



## Chapter - 4: Defence

### Introduction

- The **Government of India** is responsible for **ensuring the defence of the country** and every part thereof. The **Ministry of Defence (MoD)** discharges this responsibility by providing the policy framework and wherewithal to the Armed forces to discharge their responsibilities towards this.
  - The **Defence Minister is the head of the Ministry of Defence**. A post of Chief of Defence Staff (**CDS**) was **created in 2019**, who will be a four-star General and head the newly created Department of Military Affairs in the Ministry of Defence and function as its Secretary.
    - While the CDS would act as the **principal military adviser to the Defence Minister on all tri-services matters**, the three service chiefs would continue to advise the minister on matters exclusively concerning their respective services i.e. army, navy and the air force.
- The CDS will have the **same salary** and perquisites as the three service chiefs (who are also four-star Generals).

### Internal Security Environment

- In India, the primary responsibility for '**Public Order**' and '**Policing**' rests with the state governments. However, the central government is steadfastly assisting the states in dealing with problems such as terrorism, militancy, insurgency and extremism. The range of challenges to internal security in India, can be categorised into **four broad theatres**:
  - Terrorism in the hinterland,
  - Cross border terrorism in Jammu & Kashmir,
  - Insurgency in North East, and
  - Left wing extremism in certain states.

### Current Status of Defence in India

- India is now among the **top 25 defence** exporters globally.
- Defence exports from India surged from **2,059 crore in 2015-16 to 15,920 crore in fiscal year 2022-23**, marking a remarkable 23-fold increase.
- India, previously known as a **defence equipment importer, now exports** a variety of major platforms including aircraft, artillery guns, missiles, rockets, radars, simulators, and armoured vehicles.
  - Notable indigenous products contributing to exports include LCA-Tejas, Light Combat Helicopters, Aircraft Carriers, and MRO activities, with rising global demand.
    - India exports defence equipment to around **85 countries**.
  - The government aims for a defence **export target of 40,000 crores** by 2024-25.
  - Defence production value **surpassed one lakh crore rupees** for the first time in fiscal year 2022-23.
- Government initiatives and reforms aim to **promote indigenous design**, development, and manufacture of defence equipment by Indian Industry, including MSMEs and start-ups.
  - Initiatives like **Innovations** for Defence Excellence (iDEX), Technology Development Fund (TDF), and Make procedure under Defence Acquisition Procedure (DAP) 2020 encourage

- participation of MSMEs and start-ups.
- Special provisions in **DAP 2020** support MSMEs and start-ups.
- **Public Procurement Policy** for Micro and Small Enterprises (MSEs) Order, 2012, implemented at DPSUs, grants price preference to MSME bidders under certain conditions.
- DPSUs and services have uploaded over **30,000 defence items** on the '**Srijan portal for indigenisation**' for industry partnership, including MSMEs.

## Gender Equity in Armed Forces

- Government initiatives aim to **increase the percentage ratio of women officers and other ranks in the armed forces.**
  - Significant surge in **participation of women in Indian Armed Forces.**
- Women officers are now included in **all branches and streams** of the Indian Air Force.
  - Indian Navy has over **750 women officers**, including **Medical and Dental officers.**
  - Entry for women candidates in **NDA opened**, with 19 cadets joining every six months.
    - First batch of women cadets started training in NDA from July 2022.

## New Frontiers of Warfare

- **Evolution in warfare** includes space warfare alongside land, water, air, and cyber warfare.
  - Establishment of Defence Space Research Agency (**DSRA**) for space-based weapons development.
  - Emerging startups in cyber security, quantum technologies, AI, and augmented reality.
- Army Design Bureau supports **startups and MSMEs**, with recent milestones like the **100th contract of iDex.**
- Indigenous productions in AI like Face Recognition System under Disguise, AI-Based Intercept Management System (IMS) for western theatre, iSentinel threat detection system, and swarm drones.
- These technologies are crucial for counter-terrorism efforts and enhancing national security against hybrid warfare threats.

## Promoting Indigenisation

- The Government has implemented various policies **to promote indigenisation in defence manufacturing and technology.**
  - These initiatives include prioritizing procurement of capital items from domestic sources under the Defence Acquisition Procedure (**DAP**)-2020.
- In March 2022, 18 major defence platforms were announced for industry-led design and development.
  - **Five Positive Indigenisation Lists** have been issued, providing an opportunity for Indian defence industry to manufacture over **400 items domestically.**
- **Four lists of Line Replacement:** Units/Sub-systems/Assemblies/Sub-assemblies/Components have been notified to minimize imports by Defence PSUs.
- Industrial licensing process has been simplified with longer validity periods, and the **Foreign Direct Investment (FDI)** policy has been liberalized to allow **74% FDI under automatic route.**
  - The '**Make Procedure**' has been simplified, and a Defence Excellence (iDEX) scheme involving start-ups & MSMEs has been launched for innovation.
  - The Public Procurement (Preference to 'Make in India') Order 2017 has been implemented.
- DRDO has initiated policies to **involve Indian industry as Development** cum Production Partners (DcPP) and provides access to its technology and patents.
- An indigenisation portal called **SRIJAN** has been launched to **facilitate the indigenisation process** for Indian industries, including MSMEs.
  - **86%** of the capital procurement budget for 2022-23 has been earmarked for the **domestic industry**, with **25% allocated to private industry.**
  - The Offset Policy has been reformed to attract investment and Transfer of Technology (**TOT**) for defence manufacturing.
- **Two Defence Industrial Corridors**, in Uttar Pradesh and Tamil Nadu, have been established.
- Research & Development (R&D) opportunities have been opened up for industry, start-ups, and

academia, with 25% of the defence budget earmarked for R&D.

## Ministry and Its Departments

- The principal task of the Ministry of Defence is to **frame policy directions on defence and security related matters and communicate them** for implementation to the service headquarters, inter-Service organisations, production establishments and research and development organisations.

## Departments under the Ministry of Defence and their Principal Functions

- **The Department of Defence:** It deals with the **Integrated Defence Staff (IDS) and three services and various inter-service organizations**. It is also responsible for the Defence Budget, establishment matters, defence policy, matters relating to Parliament, defence co-operation with foreign countries and coordination of all defence related activities.
- **The Department of Defence Production:** It deals with matters pertaining to defence production, indigenization of imported stores, equipment and spares, planning and control of departmental production units of the Ordnance Factory Board and Defence Public Sector Undertakings (DPSUs).
- **The Department of Defence Research and Development:** Its function is to **advise the government on scientific aspects** of military equipment and logistics and the formulation of research, design and development plans for equipment required by the services.
- **The Department of Ex-Servicemen Welfare:** It is headed by a **Secretary** and deals with all resettlement, welfare and pensionary matters of Ex-Servicemen.

## Border Roads Organisation (BRO)

- **Establishment and Purpose:**
  - Border Roads Organisation (BRO) established on **May 7, 1960**.
  - Aimed at **securing India's borders** and developing infrastructure in remote areas of North and North-Eastern states.
  - **First Chairman** of the Border Roads Development Board (BRDB) was the **Prime Minister of India**.
- **Initial Projects:**
  - Two initial projects were launched:
    - Project Beacon for the Northern Sector, based in Srinagar, Jammu and Kashmir.
    - Project Vartak for the Eastern Sector, based in Tezpur, Assam.
- **Role and Function:**
  - BRO serves as a premier road construction executive force.
  - Integral part of the Indian Armed Forces under the Ministry of Defence (MoD).
  - Constructed over **61,760 km of roads, 976 permanent bridges, five tunnels, and 19 airfields**.
  - Operates in adverse climatic and geographical conditions.
  - Involved in developing and maintaining road networks along India's border areas and in friendly foreign countries.
- **Geographic Presence:**
  - **Presence in 11 states and three union territories**, including the **Andaman and Nicobar Islands**.
  - Operations extend to the friendly country of **Bhutan**.
- **Governance Structure:**
  - Border Roads Development Board (BRDB) established by the Government of India.
    - Prime Minister serves as Chairman of the Board.
    - Defence Minister acts as the Deputy Chairman.

## Indian Coast Guard

- In the early **1970s**, the need for an Indian Coast Guard was recognized due to:
  - Rampant sea-borne smuggling posing a threat to the nation's economy.

- Inadequacy of existing maritime agencies like Customs and Fisheries Department in intercepting illegal vessels, especially within territorial waters.
  - The **establishment of Exclusive Economic Zones (EEZ)** for coastal states under the United Nations Convention on the Laws of the Sea (**UNCLOS**) in the **1970s**, leading to India enacting the **Maritime Zones of India Act 1976** and acquiring sovereign rights over a large maritime area.
- **Discovery of oil in Mumbai High**, necessitating protection measures for offshore installations.
- The **Coast Guard Act of 1978** outlines its broad duties and functions, including:
  - Ensuring safety and protection of artificial islands, offshore terminals, installations, and other structures in maritime zones.
  - **Providing protection and assistance** to fishermen at sea during distress.
  - Preserving and protecting the marine environment, controlling marine pollution.
    - Assisting **Customs and other authorities** in anti-smuggling operations.
    - Enforcing relevant enactments in **maritime zones**.
  - Undertaking measures for the safety of life and property at sea, including scientific data collection.
- Over time, the Coast Guard gained additional responsibilities, such as:
  - Coastal security in **territorial waters**.
  - Enforcement, monitoring, and surveillance of deep-sea fishing activities.
  - Search and rescue operations for merchant ships.
  - Marine oil spill response measures.

## Capability Development and Force Modernisation

- The Indian Armed Forces prioritize capability **development and modernization for national security**.
- A new Capability Planning Process is established to **enhance military capabilities**.
  - The focus is on integration and indigenous design and manufacture of major platforms and equipment.
  - Key **objectives** include building joint and prioritized capabilities for future wars through Aatmanirbhar Bharat (self-reliance in defence manufacturing).
- Achieving **self-reliance** will involve collaborative planning and extensive dialogues among stakeholders.
- Efforts also aim **to streamline indigenous defence research**, development, and manufacturing.

## Transformation of defence Services

- In the current security landscape, there's a necessity for the Armed Forces to be restructured to **effectively address wider strategic goals** while optimizing resources.
  - The call for transformation in the Armed Forces has been longstanding, with reports such as the **Kargil Review Committee (KRC)** emphasizing the need for a comprehensive review of national security systems.
  - The Group of Ministers (GoM) that followed the KRC report also highlighted the imperative to overhaul the Ministry of Defence, including restructuring and strengthening it through procedural and structural changes.
- The appointment of the **Chief of Defence Staff (CDS)** and the establishment of the Department of Military Affairs (DMA), **overseen by the CDS**, have provided momentum for military reforms.
- One of the key aspects of these reforms includes the advancement towards establishing Integrated Theatre Commands, which aims **to enhance operational efficiency and coordination within the Armed Forces**.

## Integrated Theatre Commands

- Integrated Theatre Commands system is a significant reform aimed at leveraging the strengths of the three Services.
- The objective is to **bridge limitations and enhance combat power** by integrating and

complementing each other's competencies.

- The adoption of this system involves consensus-based decision-making, with individual Service concerns being addressed through mutual discussions at different levels, including Service Chiefs and Vice Chiefs.
- A comprehensive action plan has been put in place, which includes the preparation of a study report and a roadmap for the implementation of Theatre Commands.
- Commanders in Chiefs (Cs-in-C) have been nominated to lead this implementation process within a specified timeframe.

## Creation of Tri-Services Agencies

- Tri-Services agencies have been established, comprising:
  - **Armed Forces Special Operation Division (AFSOD)**
    - AFSOD facilitates coordinated planning, development, and utilization of Special Forces across land, air, and maritime sectors.
  - **Defence Space Agency (DSA)**
    - DSA serves as the central entity for coordinating defense-related space endeavors across all three branches of the military.
  - **Defence Cyber Agency (DCA)**
    - DCA focuses on defense-oriented cyber activities and was established in 2018 to enhance synergy and cooperation in cyber, space, and special operations domains.
- These agencies aim to achieve greater efficiency, coordination, and jointness within the armed forces, particularly in the realms of special operations, space defense, and cybersecurity.

## Inter-Services Organisation (Command, Control & Discipline) Bill -- 2023

- The **Lok Sabha** passed the Inter-Services Organisation (Command, Control & Discipline) Bill in **2023**.
- The bill aims to grant **Commander-in-Chief and Officer-in-Command** of Inter-Services Organisations (ISOs) disciplinary and administrative powers over personnel within these organizations.
- Currently, Armed Forces personnel are governed by **specific Service** Acts such as the Army Act 1950, Navy Act 1957, and Air Force Act 1950.
- The enactment of the Bill is expected to result in several benefits including:
  - Effective maintenance of discipline within inter-services establishments by the Heads of ISOs.
  - Elimination of the need to return personnel under disciplinary proceedings to their parent Service units.
  - Expedited resolution of cases of misconduct or indiscipline.
  - Saving of public money and time by avoiding multiple proceedings.
- The Bill is seen as a step towards greater integration and jointness among the three Services.
- It is anticipated to lay a strong foundation for the creation of Joint Structures in the future and improve the functioning of the Armed Forces.

## Army

- The Indian Army has a pivotal role in **safeguarding the territorial integrity of the country**.
- The Indian Army is involved in effectively countering **both military and non-military** facets of asymmetric and sub conventional threats, emerging from within and outside the country. The Indian Army has been at the forefront in combating Covid-19 and as such among other things, quarantine were established by the army across the country out of which '**Manesar Model**' were replicated. The army has also reached out to the industry to identify/ map sources for procurement of equipment required to combat the pandemic.
- The Indian Army has been significantly contributing to United Nations Peacekeeping Missions and is the **second largest troops** contributor in various UN Missions. The most significant contribution of the Indian Army has been to ensure peace and stability in Africa and parts of Asia.

## Operation Sadbhavana

- It's an initiative of the Indian Army in **Jammu and Kashmir and Ladakh** to address the aspirations of people affected by terrorism.
- The operation is a part of the counter terrorist strategy to wrest the initiative and reintegrate the '**Awaam**' with the national mainstream.

## **Navy**

- The Indian Navy (IN) acts as the prime enabler and guarantor of the country's maritime sovereignty and myriad use of sea activities.
- The main roles that IN undertakes are – military, diplomatic, constabulary and benign.

### **Operation Madad**

- Op Madad' was conducted to provide Search and Rescue (SAR) and relief assistance in the **flood** affected areas of Kerala.

### **Operation SANKALP**

- One IN ship has been deployed for Op SANKALP since **June, 2019** to ensure safe passage of Indian Flagged Merchant Vessels (IFMVs) transiting through Strait of Hormuz due to the situation arising from heightened tensions between **Iran and USA**.

### **Mission Sagar**

- **Mission Sagar-I** saw the Indian Navy reaching out to its neighbours – Mauritius, Maldives, Madagascar, Seychelles and Comoros in **2020**, and assisting them with medical teams, medicines and 580 tonnes of food aid. As part of Mission Sagar-II, **INS Airavat** was deployed for providing humanitarian assistance to four East African countries (Sudan, Eritrea, Djibouti and South Sudan).
- **INS Kiltanwas** was deployed to SE Asia as part of **Mission Sagar III** to provide Humanitarian Assistance and Disaster Relief (**HADR**) aid to Vietnam and Cambodia in the form of flood relief package material kits each. **Mission Sagar IV** saw INS Jalashwa deployed to Southern Indian Ocean Region (IOR) in 2021 for delivery of humanitarian aid at Comoros and Madagascar.

### **Operation Samudra Setu**

- The Indian Navy launched Operation '**Samudra Setu**' in **2020** in consonance with the Mission '**Vande Bharat**' to bring home stranded Indians abroad.
- **Four Indian Naval Ships** namely Jalashwa, Shardul, Magar and Airavat traversed 23,175 km over 58 days to evacuate 3,992 stranded Indian nationals from Iran, Maldives and Sri Lanka, whilst demonstrating innovation and adaptability to fight risk of Covid contagion to the ship's crew.

### **INS Vikrant**

- The **Indian Navy's** new aircraft carrier warship is called INS Vikrant.
- It was dedicated to the nation on **September 2, 2022**, by the Prime Minister.
  - Constructed by the **Cochin Shipyard** Limited of Kerala for the Indian Navy, it's the **first aircraft** carrier built in India.
  - Named Vikrant as a tribute to India's first aircraft carrier, INS Vikrant (1961), which means "**courageous**" in Sanskrit.
- The ship's motto is '**I defeat those who fight against me**'.
- The commissioning of INS Vikrant is seen as a proud moment, showcasing India's '**Aatma nirbhar**' credentials and commitment to enhancing maritime security in the Indian Ocean Region.
- Designed by the Indian Navy's **Warship Design Bureau** and built by Cochin Shipyard Limited, INS Vikrant is equipped with state-of-the-art automation features.
- It is the largest ship ever built in the maritime history of India, measuring 262.5 meters long and **61.6 meters** wide, displacing approximately 43,000 tons.
  - The ship has around **2,200 compartments** and is designed to accommodate a crew of around 1,600, including women officers and sailors.

- INS Vikrant has a high degree of automation for machinery operations, ship navigation, and survivability.
  - It can operate an air wing comprising **30 aircraft**, including MiG-29K fighter jets, Kamov-31 and MH-60R multi-role helicopters, as well as indigenously manufactured Advanced Light Helicopters (ALH) and Light Combat Aircraft (LCA) (Navy).
  - It uses a **Short Take Off But Arrested Recovery (STOBAR)** aircraft-operation mode, featuring a ski-jump for launching aircraft and arrestor wires for recovery.
- With **76% indigenous** content, its construction has created direct employment for over 2,000 CSL employees and indirect employment for approximately 12,500 employees, including over 550 original equipment manufacturers, sub-contractors, ancillary industries, and over 100 MSMEs, contributing to the economy.

### ***New Ensign of Navy***



- The Indian Navy has introduced a new **ensign, replacing the traditional White Ensign.**
- The new ensign consists of **two main components**: the National Flag in the upper left canton and a Navy Blue-gold Octagon at the center of the fly side.
- The **Octagon features twin golden octagonal borders** enclosing the golden National Emblem, which includes the Lion Capital of Ashoka with '**Satyamev Jayate**' inscribed in blue Devnagri script, resting atop an anchor and superimposed on a shield.
- Below the shield, within the octagon, is a golden bordered ribbon on a navy blue background, inscribed with **the motto of the Indian Navy, 'Sam No Varunah', in golden Devnagri**

**script.**

- The design within the octagon is **derived from the Indian Naval crest**, with the fouled anchor replaced by a clear anchor to **symbolize** the steadfastness of the Indian Navy.

## Air Force

- The Indian Air Force (IAF) has always encouraged **development of indigenous defence production capability and capacities**.
- Its quest for operating indigenously built platforms and supporting self-reliance has resulted in significant progress on various systems in the IAF. **Light Combat Aircraft, Akash Missile, Advance Light Helicopters** have already been inducted, thus giving impetus to indigenization.
- Due to its capability of short reaction time and ability to reach the affected area, IAF is one of the **first responders to any crisis/situation**.
- **Avani Chaturvedi, Bhawana Kanth and Mohana Singh** created history in 2016 by becoming the **first women pilots** (now Flying Officers) to be commissioned into the fighter streams.

## Make in India

- The Indian Air Force (IAF) prioritizes supporting the **indigenous manufacturing** of defense equipment to reduce dependence on imports.
  - Already inducted indigenous equipment includes Light Combat Aircraft, Akash Missile, and Advance Light Helicopters (ALH), boosting indigenization efforts.
    - Future plans include inducting more advanced versions like the LCA Mk-1A.
- The IAF actively supports the Department of Defense (DoD) in developing various systems such as **Light Combat Helicopters (LCH)**, Remotely Piloted Aircraft (RPAs), and radar systems.
- **Collaboration** with the Defense Research and Development Organization (DRDO) is underway for state-of-the-art weapons development.
- A modernization plan aims to **strengthen the defense** manufacturing base and ecosystem.
- The IAF has identified defense equipment suitable for manufacturing under the **'Make' category**.
- The Ministry of Defense (MoD) endeavors to involve the private sector in defense equipment production.
  - Projects under the **'Strategic Partner'** model are **driving the 'Make in India'** initiative forward.
  - Benefits include job creation, skill enhancement, and technology acquisition, fostering growth in the aerospace sector.

## Digital India Initiative

- The **Indian Air Force (IAF)** has been a pioneer in establishing a secure and reliable optical fibre cable (OFC) network for over a decade.
  - This network connects all IAF bases, including remote advanced landing ground (ALG) locations in Ladakh and Arunachal Pradesh.
- Multiple automation applications have been implemented over this secure network, covering various aspects of IAF operations, technologists, and administration.
  - Automation includes functions such as air defense, imagery, operational planning, flight safety, etc., enabling a net-centric operational capability for the IAF.
  - **Maintenance and logistics applications** like e-Maintenance and Integrated Material Management On-Line System (IMMOLS) have been deployed, making maintenance activities faster and more accurate.
- Administrative applications for HR management, pay and accounts, work services, training, online examination, etc., have been implemented, enhancing the functional efficacy of the IAF.

## Commissioned Ranks

The following are the commissioned **ranks in the three services**, each rank is shown opposite its equivalent in the other service:



Army	Navy	Air Force
General	Admiral	Air Chief Marshal
Lieutenant General	Vice Admiral	Air Marshal
Major General	Rear Admiral	Air Vice Marshal
Brigadier	Commodore	Air Commodore
Colonel	Captain	Group Captain
Lieutenant Colonel	Commander	Wing Commander
Major	Lieutenant Commander	Squadron Leader
Captain	Lieutenant	Flight Lieutenant
Lieutenant	Sub Lieutenant	Flying Officer

## 'Agnipath' Scheme for Recruitment

- The government has introduced a new recruitment scheme called the '**Agnipath**' scheme for **youth to serve in the Armed Forces**.
  - Those selected under this scheme will be known as '**Agniveers**.'
- The scheme offers patriotic and motivated youth the opportunity to serve in the Armed Forces for a period of four years.
  - Implementation of the scheme is expected to **lower the average age** profile of the Indian Armed Forces by **about 4-5 years**.
- It is considered a major defense policy reform aimed at bringing in a new era in the **human resource policy of the three Services**.

## Benefits to Agniveers

- Agniveers will receive a **customized monthly package along with risk and hardship allowances applicable in the three Services**.
  - Upon completion of a four-year engagement period, they will receive a one-time Income Tax-free '**SevaNidhi**' package of **approximately Rs 11.71 lakh**, comprising their contribution including accrued interest and matching government contribution.
    - There is no entitlement to **gratuity and pensionary benefits**.
  - Agniveers will be provided non-contributory **Life Insurance Cover of Rs 48 lakh** during their engagement period in the Indian Armed Forces.
- They will receive training in various military skills, discipline, physical fitness, leadership qualities, courage, and patriotism during their service.
  - The skills gained will be **recognized** with a certificate to enhance their resume.
  - After four years, they may apply for permanent enrollment based on organizational requirements and Armed Forces policies.
- If selected for permanent enrollment, they must serve for a **minimum of 15 years**, governed by the existing terms and conditions of service for Junior Commissioned Officers/Other Ranks in the Indian Army, Indian Navy, Indian Air Force, and Non-Combatant roles in the Indian Air Force, as amended from time to time.

## Women - Empowerment

- Armed forces aim to provide women a professionally enriching career filled with challenges while ensuring adequate freedom and safety while executing their assigned tasks.
- Women are now serving in various branches/trades and based on **eligibility conditions and vacancies**; permanent commission has also been granted.
  - Indian Army provides opportunity to **women to serve in various roles** in branches like education, law, EME, ASC, ordnance, etc. The combat support arms of Engineers and Army Air Defence (**AAD**) also have sizeable number of women officers serving along with their

male counterparts.

- Indian Navy taken concrete steps to provide **maximum support and empower women in various roles**. To enhance opportunities to women, IN has started appointing onboard ships and two women have been selected for deck based helicopter flights as Observers.
- Women officers are serving **abroad at military mission at Moscow** and also on deputation to **Maldives for Observer duties** as part of Dornier aircraft crew.
- IAF has opened all roles and branches for induction of women officers and now women are being commissioned even as fighter pilots.

## **Training of Tri-Services**

### **National Defence College**

- The National Defence College is a **premier training institution** of the Ministry of Defence, which has established a **name for itself** as a centre of excellence on matters pertaining to national security and strategic studies.

### **Defence Service Staff College (DSSC)**

- DSSC is an Armed Forces Training Institute which conducts **staff course for the selected officers of the three services** and also the **officers from central civil services**. The officers passing out from DSSC are awarded Master of Science in Defence and Strategic Studies from Chennai University.

### **National Defence Academy (NDA)**

- NDA is a premier **tri-service institution** which trains cadets of all three services before inducting them into their respective pre-commissioning training academies.

### **Indian Military Academy (IMA)**

- **Founded in 1932**, IMA, Dehradun aims at the fullest development of intellectual, moral and physical qualities of persons joining the Army as officers. The IMA also imparts training to gentlemen cadets from friendly countries.

### **Officers Training Academy**

- **Established in 1963**, the Officers Training School (OTS) was re-designated as **Officers Training Academy (OTA) from 1988**. Its main task before 1965, was to train gentlemen cadets for grant of Emergency Commission. From 1965 onwards, the Academy trains cadets for Short Service Commission.

### **Officers Training Academy (OTA), Gaya**

- The Academy was commissioned in **2011**. The training capacity as of now is around **400 gentlemen cadets**. It also imparts training to gentlemen cadets from friendly countries.

### **National Cadet Corps (NCC)**

- The NCC, **established in 1948**, provides the **youth of the country opportunities** for all round development with a sense of commitment, dedication, self-discipline and moral values, so that they become useful citizens and can take their place in all walks of life in the service of the nation
- It is a **tri-services organisation** open to school and college students.
  - The motto of NCC is '**Unity and Discipline**'. The total sanctioned strength of NCC cadets is **15 lakh**.

### **Sainik Schools**

- The Sainik Schools were established as a **joint venture of the central and state**

**government.**

- The **objectives** of Sainik Schools include bringing quality public school education within the reach of the common man, all round development of a child's personality and to remove regional imbalance in the officer's cadre of the Armed Forces.

## Defence Organisations

### Ordnance Factories

- The Ordnance Factory Board has **41 ordnance factories**. Ordnance Factories are divided into **five operating groups**: (i) ammunition and explosives, (ii) weapons, vehicles and equipment, (iii) materials and components, (iv) armoured vehicles and (v) clothing and equipment, each headed by Additional DGOF.
- Indian Ordnance Factories is the **oldest and largest industrial** set up which functions under the Department of Defence Production.

### Directorate General of Aeronautical Quality Assurance (DGAQA)

- DGAQA is the **quality assurance regulatory authority** for **military aviation** stores for IAF, army aviation, naval aviation and Indian Coast Guard. It also plays vital role in technical evaluation, field trials, pre-dispatch inspection during foreign procurement of military aviation stores.

### Directorate of Standardisation (DoS)

- Set up in **1962**, it has the primary objective **to establish commonality in equipment and components among the three services** so that the overall inventory of the Defence Services is reduced to the minimum.

### Defence Research and Development Organisation (DRDO)

- DRDO is the research and development arm of the Ministry of Defence. It was **created in 1958**. The mandate is:
  - To **provide assessment and advice** on scientific aspects of weapons, platforms and surveillance sensors.
  - To **carry out research and to develop** cutting-edge technologies leading to production of state-of-the-art sensors, weapon systems, platforms and allied equipment for our Defence Services.
  - To support **national cyber security architecture** which includes testing capabilities, security solutions, networking systems and cyber defence tools.

### Directorate of Planning and Coordination

- It was **set up in 1964** with the **primary objective of preparing overall plans** for the production of defence equipment in the country.
- The directorate functions as an **attached office of the Department of Defence Production (DDP)**. It **primarily** deals with capital acquisition of various weapon systems and platforms of the armed forces of India viz., Air Force, Army, Navy and Coast Guard.
  - The directorate is primarily mandated to promote indigenization in defence sector through enabling policies viz. 'Make in India' initiative; liberalization of FDI Policy; Industrial licensing policy etc.

### Defence Exhibition Organisation

- The main function of Defence Exhibition Organisation (DEO) is **to organise and coordinate defence exhibitions in India and abroad**, primarily with a view to promote the export potential of defence oriented products and services, developed and manufactured by the defence industry.

## Defence Public Sector Undertakings (DPSUs) under DDP

- Defence Public Sector Undertakings (DPSUs) under Department of Defence Production (DDP) were established to **enhance efficiency and autonomy in Ordnance Factories**.
  - Ordnance Factory Board (OFB) was **converted into 7 new DPSUs** to unlock growth potential while safeguarding stakeholders' interests.
- The **new DPSUs** became operational from **October 1, 2021**.
- The government retained pending orders worth **more than 62,000 crore** with OFB post-corporatization to ensure continuity in the supply of strategic arms and ammunition to the Services.
- The erstwhile Ordnance Factory Board, **comprising 41 production units**, was the **oldest and largest defence production** organization in India with over 200 years of experience.
  - It was involved in production, testing, logistics, research, development, and marketing of a comprehensive range of products for land, sea, and air systems.

The following are the seven new DPSUs established through corporatisation of erstwhile Ordnance Factory Board:

- **Munitions India Limited:**
  - DPSU engaged in manufacturing ammunition and explosives.
  - Registered and corporate office at Ammunition Factory Khadki, Pune, Maharashtra.
- **Armoured Vehicles Nigam Limited:**
  - DPSU engaged in manufacturing vehicles.
  - Registered and corporate office at Avadi, Chennai, Tamil Nadu.
- **Advanced Weapons and Equipment India Limited:**
  - DPSU engaged in manufacturing weapons and equipment.
  - Registered and corporate office at Ordnance Factory Kanpur, Uttar Pradesh.
- **Troop Comforts Limited:**
  - DPSU engaged in manufacturing troop comfort items.
  - Registered and corporate office at Kanpur, Uttar Pradesh.
- **Yantra India Limited:**
  - Engaged in manufacturing Military Grade components and Ancillary products.
  - Registered and corporate office located at Ambajhari, Nagpur, Maharashtra.
- **India Optel Limited:**
  - Engaged in manufacturing opto-electronic items.
  - Registered and corporate office located at Dehradun, Uttarakhand.
- **Gliders India Limited:**
  - Engaged in manufacturing parachutes.
  - Registered and corporate office located at Kanpur, Uttar Pradesh.

## Other PSUs

### **Hindustan Aeronautics Limited (HAL)**

Established in **1940**, HAL is a Navratna Company and a premier aeronautical company of Asia.

- HAL's expertise encompasses design, production, repair, overhaul and upgrade of aircrafts, helicopters, aero-engines, accessories, avionics & systems.

### **Bharat Electronics Limited (BEL)**

- A Navratna PSU, established in **1954 with core competencies** in areas of radars and fire control systems, weapon systems, sonars, communication.

### **Garden Reach Shipbuilders and Engineers Ltd (GRSE)**

- GRSE, a **Mini-Ratna Category-1 Company** was incorporated in **1960**. It has emerged as a leading shipyard, and has expertise in building a wide array of vessels, from the state-of-the-art fast attack crafts to world class stealth frigates.

### **Goa Shipyard Limited (GSL)**

- GSL is a **Mini-Ratna Group-I** status company and is **capable of designing and building high technology and sophisticated ships** to meet the crucial maritime security needs of the country.

### **Hindustan Shipyard Ltd. (HSL)**

- HSL was originally set up in **1941 by Seth Walchand Herachand** to promote **indigenous shipbuilding industry**. The shipyard was transferred to the Ministry of Defence in **2010**. It is **located on the east coast** of the country and is the nation's premium shipbuilding and ship/submarine repair organisation.

### **Mazagon Dock Shipbuilder Limited (MDL)**

Mazagon Dock Shipbuilders Limited, aptly called "**Ship Builder to the Nation**", is one of India's leading defence public sector undertaking **shipyard under the Ministry of Defence**.

- Main activities are construction of warships and submarines with facilities **situated at Mumbai and Nhava** (under development). It has the capability to build warships, submarines, merchant ships upto 40,000 DWT (Deadweight tonnage) since 1979.

### **Bharat Earth Movers Limited (BEML)**

- It is a '**Schedule 'A'** Company **under Ministry of Defence**. It is engaged in the design, manufacturing, marketing and after-sales service of a wide range of equipment to **three distinct business segments** i.e., Defence, Mining and Construction and Rail and Metro.

### **Bharat Dynamics Limited (BDL)**

- BDL, a **Mini-Ratna Company** was incorporated in **1970 under the Ministry of Defence**. A pioneer in the manufacture of Anti-tank Guided Missiles (ATGM) today, has evolved as a conglomerate manufacturing ATGMs of latest generations, Surface to Air weapon systems, launchers etc.