DEPARTMENT OF TOURISM

CPA COLLEGE OF GLOBAL STUDIES

AIRLINE AND AIRPORT MANAGEMENT

FOURTH SEMESTER BACHELOR OF TRAVEL AND TOURISM MANAGEMENT (HONOURS)

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MODULE I

Definition of Aviation

Aviation is defined as the science, art, and practice of designing, operating, and managing aircraft and air transport systems for the movement of passengers, cargo, and services through the atmosphere safely and efficiently.

Aviation is a broad field that combines multiple disciplines such as engineering, physics, meteorology, navigation, communication, and management. It ensures the safe and efficient movement of people and goods through the air.

The word aviation is derived from the Latin word "avis," meaning bird, which reflects humanity's inspiration from birds to achieve flight.

Types of Aviation

Aviation is mainly divided into two major types:

- Civil Aviation
- Military Aviation

Each type has sub-categories.

1. *Civil Aviation*

Civil aviation refers to all non-military flying activities. It is used for transporting passengers, cargo, training, and private purposes.

a) *Commercial Aviation*

Commercial aviation involves aircraft used to transport passengers and cargo for business purposes.

Examples:

Passenger airlines like IndiGo carry people between cities.

International airlines like Emirates transport passengers between countries.

Cargo airlines transport goods and parcels.

Example situation:

A passenger flying from Kochi to Delhi on IndiGo is commercial aviation.

b) *General Aviation*

General aviation includes all civil aviation other than commercial airline operations. These flights are usually private or specialized.

Examples:

Private aircraft owned by individuals

Pilot training aircraft

Air ambulance services

Agricultural aircraft used for crop spraying

Example situation:

A pilot training flight from Cochin International Airport is general aviation.

2. *Military Aviation*

Military aviation involves aircraft used by the armed forces for defense and national security.

These aircraft are used for:

- Combat missions
- Transport of military personnel
- Surveillance and reconnaissance
- Rescue operations
- Examples:
- Fighter jets operated by Indian Air Force
- Military helicopters used for rescue missions
- Transport aircraft carrying soldiers
- Example situation:
- A fighter jet protecting national airspace is military aviation

Evolution of the Aviation Industry

The evolution of the aviation industry refers to the historical development and progress of aircraft, air transportation, and aviation technology from early experiments to modern commercial aviation. It includes advancements in aircraft design, engines, safety systems, and global air transport.

- **Early Dreams and Experiments (Before 1903)**

Humans always dreamed of flying like birds. Early inventors designed gliders and balloons.

In 1783, the first successful hot air balloon was flown by the Montgolfier brothers in France.

These early inventions proved that human flight was possible but lacked control and power.

- **First Powered Flight (1903) – Birth of Aviation**

The modern aviation industry began with the successful powered flight by the Wright brothers.

- Date: December 17, 1903
- Place: Kitty Hawk
- Aircraft: Wright Flyer
- Flight duration: 12 seconds

This was the first controlled, powered, and sustained flight in history.

Importance: This marked the beginning of modern aviation.

3**. World War I Period (1914–1918)**

During World War I, aircraft were used for military purposes such as:

- Surveillance
- Combat
- Transport

This period improved aircraft speed, strength, and design.

4**. Development of Commercial Aviation (1920–1939)**

After World War I, aviation began to be used for civil purposes.

- Airlines started carrying passengers and cargo.
- Pan American World Airways became one of the first international airlines.
- Airports and navigation systems were developed.

Importance: Beginning of passenger air transport.

5**. World War II and Technological Advancement (1939–1945)**

World War II accelerated aviation development.

Major improvements included:

- Faster aircraft
- Radar systems
- Better engines

The jet engine was invented by Frank Whittle, which revolutionized aviation.

6. Jet Age (1945–1970)

The introduction of jet aircraft made air travel faster and more efficient.

Examples:

- Commercial jet airliners were introduced.
- Travel time between countries was greatly reduced.
- Aircraft manufacturers like Boeing played a major role.
- Importance: Air travel became faster and more popular.

7**. Modern Aviation Era (1970–Present)**

Modern aviation includes advanced aircraft and global air transport systems.

Key developments:

- Introduction of wide-body aircraft
- Improved safety systems
- Computerized navigation
- Growth of international airlines
- Aircraft manufacturers like Airbus developed modern aircraft.
- Air travel became safer, faster, and more accessible.

8**. Present and Future Aviation**

Today, aviation includes:

- Commercial aviation
- Military aviation
- Cargo aviation
- Drone technology

Future developments include:

- Electric aircraft
- Sustainable aviation fuel
- Autonomous Airports

History of Civil Aviation in India

The history of civil aviation in India refers to the development of air transport for passengers, cargo, and mail services from the early 20th century to the present day. India has one of the fastest-growing aviation sectors in the world.

1. **Beginning of Civil Aviation in India (1911)**

Civil aviation in India started with the first official air mail flight.

- Date: February 18, 1911
- Route: Allahabad to Naini
- Pilot: Henri Pequet

Aircraft carried mail across the Yamuna River.

Importance: This was the first air mail service in India and marked the beginning of civil aviation.

2. **Establishment of First Airline (1932)**

The first commercial airline in India was started by J. R. D. Tata.

- Airline name: Tata Airlines
- Started in 1932
- First flight route: Karachi to Bombay (Mumbai)

Importance: This marked the beginning of commercial passenger aviation in India.

3. **Formation of Air India (1946)**

Tata Airlines was renamed as Air India in 1946.

It became India's international airline.

In 1948, Air India started international flights from Mumbai to London.

Importance: India entered international civil aviation.

4. **Nationalization of Airlines (1953)**

In 1953, the Government of India took control of airlines.

Two main airlines were formed:

- Air India – for international flights
- Indian Airlines – for domestic flights

Importance: Government regulated and expanded aviation services.

5**. Development and Expansion (1980–1990)**

During this period:

- More airports were built.
- Passenger traffic increased.
- New technology was introduced.
- Private airlines were allowed later, which increased competition.

6. **Liberalization and Entry of Private Airlines (1990s)**

In the 1990s, the government allowed private airlines.

Examples of private airlines:

- Jet Airways
- IndiGo

Importance: Improved service quality and increased airline options.

7. Modern Civil Aviation in India (2000–Present)

India is now one of the fastest-growing aviation markets.

Major developments:

- Modern airports like Indira Gandhi International Airport
- Growth of low-cost airlines
- Increase in domestic and international passengers
- Privatization and modernization of airlines

In 2022, Air India was taken back by the Tata Group.

8. **Regulatory Authority**

Civil aviation in India is regulated by the Directorate General of Civil Aviation (DGCA).

Functions of DGCA:

- Ensures aviation safety
- Issues licenses
- Regulates airlines and pilots

<u>IATA (International Air Transport Association)</u>

The International Air Transport Association (IATA) is an international organization that represents airlines worldwide.

- Established: 1945
- Headquarters: Montreal, Canada
- Functions:
- Promotes safe, reliable, and economical air transport
- Sets standards for airline operations
- Fixes international ticketing and fare systems
- Provides training to aviation professionals
- Helps airlines coordinate schedules and services

Example:

IATA codes are used for airports and airlines (e.g., DEL for Delhi airport, AI for Air India).

Importance:

IATA ensures cooperation and smooth functioning of airlines globally.

ICAO (International Civil Aviation Organization)

The International Civil Aviation Organization (ICAO) is a specialized agency of the United Nations that regulates international civil aviation.

- Established: 1944 (Chicago Convention)
- Headquarters: Montreal, Canada
- Functions:
- Sets international aviation safety standards
- Develops rules for air navigation
- Ensures safe and orderly growth of civil aviation
- Improves global aviation security

Example:

ICAO sets rules that all member countries must follow for safe flying.

Importance:

ICAO ensures global aviation safety and standardization.

DGCA (Directorate General of Civil Aviation)

The Directorate General of Civil Aviation (DGCA) is the main aviation regulatory authority in India.

Headquarters: New Delhi, India

Functions:

Regulates civil aviation in India

Issues licenses to pilots and airlines

Ensures safety standards

Conducts inspections and investigations

Implements ICAO regulations in India

Example:

DGCA issues pilot licenses and approves airlines like IndiGo and Air India.

Importance:

DGCA ensures safe and efficient aviation operations in India.

Warsaw Convention (1929)

The Warsaw Convention is an international treaty that regulates airline liability for passengers, baggage, and cargo.

- Signed: 1929
- Place: Warsaw, Poland

Objectives:

- To establish uniform rules for international air transport
- To protect passengers and airlines legally
- To define airline liability in case of injury, death, or loss

Key Features:

- Airlines are responsible for passenger safety
- Compensation is provided for injury or death
- Airlines are liable for lost or damaged baggage and cargo
- Standardized rules for airline documentation

Importance:

It protects passengers and ensures legal responsibility of airlines.

Chicago Convention (1944)

The Chicago Convention is the most important international agreement that established rules for global civil aviation.

- Signed: 1944
- Place: Chicago, USA

Objectives:

- To promote safe and orderly development of international aviation
- To establish international aviation standards

Key Features:

- Formation of International Civil Aviation Organization (ICAO)
- Defined airspace sovereignty of countries

- Established rules for air navigation
- Promoted aviation safety and cooperation

Importance:

It forms the foundation of modern international civil aviation.

Bilateral Agreements

A bilateral agreement is an agreement between two countries to allow air services between them.

Objectives:

- To permit airlines of two countries to operate flights
- To regulate routes, frequency, and traffic rights

Key Features:

- Agreement between two nations only
- Defines routes and number of flights
- Specifies airline rights and responsibilities

Example:

Air service agreement between India and UAE allowing airlines to operate flights between the two countries.

Importance:

Allows international flights between two countries legally.

Multilateral Agreements

A multilateral agreement is an agreement between more than two countries for international air transport.

Objectives:

To promote cooperation among multiple countries

To standardize aviation rules internationally

Key Features:

Involves many countries

Provides common aviation standards

Facilitates global air transport

Example:

The Chicago Convention is a multilateral agreement signed by many countries.

Importance:

Promotes global aviation cooperation and uniformity.

Freedoms of the Air

The Freedoms of the Air are a set of international aviation rights that allow airlines of one country to fly over, land in, and carry passengers or cargo to and from another country. These freedoms were established by the Chicago Convention and are regulated by the International Civil Aviation Organization (ICAO).

They help in regulating international air transport between countries.

Purpose of Freedoms of the Air

- To allow international flight operations
- To regulate air traffic between countries
- To promote global aviation cooperation
- To define airline rights and privileges

The Nine Freedoms of the Air

First Freedom – Right of Overflight

This allows an airline to fly over another country without landing.

Example:

An Air India flight flying over Pakistan without landing.

Second Freedom – Right of Technical Landing

This allows an aircraft to land in another country for technical reasons such as refueling or maintenance, but not to pick up passengers.

Example:

A flight landing in Dubai only for refueling.

Third Freedom – Right to Carry Passengers from Home Country to Another Country

This allows an airline to carry passengers from its own country to another country.

Example:

IndiGo carrying passengers from India to Singapore.

Fourth Freedom – Right to Carry Passengers from Another Country to Home Country

This allows an airline to carry passengers from another country back to its own country.

Example:

Air India carrying passengers from London to India.

Fifth Freedom – Right to Carry Passengers Between Two Foreign Countries

This allows an airline to carry passengers between two foreign countries on a flight that started in its own country.

Example:

Air India flying from India to Dubai and then carrying passengers from Dubai to London.

Sixth Freedom – Right to Carry Passengers Between Two Foreign Countries via Home Country

This allows airlines to carry passengers between two countries through their own country.

Example:

Passengers flying from USA to Sri Lanka via India.

Seventh Freedom – Right to Operate Between Two Foreign Countries Without Returning Home

This allows an airline to operate flights between two foreign countries without connecting to its home country.

Example:

An airline from India operating flights between Dubai and Singapore.

Eighth Freedom – Consecutive Cabotage

This allows an airline to carry passengers between two cities in another country as part of an international flight.

Example:

A foreign airline carrying passengers from Mumbai to Delhi as part of an international route.

Ninth Freedom – Standalone Cabotage

This allows an airline to operate domestic flights within another country without connecting to its home country.

Example:

A foreign airline operating domestic flights entirely within India.

Importance of Freedoms of the Air

- Facilitates international air travel
- Promotes global connectivity
- Helps airlines expand operations
- Supports international trade and tourism
- Ensures organized air transport system

MODULE II

Definition of Airlines

An airline is an organization or company that provides air transport services for passengers and cargo using aircraft. Airlines operate scheduled and non-scheduled flights between different destinations.

In simple words, an airline is a company that carries people and goods by air.

Types of Airlines

Airlines can be classified based on **ownership, operational schedule, and business model**. The main types are:

- Public and Private Sector Airlines
- Scheduled Airlines
- Non-Scheduled Airlines

Public and Private Sector Airlines

Public Sector Airlines

Public sector airlines are owned and operated by the government.

Features:

- Owned by the government
- Provide national and international services
- Serve public interest and national connectivity

Example:

- Air India (formerly government-owned airline)

Private Sector Airlines

Private sector airlines are owned and operated by private companies or individuals.

Features:

- Owned by private organizations
- Focus on profit and efficiency
- Provide better service competition

Examples:

- IndiGo

- SpiceJet

Scheduled Airlines

Scheduled airlines operate flights according to a fixed timetable approved by aviation authorities.

Features:

- Operate regularly scheduled flights
- Follow fixed routes and timings
- Carry passengers and cargo

Scheduled airlines are classified as follows:

1. Major Airlines

Major airlines operate large aircraft and serve major cities and international destinations.

Example:

- Emirates

2. Regional Airlines

Regional airlines connect smaller cities with major airports.

Example:

- Alliance Air

3. Commuter Airlines

Commuter airlines operate short-distance flights, usually connecting nearby cities.

Example:

- Smaller aircraft operators connecting regional routes.

4. National Airlines

National airlines represent a country and operate domestic and international flights.

Example:

- Air India

5. FSCs (Full Service Carriers)

Full Service Carriers provide complete services including meals, baggage, and entertainment.

Features:

- High level of passenger comfort
- Higher ticket prices

Example:

- Air India

6. LCCs (Low-Cost Carriers)

Low-Cost Carriers provide basic services at lower fares.

Features:

- Low ticket prices
- Extra charges for food and baggage

Example:

- IndiGo

Non-Scheduled Airlines

Non-scheduled airlines do not operate according to fixed schedules. They operate flights on demand.

1. Charter Flights

Charter flights are special flights hired by individuals, companies, or tour operators.

Features:

- Operate on demand
- Used for tourism, VIP travel, and special events

Example:

- Air Charter Service

2. Air Taxi Services

Air taxi services provide short-distance travel using small aircraft.

Features:

- Operate on request
- Provide fast and flexible transport

Example:

- Private air taxi operators in India

Airline Practices

Airline practices are the operational and service strategies used by airlines to improve efficiency, customer service, and global connectivity. Major airline practices include classes of services, hub and spoke system, code sharing, interlining, frequent flyer programme, and airline alliances.

1. **Classes of Services**

Airlines offer different travel classes based on comfort, services, and ticket price.

Types of Classes:

1. **First Class**

- Highest level of comfort and luxury
- Large seats, privacy, premium meals
- Expensive fares

Example: First class service in Emirates.

2. **Business Class**

- High comfort level
- Comfortable seats and better meals
- Used mainly by business travelers

Example: Business class in Air India.

3. **Premium Economy Class**

- More comfort than economy
- Extra legroom and better service

4. Economy Class

- Basic and most affordable class
- Standard seating and services

Example: Economy class in IndiGo.

2. <u>Hub and Spoke System</u>

The hub and spoke system is a network structure where flights operate from a central airport (hub) to smaller airports (spokes).

Features:

- Hub is the main airport
- Spokes are smaller airports connected to the hub

Example:

- Air India uses major hubs like Delhi and Mumbai to connect other cities.

Advantages:

- Improves connectivity
- Reduces operational costs
- Increases flight efficiency

3. <u>Code Sharing</u>

Code sharing is an agreement where two or more airlines share the same flight.

Features:

- One airline operates the flight
- Other airlines sell tickets under their own name

Example:

Air India and Singapore Airlines share some international routes.

Advantages:

- Expands airline network
- Provides more travel options

4. <u>Interlining</u>

Interlining is an agreement between airlines to allow passengers to travel on multiple airlines using a single ticket.

Features:

- Single ticket for multiple airlines
- Baggage transferred automatically

Example:

Passenger traveling from Kochi to New York using two different airlines on one ticket.

Advantages:

- Easy travel
- Passenger convenience

5. <u>Frequent Flyer Programme (FFP)</u>

Frequent Flyer Programme is a reward system for loyal passengers.

Features:

- Passengers earn points or miles
- Points can be used for free tickets or upgrades

Example:

Air India offers frequent flyer rewards to regular passengers.

Advantages:

- Encourages customer loyalty
- Provides benefits and rewards

6. Airline Alliances

Airline alliances are partnerships between airlines to cooperate and provide better global services.

Features:

- Airlines share routes and services
- Provide global connectivity

Examples:

- Star Alliance
- Oneworld

Advantages:

- Global travel access
- Improved passenger convenience

Aircraft – Parts, Types and Manufacturers

An aircraft is a machine designed to fly in the air. It is used for transporting passengers, cargo, and for military and other purposes. Aircraft operate using aerodynamic principles such as lift, thrust, drag, and weight.

1. Parts of an Aircraft

An aircraft has several important parts, each with a specific function.

1. Fuselage

- The fuselage is the main body of the aircraft.
- It carries passengers, cargo, and crew.

- It connects all other parts of the aircraft.

2. Wings

- Wings generate lift, which helps the aircraft fly.
- They hold fuel tanks in most aircraft.
- Their shape helps the aircraft stay in the air.

3. Tail (Empennage)

- The tail provides stability and control. It has two main parts:
- Vertical stabilizer – controls left and right movement
- Horizontal stabilizer – controls up and down movement

4. Engine

- The engine provides thrust to move the aircraft forward.
- Aircraft may have one or more engines.

Example: Aircraft manufactured by Boeing use powerful jet engines.

5. Landing Gear

- Landing gear supports the aircraft during takeoff and landing.

It includes wheels and shock absorbers.

6. Cockpit

- The cockpit is where pilots control the aircraft.
- It contains instruments and controls.

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2. <u>Types of Aircraft</u>

Aircraft are classified based on their design and purpose.

1. ***Passenger Aircraft***

- Used to carry passengers

  Example: Aircraft used by Air India

2. ***Cargo Aircraft***

- Used to transport goods and cargo

  Example: Cargo aircraft used by FedEx Express

3. ***Military Aircraft***

- Used for defense purposes

  Example: Fighter jets used by the Indian Air Force

4. **Private Aircraft**

- Used by individuals or companies
- Used for personal or business travel

5. ***Helicopters***

- Aircraft that use rotating blades
- Used for rescue, transport, and military purposes

3. <u>Aircraft Manufacturers</u>

Aircraft manufacturers are companies that design and build aircraft.

Major Aircraft Manufacturers:

1. ***Boeing (USA)***

- One of the largest aircraft manufacturers
- Produces aircraft like Boeing 737 and 777

2. ***Airbus (Europe)***

- Major global aircraft manufacturer

- Produces aircraft like Airbus A320 and A380

3. Bombardier (Canada)

- Produces regional aircraft

4. Embraer (Brazil)

- Produces regional and business aircraft

Importance of Aircraft Manufacturers:

- Develop modern aircraft technology
- Improve safety and efficiency
- Support global aviation industry

Airline Organization – Airline Personnel

An airline organization is a structured system that manages all airline operations, including flight operations, customer service, safety, maintenance, and administration. Airline personnel are the trained staff responsible for ensuring safe, efficient, and smooth airline functioning.

Airlines such as Air India and IndiGo employ different categories of personnel to perform various duties.

1. Airline Organization Structure

An airline organization is divided into different departments. Each department has specific responsibilities.

Main Departments:

1. Flight Operations Department
- Responsible for operating aircraft safely
- Includes pilots and flight dispatchers

2. Cabin Services Department
- Responsible for passenger comfort and safety
- Includes cabin crew members

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3. Engineering and Maintenance Department
- Responsible for aircraft maintenance and repair

- Ensures aircraft safety and airworthiness

4. Ground Operations Department

- Handles airport operations
- Includes check-in, boarding, and baggage handling

5. Commercial Department

- Responsible for ticket sales, marketing, and customer service

6. Administration Department

- Manages finance, human resources, and overall airline management

2. Airline Personnel

Airline personnel are the employees who perform different roles in airline operations.

A. Flight Crew

1. *Pilot*

- Responsible for flying and controlling the aircraft
- Ensures passenger safety

2. *Co-pilot (First Officer)*

- Assists the pilot
- Shares flying responsibilities

B. Cabin Crew

Flight Attendants (Air Hostess / Cabin Crew)

- Responsible for passenger safety and comfort
- Provide food and assistance
- Handle emergencies

Example: Cabin crew in Emirates provide in-flight services.

C. Ground Staff

Ground staff work at airports and assist passengers.

Duties:

- Check-in passengers
- Issue boarding passes

- Handle baggage
- Assist passengers at the airport

D. Engineering Staff

Aircraft Engineers and Technicians

- Maintain and repair aircraft
- Ensure aircraft safety

E. Air Traffic Controllers

- Control aircraft movement on ground and in air
- Prevent collisions
- Ensure safe flight operations

F. Administrative Staff

Includes:

- Managers
- Accountants
- Human resource staff

They manage airline business operations.

MODULE III

AIRPORT OPERATIONS

Airport

- Definition of Airport

  An airport is a defined area on land or water used for the arrival, departure, and movement of aircraft. It includes runways, terminals, and facilities for passengers, cargo, and aircraft operations.

  Standard Definition (ICAO):

  According to the International Civil Aviation Organization, an airport is a defined area intended for aircraft landing, takeoff, and surface movement.

Concept of Airport

- An airport is a transport hub for air transportation.
- It provides facilities for aircraft operations, passengers, cargo, and aviation services.
- It acts as a link between different cities and countries.
- It supports tourism, trade, and economic development.

Main Components of Airport

- Runway – Area where aircraft take off and land
- Taxiway – Path connecting runway and terminal
- Apron – Parking area for aircraft
- Terminal Building – Passenger service area
- Control Tower – Controls aircraft movements
- Hangar – Aircraft storage and maintenance building
- Cargo Terminal – Handles goods and freight

Functions of Airport

Airports perform several important functions to ensure safe and efficient air transport.

a) Aircraft Operations

- Provides facilities for landing and takeoff of aircraft
- Provides runways, taxiways, and aprons
- Provides air traffic control for safe aircraft movement

b) Passenger Handling

Provides check-in, boarding, and baggage handling facilities

Provides waiting lounges, security, and immigration services

Ensures passenger comfort and safety

c) Cargo Handling

- Handles loading and unloading of goods and freight
- Provides cargo storage and transport facilities
- Supports international and domestic trade

d) Aircraft Services

- Provides fueling, maintenance, and repair services
- Provides parking and hangar facilities

e) Safety and Security

Provides security checks for passengers and baggage

Ensures airport safety and emergency services

2. Airport Product and Consumers

a) Airport Product

- Airport product refers to the services and facilities provided by an airport.
- Main airport products include:
- Runway and aircraft handling services
- Passenger services (check-in, waiting area, baggage handling)
- Cargo handling services
- Aircraft parking and maintenance services
- Retail shops, restaurants, and lounges

Airport product is mainly a service product, not a physical product.

b) Airport Consumers

Airport consumers are the users of airport services.

Main consumers include:

1. Passengers – People traveling by air
2. Airlines – Use airport facilities for aircraft operations
3. Cargo operators – Use airport for goods transportation.
4. Visitors – People coming to receive or see off passengers
5. Government agencies – Immigration, customs, and security

Revenue Sources of Airport

Airports earn income from different sources. These are divided into two main types:

Aeronautical Revenue

- Revenue earned from aircraft operations

Examples

- Landing fees
- Parking fees
- Passenger service charges
- Aircraft handling fee
- Air navigation fees

Non-Aeronautical Revenue

- Revenue earned from commercial activities

Examples:

- Rent from shops and restaurants
- Parking fees from vehicles
- Advertisement fees
- Duty-free shop revenue
- Lounge fees

Airport Ownership

1. Definition of Airport Ownership

Airport ownership refers to the legal control and management of an airport by a government, private company, or both. Ownership determines who is responsible for airport development, operation, and maintenance.

Types of Airport Ownership

a) Public Ownership (Government Ownership)

- Airports are owned and managed by the national, state, or local government.
- The government is responsible for funding, development, and operation.
- Main objective is public service, safety, and national development.

Example: Airports in India managed by the Airports Authority of India (AAI)

Features:

- Government controlled
- Focus on public welfare
- Less profit-oriented

b) Private Ownership

- Airports are owned and operated by private companies or individuals.
- Main objective is profit and efficient management.
- Private owners invest in airport infrastructure and services.

Features:

- Privately funded
- Profit-oriented
- Efficient and modern facilities

c) Public–Private Partnership (PPP)

- Airport is owned and managed jointly by the government and private companies.
- Government provides ownership, and private sector manages operations.
- Combines government support and private efficiency.

Examples in India:

- Cochin International Airport
- Indira Gandhi International Airport

Features:

- Shared investment
- Better efficiency and service quality
- Risk shared between government and private sector

d) Military Ownership

- Airports are owned and used by the military or defense department.
- Used mainly for defense and security purposes.
- Some military airports also allow civil aircraft (civil enclave).

Importance of Airport Ownership

- Ensures proper management and operation
- Helps in airport development and expansion
- Improves efficiency and service quality
- Supports economic and tourism development

Structure of Airport

The structure of an airport is divided into three main areas: Airside, Terminal Area, and Landside Facilities. Each area plays an important role in airport operations.

1. Airside – Various Parts and Facilities

Airside is the area where aircraft operate. It includes all facilities used for aircraft movement, take-off, landing, and servicing.

Parts of Airside:

a) Runway

A long paved area where aircraft take off and land

It is the most important part of the airport

b) Taxiway

- A path that connects the runway to the apron and terminal
- Used for aircraft movement on the ground\

c) Apron (Aircraft Parking Area)

- Area where aircraft are parked, loaded, unloaded, and serviced

d) Control Tower

- Controls and monitors aircraft movement for safety
- Provides instructions to pilots

e) Hangar

- Building used for aircraft storage, maintenance, and repair

f) Air Navigation Facilities

- Includes radar, communication systems, and lighting
- Helps in safe aircraft navigation

Terminal Parts

The terminal is the building where passengers are processed before departure and after arrival.

Main Parts of Terminal:

a) Check-in Area

- Passengers receive boarding passes and check baggage

c) Security Check Area

- Passengers and baggage are checked for safety

d) Departure Lounge

- Area where passengers wait before boarding

e) Boarding Gate

- Area where passengers enter the aircraft

f) Arrival Area

- Area where passengers exit after landing

g) Baggage Claim Area

- Passengers collect their checked baggage

h) Immigration and Customs

- Checks passengers in international travel

3. Landside Facilities (Land-Based Facilities)

Landside is the public area of the airport used by passengers and visitors.

Landside Facilities include:

a) Parking Area

Parking space for cars, taxis, and buses

b) Access Roads

Roads connecting the airport to the city

c) Ticket Counters

Area for ticket booking and information

d) Restaurants and Shops

Provides food, shopping, and other service

e) Waiting Areas

Area for visitors and passengers

f) Transport Facilities

Includes taxi, bus, and car rental services

MODULE IV

PASSENGER HANDLING

Departure Procedure

The departure procedure is the process passengers follow at the airport before boarding an aircraft. It includes check-in, baggage handling, immigration, security, and boarding.

1. Check-in Formalities

Check-in is the first step in the departure process where passengers confirm their travel with the airline.

Main Check-in Procedures:

- Passenger presents ticket and identification (passport/ID card)
- Airline staff verifies passenger details
- Passenger receives boarding pass
- Seat number and boarding gate are assigned
- Checked baggage is handed over to airline staff

Types of Check-in:

- Counter check-in (at airport counter)
- Online check-in
- Self-service kiosk check-in

2. Types of Baggage

Baggage refers to the luggage carried by passengers. It is classified into different types:

a) Free Baggage

- The amount of baggage allowed without extra charge
- Weight limit is fixed by the airline

b) Excess Baggage

- Baggage that exceeds the free baggage limit

- Passenger must pay extra charges

c) Baggage Pooling

- Two or more passengers combine their baggage allowance
- Helps avoid excess baggage charges
- Usually allowed for passengers traveling together

e) Checked Baggage

- Baggage given to airline staff during check-in
- Stored in the aircraft cargo hold

f) Cabin Baggage (Hand Baggage)

- Small baggage carried by passengers inside the aircraft

2. Emigration Services

Emigration is the process of checking passengers leaving the country.

Procedures:

- Passenger presents passport, visa, and boarding pass
- Emigration officer verifies travel documents
- Exit stamp is placed on the passport
- Ensures passenger is legally allowed to leave the country

2. Security Check

Security check ensures safety of passengers and aircraft.

Procedures:

- Passenger and hand baggage are checked using scanners
- Passenger walks through metal detector
- Prohibited items are removed
- Security stamp is placed on boarding pass

3. Gate Handling

After security check, passengers go to the departure gate.

Procedures:

- Passenger waits in the departure lounge
- Airline staff makes boarding announcements
- Staff verifies boarding pass and ID

4. Boarding

Boarding is the final step before entering the aircraft.

Procedures:

- Passenger shows boarding pass to airline staff
- Passenger enters aircraft through aerobridge or bus
- Passenger finds assigned seat
- Cabin crew assists passengers

Arrival Procedure

The arrival procedure is the process passengers follow after landing at the airport until they exit the airport. It includes transit handling, immigration, baggage claim, and customs formalities.

1. Transit Passenger Handling

A transit passenger is a passenger who arrives at an airport and continues the journey to another destination without leaving the airport.

Procedures:

- Passenger follows transit signs at the airport
- Passenger proceeds to the transit counter or transit lounge
- Boarding pass and travel documents are verified
- Passenger waits for the next flight
- Sometimes security check is done again

Importance:

- Helps passengers transfer smoothly between flights
- Ensures security and proper travel documentation

3. Immigration Services

Immigration is the process of checking passengers entering a country.

Procedures:

- Passenger presents passport, visa, and arrival card
- Immigration officer verifies passenger detail
- Passport is stamped with entry stamp
- Officer grants permission to enter the country

Purpose:

- Ensures passenger has legal permission to enter the country
- Maintains national security

4. Baggage Claim Area

The baggage claim area is where passengers collect their checked baggage after arrival.

Procedures:

- Passenger proceeds to the baggage claim section
- Passenger checks the flight number on display screen
- Passenger collects baggage from the conveyor belt
- Passenger verifies baggage using baggage tag

Facilities:

- Conveyor belts
- Display screens
- Trolleys for carrying baggage

5. Customs Formalities

Customs is the process of checking passenger baggage for restricted or taxable goods.

Customs has two channels:

a) Green Channel

- For passengers carrying no restricted or taxable goods
- Passenger can exit without detailed checking
- Faster and simple process

b) Red Channel

- For passengers carrying restricted or taxable goods
- Passenger must declare goods to customs officer
- Baggage is checked
- Customs duty (tax) may be charged