5th SEM BTTM-Bachelor of Travel and Tourism Management

UNIVERSITY OF CALICUT

AIRLINE AND CARGO MANAGEMENT

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SYLLABUS

TTM5B10: Airline and Cargo Management

Lecture Hours Per Week: 4 **Credits: 4**

Objective: To Understand the structure and dynamics of airline industry. To Study the international airfares, regulations and formalities to travel.

Module I:

Airlines: Airline-Definition-Airline Industry-Definition-characteristics- airline consumers and tourists- airline product- types of airlines- scheduled and nonscheduled-other types-full-service carriers, Low Cost carriers. Business strategies of LCCs- airline practices- classes of service-Hub and spoke system, code sharing, interlining, frequent flyer programme. Airline alliances,marketing mix in airlines, airline organization- airline personnel.

Module II:

Airline functions: Airline fleet- fleet planning-considerations in fleet planning- airline schedules, contents in schedules- schedule planning and development-airline networks- types of networks network planning- fleet assignment-aircraft routing- crew scheduling- crew pairing-cabin crew and cockpit crew-crew roster-crew bid line-passenger handling by airlines- flight operation stages and crew duties.

Module III:

Airline Terminology types of journeys (OW, CT, RT, OJ, and RTW) – International sale indicators– Global indicators. Traditional airline ticket- ticketing instruction and conjunction tickets – Open tickets, e-tickets and its advantages – Miscellaneous charges order (MCO) andPrepaid Ticket Advice (PTA) – the rounding off of currencies, referring to airline time table, TIM, OAG, PAT. Limitations on travel.

Module IV

Types of fare – normal fare (Adult, child & infant) – Special fares, discounted fares, passengers requiring special handling – passengers with medical problems – Expectant women –Unaccompanied minors – infants – VIPs/ CIPs, introduction to special fares. Internal fare constructions based on IATA– Fare formula and basic steps using mileage system – OW, RT, CT –Exercises on ticketing – OW, RT, CT.

Module V

Cargo, meaning- definition types of cargo-Cargo transportation–scope of cargo business, structure of cargo industry, movement of cargo-types of rates- airway bill preparation- cargo loading methods- ULDs and other measures for loading.

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Airline and cargo management

Module 1

AIRLINE INDUSTRY

- The airline industry encompasses a wide range of businesses, called airlines, which offer air transport services for paying customers or business partners. These air transport services are provided for both human travelers and cargo, and are most commonly offered via jets, although some airlines also use helicopters.
- Airlines may offer scheduled and/or chartered services and the airline industry forms a key part of the wider travel industry, providing customers with the ability to purchase seats on flights and travel to different parts of the world. The airline industry offers a variety of career paths, including pilots, flight attendants and ground crew.

AIRLINE

- An airline can be defined as a company that offers regular services for transporting passengers or goods via the air. These companies are said to make up the airline industry, which is also regarded as a sub-sector of the aviation sector and the wider travel industry.
- An airline is a company that provides air transport services for traveling passengers and freight. Airlines utilize aircraft to supply these services and may form partnerships or alliances with other airlines for codeshare agreements, in which they both offer and operate the same flight.
- Generally, airline companies are recognized with an air operating certificate or license issued by a governmental aviation body. Airlines may be scheduled or charter operators.

Difference between the Airline Industry and the Aviation Industry

- Airline industry refers to companies that offer air transport services to paying customers, whereas the aviation industry includes all aviation-related businesses.
- The airline industry can be classed as just one sector of the wider aviation industry. In addition to this sector, aviation companies would also include businesses like aircraft manufacturers, companies offering non-commercial flights, aerospace companies, regulation authorities and those involved with research.

CHARACTERISTICS OF THE AIRLINE INDUSTRY

1. Capital Intensive

- Airlines need more storefronts and telephones to get started.
- They need an enormous range of expensive equipment and facilities, from airplanes to flight simulators to maintenance hangars. As a result, the airline industry is a capital-intensive business, requiring large sums of money to operate effectively.
- Most equipment is financed through loans or the issuance of stock. Increasingly, airlines are also leasing equipment, including equipment they owned previously but sold to someone else and leased back.

2. Labor Intensive

- Airlines also are labor intensive. Each major airline employs a virtual army of pilots, flight attendants, mechanics, baggage handlers, reservation agents, gate agents, security personnel, cooks, cleaners, managers, accountants, lawyers, etc.
- Computers have enabled airlines to automate many tasks, but there is no changing the fact that they are a service business, where customers require personal attention.
- More than one-third of the revenue generated each day by the airlines goes to pay its workforce. Labor costs per employee are among the highest of any industry.

3. High Cash Flow

- Because airlines own large fleets of expensive aircraft which depreciate in value over time, they typically generate a substantial positive cash flow (profits plus depreciation).
- Most airlines use their cash flow to repay debt or acquire new aircraft. When profits and cash flow decline, an airline's ability to repay debt and acquire new aircraft is jeopardized.

4. Highly Unionized

- In part because of its long history as a regulated industry, the airline industry is highly unionized.

5. Seasonal

- The airline business historically has been very seasonal. The summer months were extremely busy, as many people took vacations at that time of the year. Winter, on the other hand, was slower, with the exception of the holidays.
- The result of such peaks and valleys in travel patterns was that airline revenues also rose and fell significantly through the course of the year.

6. Seat Configurations

- Adding seats to an aircraft increases its revenue-generating power, without adding proportionately to its costs.
- However, the total number of seats aboard an aircraft depends on the operator's marketing strategy. If low prices are what an airline's customer's favor, it will seek to maximize the number of seats to keep prices as low as possible.
- On the other hand, a carrier with a strong following in the business community may opt for a large business-class section, with fewer, larger seats, because it knows that its business customers are willing to pay premium prices for the added comfort and workspace.

7. Overbooking

- Airlines occasionally overbook flights, meaning that they book more passengers for a flight than they have seats on the same flight.

8. Pricing

- Since deregulation, airlines have had the same pricing freedom as companies in other industries. They set fares and freight rates in response to both customer demand and the prices of competitors.
- As a result, fares change much more rapidly than they used to, and passengers sitting in the same section on the same flight often are paying different prices for their seats.

AIRLINE CONSUMERS AND TOURISTS

The airline customers are divided into the following segments −

- **Old Travellers** - They are aged customers probably retired and go on holidays frequently.
- **Business Travellers** − They are frequent flyers and form a large segment.
- **Budget Conscious Travellers** − They look for the most inexpensive airline without knowing much about the different airline services.
- **Loyal Travellers** − They travel frequently and as they travel frequently with the same airline, the airline offers some benefits to them and also the miles.
- **Urgent Travellers** − They share a small market segment and do not fly frequently. They fly only for unexpected causes.

AIRLINE PRODUCT

- The airline product consists of tangible and intangible elements. It is important to remember that passengers are purchasing more than the airline product; they are also acquiring its benefits, including their customer experience, which they associate with it.
- Typically, airline products include, full-service carriers offering different classes of service, low-cost carriers (LCCs), inclusive tour packages, connecting services, stopovers, fly/drive, fly/cruise, incentive packages, charters, etc...
- These airline products possess tangible and intangible elements. The tangible part may include; a comfortable boarding lounge; whereas the customer service that is provided by the courteous cabin crew could be considered as the product's intangible aspect.

Aspects of the Airline Product:

There are tangible and intangible aspects of the airlines' products.

- **The tangible characteristics of the business class service may include;**
  The provision of separate check-in counters, special lounges, priority boarding, superior inflight meals, inflight entertainment, etc….
- **The intangible features of the airlines' products include;**
  Friendly check-in employees, courteous cabin crew, etc.,,.

Components of an Airline Product

- **Aircraft type**, including the cabin's layout (galleys, lavatories, aisle spaces, seating, entertainment, and other features) and the cabin's noise levels;
- **Punctuality** and on-time performance, in terms of arrival and departure times;
- **Price** influences the level of demand. Moreover, the characteristics of the aircraft affect the overall costs, and the air fares that are charged to passengers.
- **Schedule points** to be served; direct or intermediate stops, timings and frequencies.

TYPES OF AIRLINES

1. Scheduled Airlines

- Scheduled Airlines are those air service providers who operate flights as per the schedules drawn up, well in advance, that cover several months or even years at a time.
- They have a fixed timing and a fixed flight number and operate between fixed routes.
- These airlines are thus committed to operating flights for the said periods on the said routes whether they have full occupancy or not.
- In so doing they offer a fixed or predetermined range of services and can thus be booked up to 1 year in advance in some cases.

Prominent features of Scheduled air services:

a. Scheduled Airlines operate as per a fixed schedule predetermined by the airline.
b. Scheduled Airlines have a fixed / predetermined flight number which indicates represents its time and route. Example Air India flight operating between Delhi and Mumbai at 7.00 Hrs is assigned a flight number AI 0887.
c. Scheduled Airlines' schedule is drawn up very well in advance and the passengers have the convenience of booking their flights at least a year in advance.
d. Scheduled airlines offer a range of services on board which are fixed and also some of these services can be booked in advance.
e. These air services will continue to operate even when there is no full occupancy in the flight.

2. Non-Scheduled Airline

- Non-scheduled air services are also commonly referred to as Air Charter services.
- These are air services that operate in certain seasons or times, mostly during peak seasons.
- While the scheduled airlines specialize in selling transportation by the seat, air charter companies focus on individual private aircraft and itineraries, urgent or time-sensitive cargo, air ambulance service, and other forms of ad hoc air transportation.

- It is estimated that there are close to 15,000 business jets available for charter in the worldwide fleet.
- US and Europe are the largest markets for charter services with growing activity in the Middle East, Asia, and Central America.
- Non-scheduled air services also include business jets or private jet. It is a jet aircraft designed for transporting small groups of people.
- These may be adapted for other uses such as the evacuation of casualties or express parcel deliveries, and some are used by public bodies, government officials or the armed forces.

3. Air Taxi

- An air taxi is a commercial aircraft which makes short flights on demand much like the car rental services. These are small aircrafts and normally used for short travels.
- This service used worldwide by business executives, celebrities, political personalities and others who are pressed for time.
- This air service is an efficient way to save time as they are not compelled to fly as per the schedule of regular airlines.
- Air taxi services tend to be more expensive as compared to scheduled airlines as the entire aircraft is at the disposal of the person who hires these services.
- Along with the air taxi, services of the pilot and crew are also provided on request. These air taxis may either operate from regular airports or private air terminals.
- When operating from private air terminals passengers can avoid the hustle and bustle of busy airports and the queues through security.

The advantages of using air taxi are as below:

- Air taxis are much more luxurious and comfortable as compared to regular airlines.
- Air taxis offer privacy, security and discretion for passengers such as celebrities and passengers seeking to avoid the usual hustle and bustle of airports.

- Air taxis enable passengers to fly at their own chosen time given them greater flexibility in terms of schedule.
- Air taxis give access to private air terminals.
- Air taxis can used to travel to any place in the world; even these places which catered by scheduled air services.
- The passengers have a choice to select any aircraft of their preference.

4. Short Haul Airlines

- In aviation terms commonly, the flight length is defined as the distance of a flight. Short Haul and Long Haul air services are categorized based on their flight time. Short haul refers to shorter routes and long haul refers to longer non-stop routes.
- The definition of short and long haul service varied from airline to airline and country to country.
- Short haul flights are flight taking less than 3 hours to complete their journey. Most domestic flights in India are short haul as the journey time is rarely more than 3 hours and distance travelled is under 3,200 kms.
- For example, flights between Mumbai and Kolkata.

5. Medium Haul - Mid Haul

- Which last from 3 to 6 hours, These are typically made by aircrafts such as Airbus A320, 321, 319, 318 or a Boeing 737-700 or Boeing 737-800.

6. Long Haul

- Long-haul flight lasts from 6 to 12 hours and is typically made by a wide-body aircraft such as a Boeing 767, Boeing 777, Airbus A330, Airbus A340, Airbus A380. These flights are typically nonstop. Long haul flights are used for trans-continental flights.
- For example, flights from Delhi to London.

7. Commuter Airlines

- It is also called shuttle commuter airlines, are typically small turbo-prop or jets that carry people short distance and run on frequent shuttles.
- It is a short-haul pane in which people typically use to commute between work and home.
- Commuter airlines are those which travel from small regional airport to a main airport, and are usually domestic flights.
- E.g.: There are commuter airlines that run between New York & Boston that run every hour much like a lot of the buses in the port authority.

8. Domestic Airlines

- Domestic Airlines operate entirely within one country and sometimes enter into another nation's airspace for short period and do not make any services in another country.

9. International Airlines

- International Airlines go from one country to another or to several countries.
- Passport must be shown to board there may be additional security clearances.

10. Full Service Airlines

- A full service airline typically offers passengers in flight entertainment, checked baggage, meals, beverages and comforts such as blankets and pillows in the ticket price. The seats generally have more recline than a low cost carrier as well as more leg room.
- Full service airlines offer passengers the choice of economy or business class travel and on some flights premium economy and first class.

11. Low Cost Carriers

- Low Cost Carriers (LCC) are known by many other names such as No-Frill airlines, Budget airlines or Discount airlines.
- Low cost airlines are those which generally have lower fares and fewer comforts as compared to Full Service or Regular airlines.

- LCC are offering low fares but eliminate all non-essential services, such as complimentary food, in-flight entertainment systems, and business class seating
- LCCs offer inexpensive airfares and they achieve by cutting down on operational expenses and charging an additional amount for extra services.
- LCCs have become popular and widely used in many countries since their inception in early 1980s. World's first LCC was Pacific Southwest Airlines in the United States.
- In India, Air Deccan was the pioneer in Low Cost air services which started operations in the year 2003. Some of the other LCCs in India are Go Air, Indigo Airlines, Spice Jet, Air India Express etc.

BUSINESS STRATEGIES OF LCCs

- LCCs emphasize cost reduction and control to compete with legacy carriers. They offer competitive pricing to customers.

Aircrafts

- Most of the LCCs do not buy new aircrafts as this would add to their investment and expenses. They are either purchased second hand or sometimes even hired.
- In cases when new aircrafts are purchased, LCCs prefer placing bulk orders in order get a price advantage through discounts.
- In many a cases the aircrafts used by LCCs are of a single configuration which makes it easier and less expensive for the airline to maintain the aircrafts.
- Aircrafts used by LCCs, often operate with a minimum set of optional equipment on board which further reducing costs of acquisition and maintenance, as well as keeping the weight of the aircraft lower and thus saving fuel.
- Some airlines also do away with no in-flight entertainment systems and rear pockets attached at the back of the seat. This reduces cleaning expenses and other additional maintenance expenses.

Point-to-Point Services

- LCCs normally offer Point-to-Point air services and offer services to smaller airports and cities. This saves LCCs from paying higher airport charges which further would add to airfare.
- Many LCCs develop one or more bases to maximize destination coverage and defend the market that they serve. Most of the LCCs do not operate on the traditional hub and spoke model, but rather focus on more cities.

Additional Revenue through sale on Board

- Most often food sold on board is for an additional amount charged as per consumption.
- Many airlines in India, offer seats with better legroom are offered at an additional price. Some airlines even offer pillows and blankets for sale on board.
- There is also a small section of merchandise that is sold on board.

Minimum and Simple Comforts

- The aircrafts used by LCCs offer simple and minimum comforts. Seats are very basic and food offered on board is simple and basic too.
- The number of airline crew is also kept minimum in order to save further operational expenses. As LCCs offer very limited food on-board the turnaround time which includes cleaning of aircrafts is also limited.
- This enables the LCCs to offer faster and quicker services and they can offer many routes per aircraft.

Minimum Personnel Cost

- LCC employees, in many cases work multiple roles.
- At some airlines check-in staffs also act as gate agents or assume other roles which to some extent limit personnel costs.

Single Class Seating

- LCCs do not offer multiple classes seating such as Premium and Business Class. This simple seat configuration avoids use of large many on board crew.

Interlining agreements of LCCs

- An interlining agreement is a contract between airlines to handle each other's passengers on itineraries that include multiple airlines.
- In other words, if you have a transfer between Qatar Airlines and British Airways, you will have to check in just once, and the originating airline will provide hassle-free transfer of your luggage.

In budget airlines, interlining agreements are rare for a couple of reasons:

1. Such agreements require the airline to contract with another carrier and spend money on the interline connection and passenger transfer.
2. An interline agreement requires compliance with industry ticketing standards, partnership with fare consolidators (ATPCO), schedule providers (OAG), payment regulators (BSP/ARC) and a GDS connection.
3. Compliance with these industry standards/organizations contradict the idea of cost reduction. However, some Low-cost airlines do have interline agreements, in most cases with a parent airlines, such as the interlining agreement between Jetstar and its parent airline Qantas.

Frequent Flyer Program of LCCs

- A frequent flyer program is a loyalty program offered by an airline.
- Many airlines have frequent-flyer programs designed to encourage airline customers enrolled in the program to accumulate points (also called miles, kilometers, or segments) which may then be redeemed for air travel or other rewards.

- Points earned under FFPs may be based on the class of fare, distance flown on that airline or its partners, or the amount paid.
- There are other ways to earn points. For example, in recent years, more points have been earned by using co-branded credit and debit cards than by air travel. Another way to earn points is spending money at associated retail outlets, car hire companies, hotels, or other associated businesses. Points can be redeemed for air travel, other goods or services, or for increased benefits, such as travel class upgrades, airport lounge access, fast track access, or priority bookings.
- Low cost carriers have traditionally not needed frequent flyer programs. The reason being that their low fares were already enough to attract passengers from the flag carrier airlines.
- Now in addition to competing themselves, traditional carriers are introducing saver fares.

Code Sharing

- A code share is a common type of agreement in aviation business.
- It is an arrangement where two or more airlines share the same flight where each airline publishes and markets the flight under its own airline designator and flight number as part of its published timetable or schedule.
- Passengers can purchase seats any of the airline's designator and flight number, however, is operated by only one of these cooperating airlines, commonly called the operating carrier.

Advantages of Codeshare arrangement for passengers include,

- Clearer routing for the customer, allowing a customer to book travel from point A to C through point B under one carrier's code, instead of a customer booking from point A to B under one code, and from point B to C under another code.
- Under this arrangement cooperating airlines strive to synchronize and match their schedules in order to suit one another's' timings.

Hub and Spoke System

- In this model airlines have a single airport as their central location from where all their other flights originate.
- A hub, for an airline, is a central airport that flights are routed through, and spokes are the routes that planes take out of the hub airport. Most major airlines of the world have multiple hubs. This system enables the airlines to offer more flights for passengers.
- The hub-and-spoke system allows an airline to serve fewer routes, so fewer aircraft are needed. The system also increases passenger loads; a flight from a hub to a spoke carries not just passengers originating at the hub, but also passengers originating at multiple spoke cities.

Advantages of this model

- Lesser routes are needed to serve the network as all flights originate from a single or a set of fixed hubs
- As there are less routes, assuming the number of planes are the same, airlines can schedule more frequent flights along each route and make full use of the capacity of each plane
- Operations at these hub airports tend to be centralizing leading to economies of scale and greater profits.

AIRLINE ALLIANCES

An alliance necessarily means an agreement between the airlines to work in cooperation substantially.

Why Airlines Form Alliances? Working in alliances has benefits for both the airline and also the travelers.

Benefits of Alliance for Airline

- Reduction in maintenance cost.
- Reduction in operating staff.
- Reduction in investment and procurement costs.

Benefits of Alliance for Traveler

- Lower ticket prices due to lowered operational costs.
- More options for departure times to choose from.
- More destination options.
- Shorter travel time.
- Access to a large range of airport lounges shared with alliance members.
- Faster mileage rewards in single account on several different carriers.

Major Airline Alliances

There are three major airline alliances −

- Star Alliance (founded in 1997, 27 member airlines)
- Oneworld (founded in 1999, 15 member airlines)
- SkyTeam (founded in 2000, 20 member airlines

Air India is a member of Star Alliance.

MARKETING MIX IN AIRLINES

- Marketing mix is a general phrase used to describe the different kinds of choices organisations have to make in the whole process of bringing a product or services to market
- Services are distinguished from products mainly because they are generally produced at the same time as they are consumed, and cannot be stored away or taken.

- The service marketing mix includes; product, price, place, promotion, people, process, physical evidence.

1. PRODUCT

- Consumers are demanding not products, or features of products but the benefits they will be offered.
- The airline product includes two types of services; On the ground services In-flight services

Airline Service Products

Cabin service, catering service, ramp service, other service

- Typically, the airline would have a president or CEO reporting to a board of directors, with executives below her for the different divisions.
- A large airline with international flights and offices in multiple companies, for example, could have eight C-level executives reporting to the CEO, each with three to eight vice presidents below them, including:

AIRLINE ORGANIZATION

- **Chief Human Resources Officer:** personnel, human resources, training, administrative affairs
- **Chief Financial Officer:** finance, accounting, purchasing
- **Chief Investment Officer:** investment management, international relations, corporate innovation
- **Chief Development and IT Officer:** customer solutions, IT strategy and governance, strategic projects
- **Chief Flight Operations Officer:** flight operations, cabin crews, operations control, crew planning

- **Chief Commercial Officer:** ground operations, regional flights, catering and inflight products
- **Chief Marketing Officer:** corporate marketing, corporate communications, marketing, domestic sales, regional sales
- **Chief Cargo Officer:** cargo maintenance, cargo sales, cargo operations

AIRLINE PERSONNEL

- Aircrew, also called flight crew, is personnel who operate an aircraft while in flight. The composition of a flights crew depends on the type of aircraft, flights duration and purpose.
- The staff on board an aircraft can be broadly divided into 2 categories. First category is that of the Flight Deck Crew and secondly the Cabin Crew.
- Each of these crew categories has their own respective unique roles and are expected perform duties that are defined in nature. Let us take a look at various on-board crew positions available in commercial airlines.

A. Flight Deck Positions

a) Captain: Pilot –in Command of the aircraft is referred to as the Captain. Captain is the highest ranking officer among the air crew.

A pilot is a person who controls the flight of an aircraft and is responsible for navigating the aircraft towards its destination. Pilots are also sometimes referred to as aviators.

b) First Officer (FO): First Officer is also known as the co-pilot. All commercial airlines have two designated pilots. First Officer is seated next to the Captain in the cockpit and assists the Captain in aircraft operations.

c) Relief Crew Members: Relief crew members are fully licensed and trained Captains and First Officers who accompany the deck crew during the flight in case of long haul flights. Their responsibility is the relief pilots are to relieve the Captain and First Officers in case they are in need of rest or sleep.

B. Cabin Crew

Cabin Crew in India is also referred to as Flight Attendants, Air Hostess in case of female pursers and Flight Stewards in case of male pursers. The most important duty of cabin crew is to ensure passenger safety and comfort.

a) Purser: Purser is the chief of cabin crew who heads or leads the Cabin all the other flight attendants or service staff on board.

b) Flight Attendant: Flight attendants are also known as the cabin crew who is responsible for the safety and comfort of the passengers on board.

c) Flight Medic: Flight medics are specialized paramedics who are employed in air ambulances flights.

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Airline and cargo management

Module 2

MAJOR AIRLINE FUNCTIONS

An airline is a large business organization that has a number of interrelated and complex operations. Most of the functions are time-bound and the success of the business depends to a great extent on the effective and efficient functioning of the operations and various tasks involved. A brief discussion of the major functions follows

AIRLINE FLEET

Definition of air fleet: Airline fleet means a large group of aircraft/planes that operates as a unit (as of military aircraft under a single command) under a single company

Top airline fleet in India

Name of airline	Fleet size
Vistara	44
GoAir	55
Spicejet	118
Air India	128
IndiGo	263

FLEET PLANNING

- Fleet planning is a long-term strategic activity. Fleet denotes the total number of aircraft along with their types that an airline has for air transport operations. Aircraft vary, and consequently their capacity, range, size, load factor, etc. also vary. Fleet planning is considered to be one of the most complex and critical planning activities of an airline:
- An airline's fleet plan therefore reflects a strategy for multiple periods into the future, including the number of aircraft required by aircraft type, the timing of future delivers, and retirement of existing fleet, as well as contingency plans to allow for flexibility in the fleet plan given the tremendous uncertainty about future market conditions
- Fleet planning can be described as the act of determining future fleet requirements and the timing of aircraft acquisitions.

- Fleet Planning Theory The macro-evaluation method of fleet planning usually implemented by airlines within the long-term planning horizon of 10-15 years basically involves the determination of aircraft retirements from a scenario-estimated capacity gap.
- A retirement gap exists after the retirement of old inefficient aircraft. Therefore, the capacity gap is calculated as the sum of the retirement gap and the market growth gap.
- This method is based on the assumption that the aircraft assignment method, and the schedule-evaluation method have been implemented, leading to an optimized aircraft assignment and utilization

FACTORS IN FLEET PLANNING

- Impact of deregulation
- Hub and spoke system
- Technical factors
- Fleet rationalisation and commonality
  The airline industry behaves under conditions of oligopoly:
  - Tacit understanding exists on fare levels and structures without formal or illegal agreements as airline reduce in number
  - Cost minimisation is still important but airlines seek differentiation through service as well as price
- Long – Range aircraft
- Trends towards leasing
- Noise restrictions

AIRLINE FLEET PLANNING PROCESS

a. Overall approach – top down or bottom – up
b. Collation of airline specific information
c. Marketing analysis
d. Fleet planning model
e. System constraints
f. Aircraft evaluation
g. Tentative fleet planning and financial evaluation
h. Presentation and management approval

CONSIDERATION OF FLEET PLANNING

- match capacity to demand
- optimum number of fleet types
- fleet commonality
- aircraft payload range capability
- aircraft take-off performance
- relative fuel consumption

- relative revenue driven by seat count
- maintenance cost and support capability
- the value of passenger comfort
- cargo capacity
- old versus new trade-offs
- aircraft pricing/lease rates
- aircraft buy versus lease trade-offs
- Availability and affordability of financing etc.

AIRLINE SCHEDULES

- The airline's scheduling process is intended to provide a plan on the operating patterns of the companies' aircraft and their resources, to meet the anticipated demand.
- The schedules' plans are usually based on one season only. However, they should be integrated into long-term corporate plans, as the latter plan specifies the fleets' and other operational requirements.
- The main reason behind the short-term nature of the schedules plan is the unpredictable economic environment in which airlines operate.
- For this reason, this chapter provides an introduction to the schedules planning process, as it describes its conflicting objectives, including; customer satisfaction, productivity of human resources, high aircraft utilisation, high load factors, high frequency, maximisation of connections and consistent timing.
- It deliberates on scheduling constraints, including: slot problems; night curfews; industry regulations; pool agreements and peak surcharges; maintenance requirements, standby arrangements and general operational requirements; as it specifies about slot allocations, frequencies and resources, among other issues.
- Afterwards, this contribution also deals with the major routing patterns which are often considered during the scheduling process.

- For this reason, the schedules planning cycle is commenced six to nine months before a schedule is required for a given season.
- During this period, the airlines may need to develop specific route patterns which ought to be consonant with the strategic and operational plans, as well as with their schedules

Scheduling Objectives

The underlying scheduling objectives include:

- customer satisfaction
- productivity of human resources
- high aircraft utilisation
- high load factors

- high frequency
- maximisation of connections and consistent timing

SCHEDULE PLANNING AND DEVELOPMENT

Satisfy the Customer

- The schedules plan should satisfy the requirements of the various market segments which the airline targets (this is a schedules planning function).
- Therefore, the schedules planners require information on their airline customers' behaviours.
- They can obtain this data from a number of sources, including; historic data from the yield management department; information from sales and reservations agents, and from the airline's marketing research department.
- The schedules planner must make use of such information in order to accommodate the passengers' preferences, needs and wants.
- Thus, the schedules plan is an attempt to satisfy passengers with regards to time of day, the day of week, the frequency with which flights operate, and so on.

Productivity of Human Resources

- The schedules planners must ensure that staff numbers are set at an optimal level for each shift.
- Their aim is to reduce the occurrence of peaks and troughs (highs and lows) in staffing requirements, so that the airline delivers a consistent service. If a schedules plan is well prepared, it will result in lower staffing costs.
- The extra staff who are on duty during given shifts in the weekends or in public holidays will usually receive additional allowances, even if there is little or no work for them to do. Yet, the operational and technical areas may always require minimum staffing levels for every shift.
- For instance, if a shift calls for ten loaders between 3 and 4 a.m., but only needs four loaders after this time, it is usual for ten loaders to work the whole shift. Obviously, this may not satisfy the scheduling objective which is to achieve maximum productivity from the available human resources. Therefore, the schedules planner must work towards improving efficiency so that the members of staff are not under-utilised.
- This applies to many areas within the airline, including the roistering of cabin crew, cockpit crew, maintenance, engineering and so on (Ernst, Jiang, Krishnamoorthy & Sier,2004)

High Aircraft Utilisation

- With regards to aircraft utilisation, one of the most important things to remember is that the aircraft can only make a profit while they are flying.
- Aircraft on the ground make no money for the company. One way of looking at this is to assume that the indirect costs of aircraft ownership (depreciation, interest, et cetera) are relatively fixed. Consequently, as aircraft utilisation increases, the total hourly, indirect costs decrease.
- This leads to a decrease in overall costs, and as a result, the overall financial situation of the airline improves

High Load Factors

- The schedules plan optimises the level of traffic available and the level of capacity offered .
- Excessive frequency can cost an airline a lot of money. If the schedule is misjudged and the airline operates too many flights on a specific route, some of the flights could take-off with empty seats.
- Consequently, the airline will lose money. The planning of the load factor is crucial issue, as it must not be set too high or too low. To increase load factors many airlines may consider reducing their frequency of flights.
- However, such a measure may be counter-productive; as high load factors will result in a situation where passengers could not find a seat on the flights they want. Hence, passengers could be intrigued to utilise the other airlines' services

High Frequency

- Industry experience suggest that many airlines have increased their market share (or became market leaders) after they have increased their frequency of flights to particular destinations(rather than increasing the level of capacity on given routes). This argument contradicts what was discussed in the previous point, with regard to high frequency and load factors.
- However, it is the schedules planner's job to reconcile one requirement with another. It must be noted that certain destinations may require lower frequencies and larger load factors.
- For instance, certain routes that are used by business passengers may require frequent flights and smaller aircraft. The schedules planners are expected to maintain a balance between high load factors and high frequency. However, they are constrained by their fleet numbers and aircraft capacities

Maximisation of Connections

- The airlines' schedules could also be planned in such a way which could optimise passenger connections at both ends of a given route.
- Many carriers have developed connecting hubs with the underlying objective of adding new points for traffic to feed and de-feed long-haul flights (McShan & Windle, 1989). For example, Iceland's fast-expanding WOW Air connects European points with North American destinations.
- The layovers in Reykjavik could boost the economics of long-haul flights from short haul flights.
- Airlines can shuffle passengers through intermediary hubs, where they can feed and de-feed short-haul and long-haul routes.
- There are other developments which can boost traffic flows, like for example; marketing arrangements between carriers, the use of code share flight arrangements, et cetera.

Consistent Timings

- The schedules should be as consistent as possible in terms of maintaining the same flights departure times for particular services, from season to season.
- This is also known as 'clock-face timing'. The airlines' back catalogue of schedules consistency will help them build familiarity and loyalty among their consumer base (Wu, 2005).
- At times, the airlines may find it difficult to maintain such consistency due to certain scheduling constraints

THE SCHEDULES PLANNING PROCESS

- The schedules' planning is constrained by the airline's fleet size. The schedules planners need to ensure that the prescribed number of aircraft is scheduled on the airline's network, in such a way which will help their airline to achieve its overall objectives.
- When the schedules planning process has been completed and the final plan has been drawn up; the actual flight dates approach and the plan is given to the airlines' operational departments.
- Then, it is their responsibility to put the schedule into action. Therefore, the schedules planning process is an integral part of the successful operation of any airline. It affects and is itself affected by the considerations of other departments.
- The importance of the schedules plan cannot be over-emphasised.
- The plan must be as accurate as possible, as the airline can never under / over-estimate its fleet's requirements. If it under-estimates the fleet's requirements, the airline will not schedule enough flights and will find itself unable to operate the flights that are being demanded by target customers.

- Alternatively, if the airline over-estimates its fleet's requirements, it will probably schedule too many flights which will result in the under-utilisation of its fleet.
- This will ultimately result in significant financial losses to the airline. For these reasons, the scheduling department should always work in collaboration with other departments
- Clearly, every department within the airline should be involved in the schedules planning processes as their involvement would improve the schedules planning process and the airline's operations.
- The airline departments which should be involved in the schedules planning decisions may include; corporate planning, fleet planning; sales; marketing; product development; operations control; catering; cargo; ground operations and staff recruitment; among others.
- The marketing department will ensure that the airline schedule will meet and exceed the customers' expectations

SCHEDULING CONSTRAINTS

- The external constraints include; slot problems, night curfews, industry regulations, pool agreements, and peak surcharges.
- Whilst, the internal constraints include; maintenance requirements, standby arrangements and general operational requirements.

Slot Problems

- Many airports are increasingly experiencing congestion problems. Very often, the volume of air traffic to and from certain airports could exceed their runway capacity.
- Such problems exist in London Heathrow, Tokyo Narita, Washington National, Frankfurt and Milan Linate, among others. As a result, the air traffic co-ordinators have had to operate a slot system, whereby time slots are allocated for arrival and departure times.
- Such a system operates on the basis of certain principles. The most basic of these principles is the 'grand-father's rights'.
- This specifies that if a carrier had a particular slot in a given season, it will be entitled to use that slot again in a subsequent equivalent seasons. This system has suited incumbent carriers.
- However, it could impose severe constraints on the schedule planners to change timings and / or increase their frequencies at congested airports.
- This system may be considered as anti- competitive; however they are adopted in many congested airports.

Night Curfews

- Many airports are either closed at night or they may operate well below their daytime capacity levels.
- Therefore, night curfews place restrictions on schedules planners as they have to schedule flights to and from such airports during day time hours.
- Time restrictions like this are usually enforced at airports which are lobbied by strong, local environmental groups.
- An airline which breaks night curfew regulations is usually subject to heavy fines. For example, many airports in Germany have restrictions and curfews during the night.
- Frankfurt International Airport, has banned scheduled aircraft movements between 23:00 and 05:00 hours. Moreover, a limited number of flights are allowed during the periods (22:00-23:00 and 05:00-06:00 hours), providing they comply with ICAO Chapter 4 noise regulations. In addition, further restrictions will usually apply to noisier aircraft (AIP, 2016).

Industry Regulation

- In certain cases, governments may grant exclusive rights to one of more airlines to operate on given routes. They may decide that certain point(s) could be served for tourism, commercial, or for other purposes.
- Such regulations may be considered as another form of constraint, which could have a strong influence on the construction of schedules.

Pool Agreements / Joint Venture Agreements

- Occasionally airlines may enter into joint venture agreements in many areas. However, the agreements relating to the provision of frequency, type of equipment and timings could have an impact on the airlines' schedules planning process

Peak Surcharges

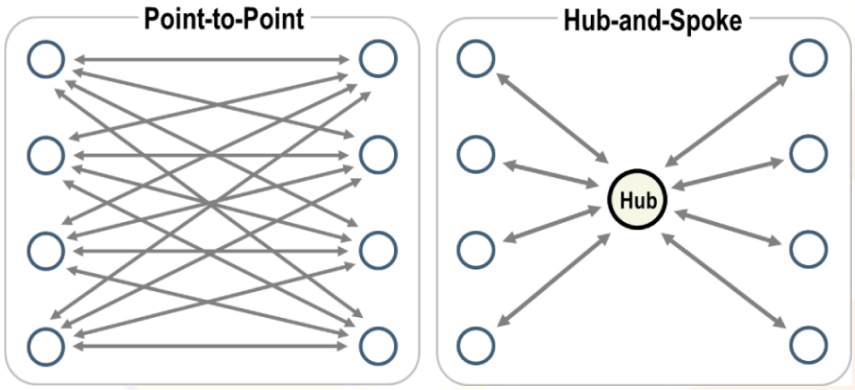
- The airports which experience severe congestion problems could apply specific measures. Peak surcharges are usually applied to passengers and to aircraft which operate during specific peak periods.
- Their purpose is to discourage carriers from flying during congested, peak periods. These measures may not be very successful as there are many other variables which could influence or even dictate flight timings.
- At times, peak surcharges may compound congestion problems, particularly during peak periods by creating additional, more acute peaks, before and after the original peak periods.

Maintenance Requirements

- The schedules planners must consult with the engineering department as aircraft maintenance requirements affect schedules.
- Each aircraft within an airline's fleet has its own individual maintenance schedule.
- Provision is made within the schedule for different kinds of maintenance checks to be carried out on the aircraft, at various intervals.
- The schedules planners have to know when the aircraft will be grounded for maintenance.
- They must 'block off' enough aircraft time from their overall fleet availability so that appropriate maintenance checks can be completed.
- The maintenance periods must be built-in within the schedule

AIRLINE NETWORKS

TYPES OF NETWORKS



Hub and Spoke vs Point to Point

The models "hub," "spoke," and "point to point" are found in the airlines' networks. "Hub" and "spoke" are names taken from a bicycle wheel where the hub is its center and spokes originate from this centre and terminate at the circumference. A point-to-point network is a route where the origin and destination traffic is only focused on by an airline.

Hub and Spoke

- A hub-and-spoke network is a route where an airline not only transports passengers between two points but also connects the passengers of distant points via its hub. Such routes are used as spokes connecting other cities via its hub.
- This model was originated from the U.S. carrier American Airlines. Currently, Emirates Airlines uses it the most. This model primarily requires different banks of flight arrivals and departures aiming to connect an arrival from city (Z) with a

departure to city (Y,) at the hub (X). Highly attractive transit traffic is established by this model. Some other airlines contribute to it by filing a flight plan for origin and destination traffic. No doubt there are some shortcomings in this model. Operating the tight schedule on time to provide the next connection is very challenging. As there are more advantages than shortcomings, more and more carriers are adopting this model. Both time and money are saved for an airline by using this model. Passengers are also benefited by saving their time with this convenience by increased connection opportunities. A number of these hubs throughout their system are operated by such large airlines.

Point to Point

- A point-to-point network is a route where origin and destination traffic is only focused upon by an airline. It means that the airline is only interested in transporting the passengers from a city of origin (X) to the city of destination (Y) and vice versa and is not interested in connecting passengers between (Z) and (Y) via (X).
- In this category, low-cost airlines such as the U.S. carrier Southwest Airlines comes into play. In its flights, the airline stops at several places picking up the short-distance passengers.

Summary:

- Both models are used by the airlines for transporting their passengers from one point to another. Both have some pitfalls and benefits.
- In the hub-and-spoke model, the airline concerned has to develop different banks of flight arrivals and departures as hubs throughout the country whereas in a point-to-point model there is no such necessity.
- In a hub-and-spoke model, the punctuality of flights is mandatory otherwise the probability of missing a connection will increase.
- In a point-to-point model, flights stop at various locations increasing the travel time.

FLEET ASSIGNMENT

- Fleet assignment is another crucial task in airline operations. It is basically concerned with assigning the right type of aircraft to each flight in the schedule, especially in terms of capacity of aircraft.
- Different aircraft have different capability, range and speed. The number of seats in economy class and other classes may also vary. The forecasted demand needs to match with the type of air craft, Also the distance to cover and the time needed is important determinants.
- Moreover the required type of aircraft needs to be available for operation without delay. Airlines have to identify the type of aircraft needed for each leg/sector considering both the technical aspects of the aircraft and their availability. The capacity of the available fleet in terms of demand is also crucial in fleet assignment.

- Moreover, the fleet assignment should not result in reduction in profits; rather, it should help in maximizing revenue while minimizing cost.
- "An airline's fleeting decision highly impacts its revenues, and thus, constitutes an essential component of its overall scheduling pro cess." (Sherali et al., 2006) The focus of fleet assignment is to "solve the minimum cost assignment problem in order to assign the most suitable type of aircraft for individual flights in the timetable while meeting the maintenance requirements of aircraft" (Wu, 2010).
- This is done approximately three to four months before the scheduled time. Based on the previous initial schedule, the best possible way to execute the timetable is explored by identifying the available fleets with the lowest operating costs.

AIRCRAFT ROUTING

- Aircraft routing is the next process, which is done to allocate a limited number of aircraft of the same fleet type to conduct those flights assigned earlier by fleet assignment. It is "the process of assigning each individual aircraft (referred to as tail number) within each fleet to flight legs.
- The aircraft routing is also referred to as aircraft rotation, aircraft assignment or tail assignment
- Aircraft routing involves routing or rotation for each aircraft in a fleet. Routing is all about the sequence of flight covered by a single aircraft and rotation denotes the routing that starts and ends at the Same location
- Each aircraft has to visit a maintenance station at regular intervals. Based on fleet assignment, in this stage the objective is to utilize available air craft in each fleet to operate flights at the right time and between the right airports.
- In this way, the same aircraft is operated continuously on a particular route, for onward as well as return journeys.
- This process usually starts one or two months before. Flight continuity is an important factor here, which ensures that the same aircraft can operate those assigned flights in the right order. In continuing, the turnaround time has to match with scheduled arrival and departure times.
- Flight coverage and maintenance factors in airports also have to be considered in aircraft routings. It mainly includes chronological arrangement of flights on different routes in a profitable manner, along with maintenance schedules

CREW SCHEDULING

- Crew scheduling involves crew pairing and crew roistering. Here, crew represents both cockpit and cabin crew.
- Cockpit crew are also called flight crew, which denotes the technical aspect of conducting flight operation.
- Usually a flight will have a captain in command as pilot and a first officer as co-pilot. Cabin crew are for providing services on-board, mainly for facilitating

safety and emergency procedures. Ultimately it is done to determine the sequences of flight legs and assigning both the cockpit and cabin crew to these sequences.

- One of the major objectives of this stage is to minimize the total cost of crewing along with allocating suitable crew as per the requirements.
- Crew pairing is all about creating a number of crew pairings at the lowest cost, "The objective of crew pairing is to find a set of pairings that covers all flights and minimizes the total crew cost. The final crew pairing includes dates and times for each day." (Bazargan, 2010).
- Crew pairing is basically the generation of mini schedules, called pairings and crew rostering, which involves pairings that are assembled into longer crew schedule in the form of "rosters" or "bidlines".
- The roster is basically a work schedule generated for each crew member according to his/her preferences, capabilities and requirements "Bidline" is a generic schedule assigned to each crew member.
- Crew rostering represents the process of building up detailed rosters for individual crew within a particular period Individual crew members are assigned to crew pairings, usually on a monthly basis.
- The working hours of flight crew are also regulated as part of safety consideration and fatigue management.
- In addition, location of crew base is also a factor that is considered. Tour of duty (TOD) is the term used for the working hours of flight crew. According to Wu (2010): A TOD may last from 1 to 2 days for a domestic crew, to a number of days for an international crew, depending on flight timetables and airlines networks.
- If a TOD involves overnights at ports other than the base of a crew, airlines will incur other crewing expenses such as accommodation, grand transport and meal allowance.
- In fact, crew constitute the second highest operating cost after fuel for an airline and hence crew scheduling is an important task, and its effectiveness and efficiency translates into savings.

CABIN CREW

- Cabin Crew in India are also referred to as Flight Attendants, Air Hostess in case of female pursers and Flight Stewards in case of male pursers. The most important duty of cabin crew is to ensure passenger safety and comfort
- a) Purser: Purser is the chief of cabin crew who heads or leads the Cabin all the other flight attendants or service staff on board.
- b) Flight Attendant: Flight attendants are also known as the cabin crew who is responsible for the safety and comfort of the passengers on board.

- c) Flight Medic: Flight medics are specialized paramedics who are employed in air ambulances flights.

Job Description of Commercial Airline Cabin Crew

- The role of cabin crew is unique as they have two distinct responsibilities on board an aircraft as per DGCA
- The most important responsibility of cabin crew concerns the safety of passengers and the aircraft cabin. This is a major responsibility and requires that they undergo specialized and thorough training not only to gain a sound knowledge of their safety related responsibilities but also to in still in them complete confidence and provide them with the authority needed in performing their duties.
- The second and most visible duty of cabin crew is the role they play as their airline's public relations officers, attending to passengers' needs and, in general, creating a favourable impression of their airline through friendly and efficient service.

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Airline and cargo management

Module 3

AIRLINE TERMINOLOGY

1. BOOKING

- Selection of flight reserved with an airline for passengers intended to journey.
- An "airline reservation" is a legal contract whereby an airline undertakes, in exchange for a certain amount of money, to provide a seat to a specific passenger by plane on a specific flight from one specified airport to another.

2. BOOKING FORM

- A flight reservation form is used by an airline or travel agency to gather information needed to book air travel for clients.
- The form records are details of customer name, contact address, telephone number, itinerary, payment details, and booking conditions.

3. BAGGAGE

- Baggage consists of bags, cases, and containers which hold a traveler's personal articles while the traveler is in transit.
- A modern traveler can be expected to have packages containing clothing, toiletries, small possessions, trip necessities.

4. BAGGAGE ALLOWANCE

- On the commercial transportation, mostly with airlines, the baggage allowance is the amount of checked baggage or hand/carry-on luggage the company will allow per passenger.
- There may be limits on the amount that is allowed free of charge, and hard limits on the amount that is allowed.
- In simple words, the amount of each luggage each pax is permitted to transport free of cost.
- Each airline has its own rule & regulation on luggage's and they are subject to change at any. However the most aircraft companies not permitted to carry items over 32kg.

5. BAGGAGE TAG

- A document noting the paxs name and address that is attached to the luggage as a means of identification.
- Tags contain some basic info; airline/carrier name, flight number, bag tag number, destination airport code.

6. BAGGAGE CLAIM AREA

- An area in an airport where arriving passengers can collect their luggage.

7. BOARDING PASSS/ CARD

- A boarding pass is a document that gives a passenger permission to board the plane, normally issued at check-in.
- It contains information about flight times, boarding times, and seat assignments for that flight.

8. CHECK-IN

- Airport check-in is the process whereby passengers are accepted by an airline at the airport prior to travel.
- The airlines typically use service counters found at airports. The check-in is normally handled by an airline itself or a handling agent working on behalf of an airline.
- The check in includes the checking of pax document, location of seat, boarding pass and baggagetag.

9. CANCELLATION FEE

- Penalties leaved by an airline when a pax failed to use the reservation.

10. CARRIER

- It is just an airline used to transport pax and cargo. Eg; Ethihad, Air India, Qatar Airways etc…

11. CHILD

- Passenger b/w the age of 2 to 12.
- A child's ticket is issued for the child passenger.
- The child passenger is provided with a **seat** like any other passenger. Child passengers areadmitted to all the cabins in the plane.

12. COMMISSION

- The amount of money earned from the sale of flight seats and other services.

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13. GO SHOW

- A situation where a passenger check in at an airport in the hope of getting an earlier flight than was reserved.

14. SCHEDULED TRANSPORTATION

- It is the regular/routine transport of cargo, property, and pax by an airline company.Scheduled airline operates b/w airports governed by the route dispersal guidelines and a pre-approved time-table.

15. ITINERARY

- A flight itinerary is the description of a customer travel plan. It includes the departure and arrival airports, connecting airports (if any), dates and times of the flights, flight numbers, passenger name, any meal preferences (if applicable), and your confirmation number.

16. INFANT

- A pax who have not reached the second birthday is knownas infant. Age proof needs to be provided at the time of check-in
- Valid ID proof for Infants:
- Birth Certificate
- Mother's hospital discharge summary
- Vaccination certificate
- There is no extra seats may be booked for Infants. Infants cannot travel in their own seat and must be seated in an adult's lap.

17. CONNECTING FLIGHT (CCJ-DXB-AUH)

- A flight which delivers a pax to another aircraft in another city or a flight that requests pax tochange the aircraft as part of their itinerary.

18. DIRECT FLIGHTS (CCJ-DXB)

- A flight which normally does not requires its pax to change the aircraft b/w the starting point anddestination.

19. CUSTOMS

- Customs is the areas of entry into a Country, typically at the airport at which goods and cargo aresearched for various reasons, such as ensuring persons are bringing in no illegal items etc.
- It controls and regulates the import and export.

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20. ETD – ESTIMATED TIME OF DEPARTURE

- It is the departure time specified on the boarding pass and is the tentatively planned time for the aircraft to depart.

21. ETA – ESTIMATED TIME OF ARRIVAL

- The estimated time of arrival is the time when an aircraft expected to arrive at a certain place.

22. EXCESS BAGGAGE

- Excess baggage is the amount of baggage that is in **excess** of the free allowance in size, number, or weight permitted for the journey.
- At the carrier's discretion, this may be carried at an extra charge, but no guarantee is made and it may have to be sent as freight instead.

23. NO SHOW

- A no-show is when a ticketed passenger doesn't show up for their flight, or a pax who holding a flight reservation and failed to use it and cancelled it prior to the flight departure.

24. UM – UNACCOMPANIED MINOR

- An 'unaccompanied minor', commonly known as 'UM' is a child who is travelling alone withouta parent, guardian or responsible adult.

- Airline personnel are responsible for escorting the child through immigrations and customs and boarding the flight in time. A fee may be payable for this service.

- During the flight, no special attention is given to the minor until the flight enters final descent to the destination.

25. MCT – MINIMUM CONNECTING TIME

- Minimum Connecting time is the amount of transfer time, agreed in advance between airlines and airport authorities that are considered sufficient for a passenger to make a connectionbetween an arriving flight and a departing flight.

- That means shortest connecting time interval necessary for transferring paxs from one flight to another. There is a standard MCT for each airport listed in OAG (Official Airline Guidance).

26. MCO – MISCELLANEOUS CHARGES ORDER

- A general purpose voucher issued on receipt of extra payment associated with a paxs journey.
- Passenger may require paying an additional amount for date changing on the tickets, or carrying excess baggage.

27. MPD – MULTI PURPOSE DOCUMENT

- A form used to automated issuance of interline accountable traffic documents other than the passenger ticket and baggage check.
- It is a multi-copy carbonized form or a document issued coupon by coupon

28. EMD – ELECTRONIC MISCELLANEOUS DOCUMENT

- EMD is an IATA standard for electronically documenting ancillary revenue; that is, all othersales and transactions between airlines and passengers besides electronic tickets.
- Air China was the first airline to adopt the IATA EMD standard in 2010.

29. NUC - NEUTRAL UNIT OF CONSTRUCTION

- The neutral unit of construction or neutral unit of currency (code: **NUC**) is a private currencyused by the airline industry, to record fare calculation information.
- A set of exchange rates are issued by the International Air Transport Association (IATA) every month(IROE).
- The ticket component prices are converted from the original currency (of the country of commencement of travel) and recorded on the airline ticket.
- The NUC system came into being on 1 July 1989, having superseded the older "Fare Construction Unit" (FCU) system.
- As of 2008, the NUC is pegged approximately to the US dollar ($1 ≈ 1 NUC).
- A similar unit, formerly used by the European railway industry is the UIC Franc (XFU).

30. ON REQUEST

- It refers to the status of a seat request not yet confirmed. (Window seat)

31. OPEN TICKET

- An open ticket is a travel document without a certain return date, but with a fixed validity period.
- All open tickets must be used within a specific timeframe (at best 1 year).

- They are often only available for business class. So that these ticket are mostly used by

- business travelers.

32. OPEN JAW TICKET

- An open-jaw ticket is an airline return ticket where the destination and/or the origin are not the same in both directions.

33. OVER BOOKING

- A situation in which more seats has been sold than available in an aircraft.
- The practice is usually followed to fill up the seats left vacant by late or last minute cancellations or people who don't show up for their flight.
- Airlines have been allowed to overbook and even oversell flights by the governing body), but when they deny someone a seat, they must provide adequate compensation to the inconveniencedpassengers.

34. ATA – ACTUAL TIME OF ARRIVAL

- The time at which an aircraft reach at its destination.

35. TRANSIT LAUNGE

- A waiting room at an airport for passengers changing flight, or for long-haul passengers whohave to leave their aircraft while it is serviced and refueled.

36. AIRPORT TERMINAL/CONCOURSE

- An area at an airport where passengers transfer between ground transportation and the facilitiesthose allow them to board and disembark from an aircraft.
- Within the terminal, passengers purchase tickets, transfer their luggage, and go through security.
- The building that provide access to the airplane through gates are usually called concourse.

37. BANNED/PROHIBIED ITEMS

- Lighters, scissors, sharp objects, tools, sporting goods, self defense items, compressed gases,flammable items, radioactive materials etc…

38. AVAILABILITY

- Term used to represent the no of seats remaining for purchase.

39. HUB

- It is an international gateway used to concentrate passenger traffic and flight operations at

givenairport.

- They serve as a transfer point to get passengers to their final destination.

40. WAITING LIST

Passenger waiting for confirmation of a requested flight that are currently fully booked.

41. RAMP/AIRPORT APRON/FLIGHT LINE

- Ramp is the area of an airport where aircraft are parked, unloaded or loaded, refilled, or boarded.
- It is a defined area on an airport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance.

42. ATA – AIR TRAFFIC CONTROL

- Air traffic control is a service provided by ground-based air traffic controllers who direct aircraft on the ground and through controlled airspace, and can provide advisory services to aircraft in non-controlled airspace.
- Controllers monitor the flight and give instructions to the pilot as the aircraft passes through the center's airspace, from sector to sector.

43. VFR- VISUAL FLIGHT RULES

- Visual flight rules (VFR) are a set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going.
- The VFR pilot is required to see and avoid obstacles and other aircraft.
- VFR (Visual flight rules) are a set of rules and regulations established by the FAA (Federal Aviation Administration) under which a pilot flies an aircraft in weather conditions (generally a clear climate where a pilot can see the aircraft's route direction). VFR means Navigating by what's outside.
- VFR + instruments means (as mentioned above but utilizing navigation instruments ADF,GPS, etc.).
- VFR (Visual Flight Rules) usually means that you are flying without definite control from ATC.
- You can maneuver freely in the sky considering you don't breach any airspace. Moreover, in several airspaces you have to observe the ground also, as you are in control of observing other aircrafts to avoid any collision.
- VMC (Visual Meteorological Conditions) have to be maintained to fly under VFR. This means that you have to keep a safe distance from the clouds (you can't fly in the clouds).
- A pilot flying under VFR is required to observe outside the cockpit in order to navigate,

avoid other aircrafts & obstacles and to control the aircraft's altitude.

44. IFR – INSTRUMENT FLIGHT RULES

- The set of rules that govern aircraft that flies in IMC, or instrument meteorological conditions. In general terms, instrument flying means flying in the clouds.
- IFR means Navigating entirely on instruments, or under ATC control.
- IFR is implemented when VFR is not in the picture i.e. when VFR conditions do not exist, then IFR is implemented.
- When any pilot flies under IFR, he is required to be under the direction of ATC (Air Traffic Control).
- They direct you regarding the aircraft direction course, speed, altitude, etc. IFR is imperative in weather with visibility lesser than 2 miles.

Difference b/w IFR and VFR

- To fly any aircraft there are generally 2 sets of rules; VFR and IFR.
- A pilot may decide to go for one of the set of rules on the basis of the weather conditions.
- IFR is a set of rules and regulations established by the FAA (Federal Aviation Administration) to administer flight under conditions where flight by outside visual reference is unsafe.
- IFR or VFR flight plan are terms used by pilots and controllers to indicate the type of flight plan an aircraft is flying.
- IFR flight flies with reference to flight deck instruments and navigation (by reference of electronic signals).

45. TRANSIT POINT

- This is the point where the passenger temporarily locates at a point between the origin and destination.

46. CIP – COMMERCIALLY IMPORTANT PASSENGER/PERSON

The term CIP used to refer high value commercial clients.

47. GATEWAY

The last departure point from a country before arrives in another country.

48. AOG - AIRCRAFT ON GROUND

It is a term used to indicate aircraft on ground due to maintenance.

49. ATC – AIR TRAFFIC CONTROL

- It is a service provided by ground based air traffic controllers who direct aircraft on the ground and through controlled airspace, and can provide advisory services to aircraft in

non-controlled airspace.

- The primary purpose of ATC worldwide is to prevent collisions, organize and expedite the flow of air traffic, and provide information and other support for pilots.

50. JET BRIDGE

- It is a bridge that connecting an aircraft to the gates, so that the pax and cargo can embark or disembark without getting their feet wet.

51. AFRA – AIR FIELD RESTRICTED AREA

- It is part of an airport building and airfield with restricted access.

52. BIRD CONTROL

- A special work at the airport in to prevent collisions with birds from the areas were aircraft take off and landing.

53. BIRD STRIKE

Collision b/w aircraft and one ore more birds.

54. VIP CENTRES

It is a separate terminal for VIP pax with convenient pre flight waiting areas, and various specialized services.

55. INCAPACITATED PASSENGER

- Incapacitated Passengers shall be defined as those with a physical disability or a neurological disorder or with a medical condition, who require individual attention or assistance on emplaning/deplaning, during the flight and during ground handling, which is normally not extended to other passengers.

56. CODE SHARE

- Code share flights come about as a result of agreements between airlines to sell seats on eachothers' flights in order to provide passengers with a wider choice of destinations.
- The flight will have both operating carriers' flight no and the code sharing flight no. Reasons; For damaged flightsEmergency Cases As pax convenience

57. JET LAG

- Jet lag also called jet lag disorder is a temporary sleep problem that can affect anyone who quickly travels across multiple time zones in a short amount of time.

58. CVR – COCKPIT VOICE RECORDER/BLACK BOX AND FDR – FLIGHT DATA RECORDER

- Flight recorders actually consist of two functional devices, the flight data recorder (FDR) and the cockpit voice recorder (CVR), though sometimes these two devices are packaged together in one combined unit.
- The FDR records many variables, not only basic aircraft conditions such as airspeed, altitude, heading, vertical acceleration, and pitch but hundreds of individual instrument readings and internal environmental conditions.
- The CVR records verbal communication between crew members within the aircraft's cockpit as well as voice transmissions by radio.
- A device used to record the audio environment in the flight deck for accidents and incident investigation purposes. The CVR records and stores the audio signals of the microphones and earphones of the pilots' headsets and of an area microphone installed in the cockpit.

AIR TRANSPORT ABBREVIATION AND MEANINGS

ABBREVIATION	MEANING
ADT	Adult
ACK	Acknowledge
ADV	Advised
AGT	Agent
ALTRN	Alternative
ARR	Arrive
AUTH	Authority
CHG	Change
CHD	Child

CFY Clarify

CONX	Connection
DEP	Departure
DAPO	Do All Possible
FRAV	First Available
INF	Infant
KK	Confirm
NN	Need
NTBA	Name to Be Advised
NO SH	No Show
ORIG	Origin
PSGR/PAX	Passenger
PNR	Passenger Name Record
RPT	Repeat
REQ	Request
RES SAS PO	Reservation Soon as Possible
STVR	Stop Over
TKT	Ticket
TKT NO	Ticket Number
TRAV	Travelling
UM	Unaccompanied Minor
WL	Wait List
VIP	Very Important Person
TRS	Travel Related Services
CHTR	Charter
TO	Arriving City

EQP	Equipment
FLT	Flight
END	Endorsement
RFD	Refund
XX	Cancel Request
REP	Representative
SKED	Schedule
VLD	Valid
FROM	Departure City
BRD	Boarding
ISSD	Issued
RER	Re Routable
RR	Re Confirmed
ST	Stop

TYPES OF JOURNEYS

1. ONE-WAY (OW)

The traveler just cross from origin to destination is known as one way trip. The origin and final destination are in different countries.

Eg; IND-LON

2. CIRCLE TRIP (CT)

When the traveler starts from one location, and goes to multiple locations and then comeback at same location where the passenger started their journey.

Eg; LAX-LON-SYD-LAX

3. ROUND TRIP (RT)

When the traveler starts from one point and comes back to the same point using the same route is called as round trip journey.

Eg; LAX-LON-SYD-LON-LAX

4. ROUND THE WORLD (RTW)

The journey in which the traveler travels around the world and crosses the international time line, visiting multiple places.

Eg; LAX-SYD-DXB-PAR-LAX

5. OPEN JAW (OJ)

When the traveler goes from one place to another by air, from there, goes to a third place by other means of travel, and then takes a flight back to where he started.

Eg; He goes from JFK to LAX by air, from LAX to SFO by car, and then from SFO to JFK by air.

INTERNATIONAL SALES INDICATORS

Before calculating the fare, it is important to determine the sales and ticket issuance locations in order to identify the applicable international sales indicators. These ISIs or truncation codes subsequently attract certain checks in formula that may lead to a higher fare result.

SITI – SOLD INSIDE TICKETED INSIDE

The place of ticket sale and issuance are both in the country of commencement of transportation.

Eg; If a pax want to travel from Bangladesh to Malaysia and he purchase a ticket from Bangladesh and he will depart from Bangladesh then it will be the SITI tkt.

SITO – SOLD INSIDE TICKETED OUTSIDE

The place of sales is inside the country of commencement of transportation and the place of tkt issuance outside the country of commencement of transportation.

Eg; If a pax want to travel b/w Bangkok and Dhaka, and he purchase a ticket from Bangkok and he depart from Dhaka then it will be the SITO tkt.

SOTI – SOLD OUTSIDE TICKETED INSIDE

The tkt sold outside the country commencement of transportation and the ticket issued inside the country, of commencement of transportation is known as SOTI.

Eg; If a pax want to travel from Bangladesh to Malaysia and he purchase a tkt from Malaysia and he will depart from Bangladesh.

SOTO – SOLD OUTSIDE TICKETED OUTSIDE

The place of ticket sale and issuance are both outside the country, commencement of transportation.

Eg; If a pax buys their tkt in the UK, but they are travelling from New York to Los Angeles it is known as SOTO tkt.

TC1, TC2, TC3 AREAS

TC1 – North America, South America, Caribbean Islands, Greenland, Hawaii Island

TC2 – Europe, Africa and some part of Asia, West of Ural Mountain

TC3 – South East Asia, South Asian Sub Continent, Japan and Coria

GLOBAL INDICATORS (GI)

In order to quote fare, it is important to know the type of routing that the pax is taking. The routing types are represented by global indicators.

1. WH – WESTERN HEMISPHERE

Any Travel itinerary which originates and ends in Western Hemisphere or TC1 will have WH as Global indicator.

Eg; NYC-RIO

LOS-MEX

MIA-GIG

2. EH – EASTERN HEMISPHERE

It is the travel within TC2 or within TC3 and in b/w TC2 and TC3.

When Travel is conducted solely within the Eastern hemisphere the itinerary will have Global Indicator as EH.

Case 1 – Madrid to Bangkok (from TC2 to TC3).

Case 2 -From Delhi to Bangkok (entirely with TC3)

Case 3 -From Madrid to Cairo (within TC2)

3. PA – PACIFIC ROUTE

When travel is conducted across the Pacific Ocean only then Global indicator "PA" applies for the itinerary.

Travel from TC1 to TC3 via Pacific Ocean, and travel from TC1 and TC2 (via the Pacific and TC3)

Case 1 – Travel from Vancouver in Canada (TC1) to Jakarta Indonesia (TC2) crossing pacific Ocean.

Case 2 – Travel from Mexico City (TC1) to Cape Town (TC2) via Hong Kong (TC3).

In this case as well since the travel is conducted across the Pacific Ocean and Indian ocean hence "PA" global indicator will be applicable for the itinerary.

4. PN – PACIFIC NORTH

This journey is also similar to PA. But the only difference is that it is a travel b/w South America and South West Pacific (Australia, Cook Island, New Zealand, Solomon Island etc…) via North America.

Case 1 – In this case travel is conducted from Santiago Chile (TC1) to Auckland New Zealand (TC3) via Bogota (TC1) and more importantly via Los Angles (TC1 North America) hence Global indicator will be PN instead of PA.

5. AT – ATLANTIC ROUTE

When travel is conducted across the Atlantic Ocean the itinerary will have "AT" as a global indicator. (TC1 and TC2 or TC3).

Case 1- Mexico city (North America-TC1) to Madrid (Europe-TC2) crossing Atlantic ocean hence Global indicator AT will apply.

Case 2 – Travel Itinerary below is from Newyork city (TC1) to Sydney (TC3) Via London (TC2). In this case, since travel is conducted across the Atlantic Ocean from North America to Australia via the UK (TC2) the applicable Global indicator will be "AT".

Case 3 – In this itinerary travel is conducted from Rio De Janerio (TC1) to Seoul (TC3) via London (TC2) across the Atlantic ocean hence this itinerary will have Global indicator as "AT".

6. AP – ATLANTIC PACIFIC ROUTE

- When travel is conducted across the Atlantic and Pacific oceans both then AP global indicator will be applied for the itinerary.

- If the travel is conducted from Istanbul (TC2) to Tokyo (TC3) via Newyork (TC1).
- Since travel is conducted by crossing both the oceans Atlantic and Pacific then, in this case, AP will be the Global Indicator for this route.
- (Travel b/w TC2 & TC3 via Pacific and Atlantic Ocean).

7. SA - South East Asia or South Atlantic

- When Travel is conducted from South Atlantic Countries which are ABCUP – Argentina, Brazil, Chile, Uruguay, and Paraguay to Southeast Asia to South Asian Subcontinent via Southern Africa or Indian Ocean Island or direct transatlantic flights than for such itinerary Global indicator "SA" will be applied.
- If the travel is from Buenos Aires (TC1) to Mumbai (TC3) via Cape Town (TC2). Since the via point in this example is via Cape Town which is a southern African country the applicable global indicator will be SA instead of AT.

8. FE – Far East

- Travel from European Russia or Ukraine via TC3 except Japan or Korea route.

9. RU – Russian Route

- Travel b/w European Russia and TC3 via Japan or Korea with nonstop service.

10. TS – TRANS SYBERIAN

- Travel b/w TC2 & TC3 via tarns Siberia Eg; Any journey from Europe to Far East via Moscow.

11. POLAR ROUTE

- Any journey from Europe – East via Alaska.

IATA TRAFFIC CONFERENCE AREAS

TC1

YVR – Vancouver, Canada

YMQ – Montreal, "

YOW – Ottawa, “

MIA – Miami, USA

LAX – Los Angles, “

LAS – Las Vegas, “

NYC – New York City, “

CHI – Chicago, “

SFO – San Francisco, “

BUE – Buenos Aires, Argentina

SCL – Santiago de Chile, Chile

LIM – Lima, Peru

GIG – Rio de Janeiro, Brazil

GUA – Guatemala City

TC2

FCO – Rome, Italy

CDG – Paris, Italy

ATH – Athens, Greece

MAD – Madrid, Spain

ZRH – Zurich, Switzerland

GVA – Geneva, Switzerland

BER – Berlin, Germany

JNB – Johannesburg, South Africa

CPT – Cape Town, South Africa

TC3

TYO – Tokyo, Japan

KWI – Kuwait

DOH – Doha, Qatar

RUH – Riyadh, Saudi Arabia

JED – Jeddah, “

MCT – Muscat, Oman

AUH – Abu Dhabi, UAE

DXB – Dubai

SHJ – Sharjah, UAE

JKT – Jakarta, Indonesia

KUL – Kuala Lumpur, Malaysia

SIN – Singapore

BKK – Bangkok, Thailand

DEL – Delhi

MAA – Chennai

CCU – Kolkata

BOM – Mumbai

KTM – Kathmandu, Nepal

ISB – Islamabad, Pakistan

KHI – Karachi, Pakistan

CBR – Canberra, Australia

WLG – New Zealand

PASSENGER TICKET

A document issued by travel agencies or airlines is known as pax tkt. A pax tkt indicates "the pax entitled a seat on flight".

Passenger ticket is the contract of carriage between the airline and the passenger. While travelling, passengers are required to keep the passenger tickets with them throughout their journey as the tickets are required at check-in and immigration purposes.

A document or documents forming part of the Electronic Ticket containing the information and notices required for travel such as passenger name, itinerary, fare, tkt no including airlines 3 digit code, baggage allowance, cities the tkt is valid for travel etc…

COUPONS (Ticket)

There may be coupons within a ticket. Coupon eventually corresponds with a boarding pass. Often a leg per coupon, but, in the case of a through pax the coupon is for the segment. Flight coupon indicates the particular places b/w which the pax is entitled to be carried.

1. AUDIT COUPON

This coupon is for the accounting department of the issuing airline. This detached after the completion of ticket and attached to the sales report.

2. AGENT COUPON

This coupon is for the agency or ticket office records. It is detached after ticket completion and kept by the issuing agent.

3. FLIGHT COUPON

It is a coupon that held in the carriers data base.

Flight coupon may include, the airline designator, flight no, date of flight, origin and destination airport city code, booking designator etc…

Passengers need to check-in for travel in between the points specified in from/to. The no of flight coupons may vary depending on the type of ticket

4. PAX COUPON

Passenger copy which contains details of the itinerary and the paxs receipt for money paid.

TICKETING INSTRUCTIONS

1. Tkts, MCOs and MPDs are security documents and must be issued and treated as such.

2. To avoid unnecessary reissuance, MCOs and MPDs shouldn't be issued when a tkt can be issued.

3. Automated documents must be issued using a tkt imprinter.

4. For paper tkts, check all coupons for legibility.

5. Erasures, mutilations and/or unauthorized alterations render the document invalid.

6. Never use ditto mark.

7. In the case of paper tickets, before delivery of the completed document to the pax, the agent issuing the document shall detach the Audit and Agent coupon (if any), together with the voided coupons (if any). All audit and voided coupons (if any) are to be attached to the appropriate sales report.

8. Paper tkts, MCOs and MPDs which are partly completed but not handed to paxs for some reason and are thereby completely voided must be attached to the appropriate sales report and be invalidated by endorsing "void" boldly across the face of all coupons. The agent coupon of such tickets should be retained for travel agents record.

9. All documents shall be completed in accordance with the instructions contained in IATA handbook.

10. Tkts are not transferable from the pax named thereon to any other person.

11. Tkts, MCOs and MPDs shall not be delivered by an agent to the pax or purchaser prior to the date of issue shown on the document, and shall be validated by the agent only as of the date of their delivery to the pax or purchaser.

12. Pax sales agents attention is drawn to their responsibilities when issuing, reissuing, or altering tickets to adhere to all conditions relevant to the tkt concerned, such as validity, weekend surcharges, seasonal restrictions etc… including attachment of special stickers as required. Special attention must be given to such details when reservation changes are made to ensure that all relevant restrictive conditions are reflected.

13. In countries where a Billing and Settlement Plan or an Area Settlement Plan is in operation, important ticketing instructions contained in the BSP manual or in the ARC travel agents handbook should also be referred to by travel agents.

14. When an itinerary is eligible for electronic tktng and it is technically and procedurally

feasible to do so, issue an electronic tkt instead of paper tkt.

PREPAID TICKET ADVICE – PTA

When a ticket is sold in one city and ticketed in another city it is known as PTA tickets. PTA form used when purchasing an air ticket to be picked up and used by someone else at another airport. Today e-tickets reduced the need for PTA.

EX; A pax who is currently in city "A" travelling to city "B" and he chooses to buy his ticket from a travel agent in city "C" (assuming C is his home city). He makes the payment for the tkt in "C" through a representative. But the ticket is collected by the passenger himself (A).

PTA covers; air fare, taxes and fees charges, excess baggage charges, pax facilities charges.

In simple words, PTA means one person (buyer) can prepay the travel of another person (pax) at one agency and the pax can acquire the tkt at another agency or from airport.

Benefits of PTA

1. The convenience of 24x7 availability – the PTA servicing functionality works 24 hours a day, seven days a week.

2. Superior range of products to offer customers – the PTA servicing functionality gives agents a wider range of products to offer their customers.

3. More revenue streams – the PTA servicing functionality opens up more business opportunities.

4. The full automation Amadeus PTA helps to increases TAs productivity.

CONJUNCTION TICKET

Conjunction ticket means a tkt issued to a pax which also contains another tkt for pax which together constitute a single contract of carriage.

If a journey is longer than 4 sectors and doesn't fit in to the first tkt, then one or more additional ticket must be issued. Conjunction tkt must be follow in numerical order.

The total fare will not be written only on the first ticket, in the fare box of the second and subsequent tickets, the word 'conjunction' must be written.

EG; a pax travel from COK to SFO, by using connection flights and his itinerary are as follow;

- COK to DXB by Emirates

- DXB to LON by British Airways

- LON to PAR by Easy Jet

- PAR to SFO by French Bee

Here the pax goes through 4 sectors by using 4 flights, if a travel agent or airline co issuing one single tkt for these 4 sectors, that kind of tkts are known as Conjunction tkt.

OPEN TICKET/OPEN ENDED TICKET

It is a flight tkt which has no set date for the return leg of the flight, it gives a flexibility to pax to return whenever he wants with no set date.

With an open ended tkt, the pax only required to choose a date on the outbound leg of the flight and are free to stay as long as the expiration date stated on the tkt. (usually up to 1 year).

In simple words, it is a tkt with no fixed travel date or time but with a fixed validity period.

Not all airlines offer this tkt.

Advantages;

It provides comfort date to the paxs.

It benefits to the business travelers.

Disadvantages;

It is not available for all airlines.

Expensive tkt

Leaves a chance for over booking

Standby/no guarantee

- ppl who have reserved seat on a specific flight have priority over ppl holding wait until a flight open up to get.

TRAFFIC DOCUMENTS

1. TICKETS

2. MISCELLANEOUS CHARGES ORDER (MCO)

4. MULTI-PURPOSE DOCUMENT (MPD)

1. TKTS/PAX TKTS

A document issued by travel agencies or airlines is known as pax tkt. A pax tkt indicates "the pax entitled a seat on flight".

It is an accountable document.

If the tkt is issued by the carrier it is called Airline Issued Tkt.

If the tkt is issued by a travel agent it is known as Neutral tkt.

It is a contract of carriage where the carrier agrees to transport the pax and the baggage b/w the points named on the tkt.

The pax must agree the rules of the airline relative to the type of fare he has paid.

The tkt officially becomes a contract upon tkt validation.

There are 2 types of tkts that, namely the paper tkt and the electronic tkt (also known as ticket-less travel).

Paper Ticket or Manual Ticket

Manual tkts are multi carbonized tkt, printed by hand.

Such paper tkt may be issued by the carrier or by travel agents.

Today most tkts are written by computers, knowledge of manual tkting is important to air tkt agents, travel agents, tour wholesalers and other job position.

In case airline computer reservation systems are out of service, the tkts must be written manually.

Procedure for Writing a Tkt;

- Before writing a tkt, a travel agent must telephone each airline in the itinerary to secure a reservation for the pax.
- On acceptance of reservation on telephone, the airline furnishes the travel agent with a confirmation code, called a 'record locator'. This code identifies the paxs reservation on the airlines computer system and can be used by an airline tkt or reservation agent to retrieve the reservation record.

Merits of Manual Tkt

Paper tkts are particularly useful if the flight is canceled because of a mechanical or another airline –related problems as opposed to a weather issue.

Demerits of Manual Tkt

Bad for the environment

Not secure – Possibility to lose and steal

Wait in line for boarding passes

Electronic Tkt/E-Tkt

The E-Tkt also known as "tkt less travel".

It is the digital tkt equivalent of a paper tkt.

E-tkts in airline industry were devised in about 1994, and replaced the older multi-layered paper ticketing system.

Since 1 June 2008, it has been mandatory for IATA members to use e-ticketing. Where paper tkts are still available, some airlines charge a fee for issuing paper tkts.

E-tkt itinerary receipt also contain;

- An official tkt no (including the airlines 3-digit tktng code, a 4 digit form no, a 6 digit serial no)

- Carriage terms and conditions

- Fare and Tax details

- A short summary of fare restrictions, usually specifying only weather change or refund are permitted but not the penalties to which they are subject.

- Form of Payment

- Issuing Office

- Baggage Allowance

Merits

Eco friendly – it drastically reduces the need for paper.

More Secure – impossible to lose and hard to steal. Bcz, they live in the 'cloud' and in

'attendees' email inboxes they are always available.

Avoid fraud copies

Check-ins is fast and easy

E-tkts are cheaper/cost effective

Demerits

Networks and devices necessary

Technology may fail

2. MISCELLANEOUS CHARGES ORDER

MCO is an accountable IATA document that records charges when standard ticket stock cannot be used.

It is issued by an agent or airline as proof of payment for accommodations, ground transportation, or special services, or as a credit towards future air transportation.

There are Paper MCO and E-MCO. Both have airline version and neutral version for travel agents.

There are 2 types of MCOs;

1. Specified MCO

This MCO considered to have been issued for specific transportation (by air, sea, or land) or for excess baggage when the conditions are combined with it.

It is drawn on a specific carrier and limited to specific type of service.

The point of departure, destination, class, fare and calculation points are shown.

2. Unspecified MCO

Unspecified MCO has no specified value assign to each coupon and no flight details are shown.

Travel agents may not issue unspecified MCOs.

MCO Guidelines;

Doesn't accept manual or handwritten MCO

MCO cannot be used to pay debit memos or to collect or report cancellation penalties

Only one MCO can be issued per ticketed pax.

Approved MCO Uses;

Unaccompanied minor escort fee

Excess baggage fee

Land arrangement for inclusive tour

Lost Tkt Application (LTA)

Pet transportation charge

PTA Fee

MULTI-PURPOSE DOCUMENT

It is an accountable IATA document.

It can be used for;

- Air or surface transportation

- Excess baggage charges

- Hotel accommodation

- Collection of PTA

Today airlines use the V-MPD, a virtual representation of the Manual MPD and Automated MCO.

OAG and TIM (Official Airline Guide, Travel Information Manual)

These are international guides.

Both this guides are available worldwide on a monthly or bi-monthly basis with supplements providing updates.

While the OAG provides information on flights operating worldwide, the TIM provides information on travel documents and government regulations for the traveler into those countries.

OFFICIAL AIRLINE GUIDE – OAG

OAG is a global flight information and data solutions company for the pax aviation, air cargo logistics and business travel markets.

The OAG database contains the flight schedules of all airline companies that submit their schedules to OAG.

This database contains current and detailed information about past and planned flights, especially types of aircraft and cargo or seat capacities.

The Process for Acceptance of Schedules in the Database;

- Airlines send their flight schedules to OAG in intervals that they determine (daily, weekly, or monthly etc…)

- Data undergoes quality control at OAG and is then accepted in the database captured in standardized format

- Distributed worldwide to global computer reservation systems of travel agencies and airlines, online booking platform etc…

The service is free of charge for airlines

Information's contained in OAG;

The OAG contains information about flight schedules and frequencies for airlines throughout the world.

- Air Carrier – Indicates the airline that operates the service b/w the airports
- Origin Airport – The originating point of the flight
- Destination Airport – The end point of the flight
- Air time – Time spent in air
- Ground time – Time spent on the ground including waiting and transfer times at airports
- Seats – Number of seats available in the flight
- Aircraft type – The name and model of aircraft that was flown b/w origin and destination

airports

OAG EDITIONS;

OAG is published in 2 separate editions that contains the following flight schedules,

- OAG North America Edition

This edition contains flight schedules within and b/w USA, Canada, Mexico and Caribbean Island.

Monthly or twice monthly editions are available.

- OAG WORLD WIDE EDITION

This editions includes flight schedules- to, from, within and b/w central and south America, TC2 & TC3.

Published monthly along with a supplementary.

TIM – TRAVEL INFORMATION MANUAL

TIM is an international guide, available worldwide on a monthly basis.

It is published by IATA, Netherlands, jointly with worlds 14 most important international airlines. (Aerolineas Argentinas, Air France, Iberia, Japan Airlines, KLM, Lufthansa, Olympic, Qantas, Sabena, SAS, Swiss Air, TWA, VARIG Airlines)

It is world's leading source of passport, visa, and health documentation regulations for paxs.

Airlines and Travel Agents use TIM to provide advice on border requirements to paxs at the time of booking, and airlines use it at the time of boarding to ensure paxs have sufficient travel documents for their destination and any transit points.

Information in TIM includes;

1. Passport regulations and recommendation

2. Visa regulations and recommendation

3. Health regulations and recommendation

4. Airport Tax (to be paid by the traveler at either departure or arrival airport)

5. Customs regulation (relating to import and export of goods and small pets by a pax)

6. Currency regulation relating to import and export by a pax

Users of TIM;

Airline offices, travel agents, corporate accounts, tour operators, GDS and gvt agencies.

PAT – PAX AIR TARIFF

Pax Air Tariff is a detailed document published 4 times a year, jointly by the IATA and SITA (International Society for Aeronautical Telecommunications)

It is an authoritative document and provides information about carrier rules and fare information to the airlines, agents, and various training institutes.

PAT products and services help support a wide range of online and offline users by providing easy access to general rules, fare construction application, ticketing and other rules and fares information in support of pax travel.

CHANNELS;

Pax arriving at an airport in the EU may be offered 3 choices at the customs inspection points. These are normally defined as follows;

1. The Red Channel

If pax have goods or currency to declare, where a duty or tax is voluntarily paid for imported goods.

Eg; when goods purchased in another country exceed the personal duty-free allowance.

2. The Green Channel

For pax who bring personal effects and goods that are not intended for commercial purposes, and which do not exceed the duty-free allowance.

3. The Blue Channel

When travelling within the EU, pax may use the blue channel. Customs officers will monitor this area and spot checks are possible.

MODULE III

TYPES OF FARE

Fares are mainly classified in to 3

1. Special Fare
2. Normal Fare (adult fare, infant fare, child fare)
3. Discounted Fare

1. SPECIAL FARE

In aviation industry special fares are classified into 5 category;

i) Public Special Fare

a. Late booking fare

b. Apex fare

c. Pex fare

d. Excursion fare

ii) Inclusive Tour Fare

a. Group inclusive tour fare

. b. Individual inclusive tour fare

iii) Public Group Fare

a. Common interest group fare

b. Incentive Group Fare

c. Affinity group fare

d. Non-affinity group fare

iv) Reduced Fares for Specific Category of Person

v) Miscellaneous Fare

i) Public Special Fare

Public special fares are available for individual traveler and are sub divided into 4,

a) Late Booking Fare

These are the fares that can only be purchased at the last moment or within 24 hrs of departure.

Pax pay, such as stand by, late purchase or instant purchase fares can only travel if seats are empty at the time of departure.

This fare tends to be cheapest fare.

b) Apex Fare (Advance Purchase Excursion)

This type of fare requires advance reservation with advance payment, that should made minimum number of days before departure.

This type of special fare doesn't allow open dated segments and instead of all flight coupons must have confirmed reservation.

c) Pex Fare (Purchase Excursion)

Pex fare doesn't have a requirement to purchase the tkt a minimum number of days before departure.

It requires payment of the tkt obtaining confirmed seats.

Penalties for rebooking and tkt cancellation usually applied.

d) Excursion Fare

The regular excursion fare is the highest level of special fare.

This has duration limits expressed by minimum and maximum stay limits.

This type of fares attracts most vacation travelers and tourists.

It doesn't apply penalties for rebooking and cancellation.

ii) Inclusive Tour Fare

An inclusive tour means pre arranged combination of air travel and surface arrangement other than just public transportation.

Inclusive tour fares are not usually available directly to the public, as this are arranged by travel agents or tour operators.

Such tour operators organize, advertise and promote tour and then make them available it to the general public on a form of tour package.

As a resul, there are 2 type of inclusive tour fare;

a). Individual Inclusive Tour Fare

b). Group Inclusive Tour Fare

iii) Public Group Fare

Public group fare is a fare designed for group travel without land arrangements.

Such fares are only available when paxs travel together and combine with the minimum group size.

a) Common Interest Group Fare

This fare is for adult paxs who have a common interest in traveling together by the same routing to the same destination.

The common interest must be other than that or qualifying for the discount.

b) Incentive Group Fare

This fare is available to the same commercial organization, travelling under an established inclusive travel programme, (Available to Agents, dealers, employees including their spouse).

It awards to the employee, dealers, or agents for past work or provide as an incentive for future work.

c) Affinity Group Fare

This fare is available to members of the same association or company, corporation or legal entity with the objective other than travel, who affinity to application distingue a group from general public. (Common interest).

d) Non Affinity Group Fare

Members of a travel group who do not shares a common affinity, the pax where just assemble in order to avail of group discount.

iv) Reduced Fare for Specific Categories of Person

Reduced fares are usually express in a percentage of the normal fares and generally apply over large geographical areas. This generally applies to specific categories of persons such as,

Deportee fare

Diplomat fare or Gvt fare

Family fare

Labor or Laborer fare

Merchant Marine or Seamen fare

Migrant fare, Pilgrim fare, Refugee fare, Senior Citizen fare, Student fare, Teacher fare

Traditionally, the aim of reduced fares has been partly developmental (to encourage demand from particular group within the community) and partly social.

v) Miscellaneous Special Fare

Any other fare that doesn't fully under the above categories will be classified as miscellaneous special fare. This includes circle fare, triangle fare, special event fare, special event tour fare, and other fares for limited geographical applications.

2. NORMAL FARES

Normal fares are the most flexible fare in market and ideal for corporate and for business travelers who often need or want to change itinerary details at a short notice.

IATA normal fares usually attach no penalties for change and also attractive to travelers with busy changing schedules.

There are often also fully refundable.

i. Unrestricted Fare

It is also known as flexible fares. This kind of fares is the most expensive tickets.

A pax pay for a tkt that allows pax to refund or change the tkts, and that can be purchased at any time even the same day of travel.

ii. Restricted Fare

Adult Fare

Infant Fare

Child Fare

i. Adult Fare

It is same as normal fare.

ii. Infant Fare

As a general rule children up to 2 years older are not require having their own seats, and are allowed to travel on parents lap.

An infant ticket cost is discounted of the regular fare.

Depending on the destination, taxes, fee may apply. Only one baby per adult is accepted.

iii.Child Fare (2-12)

Discounted fares are also available for children to fly internationally and domestically.

The discounts vary from airline to airline and are not offered on all flights.

Reduced price fares are typically limited to children under the age of 12 and not all fares are advertised online.

3. DISCOUNTED FARE

Discounted fares are available for all senior citizens above 65, individual with disabilities, medical care recipients, and school students' ages of 6 to 19, Children 5 years of age.

PAX REQUIRING SPECIAL HANDLING

In air travel, some passengers require special handling throughout their journey.

The special handling required pax are;

Pax with medical problem

Expectant Women

Unaccompanied Minors

Infants

VIPS/CIPS

Pax with Medical Problem;

Disabled Person;

These are the persons whose mobility are reduced bcz of accidents or prolonged illness etc…It can be permanent or temporary.

A disabled person needs to be provided special services in order to make their journey more comfortable & enjoyable.

It is the responsibility of airline carriers that like other paxs disabled paxs also have the right of free movement and freedom of choice & non-discrimination.

For the assistance of disabled person most of the airlines have employed special qualified staff and have provision of modern equipment's for providing proper services to physically challenged or disabled passengers.

The necessary arrangements like provision of wheelchairs, stretchers, handling agents etc. are there at the airports to help such passengers. Passengers with neurological disorder also require special attention and a prior request is required to be made well in advance by their family members regarding such cases

Visually and Hearing Impaired Passengers;

Generally in flight a visually and hearing impaired passengers are accompanied by another person or a guide or a trained dog. If there is no accompanying person with visually challenged and hearing impaired person, then they are provided booking assistance by the airport staff.

Mentally Challenged Passenger;

Airlines refused to carry mentally challenged passengers if they are not assisted with a suitable attendant. They are also required to obtain a Physician's Certificate in order to undertake a travel.

Quality Standards for Assistance:

There are certain quality standards, which need to be maintained. These are as following:

1. When booking ticket for the disabled person a notification regarding need of assistance should be send to the airline before 48 hours of the departure of flight.

2. While reaching at airport disabled person or Persons with Reduced Mobility (PRM) should inform about their arrival.

3. Separate check-in desk is there for the check-in process of disabled passengers.

4. During landing disabled persons with the help of supporting staff at help stations can perform security check

5. Some airport premise also allows guide dogs for the assistance of disabled persons, blind, deaf or physically handicapped passengers.

Facilitations;

Disabled passengers are boarded first in the plane and deplaned last in order to provide hassle free service and make the proper movement of passengers.

Disabled passengers are provided with comfortable seats and are made to seat near toilets. Cabin crews are briefed about the illness of the passengers and about disabled persons.

The crew takes complete care of disabled persons and ill passengers during flight. During arrival of flight at the particular destination a prior message is sent to en-route station to assist disabled passengers in transit on the arrival; and sometimes escorts are also been provided up to the baggage hall or connecting carrier.

Expectant Women;

Majority of airlines won't allow pregnant women to fly on a flight over 4 hrs after 36 weeks, for flights less than 4 hrs travels is often not permitted after 38 weeks.

If women are 28 weeks or more airlines will often ask them to present a certificate from the doctor. (Containing information about the pregnancy, including her week of pregnancy)

The medical certificate must be dated up to 48 hrs prior to the date of departing flight and is also valid for the return flight, provided that the return date doesn't exceed 36 weeks.

Most of the airlines offer pregnant women and pax travelling with children priority boarding.

Unaccompanied Minor

Children travelling without parents or companions are known as unaccompanied minors.

Number of airline provides special assistance to unaccompanied minors, so that the child reaches

to the destination safely and securely even when traveling alone.

- The guardian is required to inform the airline before 24 hours of the departure of flight because in each airline specific number of seats is allocated to unaccompanied minors.
- Guardian need to provide all details of child like age, name, gender, date, flight number departing and arriving airport address, contact details of the guardian.

- Normally the guardian who comes with the child at the airport waits till the flight departs.

- Children infants below 5 years old cannot come under unaccompanied minor until them accompanied by person of 12 years old or more.

Unaccompanied minor services include:

Airport staff will assist the unaccompanied minors from check-in at the airport to the passport control & security and remains with him until he boards the flight. One of the cabin crew is responsible for the unaccompanied minors from takeoff to landing.

After reaching the destination other person from the airline staff assist the child to take him or her through passport control & customs to the terminal and then child is handed over to the designated person who comes to receive the child at the airport.

VIPs/CIPs

VIPs need extremely comfortable and hassle free services during their arrival as well as departure.

VIP Handling Services:

Variety of services is provided to make VIPs journey more pleasant, relaxing and convenient.

- Lounge: Stylish Lounge is provided with light ambience and conveniences, team of professional is there to assist the special passengers.

- VIP Departures: The passengers are welcomed by professional staff, assisted in check-in process, baggage handling and security check, passport control, in custom and immigration and VIP transportation for boarding the plane.

- VIP Arrival: Personal welcome of VIP by the specialized staff, escort of VIP to terminal in VIP transportation, passport control, lounge service, baggage reclaim, escort passengers to VIP parking lot.

VIP Lounge Services:

Very comfortable VIP lounge are there at airports providing a varied range of services from arrival to departure. In VIP lounges services like free Wi-Fi, notebook usage, telephone, fax, scan, and Xerox services are also provided. Wide range of periodicals, TV Channels is also available in the lounge, besides that snack bar is also there providing free beverages to the guest. Personal cars can be left at the special VIP parking lot near VIP lounge.

INFANTS

There are no standard regulations about the minimum age a baby can fly although age restrictions do vary b/w airlines. It ranges from a minimum of 2 days old to 2 weeks old.

Infants are needed to be accompanied by an adult at all times throughout their journey.

Some airports demand a valid proof of age for the infant. The documents that accepts as proof of age include passport, birth certificate etc…

There are no special seats available for an infant as they should be seated in parents lap.

Extra amenities like napkins, disposable diapers, feeding bottles, baby bottles should be offered to infants.

Most of the airlines permit a hand baggage allowance of up to seven kg for every infant traveler.

MODULE; IV

FARE FORMULA AND BASIC STEPS

FCP Fare Construction Point - Identify the fare construction point of the fare component. (origin to destination)

NUC Neutral Unit of Construction/Currency – Quote the NUC from fare component origin to destination based on global indicator, fare type and carrier.

RULE – Follow the rule and check for specified routings.

MPM Maximum Permitted Mileage – Note the MPM b/w the origin and destination of the fare component.

TPM Ticketed Point Mileage – Add up the TPM for all the sectors in the fare component and compare the sum with MPM.

EMA Extra Mileage Allowance – If the total TPM exceeds MPM.

EMS Extra Mileage Surcharge – If the EMA is Nil or insufficient determine the EMS by dividing TPM/MPM.

HIP Higher Intermediate Point – Look for HIP fare from,

a. Component origin to intermediate stopover

b. Intermediate stopover to another

c. Intermediate stopover point of component destination.

If there is a higher fare, replace the origin unit destination NUC with this HIP fare and apply EMS if any.

RULE – Enter the RULE corresponding to HIP NUC.

AF Applicable Fare – Determine the resulting applicable fare in NUC.

BHC Back Haul Check – Apply Backhaul formula origin to highest rated stopover point if any.

IROE IATA Rate of Exchange – Multiply the NUC total by IROE.

LCF Local Currency Fare – Multiply Applicable fare with IROE

* SYD-DXB-NBO-LON

Class; J

TPMs;

SYD-DXB 7485 EH

DXB-NBO 2200 EH

NBO-LON 4241 EH

NUC; SYD-LON 8698.24

RULE; Y155

MPM; EH 13220

Calculate the fare of journey up to EMS.

Ans;

FCP	SYD-LON
NUC	J (EH) OW 8698.24
RULE	Y155
MPM	EH 13220
TPM	13926
EMA	NIL
EMS	1.0534039334

* MNL-SHA-BOM-DEL-KBL

Class – J

TPMs;

MNL SHA – 1152 EH

SHA BOM – 3141 EH

BOM DEL – 708 EH

DEL KBL – 623 EH

MPM; EH 4395

NUC 2126.00

RULE Y277

EMA; 700 (BOM-DEL)

Calculate the fare of journey up to EMS

Ans;

FCP	MNL KBL
NUC	J(EH)OW 2126.00
RULE	Y277
MPM	EH 4395
TPM	5624
EMA	700
TPM	4924 (TPM – EMA)
EMS	1.120364

* BOG-CCS-POS-LON-MIL

Class: Y

TPMs	NUCs	RULE

BOG-CCS 638 WH	BOG-MIL 3206	X0760
CCS-POS 382 WH	BOG-POS3023	Y517
POS-LON 4430 AT	CCS-LON 1806	Y583
LON-MIL 591 EH	CCS-MIL 3331	X0760

MPM; AT 6823

Calculate local currency fare.

ANS;

FCP	BOG MIL
NUC	Y(AT)OW 3206
RULE	X0760
MPM	AT 6823
TPM	6041
EMA	N/A
EMS	NIL
HIP	Y(AT)OW 3331
RULE	X0760
AF	3331
IROE	1 (USD)
LCF	3331 (1*3331)

* SYD-DXB-NBO-LON

Class; J

TPM

SYD-DXB 7485 EH

DXB-NBO 2200 EH

NBO-LOM 4241 EH

NUC	RULE
SYD-LON 8698.24	Y155
SYD-NBO 9843	X210
DXB-NBO 538	Y180
DXB-LON 8976	Y296

MPM; EH 13220

IROE (AUD) 1.199437

Find Local Currency Fare.

ANS;

FCP	SYD LON
NUC	J(EH)OW 8698.24
RULE	Y155
MPM	EH 13220
TPM	13926
EMA	N/A
EMS	1.0534039334
HIP	J(EH)OW 9843
RULE	X210
AF	9843

IROE 1.199437

LCF 11806.0584

EMS;

1.00 to 1.04 5%

1.05 to 1.09 10%

1.10 to 1.14 15%

1.15 to 1.19 20%

* If journey includes only 2 or 3 sectors;
It doesn't require the use of mileage based fares and additional fare construction steps (MPM, TPM, EMA, and EMS).

QUESTION;
CPT-AMS
CLASS- Y
NUC- 1688.33
RULE- Y025
IROE-11.366200

ANS;

FCP	CPT AMS
NUC	Y(EH) OW 1688.33
RULE	Y025
AF	1688.33
IROE	11.366200
LCF	19190

QUESTION;

YMQ-ACC-BOM

CLASS- J

NUC- 6472.54

IROE- 1.149

ANS;

FCP	YMQ BOM
NUC	J(AT)OW 6472.54
RULE	N/A
AF	6472.54
IROE	1.149
LCF	7437

QUESTIONS

1. An area at an airport where the formalities for departure and arrival pax take in place?
2. Name of the process for transporting pax from one terminal to another?
3. A single flight sold by 2 or more carriers under the codes of different carrier?
4. Name of the document that is issued at the time of check in?
5. If MPM is 9408 and TPM is 10855 – what will be EMS?

   10855/9408 = 1.1538 (20%)

6. What is the FCP of this component (origin and destination)?

   SCL-RIO-SAO-JNB-HKG?

7. How many ticketed points are in this routing?

FARE CONSTRUCION STEPS – ROUND TRIP

	OUTBOUND	INBOUND
FCP		

NUC

RULE

MPM

TPM

EMA

EMS

HIP

RULE

AF

SUBTTL

CHECK

TOTAL

IROE

LCF

QUESTION

SHA-FRA-SHA

NUC- 4701.36 (1/2 CT), 9402.72

CLASS; J

IROE; 6.16842

ANSWER

	INBOUND	OUTBOUND
FCP	SHA-FRA	SHA-FRA
NUC	J(EH)1/2CT 4701.36	J(EH)1/2CT 4701.36
RULE	N/A	N/A
AF	4701.36	4701.36

SUBTTL	CT NUC 9402.72
CHECK	N/A
TOTAL	9402.72
IROE	6.16842
LCF	58000

QUESTION;

DAR-AMS-LON-FRA-ADD-DAR

CLASS; J

TPMs;

DAR-AMS 4526 EH

AMS-LON 211 EH

LON-FRA 390 EH

FRA-ADD 3324 EH

ADD-DAR 1097 EH

MPMs;

DAR-AMS 5476

DAR-LON 5589

DAR-FRA 5224

DAR-ADD 1316

NUCs;

DAR-AMS 5672 SC011

DAR-LON 5760 Y025

ANSWER

	INBOUND	OUTBOUND
FCP	DAR-LON	DAR-LON

NUC	J(EH)1/2 RT 2880	J(EH)1/2 RT 2880
RULE	Y025/SC011	Y025/SC011
MPM	EH 5589	EH 5589
TPM	4775	4811
EMA	N/A	N/A
EMS	NIL	NIL
HIP	NIL	NIL
RULE	NIL	NIL
AF	NUC 2880	NUC 2880
SUBTTL	RT NUC 5760	
CHECK	RTM N/A	
TOTAL	RT NUC 5760	
IROE	1.000	
LCF	USD 5760.00	

QUESTION

LUX-AMS-DXB-IST-LUX

MPM; 3973

TPMs;

LUX-AMS 196 EH

AMS-DXB 3216 EH

DXB-IST 186 EH

IST-LUX 1256 EH

CLASS; ECONOMY

NUCs;

LUX-DXB ½ CT 1121

LUX-AMS none (OTBND)

LUX-IST ½ CT 1026.35 (INBND)

AMS-DXB ½ CT 1391.50 (OTBND)

ISTDXB ½ CT 1391.50

IROE 0.810635

ANSWER

	OUTBOUND	INBOUND
FCP	LUX DXB	LUX DXB
NUC	Y(EH)1/2 CT 1121	Y(EH)1/2 CT 1121
RULE	Y102	Y102
MPM	EH3973	EH 3973
TPM	3412	3117
EMA	N/A	N/A
EMS	NIL	NIL
HIP	Y(EH)1/2 CT 1391.50 AMSDXB	Y(EH)1/2 CT 1391.50 ISTDXB
RULE	Y123	Y123
AF	NUC 1391.50	NUC 1391.50
SUBTTL	CT NUC 2783.00	
CHECK	CTM N/A	
TTL	2783.00	
IROE	0.810635	
LCF	2255.9	

CLASSES AND CODES

Economy class; Y

Premium Economy W

Business; J

First; F

ROUNDING OF CURRENCY

Rounding of fares in EUR to H1 (HIGHER 1)

RAW LCF	ROUNDING UNIT	ROUNDED LCF
EUR 1334.3	H1	1335
EUR 1334.09	H1	1334
EUR 1334.9	H1	1335

Rounding of fares in INR to H5 (HIGHER 5)

Here the rounding unit is H5 which means the fare must be rounded up to the next multiple of 5.

RAW LCF	ROUNDING UNIT	ROUNDED LCF
INR 1432.3	H5	INR 1435
INR 1430	H5	INR 1430
INR 1430.09	H5	INR 1430
INR 1439.09	H5	INR 1440

QUESTION

Round up the currency- INR 2347.86 in to H5.

CPA COLLEGE OF GLOBAL STUDIES

Airline and cargo management

Module 1

CARGO

- **Cargo** consists of bulk goods conveyed by water, air, or land. In economics, freight is cargo that is transported at a freight rate for commercial gain. Cargo was originally a shipload but now covers all types of freight, including transport by rail, van, truck, or intermodal container.
- The term cargo is also used in case of goods in the cold-chain, because the perishable inventory is always in transit towards a final end-use, even when it is held in cold storage or other similar climate-controlled facility. The term freight is commonly used to describe the movements of flows of goods being transported by any mode of transportation.
- *Cargo* is the load of materials being transported by a vehicle like a ship, airplane, train, or truck, especially for commercial or professional purposes.

What is Air Freight?

- Air freight or air cargo allows the transport of goods quickly by air. Shipping cargo by air has always been a high cost-to-weight form of shipment, countered by the fact that it's the fastest way to transport goods internationally.

What are the advantages of air freight?

- **Time** – transporting goods with air freight saves time – it's much faster than shipping, rail or road transport
- **Reliable** – flights generally have reliable arrival and departure times with very few delays, so the shipment of cargo by air is very likely to arrive on time
- **Low insurance premium** – due to the shipment duration being so short, insurance premiums on air freight are generally lower
- **Secure** – the shipment of cargo by air is tightly managed by security, so the chance of cargo being stolen or damaged is low

- **Less warehousing requirements** – the clearance time for air freight is fast, and there's generally less stock to unload than that for cargo ships, so customs clearance is fast, and the need for local warehousing is much lower

Air Cargo Logistics "Using aircrafts and ware housing services for the transport of goods quickly from point of origin to point of consumption for satisfying the requirements of customers."

- Air Cargo- Logistics Advantages
- Faster delivery of information Tighter control over cargo- less chances of theft, pilferages, and damage.
- Perishable goods can be transported to longer distances.
- Air-freight insurance premium charges are lesser.
- However, it's the most costly form of freight service, and airlines do not accept goods mentioned in IATA's Dangerous Goods Regulation(DGR) like explosives, certain chemicals, etc.

TYPES OF AIR CARGO

There are two types of air cargo – general and special cargo.

1. **General cargo** includes high-value goods, such as electronics, jewellery and pharmaceuticals. Air shipping is more expensive than shipping by sea, but due to the high margins and the fact that many electronic goods are fragile, air freight is the most appropriate form of transport.

2. **Special cargo** requires special conditions for transporting goods, such as temperature control, certain air conditions or protected casing (e.g. if the goods are hazardous or livestock).

ASSOCIATIONS OF AIR CARGO INDUSTRY

International association
IATA

Domestic association
Ministry of Civil Aviation
DGCA
ACAAI

The following goods cannot be transported by air:

UN classified dangerous goods
Lithium Batteries
Power Supplies or Power Banks
Illegal Goods
Firearms
Flammable Substances
Explosives
Biochemical Products

CARGO TRANSPORTATION

- **Cargo** transport is a form of transport which is designed to move goods from one location to another.
- Also known as **freight transport**, cargo transport is typically used to move products which are intended for commercial sale, although things like mail may also be treated as cargo for transport purposes.
- There are a number of different kinds of cargo transport available to both individuals and companies, ranging from a package delivery service used to move products from companies to end consumers to a shipping service which carries entire containers of products from one port to another.
- Humans have been moving cargo from location to location for thousands of years, via an assortment of means. The ability to move commercial products between locations facilitates trade between communities and nations, as products which can be used by one community are shipped out of the location where they are produced and to a site where they are needed.
- Cargo can include everything from spices to cars intended for end consumers, along with basic components which will be shipped to manufacturers for the purpose of assembling products.
- Cargo transport can take place by land, air, or sea. Air transport tends to be the most rapid, and may be used for products which need to be moved in a hurry.
- It is also the most expensive, as maintaining and flying cargo planes can be quite costly.
- Land transport is used to move products around within the confines of a continent or nation, with cargo traveling by train or truck, while sea transport is used to move cargo across the ocean.
- Cargo may also be moved between different ports on the same continent by sea, as this may be cheaper or more convenient than transporting those goods by land.
- Freight companies which offer cargo transportation services may work exclusively with companies, or they may extend services to individuals.
- The volume, weight, and nature of the product being shipped are all factors which can impact the cost of cargo transport.
- For example, perishable goods are more expensive to ship because they require climate control and they must be moved quickly.
- Companies may get a discount for filling an entire shipping container with items, or for working with another company to generate a container load of products.
- Products which need to be handled by hand or with special care, such as works of fine art, will also involve additional fees.

SCOPE OF CARGO BUSINESS

- The Air Cargo Industry acts as an engine of growth for the air transport sector and economic growth.
- Aircraft carry 2% of international trade by volume, but 40% by value.
- Growth of Air Cargo industry is directly related to the GDP.
- Vital to development of Global Economy.
- Key to on-going success of Globalization.

Global scenario

- Since 1970, The Air Cargo market has doubled in volume over ten years and is expected to continue growing at an average annual rate of 6.5 per cent over the next two decades.
- Boeing forecasts that 60 million tons of cargo will be transported by air in the year 2017, thus tripling 1977 volumes.
- The past trends show that cargo traffic growing faster than passenger traffic.
- Within the cargo traffic, the international component increasing faster than the domestic component.
- According to ICAO "Outlook for Air transport to the Year 2015", the international cargo traffic likely to increase by 5.8 per cent per annum

Indian scenario

- In the past, the growth in air cargo had been faster than the growth in passenger traffic. The trend has changed.
- In recent years Passenger traffic, both international and domestic increasing at a higher rate than the Cargo traffic.
- According to AAI forecasts, the Passenger traffic is likely to increase by 18.8 per cent per annum during the Eleventh Five Year Plan (2007 to 2012), whereas, Cargo traffic is likely to grow only by 11.4 per cent. International Cargo Traffic likely to grow at the rate of 9.8 per cent while the Domestic Cargo Traffic expected to increase by 8.4 present.

PROVIDERS

Integrators	FedEx, UPS, DHL, TNT, etc
All Cargo Airline	Polar, Nippon Cargo, Cargolux, etc.
Combinational Airline	Korean Air, Cathay Pacific, Singapore Airline. Lufthansa, Air France, Japan Airline British Airway. Delta, American Airline etc.

Freight Forwarders	DHL Global Forwarding, Schenkar, Kuehne Nagal, Aramex, etc
Postal Offices	U.S. Postal, La Poste, Deutsche Post, etc

Indian Air cargo Industry

- "Open Skies" policy adopted in 1990s boosted the industry
- Indian Air cargo:- 6 to 7% of freight in terms of tonnage
- Domestic air freight market in India was at 568 metric tons in 2008 and is expected to reach 1043 metric tons by 2012-13
- Mumbai, Delhi and Chennai busiest airports in terms of Air Cargo.

Major Domestic Players

- Air India Cargo– wholly owned by the GoI and second largest player in terms of market share.
- Jet Cargo Plus- dedicated airport to airport cargo delivery service operated by India's largest airline, the Jet Airways.
- Blue Dart Aviation- third largest player, dedicated freight service.
- Kingfisher Cargo- same day delivery service operated the UB group owned Kingfisher Airlines.

Associations of Air Cargo Industry International Association:

- International Air Transport Association(IATA) Domestic Association:
- Ministry of Civil Aviation
- Director General of Civil Aviation(DGCA)
- Air Cargo Agents Associations of India (ACAAI)

STRUCTURE OF CARGO INDUSTRY

Supply chain management

Steps involved in air cargo logistics

i. source of cargo

ii. regional warehouse(source)

iii. central warehouse (source)

iv. freight forwarding

v. transhipment of cargo

vi. central warehouse (destination)

vii. regional warehouse (destination

viii. destination intended

AIRWAY BILL PREPARATION

Air way bill (AWB) : the receipt issued by an airline or its agent for the carriage of goods is called air way bill or air consignment note

- air waybills is for good transported by air
- it is most important document in air cargo transportation
- It covers transport of cargo from airport to airport It issue by airlines or their agent air waybill is a receipt evidence despatched of good by air freight, but not a document of title
- typical air waybill sample consists of three original
- The first original is for the carrier or shipper's copy and is signed by a export agent (blue colour)
- The second original, the consignee's copy, is signed by an export agent (blue colour)
- The third original is signed by the carrier and is handed to the export agent as a receipt for the goods. A yellow copy acts as the delivery receipt, or proof of delivery (orange colour)

Functions of the AirWaybill

The AirWaybill serves as: -

- Contract of carriage
- Receipt of goods for shipment
- Invoice for transportation charges
- Customs declaration
- Delivery receipt
- Insurance certificate if insurance coverage has been obtained through the mediation of the carrier.
- It covers the carriage between airport of departure and airport of destination. It is not negotiable as opposed to the Sea freight bill of lading which can be negotiable

- An airway billing is basically a receipt provided for products and parcel by an international airline and it is a proof of the commitment of coach.
- This bill is not negotiable. This airway bill includes the shipper’s address, details and name followed by consignee’s address, details and name, letter of code of

airport which is the origin, code of destination's airport, proclaim shipment worth for customs, total number of equipment parts, total weight of the consignment, details of the material and important instructions of handling it.

- This airway bill also mentions the terms and condition of the company who is shipping the parcel from one place to another for example liabilities limit and the process of claiming.
- Airway bills are a type of bill of lading which is utilized for international as well as domestic flights.
- Airway billing process is completed by the airline company or the exporter. This is used as:
- Receipt of shipment of material
- Proof of commitment of shipment
- Insurance document/ proof
- Important instructions of handling
- Needful for clearance of customs
- Freight weight and details of shipper address and name

ULDS AND OTHER MEASURES FOR LOADING

- A unit load device (ULD) is a container used to load luggage, freight, and mail on wide-body aircraft and specific narrow-body aircraft.
- It allows preloading of cargo, confidence the containerised load will fit in the aircraft and efficient planning of aircraft weight and balance and reduced labour and time in loading aircraft holds compared with "bulk-loading single items of cargo or luggage by hand.
- Each ULD has its own packing list (or manifest) so that its contents can be tracked. A loaded aircraft cargo pallet secured with a cargo net forms a ULD but its load must be gauged for size in addition to being weighed to ensure aircraft door and hold clearances.
- The ATA publishes ULD regulations and notes there are 900000 in service worth more than UsS1 billion, averaging $1100 each

Types

- ULD come in two forms, pallets and containers
- ULD pallets are ragged sheets of aluminium with rims designed to lock onto cargo net lugs.
- ULD containers, also known as cans and pods, are closed containers made of aluminium or combination of aluminium (frame) and Lexan (walls), which depending on the nature of the goods to be transported may have built-in refrigeration units Examples of common ULDs