



Note

15



THE INDIAN AIR FORCE

The Indian Air Force (IAF) is the air arm of the Indian armed forces; it protects and secures the Indian airspace and conducts air warfare during a war. It is the youngest arm of the Indian Armed Forces. It was established by the British Empire on 8 October 1932, as an auxiliary of the Royal (British) Air Force. On 01 April 1933 the Air Force commissioned its first squadron, No 1 squadron with four Westland Wapiti biplanes and five Indian Pilots. King George VI conferred the prefix Royal to the Air Force, in 1945, in recognition of its services during World War II. It remained Royal Indian Air Force until India became a republic in 1950. When India became a republic in 1950, the prefix of Royal was dropped and it was renamed as Indian Air Force.



Objectives

After studying this lesson, you will be able to:

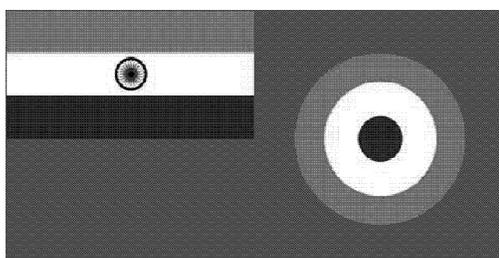
- identify the roles and responsibilities of IAF;
- State the organizational structure of the Indian Air Force and
- explain and categorise different aircraft and equipment of the IAF.

15.1 Role and Responsibility

The IAF Motto

‘नभःस्पृशं दीप्तम्’

God seeing you touching the skies



The IAF Crest



Fig. 15.1: The IAF Flag



Note

MISSION OF THE INDIAN AIRFORCE

- The Primary objective of IAF is to defend the nation and its airspace against Air threats in coordination with Army and Navy.
- The secondary purpose is to assist civil power during natural calamities and internal disturbances.
- The IAF provides close air support to the Indian Army troops in the battlefield and also provides strategic and tactical airlift capabilities.
- IAF also provides strategic air lift or secondary Airlift for the Indian Army.
- The IAF also operates the Integrated Space Cell together with the other two branches of the Indian Armed Forces, the Department of Space and the Indian Space Research Organization (ISRO).
- Rescue of civilians during natural disasters
- Evacuation of Indian nationals from foreign countries in case of instability or other problems
- VVIP transport for official visits abroad.

15.1.1 Aid to Civil Authorities

The Transport Squadrons and helicopter units play a significant role during peacetime. They always provide help when needed. Some of the tasks they will perform are as follows:-

- Flood relief and casualty evacuation etc.
- Flood relief operations to airlift relief materials and passengers.
- Helicopter units render services for casualty evacuation during calamities.
- Cyclone relief and earthquake relief.

15.2 Organizational Structure

Command Structure

Commands

The Indian Air Force is divided into five operational and two functional commands. An Air Officer Commanding-in-Chief with the rank of Air Marshal heads each Command. The purpose of an operational command is to conduct military operations using aircraft within its area of responsibility. Aside from the Training Command at Bangalore, the primary flight training is done at the Air Force Academy, Dundigul (located in Hyderabad), followed by operational training at various other schools.

Operational Commands

- o Central Air Command (CAC), Allahabad, Uttar Pradesh
- o Eastern Air Command (EAC), Shillong, Meghalaya
- o Southern Air Command (SAC), Thiruvananthapuram, Kerala
- o South Western Air Command (SWAC), Gandhinagar, Gujarat
- o Western Air Command (WAC), New Delhi

Functional Commands

The role of a Functional Command is to maintain, train and administer the Air Force. The various Commands are:-

- o Training Command (TC), Bangalore, Karnataka
- o Maintenance Command (MC), Nagpur, Maharashtra

Wings

A wing is a formation. It generally consists of two or three IAF squadrons and helicopter units, along with forward base support units. A group captain typically commands wings. In all there are 47 wings and 19 forward base units in the IAF.

Squadrons and units

Squadrons are the field units attached to a Station. For example, No2 Squadron is located at Ambala. Thus, a flying squadron or unit of an Air Force Station carries out the primary task of the IAF. A fighter squadron consists of 18 aircraft; all fighter squadrons are headed by a commanding officer of the rank of Wing Commander.

Flights

Flights are sub-divisions of squadrons, commanded by a Squadron Leader. Each flight consists of two sections.

Sections

The smallest unit is the section, led by a Flight Lieutenant. Each section consists of three aircraft.

Integrated Space Cell

An Integrated Space Cell, which will be jointly operated by all the three services of the Indian Armed Forces, the civilian Department of Space and the Indian Space Research Organisation (ISRO) has been set up to utilise more effectively the country's space-based assets for military purposes. This cell will use space technology including satellites. Unlike an aerospace command, where the air force controls most of its activities, the Integrated Space Cell envisages co-operation and co-ordination between the three

**Note**



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services as well as civilian agencies dealing with space. India currently has some remote sensing satellites in orbit. Though most are not meant to be dedicated military satellites, some can also be used for military applications.

Important satellites include:

- Technology Experiment Satellite (TES)
- RISAT-2 capable of imaging in all-weather conditions and has a resolution of one metre
- CARTOSAT-2, CARTOSAT-2A and CARTOSAT-2B

Branches

IAF has several service branches for day-to-day operations. Broadly, the Air Force has three branches with further sub-streams :

- Flying Branch
 - o Fighters
 - o Transports
 - o Helicopters
- Technical Branch
 - o Mechanical
 - o Electronics
- Ground Duty Branch
 - o Administration
 - o Accounts
 - o Logistics
 - o Education
 - o Meteorology



Intext Questions

15.1

1. What is the primary objective of Indian Air Force ?
2. What is a wing?
3. Name any two of the Indian satellites used by the Indian Air force.

15.3 Ranks of the Indian Airforce

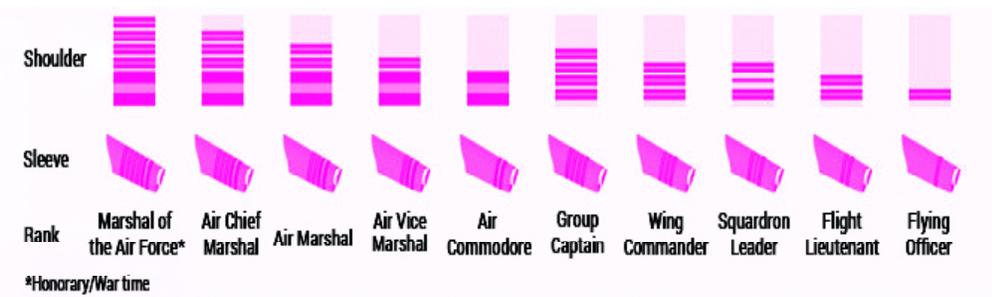


Fig. 15.2: Ranks of the Indian Air Force - Officer Ranks



Fig. 15.3: Ranks of the Indian Air Force - enlisted ranks

Honorary Officers: Sachin Tendulkar was the first sportsperson and the first civilian without an aviation background to be awarded the honorary rank of Group Captain by the Indian Air Force.

15.3 Different Air Crafts and Weapon Systems

The Indian Air Force Today

The Indian Air Force (IAF) today is a modern, technology-intensive force. The IAF has become a multi-role capable force. Over the years it has grown from a tactical force to one with transoceanic reach. It means our Air Force can go to any part of the world on a mission. It has been used recently for airlifting Indians from Iraq and Yemen. The strategic reach is because it has many big aircrafts such as the C17 Globemaster, mid-air Flight Refuelling Aircraft, Remotely Piloted Aircraft.

Helicopters

The IAF's helicopter fleet has steadily increased in numbers over the past few years, from a handful in the 60s to over 500 French, Indian and Soviet built helicopters. The



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Mi-26 is a heavy lift helicopter. The bulk of helicopter fleet are Medium Lift Helicopters (MI-17/MI-17IV/MI-17V5 and Mi-8s). Medium Lift Helicopters of IAF are operated for commando assault tasks, ferrying supplies and personnel to remote mountain helipads, carrying out Search and Rescue Operations and logistic support tasks. The Chetak/Cheetah helicopter fleet has been the backbone in this as well as in Casualty Evacuation and Route Transport role in the IAF. Recently Made in India helicopter Dhruv (ALH) has been inducted into the Air Force.

15.3.1 Major Equipment and Aircraft

These comprise of fighters, transports and helicopters.

FIGHTERS:

- **SU-30 MKI** : Twin seater twin engine multirole fighter of Russian origin. It is capable of carrying a variety of medium-range guided air-to-air missiles. It has a max speed of 2500 km/hr (Mach 2.35).
- **Mirage-2000** : A single seater air defence and multi-role fighter of French origin can attain max speed of 2495 km/hr (Mach 2.3). It carries cannons and close combat missiles on external stations.
- **MiG-29** : Twin engine, single seater air superiority fighter aircraft of Russian origin capable of attaining max. speed of 2445 km per hour (Mach-2.3), carries a 30 mm cannon alongwith close combat and medium range radar guided missiles.
- **MiG-27** : Single engine, single seater tactical strike fighter aircraft of Russian origin having a max. speed of 1700 km/hr (Mach 1.6), carries cannon and upto 4000 kg of other armament externally
- **Jaguar** : A twin-engine, single seater deep penetration strike aircraft of Anglo-French origin which has a max. speed of 1350 km/hr (Mach 1.3). It has guns and can carry 4750 kg of external stores (bombs/fuel)
- **MiG-21 BISON** : Single engine, single seater multirole fighter/ground attack aircraft of Russian origin which forms the back-bone of the IAF. It has a max speed of 2230 km/hr (Mach 2.1) and carries one 23mm twin barrel cannon with close combat missiles
- **Rafal** - This modern air craft will soon be inducted
- **Tejas** - This is an indigenous air craft which is being inducted as light combat air craft.

TRANSPORT:

- **C-130J**: The aircraft is capable of paradrop, heavy drop, casualty evacuation

and can operate from short and semi prepared surfaces.

- **C-17:** It carries 40-70 tons up to a of 4200-9000 km in a single hop.
- **IL-76:** A four engine heavy duty/long haul military transport aircraft of Russian origin with a max speed of 850 km/hr. It has a capacity of 225 paratroopers or 40 tonnes freight.
- **AN-32:** Twin engine turboprop, medium tactical transport aircraft of Russian origin with capacity to carry 39 paratroopers or max load of 6.7 tonnes.
- **AVRO :** Twin engine turboprop, military transport of British origin having a capacity of 48 paratroopers or 6 tonnes freight and max cruise speed of 452 km/hr.
- **Dornier :** Twin engine turboprop, logistic air support transport of German origin capable of carrying 19 passengers or 2057 kgs.
- **Boeing 737-200 :** Twin engine turbofan, VIP passenger aircraft of American origin with total seating capacity of upto 60 passengers. It has a max cruise speed of 943 km/hr.

HELICOPTERS:

- **MI-25/MI-35 :** Twin engine turboshaft, assault and anti armour helicopter capable of carrying 8 men assault squad with rotary gun and upto 1500 Kg of external ordnance including anti-tank missiles.
- **MI-26 :** Twin engine turboshaft, military heavy lift helicopter of Russian origin with carrying capacity of 70 combat equipped troops or 20 tons payload.
- **MI-17 V5 :** The Mi-17 V5 is a potent helicopter platform.
- **Chetak :** Single engine turboshaft, light utility French helicopter with capacity of 6 passengers or 500 kg load.
- **Cheetah :** Single engine turboshaft helicopter of French origin having capacity to carry 3 passengers or 100 kg external sling loads.



Activity

15.1

Collect pictures/visuals of all the different types of fighter air crafts, transport air crafts and helicopters you have learnt about and paste in your notebook.



Intext Questions

15.2

1. Name one fighter aircraft of the Indian Air Force.



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2. Name the medium lift helicopters used by the Indian Air Force.
3. List any three aircrafts used for transportation by the Indian Air Force.



What You Have Learnt

- Roles and Responsibility of Indian Air Force
- Organisational structure of Indian Air Force
- Integrated Space Cell
- Branches and ranks of Indian Air force
- Different aircrafts and weapon systems
- Major equipments used by Air Force including for transportation



Terminal Exercises

1. Describe in detail the role and responsibility of IAF.
2. Explain Integrated Space Cell.
3. What is a fighter aircraft of IAF? Name some.



Answers to Intext Questions

15.1

1. Primary Objective of IAF is to defend the nation and its airspace against Air threats in coordination with Army and Navy
2. A Wing is a formation; it consists of two or three squadrons.
3. CARTOSAT-2, CARTOSAT-2A and CARTOSAT-2B

15.2

1. Su-30 MKI, mirage 2000, M.G 29, Jaguar or anyother .
1. Medium Lift Helicopters are MI-17/MI-17IV/MI-17V5 and Mi-8s.
2. Aircrafts C-130J, C-17, IL-76 or any other.

