of identification using waves. RFID tags contain at least two parts.

1. One part consists of an integrated circuit for sorting and processing information, modulating and demodulating RF signals and other specialized functions.
2. The second one is an antenna for receiving and transmitting the signal. It is also used in transportation of payments.

The payment card can be recharged with cash at an add-value machine or in the shop and can be read several centimetres from the reader.

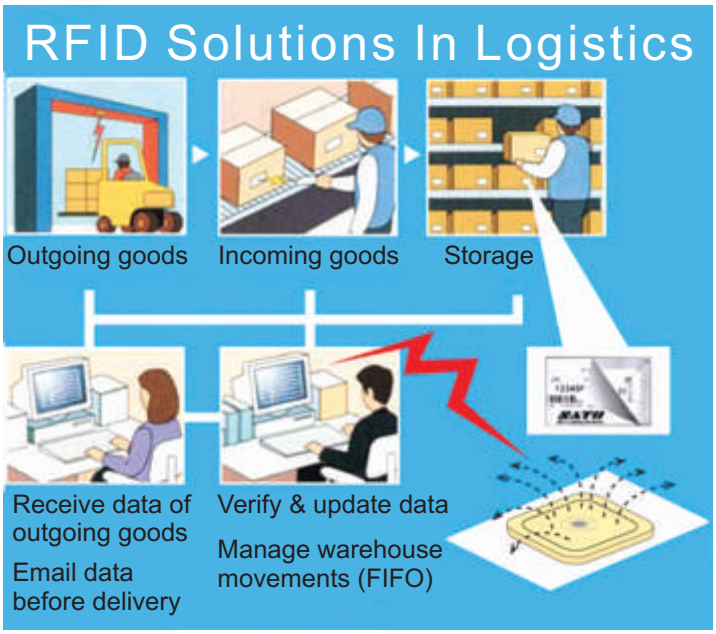

Figure 4.6: RFID and Logistics

4.1.6 Radio Frequency Tags

RFT are used as an alternative to bar codes for communicating inventory data to the readers via radio waves. The reader is connected to the central computer. RFTs are pieces of silicon chip to store data in the micro-circuit. They are programmable and have an erasable memory.

Data is stored in coded form and communicated to the reader through radio waves. RFTs are available in passive or active form.

RFTs consist of two key components, namely tags that act as data carrier and reader or antenna, which transfers information to and from tag.

The basic principle of the tag is that the antenna emits radio signals.

RFTs are very useful accompaniments to truck shipments.

The tag contains information on consignor, consignee, inventory items, quantity and value. RFT scan be helpful for quick clearances at octroi or customs post.



Review Questions

I. Write True or False against each statements:

a) Technology helps in real time information processing and analysis.

b) Very few technologies in logistics are in use in developed countries.

c) The World Wide Web is responsible for a transformation of the global economy.

d) GPRS and Barcoding is an old fashioned technology.

e) Automatic Identification (Auto 10) is the term used to describe the direct entry of data or information in the computer system.

II. Question and Answer:

1. Discuss the role of technology in supply chain and logistics.

III. Match the following statements:

1.	Benefits of Automatic Identification is	:	Used for identification stores and storage of goods in stores.
2.	Bar Code	:	Convenience.
3.	Symbologies Means	:	Preferred forms of auto identification of goods in relating and logistics industry.
4.	Radio Frequency Identification Tag	:	Used as an alternative to bar codes for communicating inventory.
5.	Radio Frequency Tag (RFT)	:	The pattern of lines and spaces used within the barcode to represent a number or an alphabet.

IV. Activity:

Visit to a transporter company in your city / town to know the latest technologies they are employing in their logistics operation to discuss in the classroom.



4.1.7 Domestic Cargo Documents

Documentation plays a vital role in the process of transport industries from the pick up of the consignment until it reach in the hands of consignee.

Transport documents are issued by the transport company to the Consignor, consignee, driver or owner of the truck.

Reasons for issue of documents:

1. For accepting the consignment for transportation (C/N)
2. For Money Received(Bill)
3. For hiring the truck from the market(LHC)
4. For delivery of goods(POD)
5. For damages of consignment during the transportation (C.O.F.)
6. For payment of hired Lorry(LHC final payment copy)

Some of the important documents

Consignment Note:

It is fill up by the booking authority at the time of booking.

The consignment note is a document issued to the consignor in evidence that the goods have been received for transportation on specified terms and conditions.

4.2 Consignment Note

Consignment note is prepared in 5 copies. Each copy is distributed as follows:

1. Consignor Copy
2. Consignee Copy
3. Lorry
4. Corporate Office
5. File Copy

4.2.1 Types of Consignment Note

1. **Carrier's Risk:** Under carriers risk the company is fully responsible for any loss or damage of cargo. Even if such loss or damage is not due to the negligence yet the company is liable for such damage. The company will settle all claims made by the customer.
2. **Owner Risk:** If cargo is booked under owner risk, the company is not responsible for any damages that may have occurred. Only if it is proved that such damage was caused due to the negligence and carelessness then the company is liable for such damage.



4.2.2 Importance of CN

- On the basis of CN challan is prepared.
- It helps in receiving goods.
- Delivery of consignment is given on the basis of consignee copy of consignment note.
- It is helpful of getting insurance claim.
- It provides information about freight.
- Marking on consignment is done on the basis of information given in consignment note.

4.2.3 Goods Forwarding Note

Document is filled by the consignor at the time of booking.

Once this note is signed by the owner of the goods or his agent, it becomes a contract and both parties i.e, consignor and transporter are bound by such contract.

It is a legal document and can be present in court for evidence.

It is an offer from consignor for carrying his goods.

In this document all the particulars relating to his consignment such as value and nature of goods etc. are given.

On the basis of goods forwarding note consignment note is prepared.

4.2.4 Lorry Hire Contract

When a truck is hired from the market for transportation of goods, an agreement is entered into with the owner / driver of the truck. This agreement is called Lorry hire contract.

- **First copy used as:** Voucher for payment of advance lorry at the originating station.
- **Second copy:** Handed over the driver of the truck to take along with him to the destination.
- **Third copy:** It is sent to the destination by post / email.
- **Forth copy:** A file copy for originating station.

Advantage of LHC

- Helpful in rate computation.
- Assist is ascertaining the profit and loss for particular truck.
- It can be produced in court in case of dispute between driver and company.
- Provides information about driver, owner name, broker, rate, advance amount.
- Provides information about the vehicle, ie. RC no., fitness certificate and permits.
- Provide information about insurance.



4.2.5 Trip Contract Sheet

- This document is prepared for the movement of cargo through company own vehicle and used for accounting of expenses incurred such as diesel, unloading etc inclusive of incentive paid to driver.
- When a truck operates on a route, all truck operation activities are accurately logged on trip contract sheet.

Importance of TCS

- Truck route details

Truck operating expenses in respect of:

1. Diesel filling costs
2. Route expenses
3. Enroute expenses
4. Cargo loading / unloading details
5. Fleet portability report and performance details.

4.2.6 Route Permit

- It is document issued by the state authority. It is a kind of permission to operate the truck as per statutory regulations.

- Three kinds of route / road permit.

1. **Temporary Permit:** Issued for specific destination for a fixed duration only from state authority.
2. **Pucca Permit:** Issued for trip within home state.
3. **National Permit:** Issued by state transport authority for three states other than home state.

4.2.7 Truck Registration

- According to MV Act 1988-no vehicle can be driven unless it is registered and the registration mark is displayed in the prescribed manner.
- The vehicle may get registered by the registering authority in the state in which the owner has the residence or business where the vehicle is kept for this purpose.
- RC issued is valid throughout India.
- Issued for 15 years and subsequently renewed for a period of 5 years.

Review Questions

I. Question and Answer:

1. What is the role of domestic cargo documents. Discuss the type of consignment note.
2. Discuss role of route permit and lorry hire contract.

II. Match the following statements:

1.	Consignment Note (C/N)	Once it is signed it becomes contract
2.	Goods Forwarding Note (GFN)	Helpful in rate computation
3.	Lorry Hire Contract (LHC)	Prepared for the movement of cargo
4.	Trip Contract Sheet	Kind of permission to operate the truck
5.	Route Permit	Company responsible for any loss or damage



4.2.8 Need of Documentation in International Trade

For any business transaction, some documentation is required. In case of export trade - it is called export documentation. It is considered most cumbersome part of export marketing.

Importance

- Why is documentation so heavy in export business?
- First purpose to protect the respective interests of both the buyer and the seller.
- Buyer and seller are operating in two different countries ,the commercial practices and legal systems are different.

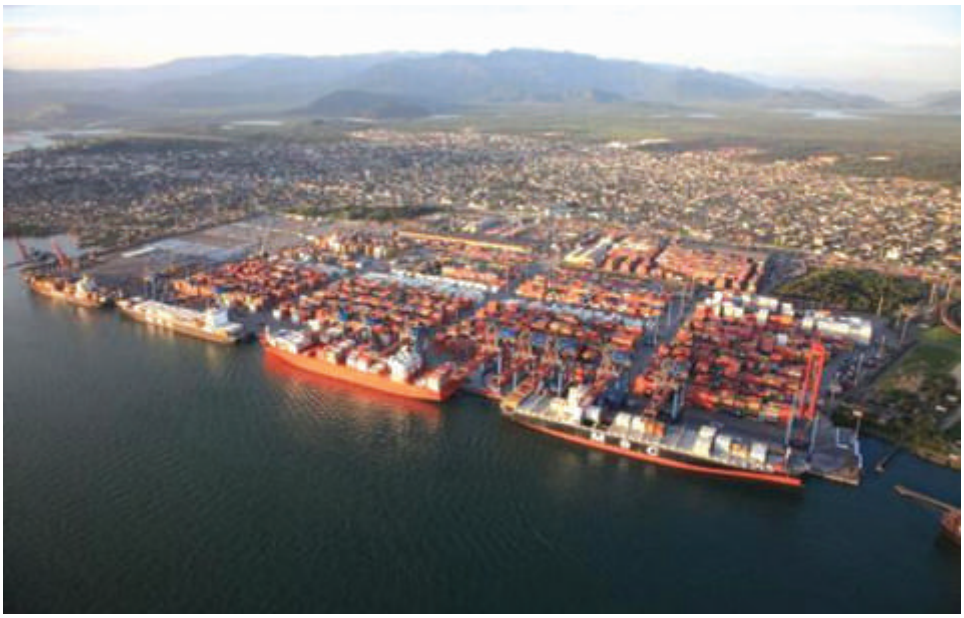

Figure 4.7: Consignment at Sea Port

4.2.9 Legal Issues Concerning Export Documents

All the countries of the world have enacted laws regulating export-import trade as well as movement of foreign exchange to protect their economic and social interests. There is perhaps no country in the world where movement of goods and money is absolutely free.

Under India's Foreign Trade Policy government has listed out products which either cannot be exported or can be exported after obtaining permission from the designated agencies. Compliance with all these regulations necessitates heavy documentation.

Documents are also needed for implementing trade agreements with other countries. Such documentation is linked to the claiming of export benefits. Since these benefits are to be given only to the export activity, documentary proof to this effect is required to be given by the claimant (exporter) to the disbursing authorities.

4.2.10 Classification of Documents

Export Documents can be categorised under three broad heads:

1. Commercial Export Documents
2. Statutory
3. Documents for Claiming Export Benefits

4.2.10.1 Commercial Documents

The commercial export documents also known as shipping documents are documents which are required for:

1. Physical Transportation of goods from the seller to the buyer
2. Transfer of title of goods from the seller to the buyer
3. Transfer of payment for these goods from the buyer to the seller

These documents are the outcome of certain established international commercial and banking practices and the law relating to sale of goods.

For a consignment under a CIF contract, a set of commercial documents comprises of:

1. Invoice
2. Bill of Lading / Airway Bill / Post Parcel Receipt
3. Insurance Policy/Certificate
4. Bill of Exchange

A particular shipment may necessitate additional commercial documents such as packing list.

Bill of Lading / Airway Bill / Post Parcel Receipt are transport documents required in the cases of export by sea, by air and by postal channels, respectively. Bill of lading (B/L) serves two functions. It is a receipt issued by the shipping company or its agents for the cargo received by it.

It is a document of title that will enable the lawful holder to take delivery of the goods at the stipulated port of destination.



Received for Shipment BL: Issued when the goods have been given into the custody of the shipping company but have not been placed on board the ship.

1. **On-Board Shipped B/L:** Certifies that the goods have been received on board the ship.
2. **Clean B/L:** It implies that there was no defect in the apparent order and condition of the goods at the time of receipt or shipment of goods by the shipping company.
3. **Claused B/L:** A claused B/L bears a superimposed clause expressly declares a defective condition of the goods.
4. **Combined B/L:** It covers several modes of transport for performing the complete journey from the exporting country to the importers.
5. **Through B/L:** It covers goods being transshipped enroute but where the first carrier has the responsibility as the principal carrier for all the stages.

B/L as a Document of Title:

Normally a no. of copies of the bill of lading are issued to the exporter (shipper). Out of these two or three copies are duly signed by the master of the ship or the agent of the shipping company known as the originals. All these copies are equally valid for taking the delivery of the goods.

In air carriage, the transport document is known as the Airway Bill (AWB) or Air Consignment note. The functions of AWB are similar to B/L in regard to its characteristics as a cargo receipt. Sometimes the goods are exported through postal channels like the AWB, the PPR evidences merely, the receipt of goods and is not a document of title.

Cargo Insurance Policy

Cargo insurance policy (also called marine insurance policy) provides protection to cargo owners in the event of loss or damage to cargo in transit.

There are different types of insurance policies for different categories of risks to be covered. The prevalent practice all over the world is to fix insurance on five types of policies

1. Institute Cargo Clauses A
2. Institute Cargo Clauses B
3. Institute Cargo Clause C
4. Institute Strikes Clause
5. Institute War Clauses

Among the three cargo clauses Cargo Clauses A provide the maximum error. It must be noted that the insurance cover is irrespective of the mode of transport .



A Bill of Exchange also known as a draft is an instrument in writing containing an unconditional order, signed by the maker (called the drawer) directing a certain person (called the drawee) to pay a certain sum of money only to a particular person or to order of a person or to the bearer of the instrument.

The exporter is the drawer and the importer, the drawee.

Two types of Bill of Exchange are:

1. **Demand Bill:** Where the payment is to be made on demand or on presentation, a demand bill or sight bill is drawn. Sight bill is drawn under DP (Document against Payment).
2. **Usuance Bill:** Where the payment is to be made at a determinable future, are usuance bill or time draft. In this case, the exporter gives to the importer a credit facility for an agreed time period. Usance Bill is drawn under DA (Documents against acceptance) terms of payment.

4.2.10.2 Statutory Documents

Regulatory and Official Documents:

1. Document needed from the viewpoint of the legal requirement of the exporter's country documents are grouped under four broad heads:

- Documents pertaining to foreign exchange regulations act.

- Documents pertaining to export (Quality Control & Inspection Act).
- Documents pertaining to Indian Customs Act.
- Documents pertaining to export trade control policy.
- **ECD Form: GR-I** form is a serialised form available from the offices of the RBI. It is required to be filled in duplicate for all exports in physical form other than those made by post. The forms duly filled in duplicate is to be sent to the shipping agent along with other shipping documents.
- **PP Form:** It is required to be filled in duplicate for all exports to all countries made by post parcel.
- **SOFTEX Form:** It is required to be prepared in triplicate for export of computer software in non physical form.
- **Notified under the Export (Quality Control and Inspection) Act,1962,** it is obligatory for an exporter to obtain inspection certificate. The scheme is administered by the Export Inspection Council (EIC) of India. Following documents are enclosed for inspection:
  1. Copy of commercial invoice
  2. ADD / crossed cheque
  3. Copy of the export contract
  4. Importer's technical specifications of quality and / or a sample approved by the importer in support of the declaration of specifications.



Under Indian Customs Act, goods cannot be loaded on board the carriers unless permission from the custom authorities has been obtained.

When goods are sent by sea or by air, the document used is known as Shipping Bill.

1. **Free Shipping Bill:** Printed on white paper.
2. **Dutiable Shipping Bill:** Printed on yellow paper, used in case of goods subject to export duty/cess.
3. **Drawback Shipping Bill:** Printed on green paper and is used for export of goods entitled to duty drawback.
4. **Shipping Bill for Shipment Ex-bond:** Printed on yellow paper for use in case of imported goods for re-export which are kept in the customs bonded warehouse.

- **Application for Export:** Used for seeking customs permission to export goods to the neighbouring countries like Bangladesh by road, rail or river.
- **Customs Declaration Form:** Customs declaration form for goods sent by post parcel is a standard form for all types of cargo.

- **Documents Pertaining to Export Trade Control Policy:** For goods that are subject to the export trade control policy of the government documents in the form of applications have been specified. On the basis of this application, an export licence / permit is granted by Joint Chief Controller of imports and exports.

  This licence / permit is generally given by making a suitable endorsement on all the copies of the shipping bill.

  Certificate of Origin: This document certifies that goods were mined, manufactured or assembled within a certain country and enables the importing country, thereby, to determine whether or not preferential duty rates may be levied. Certificate of origin is given by independent bodies like the Chamber of Commerce, Export Promotion Council etc who issue them against payment of nominal fees after being satisfied about the origin of goods.

- **GSP Certificate of Origin:** Under the Generalised System of preferences (GSP) the developed countries accord preferential duty treatment to specified goods originating from developing countries like India.

  Through this certificate, these countries try to ensure that the goods have not been reshipped by the exporter who has just brought them into his own country from some other place of origin which is not eligible for preference.



- **Documents Pertaining to Duty Drawback:**

  The rates of drawback are divided into two categories:

  1. All India Rates
  2. The Brand Rates

4.2.10.3 Documents for Claiming Export Benefits

Official Documents:

No separate application is required .If an exporter wishes to claim drawback ,he should use the Drawback Shipping Bill, also known as Green Shipping Bill. The triplicate copy of the Drawback Shipping Bill automatically becomes, after shipment ,an application for the claim of duty drawback.

Documents Pertaining to Excise Duty Fund

An exporter may obtain refund of duty either way of:

1. Paying the duty and recovering it after export-known as rebate of excise duty.
2. Enter into a bond, backed by an appropriate bank guarantee, with the excise authorities, so that goods can be cleared from the factory without payment of duty otherwise known as "Export Under Bond".

Main documents prescribed by the central excise authorities are:

1. **AR-4 Form:** Is used when the goods to be exported are inspected and sealed by the central excise officer at the factory.
2. **AR-4A Form:** Is used when the goods are not examined by the central excise officer, but by the customs authorities at the port of shipment.

Main documents prescribed by the central excise authorities are:

1. GP (gate pass)-I is used when the goods are exported under the rebate of excise duty scheme.
2. GP-II is used when the goods are exported under the Bond scheme.

Review Questions

I. Question & Answer:

1. Why do we need documentation in international trade? Write its importance.
2. Write down the category in which documents are classified.
3. Discuss important statutory documents used in exporting goods.

II. Write True or False against each statements:

1. Physical transportation of goods from the seller to the buyer is a part of commercial documents.
2. Bill of lading is a transport document required in the case of export by sea.
3. There is only one type of insurance policy for different categories of risks to be covered.
4. A bill of exchange is also known as a draft.
5. An exporter does not need inspection under the export (Quality control Inspection) Act 1962.

III. Match the following:

1.	Demand Bill	A kind of insurance policy to cover risk.
2.	Institute Cargo Clauses A	Payment is to be made on demand.
3.	Usance Bill	Export Inspection Council.
4.	E.I.C.	time draft.
5.	Dutiable Shipping Bill	In case of goods subject to export duty / cess.

IV. Activity:

1. Visit an exporter company in your city / town and get the information of the documents used by him in export to be discussed in the class room.



V. Fill in the blanks:

1. Drawback shipping bill is used for export of goods entitled to _____.
2. Certificate of origin document certifies that goods were _____.
3. Full form of GSP is _____.
4. The rates of drawback are divided into _____ Categories.
5. Draw back shipping bill is also known as _____ Bill.

The International Chamber of Commerce (ICC) is the largest, most representative business organization in the world.

It has hundreds of thousands of member companies in over 130 countries and have interests spanning in every sector of private enterprise. A world network of national committees keeps the ICC International Secretariat in Paris informed about national and regional business priorities. More than 2,000 experts drawn from ICC's member companies feed their knowledge and experience into crafting the ICC stance on specific business issues.

The UN, the World Trade Organization, and many other intergovernmental bodies, both international and regional, are kept in touch with the views of international business through ICC.

The International Chamber of Commerce was founded in 1919 to serve world business by promoting trade and investment, open markets for goods and services, and the free flow of capital. The organization's international secretariat was established in Paris and the ICC's International Court of Arbitration was created in 1923.

The ICC's first Chairman was 20th century French Minister of Finance, Etienne Cle'mentel. ICC's current Chairman is Sunil Bharti Mittal. John W.H Denton is first Vice-Chairman and Frederico Fleury Curado and Dennis M. Nally are Vice Chairman.

There are two ways to become a member of ICC:

1. Through affiliation with an ICC national committee or group.
2. By direct membership with the ICC International Secretariat when a national committee / group has not yet been established in your country / territory.

Policy and Business Practices

Commissions examine major policy issues of interest to world business. Each national committee (NC) or group may appoint delegates to represent it at meetings. Officers are appointed by the Chairman and Secretary General in consultation with NCs. Meetings of commissions are normally held twice a year. Task forces are constituted under the various commissions for a limited period to undertake specific projects and report back to their parent commission.

Some task forces may include representatives of more than one commission. ICC policies, rules and standards are prepared by specialized working bodies. Normal procedure requires policy statements first to be adopted by a commission, in consultation with national committees, and then approved by the Executive Board, before they can be regarded as official and public ICC positions.

Incoterm

The Incoterms rules or International Commercial terms are a series of pre-defined commercial terms published by the International Chamber of Commerce (ICC) widely used in international commercial transactions.

A series of three-letter trade terms related to common sales practices, the Incoterms rules are intended primarily to clearly communicate the tasks, costs and risks associated with the transportation and delivery of goods.

The Incoterms rules are accepted by governments, legal authorities and practitioners worldwide for the interpretation of most commonly used terms in international trade. They are intended to reduce or remove altogether uncertainties arising from different interpretation of the rules in different countries.

First published in 1936, the Incoterms rules have been periodically updated, with the eighth version-Incoterms 2010 having been published on January 1, 2011. "Incoterms" is registered trademark of the ICC.

History of Incoterms

The Incoterms rules started developing in 1921 with the forming of the idea by the International Chamber of Commerce. In 1936, the first set of the Incoterms rules was published. The first set remained in use for almost 20 years before the second publication in 1953.

Additional amendments and expansions followed in 1967, 1976, 1980, 1990 and 2000. The eighth and current version of the Incoterms rules “Incoterms 2010” was published on January 1, 2011.

The eighth published set of pre-defined terms, Incoterms 2010 defines 11 rules, reducing the 13 used in Incoterms 2000 by introducing two new rules.

("Delivered at Terminal", DAT; "Delivered at Place", DAP) these replace four rules of the prior version ("Delivered at Frontier", DAF; "Delivered Ex Ship", DES; "Delivered Ex Quay", DEQ; "Delivered Duty Unpaid", DDU).

Incoterms 2010

In the prior version, the rules were divided into four categories. But the 11 pre-defined terms of Incoterms 2010 are subdivided into two categories based only on method of delivery.

The larger group of seven rules applies regardless of the method of transport, where with the smaller group of four being applicable only to sales that solely involve transportation over water.

Rules for Any Mode(s) of Transport

The seven rules defined by Incoterms 2010 for any mode(s) of transportation are:

1. **EXW - Ex Works (named place of delivery)**

   The seller makes the goods available at its premises. This term places the maximum obligation on the buyer and minimum obligations on the seller. The Ex Works term is often used when making an initial quotation for the sale of goods without any costs included. EXW means that a seller has the goods ready for collection at his premises (works, factory, warehouse, plant) on the date agreed upon. The buyer pays all transportation costs and also bears the risks for bringing the goods to their final destination.

   The seller does not load the goods on collecting vehicles and does not clear them for export.

   If the seller does load the goods, he does so at buyer's risk and cost. If parties wish seller to be responsible for the loading of the goods on departure and to bear the risk and all costs of such loading, this must be made clear by adding explicit wording to this effect in the contract of sale.

2. **FCA- Free Carrier(named place of delivery)**

   The seller hand over the goods, cleared for export, into the disposal of the first carrier (named by the buyer) at the named place. The seller pays for carriage to the named point of delivery, and risk passes when the goods are handed over to the first carrier.

3. **CPT - Carriage Paid To (named place of destination)**

   The seller pays for carriage. Risk transfers to buyer upon handing goods over to the first carrier.

4. **CIP - Carriage and Insurance Paid To (named place of destination)**

   The containerized transport / multimodal equivalent of CIF. Seller pays for carriage and insurance to the named destination point, but risk passes when the goods are handed over to the first carrier.

5. **DAT - Delivered at Terminal (named terminal at port or place of destination)**

   Seller pays for carriage to the terminal, except for costs related to import clearance, and assumes all risks up to the point that the goods are unloaded at the terminal.

6. **DAP - Delivered at Place (named place of destination)**

Seller pays for carriage to the named place, except for costs related to import clearance, and assumes all risks prior to the point that the goods are ready for unloading by the buyer.

7. **DDP - Delivered Duty Paid (named place of destination)**

Seller is responsible for delivering the goods to the named place in the country of the buyer, and pays all costs in bringing the goods to the destination including import duties and taxes. This term places the maximum obligations on the seller and minimum obligations on the buyer.

Rules for Sea and Inland Waterway Transport

The four rules defined by Incoterms 2010 for international trade where transportation is entirely conducted by water are:

1. **FAS - Free Alongside Ship (named port of shipment)** The seller must place the goods alongside the ship at the named port. The seller must clear the goods for export. Suitable only for maritime transport but NET for multimodal sea transport in containers. This term is typically used for heavy-lift or bulk cargo.

2. **FOB - Free on Board (named port of shipment)**

The seller must load the goods on board the vessel nominated by the buyer. Cost and risk are divided when the goods are actually on board of the vessel (this rule is new). The seller must clear the goods for export.

The term is applicable for maritime and inland waterway transport only but not for multimodal sea transport in containers. The buyer must instruct the seller the details of the vessel and the port where the goods are to be loaded, and there is no reference to, or provision for, the use of a carrier or forwarder. This term has been greatly misused over the last three decades ever since Incoterms 1980 explained that FCA should be used for container shipments.

3. **CFR - Cost and Freight (named port of destination)**

Seller must pay the costs and freight to bring the goods to the port of destination. However, risk is transferred to the buyer once the goods are loaded on the vessel (this rule is new!).

Maritime transport only and Insurance for the goods is not included. This term is formerly known as CNF (C&F).

4. **CIF - Cost, Insurance and Freight (named port of destination)**

Exactly the same as CFR except that the seller must in addition procure and pay for the insurance. Maritime transport only in 1921

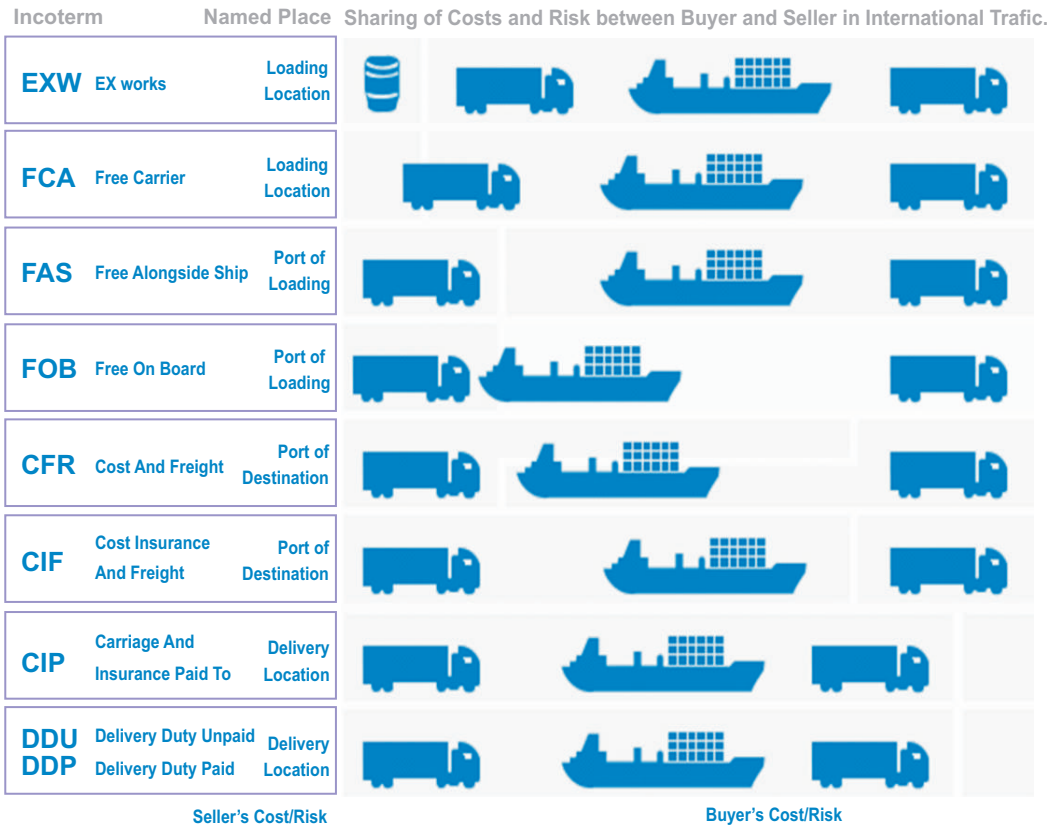

Figure 4.8: Seller and Buyer Relations Under Incoterms



Review Questions

I. Question & Answer:

1. Write down the role of International Chamber of Commerce in doing business Internationally.
2. What is Incoterms?

II. Match the following:

1.	Incoterms	:	in 1921
2.	Inco terms rules began development	:	Three letter word to communicate the tasks, costs and risks associated with the transportation and delivery of goods
3.	Group of seven rules of Incoterms	:	Ex works (named place of delivery)
4.	Ex works	:	Applicable only to sales
5.	Group of four rules of Incoterms	:	Applies to the method of transport

III. Write one word against each statement using Incoterms:

1. The seller makes the goods available at its premises.
2. The seller pays for the carriage to the named point of delivery.
3. Seller is responsible for delivering the goods to the named place in the country of the buyer.
4. The seller must place the goods along side the ship at the named port.
5. The seller must load the goods on board the vessel nominated by the buyer.

IV. Activity:

1. Prepare a list of documents mentioned under Incoterms used for International trade and discuss its utilities in the class room.

4.3 Sea Borne Trade and Ports in India

Brief History of Water Transportation

From its modest origins as Egyptian coastal sail ships around 3,200 BC, water transportation has always been the dominant support of global trade. By 1,200 BC Egyptian ships traded as far as Sumatra, representing one of the longest maritime routes of that time.

European colonial powers, mainly Spain, Portugal, England, the Netherland and France are the first to establish a true global maritime trade network. With the development of the steam engine in the mid 19th century, this role expanded considerably as ships were no longer subject to dominant wind patterns.

This long term attribute has been reinforced by recent trends where changes in international trade and seaborne trade are interrelated.

Maritime transportation like all transportation is a derived demand.

Currently, seaborne trade accounted for 89.6% of global trade in terms of volume and 70.1% in terms of value.

Maritime shipping is one of the most globalized industries in terms of ownership and operations. Without shipping the import and export of goods on the scale necessary for the modern world would not be possible. Seaborne trade continues to expand, bringing benefits for consumers across the world through competitive freight costs. Thanks to the growing efficiency of shipping as a mode of transport and increased economic liberalisation, the prospects for the industry's further growth continue to be strong.

Shipping trade estimates are often calculated in tonne-miles, as a way of measuring the volume of trade (or "transportation work", as it is sometimes referred). In 2008, for example, it is estimated that the industry transported over 7.7 thousand million tonnes of cargo,

equivalent to a total volume of world trade by sea of over 32 thousand billion tonne-miles. Advances in technology have also made shipping an increasingly efficient and swift method of transportation. Over the last four decades total seaborne trade estimates have quadrupled, from just over 8 thousand billion tonne-miles in 1968 to over 32 thousand billion tonne-miles in 2008.

Throughout the last century the shipping industry has seen a general trend of increases in total trade volume. Increasing industrialisation and the liberalisation of national economies have fuelled free trade and a growing demand for consumer products.

In 2009, since the recession took hold in the second half of 2008, energy demand has tapered off, starting in late 2008 and continuing during 2009. Consequently, world shipments of tanker trade volumes, including crude oil, petroleum products and liquefied natural gas (LNG) fell by 3.0 per cent in 2009.

Total tanker cargoes loaded amounted to 2.65 billion tons, down from 2.73 billion tons loaded in 2008. In 2009, dry cargo volumes, including dry bulks, container cargo and other dry cargoes, recorded their first drop since 1983 (by 5.2 per cent) and stood at about 5.2 billion tons.

The year 2009 proved to be the most challenging and dramatic year in the history of container shipping. After having grown at an impressive average annual rate of around 10.0 percent over the last two decades, by far surpassing the growth in other seaborne trade segments container trade recorded its first absolute contraction ever, since containerization began. In 2009, container trade volumes fell sharply, by 9.0 per cent, with the overall volume totaling 124 million twenty-foot equivalent units (TEUs). The year 2009 proved to be the most challenging and dramatic year in the history of container shipping.

After having grown at an impressive average annual rate of around 10.0 percent over the last two decades, by far surpassing the growth in other seaborne trade segments container trade recorded its first absolute contraction ever, since containerization began. In 2009, container trade volumes fell sharply, by 9.0 percent, with the overall volume totaling 124 million twenty-foot equivalent units (TEUs). Global GDP and international seaborne trade are expected to recover and grow in 2011-12, with developing economies, and China in particular, charting the course.

An important factor influencing the outlook is the demand and supply imbalance and its implications for shipping companies, freight markets and shipyards. Significant fleet expansion, prompted by the promise of an extended boom period, is a major concern. The shipping industry is facing large scale orders for ships.

Figure 4.9: Containers on Ship

Figure 4.10: Ship Sailing with Containers

4.3.1 World Fleet

At the beginning of 2010, the world merchant fleet reached 1,276 million deadweight tons (dwt), an increase of 84 million dwt (7 per cent) over 2009. This growth resulted from record new deliveries of 117 million dwt, as against demolitions and other withdrawals from the market of approximately 33 million dwt.

In spite of the economic crisis, new deliveries in 2009 grew by 42 percent over 2008 as a result of ships having been ordered prior to the down turn in demand. The resulting oversupply of tonnage then led to a surge in demolitions of older tonnage by more than 300 percent. In 2009, China overtook Germany as the third largest ship owning country, surpassed Japan as the second biggest shipbuilding country, and replaced India as the busiest ship recycling country.

China has also emerged as an important provider of ship finance, supporting owners and shipyards in avoiding the cancellation of ship orders. In January 2010, there were 102,194 commercial ships in service, with a combined tonnage of 1,276,137 thousand dwt.

Oil tankers accounted for 450 million dwt (35.3 percent) and dry bulk carriers for 457 million dwt (35.8 %),representing annual increases of 7.6 and 9.1 percent respectively. Container ships reached 169 million dwt - an increase of 4.5 percent over 2009 - while the fleet of general cargo ships declined during 2009, reaching 108 million dwt in January 2010, corresponding to just 8.5 percent of the fleet.

Among other vessel types, the tonnage of liquefied gas carriers continued to grow, reaching 41million dwt.

This was an increase of almost 12 percent over 2008, in which deliveries had already reached a historic high.

Figure 4.11: Fleet at Destination Port

4.3.2 Ownership of World Fleet

At the beginning of 2010, owners from Greece controlled 15.96 percent of the world's tonnage, followed by owners from Japan with 15.73 per cent and then owners from China with 8.96 per cent.

All three countries have seen their market share increase since 2009, and China has actually overtaken Germany as the third largest ship owning country.

In terms of vessel numbers, Japan continues to be the leading country, with 3,751 ships of 1,000 GT and above, followed by China with 3,633 ships.

In terms of nationally flagged and beneficially owned tonnage, the Greek fleet is the world's largest, accounting for 58.5 million dwt, followed by the Chinese-owned and flagged fleet with 41 million dwt.

Together, the top 35 ship owning countries (in terms of dwt) control 95.5 percent of the world tonnage.

About one third of this tonnage is controlled by owners from developing countries and about two thirds by owners from developed countries.

Of the top 35 countries and territories, 18 are classified as developed, 16 as developing, and 1 as an economy in transition.

Sixteen of the countries or territories are in Asia, 15 are in Europe, and 4 are in Americas, while none are in Africa or Oceania.

As regards flags of registration, 68.4 percent of the world's tonnage is foreign flagged.

The percentage is higher for developed countries (approximately 75 percent foreign flagged) than for developing countries (about 57 percent foreign flagged).

Figure 4.12: International Trade through Box

4.3.3 Major Shipping Routes

Figure 4.13: Sea Routes in Map

Figure 4.14: World Sea Routes

Most world shipping is confined to rather well defined routes.

Development of shipping in a region depends on population density, economic advancement and many other interrelated conditions like port and refuelling facilities.

1. The North Atlantic Route lies between Western Europe and Eastern Canada and the United States.
2. The Mediterranean- Red Sea-Indian Ocean Route-Connects North Western Europe with the Mediterranean, Eastern Europe, Southern and Eastern Asia, Australia, New Zealand.
3. The Cape Route -Western Europe, Africa and Australia.
4. The South Atlantic Route-lies between rich agricultural regions of South Eastern South America, North Western Europe and the Mediterranean.
5. The Panama Route-Eastern North America and Western US, Western Canada and Chiles.

Figure 4.15: World Major Sea Port



Review Question

I. Write True or False against each statements:

1. Maritime shipping are of the most globalized industries in terms of ownership and operations.
2. Shipping trade estimates are calculated in kg / miles.
3. Asian colonial powers like Japan, China are the first to establish a true global maritime trade network.
4. DWT is known as dead weight tons.
5. In 2010, Grece controlled 15.96% of the world's tonnage.

4.3.4 Insurance

Insurance has played a vital role in development of modern commerce. It is inevitable in keeping alive the large scale production and widespread market. From the legal point of view it is a contract of two parties. One party charge a specific sum of from the other and promise it to pay for the damages upto a specified limit.

Figure 4.16: Ship at Risk

4.3.5 Importance of Insurance

- It gives protection to businessman and industrialist against economic loss resulting from accidents and uncertain risks.
- It frees businessman from worries of business risks and generates a feeling of safety.
- Insurance company gives loan to policy holder.
- Premium collected by insurance companies help in development of business and industries.

Review Questions

I. Fill in the blanks:

1. The world merchant fleet reached ..... dead weight tons (DWT).
2. The year ..... proved to be the most challenging and dramatic year in the history of container shipping.
3. TEUs is known as ..... .
4. ..... has overtaken Germany as the third largest ship owning country.
5. The ..... fleet is the world's largest accounting for 58-5 million DWT.

II. Match the following shipping routes:

1. The Cape Route : Eastern North America and Western US, Western Canada and Chiles

2.	The Panama Route	:	Western Europe and Eastern Canada and the U.S.
3.	The North Atlantic Route	:	Western Europe, Africa and Australia

Figure 4.17: Major and Intermediate Ports in India



4.4 Summary

This unit discuses role of technology in logistics operations. It has widely discussed the technology is improving operational effectiveness and efficiency to improve accuracy and speed in material and information flow in the supply chain to increase manifold productivity, effectiveness in logistics operations. The unit covers the latest technologies and its utility. GPRS, Barcoding, RFID & RFT are some of them.

It has also covered an important area of domestic and international cargo documents in detail. Each document is having importance in movements of goods, its significance is elaborated, Legal issues of international documentation with wide reasons and its development are also discussed. Institutions like International Chamber of Commerce and its time to time directives given for new terms like Incoterms are widely focused. Sea borne trade and ports in India covers the brief account of water transportation, world fleet. Logistics and supply chain uses in world Industry gives a glimpse of this industry especially in post globalization era.

4.5 Exercise



1. Write down the importance of information technology in logistics.
2. Discuss the latest technologies used in logistics industry.
3. Write a brief note on Barcode. Explain the commercial use of barcode.
4. Why radio frequency identification is now in more use? Give reasons.
5. Write down the important domestic cargo documents.
6. What are the reasons for issue of domestic documents?
7. Discuss the types of consignment note and also tell its importance.
8. Write the advantage of lorry hire contract.
9. Why do one take route permit in transport?
10. What is truck registration?
11. Why do we do bulky documentation in international trade?
12. What are the three categories of documents?
13. Explain commercial documents, its purpose with reason.
14. What is bill of lading?
15. Explain bill of exchange.
16. Write down the types of bill of exchange.
17. What are the documents used under Indian customs act?
18. Discuss development of international chamber of commerce.

19. Why ICC is needed in international trade?
20. What is Incoterms? Discuss its evolution.
21. Write short note in following Incoterms.
    a. EXW
    b. FCA
    c. CIP
    d. DAP
    e. DDP
    f. FAS
    g. FOB
    h. CIF
22. Explain the history of water transportation in the world.
23. Discuss the brief account of world fleet in recent time.
24. Discuss five major shipping routes followed in marine transport of world.

4.6 Practical



1. On the basis of Utility of following technology in different industries.
    a. GPRS
    b. Barcode
    c. RFT
    d. EDI

    Discuss it in the classroom
2. Visit a transport company in your city / town to collect the transport documents and discuss its uses in the classroom.
3. Prepare a case on export documentations and discuss the classification of following:
    a. Commercial
    b. Statutory
    c. Documents for claiming export benefits