PIQ Questions

Q Meaning of Vivek, Vijay, Beena, Vishal?

- Vivek – Wisdom, right judgment (Sanskrit).
- Vijay – Victory, success (Sanskrit).
- Beena – Musical instrument (Veena); also means wise/graceful.
- Vishal – Vast, grand, magnificent (Sanskrit).
- **Vivek Oberoi**, a Bollywood actor Krish 3 lucifer
- Vivek Gupta (major) MVC 2 RAJ RIF Operation Vijay recapturing point 4590 at Tololing in the Drass sector Battle of tololing

Population of Meerut city 19 lakh

Population of Uttar Pradesh 24 crore

Population of Fazalpur 26000

Meerut

Meerut is a city in the western part of the Indian state of Uttar Pradesh and is part of the National Capital Region (NCR) of India. It serves as the administrative headquarters of the Meerut district. It is located 80 km (50 mi) northeast of the national capital, New Delhi, and 480 km (300 mi) west of the state capital, Lucknow.

Meerut Dehradun 190 km Allahabad 700 km Pune 1500km Gaya 1000 km

India's first Regional Rapid Transit System, Delhi Meerut RRTS

Meerut is connected by three expressways, including the Delhi-Meerut Expressway, Ganga Expressway, and Meerut-Kanpur Expressway

Meerut's name is believed to be derived from the Sanskrit term *Maya Rashtra.* It was the hometown of Mandodari, the wife of Ravana.

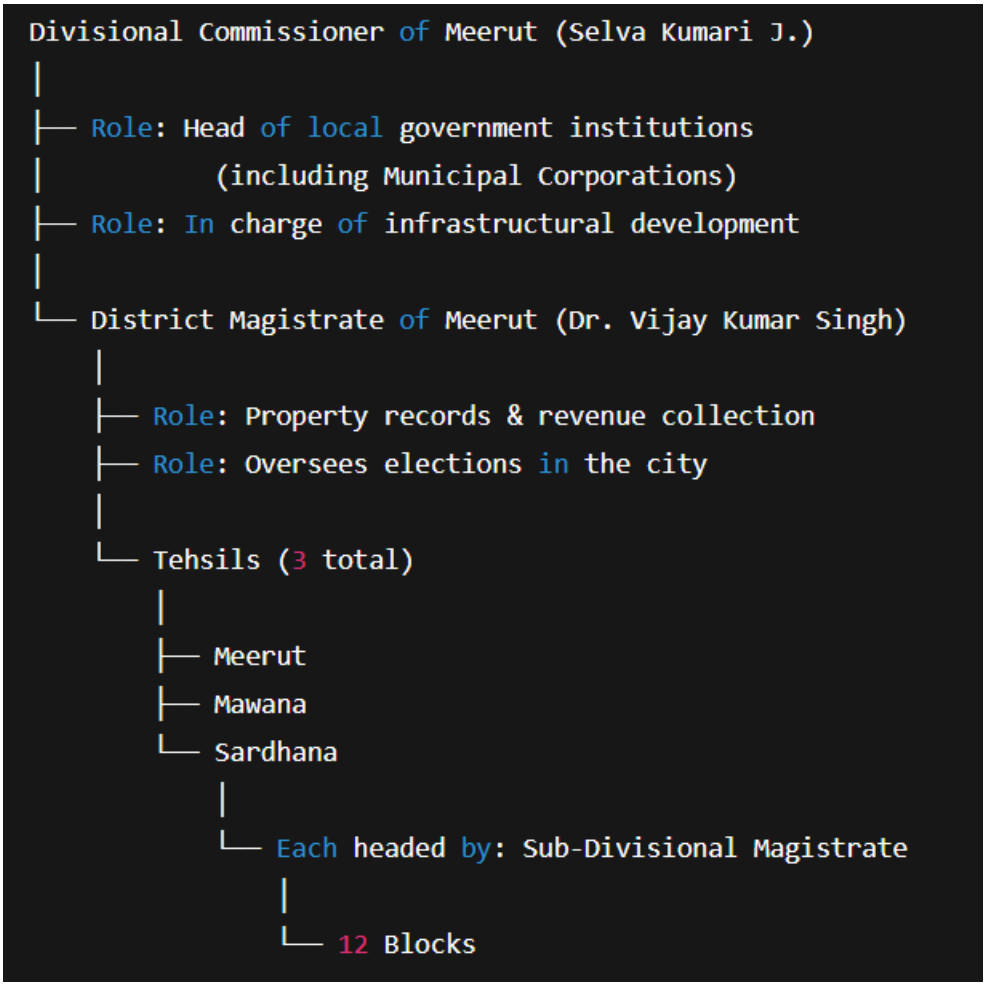
Meerut is often associated with the 1857 rebellion against Company rule in India

Reason

Meerut's commander, Colonel Carmichael Smyth, paraded 90 Indian sepoys of the Bengal Cavalry, most of whom had come from Uttar Pradesh and Bihar. He ordered the soldiers to fire the new Enfield cartridges they had been supplied with. The cartridges were covered with paper that had to be torn off, and Muslim soldiers believed the paper was greased with pig fat and Hindus thought it was greased with cow fat. Thus, they refused to touch them when ordered to , All 85 soldiers were stripped of their uniforms, and court-martialed; they were all sentenced to a decade in prison. The prisoners, who were upper-class members of a cavalry regiment . On 10 May 1857, Kotwal Dhan Singh Gurjar opened the gates of the prison

Meerut district covers 2,522 km^2

Administration



The current District Magistrate of Meerut is Dr. Vijay Kumar Singh.

Police

```
Meerut Police Zone
(ADG - Rajeev Sabharwal)
|
└── Meerut Police Range
    (IG - Praveen Kumar)
        |
        └── Meerut District Police
            (SSP - Rohit Singh Sajwan)
            |
            ├── SP / Addl. SP - City
            ├── SP / Addl. SP - Rural Area
            ├── SP / Addl. SP - Traffic
            |       └── 1 Circle Officer (DySP)
            └── SP / Addl. SP - Crime
                    └── 1 Circle Officer (DySP)

Police Circles
(Each headed by Circle Officer - DySP)
```

Transportation

Three national highways (NH-58, NH-119 & NH-235)

four railway stations: Meerut City, Meerut Cantt., Partapur and Pabli Khas

two mains bus terminals, namely Bhansali bus terminal and Sohrab Gate bus

Begumpul in Meerut is named after Begum Samru.

RRTS stations at Anand Vihar, Sahibabad, Mohan Nagar, Ghaziabad, Guldhar, Duhai, Moradnagar, Modinagar, Meerut South, Shatabdi Nagar, Meerut Centre, Begumpur, Meerut North, Pallavpuram

RRTS is a high-speed regional rail project being developed by NCRTC. Meerut is part of the Delhi–Ghaziabad–Meerut corridor, covering 82 km, of which 21 km will function as Meerut Metro. It will cut Delhi–Meerut travel time to under an hour, boost trade and industry in Meerut, reduce pollution, and integrate Meerut more closely with the NCR. The priority section is already operational, and full completion is expected by 2025–26

The nearest airport is Hindon Airport at Ghaziabad,

Demographics Literacy rate 80%. Hindu 61% Muslim 36%

Education

Chaudhary Charan Singh University, Sardar Vallabhbhai Patel University of Agriculture and Technology, Swami Vivekanand Subharti University, Shobhit Institute of Engineering & Technology and IIMT, Shobhit Institute of Engineering & Technology

Places to Visit

Kali Paltan mandir, company Garden, Suraj Kund Park, Begum pul market, Saheed Smarak

People

- Chaudhary Charan Singh
- Pyare Lal Sharma, freedom fighter and first Education Minister of Uttar Pradesh
- Praveen Kumar
- Deepti Bhatnagar (films)
- Shyamal dev Goswami MVC

Meerut Cantt

Brig. Nikhil Deshpande, Dy. GOC, President of Board

Meerut Cantonment was established by the British East India Company in 1803 after the Battle of Laswari. It is one of the largest cantonments of India both in land area (35.68 km^2) and population 11 lakh

II Corps

(Kharga Corps) Lt Gen Rajesh Pushkar

Meerut comes under the Western Command of the Indian Army. Specifically, the 22nd Ram and 9th Infantry Divisions pine are located in Meerut,17 Poona horse, 2 HQ corps of signal

Uttar Pradesh

- Minister, budget, defense news
- **Uttar Pradesh** originally known as **United Provinces of Agra and Oudh**, was **renamed "Uttar Pradesh" on 24 January 1950** the present boundaries were finalized after **Uttarakhand** was carved out on **9 November 2000**
- Rivers Ganges, Yamuna, Ghaghara, Gomti, Sarayu, Betwa, and Sarayu
- International airport in **Lucknow**, and domestic airports in **Varanasi, Agra, and Kanpur**
- **newest district**— hapur sep ,2011
- Sex Ratio: 912 females per 1,000 males
- Uttar Pradesh's GDP is ₹31 lakh crore 3rd in India after MH and TN
- Uttar Pradesh has 75 districts and GDP of Meerut is 0.5 lakh crore
- Noida leads (₹1,27,306))
- Typical Rabi crops: wheat, barley, gram.
- Typical Kharif crops: rice, sugarcane, millet, pulses
- **State**
- When this state was formed
- Topography of this state
- Rivers sharing boundary
- Road, rail, air connectivity

- Oldest and newest district
- Demographics of state farming industrial areas which industry
- Rabi and kharif of state
- Literacy rate of state per capita income
- Sex ratio
- impact of govt initiative***
- Famous personality and decorated soldiers***

Father

Ministry of Agriculture and farmer welfare **Shri Shivraj Singh Chouhan**

Role of Post dispatcher

for handling and routing official correspondence, ensuring timely delivery of files and documents within the ministry. My father ensures that the flow of communication between departments is smooth and efficient

Scheme

- PM-KISAN is a central sector scheme launched on 24th February 2019 to supplement financial needs of land holding farmers, subject to exclusions. Under the scheme, financial benefit of Rs. 6000/- per year is transferred
- PMFBY was launched in 2016 in order to provide a simple and affordable crop insurance product to ensure comprehensive risk cover
- Namo Drone Didi is approved a Central Sector Scheme for providing drones to the Women Self Help Group (SHGs)
- Soil health card provides information to farmers on nutrient status of their soil

RVC

RVC Centre & College, located in Meerut, is the alma mater of the Remount Veterinary Corps. It trains Army officers, soldiers, paramilitary forces, and even foreign trainees in veterinary sciences, dog training, equitation, and animal management. It has two main components — the College for specialized veterinary and technical training, and the Centre for basic military training of recruits and young officers.

- **Dog Training Faculty** – breeding, rearing, and training Army dogs for roles like explosive detection, tracking, avalanche rescue, etc.
- **Equitation & Animal Management Faculty** – advanced horse training, rider preparation, and equestrian sports promotion.
- **Army Equestrian Node** – elite rider and horse training under “Mission Olympics.”

Motto **"Pashu Seva Asmakam Dharma"** — *Service to animals is our duty*.

Commanding officer Major General SS Balaje

Dogs used German Shepherd, Belgian Malinois, Labrador Retriever, Mudhol Hound (Indian breed under “Make in India”), Doberman

Why don’t you try horse Riding?

At that time, my priority was studies and sports in school. I saw horse riding during visits, but it wasn’t something I pursued then because I didn’t want to interfere with my father’s professional environment. Looking back, if I had the chance now, I’d like to learn it.

Qualities - Honesty, Discipline (waking early even at holidays), helping nature(girl), hard worker (cleared various govt. exam), punctual (don’t waste time)

Weakness - Snorting at night

EQ - Meerut college in B.A (physiology, political science, sociology) 2007

Mother

Qualities -Kind, caring (fasting for betterment), Strong (when father is away), hardworking (wakes up 4am), extrovert

Weakness - Superstitious - cutting fingernails or hair at nighttime Tuesday and Saturday, not washing clothes at Thursday

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Brother

Qualities -Open-minded (ready to incorporate changes), Patient (puts in hard work for aim), Strong (will power), empathy towards animal, helpful (friends helping Yash and others)

Weakness - Cooking, talkative

One mind Services at Gurgaon at position of Team Lead (Frontend Developer)

Army Public School, Meerut Cantt - Truth is God 7 Aug. 1987

PRINCIPAL Dr. (Mrs.) Reeta Gupta

VICE PRINCIPAL Mrs. Santosh Dobhal

Ovin Tyagi

Subject Expertise, Effective Communication

Guidance, Patience, Empathy

Mrs. Ritu kumari

only a few students with very good handwriting are asked to write on the board. I feel it would be nice if everyone got a chance — it helps all of us build confidence and feel included.

Avul Pakir Jainulabdeen Abdul Kalam

Indian aerospace scientist and statesman who served as the president of India from 2002 to 2007

He was known as the "Missile Man of India" for his work on the development of ballistic missile and launch vehicle technology. He also played a pivotal organizational, technical, and political role in *Pokhran-II* nuclear tests in 1998, India's second such test after the first test in 1974.

ABES

ABES Academy of Business and Engineering Sciences - 14.16 Acres

7200 + students in campus

- Affiliated to: Dr. A.P.J. Abdul Kalam Technical University (AKTU), Lucknow
- Approved by: All India Council for Technical Education (AICTE), New Delhi
- Accredited by: NAAC (National Assessment and Accreditation Council) – Grade ‘A’
- teaching quality, research output, infrastructure, inclusivity, perception—not just placements

Chairman (Neeraj Goel)

↓

Director / Officiating Director (Prof. Sanjay Kumar Singh)

↓

Multiple Deans (each handling specific portfolios):

- Administration (Mohit Misra)

- Research / Innovation (Dr. Amit Agrawal / Dr. Rohit Sharma)

- Admissions (Prof. Devendra Kumar)

↓

Heads of Departments (CSE, ECE, CS, etc.)

Q. What do you like most about your college?

> "What I appreciate most is the focus on student development beyond academics. The college offers Centers of Excellence for hands-on learning, student clubs for leadership and creativity, and skill development modules integrated into the curriculum. The environment is disciplined yet supportive, which fosters all-round growth

Q. What values has ABES taught you?

> "ABES has taught me discipline, time management, and teamwork. Through various projects and clubs, I learned to lead, adapt, and communicate effectively. The emphasis on continuous learning and ethical behavior has prepared me well for both professional and personal challenges.

Q. What is your college's motto or vision?

> "The college aims to create a knowledge society by nurturing technically competent, socially responsible, and morally upright professionals”

Q. What extracurricular activities are encouraged?

> "The college supports sports like cricket, basketball, volleyball, swimming, and athletics. Culturally, it encourages clubs for music, dance, debate, photography, and TEDx events. Technical fests and hackathons are also organized regularly."

 Clubs:

Code Chef ABES Chapter

Google Developer Student Club (GDSC)

Dataverse

Minerva – The Literary Club

Kala Kriti – The Arts Club

Entrepreneurship Cell (E-Cell)

NSS (National Service Scheme) – Social drives, blood donation, education for underprivileged

Green Club – Environmental awareness and plantation drives

Photography Club – Coverage of events and creative work

Yoga & Wellness Club – Physical and mental well-being

Tourism & Heritage Club – Promoting cultural awareness and travel

Structure

Role	Description
Technical Lead(s)	Handle coding sessions, hackathons, projects (Web Dev, App Dev, AI/ML, etc.)
Event Coordinator	Plans logistics, manages registrations, and ensures smooth execution of events
Design Lead	Creates banners, posts, certificates, social media content
Content Writer	Writes blog posts, event summaries, newsletters
Marketing & PR Head	Promotes events via Instagram, LinkedIn, posters, emails
Video Editor	Creates reels, post-event videos, promotional trailers
Photography Lead	Covers events visually, contributes to visual documentation
Sponsorship & Outreach Head	Approaches local companies or platforms for collaborations and funding
Community Manager	Maintains member engagement, Discord/Telegram updates, feedback collection

1. Role of Data Science in the Indian Army

Data science focuses on collecting, processing, and analyzing vast amounts of structured and unstructured data to derive actionable insights.
Applications:

- Predictive Maintenance of Equipment
    - Analyzing sensor data from vehicles, tanks, aircraft to predict breakdowns before they happen.
- Operational Planning
    - Using statistical models and GIS data to plan troop movement, supply chains, and deployments.
- Surveillance Data Analysis
    - Processing satellite imagery, drone footage, and radar data to detect patterns and threats.
- Cyber Threat Analysis
    - Detecting intrusion patterns from large-scale network traffic data.

2. Role of Artificial Intelligence in the Indian Army

AI enables machines to perform tasks that typically require human intelligence — such as perception, decision-making, and autonomous operations.
Applications:

- **Autonomous & Unmanned Systems**
    - AI-powered drones for reconnaissance, mine detection, and logistics in inaccessible areas.

- **Surveillance & Threat Detection**
    - Real-time image recognition to identify enemy positions or suspicious activity from CCTV/drones.
- **Decision Support Systems**
    - AI-assisted battlefield simulations and war-gaming for strategy development.
- **Cybersecurity Automation**
    - AI models to detect and neutralize malware or phishing attempts in military networks.
- **Language Translation & Speech Recognition**
    - Instant translation of intercepted communications from foreign languages.
- **Robotics for Combat & Logistics**
    - AI-driven robots for ammunition transport, rescue missions, and bomb disposal.

3. Real-world Indian Initiatives

- **Army Design Bureau (ADB)** → Works with DRDO, academia, and startups on AI & analytics projects.
- **Defense AI Council & Defense AI Project Agency (DAIPA)** → Under MoD for AI integration in all forces.
- **AI-based Facial Recognition Systems** → For identifying infiltrators and suspects.
- **Project Sanjay** → AI-powered battlefield surveillance system integrating drone and sensor data.

4. Future Scope

- AI-powered **exoskeleton suits** for soldiers.
- Swarm drone tactics.
- Predictive intelligence on enemy troop movements.
- Real-time battlefield translation devices.
- AI-assisted military medical diagnosis in remote areas.

GATE (Graduate Aptitude Test in Engineering)

Mr. Vivek Saxena

Subject Expertise, Empathy, Classroom Management Skills, Effective Communication, Confident

Harvir Sir - ME workshop

Wood Working (metal jack plane, mallet, try square, Circular saw machine, chisel, carpentry vice), Foundry & Casting (molding box, shovel, trowel, aluminum scrap metal), Foundry & Casting Welding (Arc welding machine), turning

Monika Sharma

Dependent of PPT for delivery of Content

Fact and figures and get into details

Organization

Motto *Sevā Paramo Dharmaḥ* 'Service Before Self'

Commander-in-Chief	President Draupadi Murmu
Chief of the Army Staff (COAS)	General Upendra Dwivedi
chief of defense staff	***General Anil Chauhan PVSM***
March Quick	• ***Qadam Qadam Badhaye Ja*** **Slow:** ***Samman Guard***
Notable commanders	• Field Marshal K. M. Cariappa • Field Marshal Sam Manekshaw

Army Day is celebrated on 15 January every year in India, in recognition of Lieutenant General K. M. Cariappa's taking over as the first "Indian" Chief of the Army Staff and Commander-in-Chief, Indian Army from General Sir Roy Bucher, on 15 January 1949.4

Annexation of Hyderabad (1948) ***Operation Polo***

Major exercises ***See also:*** ***List of exercises of the Indian Army***

The troops are organized into 40 Divisions in 14 Corps.

Insignia	Name	Headquarters	Army Commander	Few of known Subordinate Unit(s)/ Formation(s)
	**Headquarters, Indian Army**	New Delhi		50th Independent Parachute Brigade
	Central Command	Lucknow	**Lieutenant General** Anindya Sengupta[125]	6th Mountain Division
	Eastern Command	Kolkata	**Lieutenant General** Ram Chander Tiwari[126]	III Corps IV Corps XXXIII Corps XVII Corps
	Northern Command	Udhampur	**Lieutenant General Pratik Sharma**[129]	XIV Corps XV Corps XVI Corps I Corps[130]
	Southern Command	Pune	**Lieutenant General** Dhiraj Seth[131]	41st Artillery Division XII Corps XXI Corps
	South Western Command	Jaipur	**Lieutenant General** Manjinder Singh[132]	42nd Artillery Division X Corps
	Western Command	Chandimandir	**Lieutenant General** Manoj Kumar Katiyar[133]	40th Artillery Division II Corps IX Corps XI Corps

Insignia	Name	Headquarters	Army Commander	Few of known Subordinate Unit(s)/ Formation(s)
	Army Training Command	Shimla	Lieutenant General Devendra Sharma[134]	Army Training Establishments

```
President of India
   |
   +-- Chief of Defence Staff (CDS)
   |
   +-- Chief of Army Staff (COAS) – General
         |
         +-- Commands (7 total) – each led by a Lieutenant General (GOC-in-C)
         |       Example: Northern Command, Western Command, etc.
         |       Each Command has 2 to 5 Corps.
         |
         +-- Corps (14 total) – each led by a Lieutenant General (GOC)
         |       Each Corps has 1 to 3 Divisions.
         |
         +-- Division (~40 total) – each led by a Major General (GOC)
         |       Each Division has 3 Brigades.
         |
         +-- Brigade – each led by a Brigadier
         |       Each Brigade has 3 to 4 Battalions/Regiments.
         |
         +-- Battalion/Regiment – each led by a Colonel
         |       Each Battalion has 4 Companies.
         |
         +-- Company – each led by a Major or Captain
         |       Each Company has 3 Platoons.
         |
         +-- Platoon – each led by a Lieutenant or JCO
         |       Each Platoon has 3 Sections.
         |
         +-- Section – led by a Havildar/Naik
                 Each Section has 10–12 soldiers.
```

structure \ Field formations above

Organizational Classification or Branching Structure

```
Indian Army
   |
   +-- Arms
   |     |
   |     +-- Combat Arms
   |     |      +-- Infantry
   |     |      +-- Armoured Corps
   |     |      +-- Mechanised Infantry
   |     |      +-- Artillery
   |     |
   |     +-- Combat Support Arms
   |            +-- Corps of Engineers
   |            +-- Corps of Signals
   |            +-- Army Air Defence
   |            +-- Army Aviation Corps
   |
   +-- Services
         +-- Army Service Corps (ASC)
         +-- Army Ordnance Corps (AOC)
         +-- Corps of Electronics & Mechanical Engineers (EME)
         +-- Army Medical Corps (AMC)
         +-- Army Dental Corps (ADC)
         +-- Military Police
         +-- Intelligence Corps
         +-- Judge Advocate General's Department (JAG)
```

1. Armored Corps

Role:

- Acts as the spearhead of offensive operations.
- Provides heavy, fast-moving, direct firepower for breakthroughs and rapid advances.
- Designed to dominate open terrains (like deserts & plains).

Main Equipment / Tools:

- Main Battle Tanks (MBTs): *Arjun MBT, T-90 Bhishma*, *T-72 Ajeya*
- Armored Recovery Vehicles for battlefield repair and towing**.**

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2. Mechanized Infantry

Role:

- Infantry soldiers who move in armored vehicles instead of marching on foot.
- Provides mobility + infantry firepower alongside tanks.
- Can fight both from inside the vehicle (firing ports) or dismount to engage enemies.

Main Equipment / Tools:

- Infantry Combat Vehicles (ICVs):
  - *BMP-2 Sarath* (Russian-origin, made in India)
- Automatic Grenade Launchers (AGLs)
- Medium/Light Machine Guns (MMGs/LMGs)
- Anti-Tank Guided Missiles (ATGMs) mounted on vehicles.

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3. Artillery

Role:

- Provides long-range firepower to destroy enemy positions before close combat begins.
- Supports infantry and armor by bombarding enemy defenses, neutralizing artillery, and cutting supply lines.

Main Equipment / Tools:

- **Howitzers & Field Guns:**
  - *Dhanush 155mm gun*
  - *M777 Ultra-Light Howitzer*
  - *K9 Vajra-T Self-Propelled Howitzer*
- **Rocket Artillery:**
  - *Pinaka Multi-Barrel Rocket Launcher (MBRL)*
  - *BM-21 Grad*
- **Missile Systems:**
  - *BrahMos* (land-based variant)
- **Mortars:**

- 81mm & 120mm infantry mortars.

---

1. Army Aviation Corps (AAC)

Role:

- Provides **aerial mobility**, **reconnaissance**, and **logistical support** to ground forces.
- Enhances **battlefield awareness** and can carry out **limited combat** roles.
- Works **in support of Army units** — not for air-to-air combat (that's IAF's domain).

Main Functions:

- Reconnaissance and surveillance.
- Troop and supply transport.
- Evacuation of casualties.
- Close Air Support (using armed helicopters).

Main Equipment:

- **Helicopters:**
  - *HAL Dhruv* (Utility)
  - *HAL Rudra* (Weaponized Dhruv)
  - *HAL Prachanda LCH* (Light Combat Helicopter)
  - *Cheetah & Chetak* (light utility helicopters)
- **Unmanned Aerial Vehicles (UAVs)** in some roles.

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2. Army Air Defense (AAD)

Role:

- Protects **Army formations and installations** from enemy aircraft, helicopters, and drones.
- Provides **ground-based air defense** by shooting down aerial threats.

Main Functions:

- Detect and track enemy aircraft/drones.
- Neutralize threats using missiles or guns.
- Integrate with radar and early warning systems.

Main Equipment:

- **Missile Systems:**
  - *Akash SAM (Surface-to-Air Missile)*
  - *Spyder* Air Defense System
  - *Quick Reaction SAM (QRSAM)*
- **Gun Systems:**
  - *ZU-23-2* twin barrel AA gun
  - *L-70* 40mm gun
- **Radars:**
  - *Bharani*, *Rajendra*, *Flycatcher*.

---

3. Corps of Signals

Role:

- Manages **military communications and information systems**.
- Ensures **secure, reliable, and fast** communication between different formations on the battlefield.
- Integrates modern **IT, cyber, and electronic warfare** systems.

Main Functions:

- Setting up radio, satellite, and optical fiber communication networks.
- Providing encrypted (secure) communication.
- Cybersecurity and electronic warfare support.
- Integrating battlefield management systems.

Main Equipment / Tools:

- Tactical radios and satellite communication terminals.
- Optical fiber cable (OFC) networks.
- Mobile communication vehicles.
- Electronic warfare systems.
- Cybersecurity hardware/software.

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4. Corps of Engineers

Role:

- Provides **combat engineering support** to enable mobility for friendly forces and deny mobility to the enemy.
- Designs and constructs **defensive and field structures**.
- Handles military infrastructure and works in disaster relief.

Main Functions:

- Building bridges, roads, and field fortifications.
- Laying and clearing minefields.
- Demolition of enemy obstacles.
- Water supply and field sanitation.
- Constructing permanent military facilities.

Main Equipment / Tools:

- Bridging equipment (*Bailey bridges, Assault Track Way*).
- Demolition tools and explosives.
- Mine-laying and mine-clearing systems.
- Bulldozers, excavators, and engineering vehicles.

A. Gallantry Awards

(I) Wartime Gallantry Awards

1. **Param Vir Chakra (PVC)** – Highest wartime gallantry award.
2. **Maha Vir Chakra (MVC)** – Second highest wartime gallantry award.
3. **Vir Chakra (VrC)** – Third highest wartime gallantry award.

(ii) Peacetime Gallantry Awards

1. **Ashoka Chakra** – Highest peacetime gallantry award.

2. **Kirti Chakra** – Second highest peacetime gallantry award.
3. **Shaurya Chakra** – Third highest peacetime gallantry award.

B. Distinguished Service Awards

Wartime Distinguished Service

- Sarvottam Yudh Seva Medal (SYSM)
- Uttam Yudh Seva Medal (UYSM)
- Yudh Seva Medal (YSM)

Peacetime Distinguished Service

- Param Vishisht Seva Medal (PVSM)
- Ati Vishisht Seva Medal (AVSM)
- Vishisht Seva Medal (VSM)

1. Bharat Ratna
2. Param Vir Chakra 26 January 1950
3. Ashoka Chakra
4. Padma Vibhushan
5. Maha Vir Chakra 26 January 1950
6. Kirti Chakra
7. Padma Bhushan
8. Vir Chakra 26 January 1950
9. Shaurya Chakra
10. Padma Shri

Bust of recipient	Name	Rank[c]	Unit	Date of action	Conflict	Place of action
	Somnath Sharma	Major	Kumaon Regiment	3 November 1947*	Battle of Badgam	Badgam, Jammu and Kashmir, India

Bust of recipient	Name	Rank[c]	Unit	Date of action	Conflict	Place of action
	Jadunath Singh	Naik	Rajput Regiment	6 February 1948*	Indo-Pakistani War of 1947	Naushera, Jammu and Kashmir, India
	Rama Raghoba Rane	Second Lieutenant	Bombay Sappers	8 April 1948	Indo-Pakistani War of 1947	Naushera, Jammu and Kashmir, India
	Piru Singh	Company Havildar Major	Rajputana Rifles	17 July 1948*	Indo-Pakistani War of 1947	Tithwal, Jammu and Kashmir, India
	Karam Singh	Lance Naik	Sikh Regiment	13 October 1948	Indo-Pakistani War of 1947	Tithwal, Jammu and Kashmir, India
	Gurbachan Singh Salaria	Captain	1 Gorkha Rifles[d]	5 December 1961*	Congo Crisis	Élisabethville, Katanga, Congo
	Dhan Singh Thapa	Major	8 Gorkha Rifles	20 October 1962	Sino-Indian War	Ladakh, Jammu and Kashmir, India
	Joginder Singh	Subedar	Sikh Regiment	23 October 1962*	Sino-Indian War	Tongpen La, North-East Frontier Agency, India

Bust of recipient	Name	Rank[c]	Unit	Date of action	Conflict	Place of action
	Shaitan Singh	Major	Kumaon Regiment	18 November 1962*	Sino-Indian War	Rezang La, Jammu and Kashmir, India
	Abdul Hamid	Company Quarter Master Havildar	The Grenadiers	10 September 1965*	Battle of Asal Uttar	Khemkaran, India
	Ardeshir Tarapore	Lieutenant Colonel	Poona Horse	11 September 1965*	Battle of Chawinda	Phillora, Sialkot, Pakistan
	Albert Ekka	Lance Naik	Brigade of the Guards	3 December 1971*	Battle of Hilli	Gangasagar, Agartala, India
	Nirmal Jit Singh Sekhon	Flying Officer	No. 18 Squadron IAF	14 December 1971*	Indo-Pakistani War of 1971	Srinagar, Jammu and Kashmir, India
	Arun Khetarpal	Second Lieutenant	Poona Horse	16 December 1971*	Battle of Basantar	Barapind-Jarpal, Shakargarh, Pakistan
	Hoshiar Singh Dahiya	Major	The Grenadiers	17 December 1971	Battle of Basantar	Basantar River, Shakargarh, Pakistan

Bust of recipient	Name	Rank[c]	Unit	Date of action	Conflict	Place of action
	Bana Singh	Naib Subedar	Jammu and Kashmir Light Infantry	23 May 1987	Operation Meghdoot	Siachen Glacier, Jammu and Kashmir, India
	Ramaswamy Parameshwaran	Major	Mahar Regiment[e]	25 November 1987*	Operation Pawan	Sri Lanka
	Manoj Kumar Pandey	Lieutenant	11 Gorkha Rifles	3 July 1999*	Operation Vijay	Khaluber /Juber Top, Jammu and Kashmir, India
	Yogendra Singh Yadav	Grenadier	The Grenadiers	4 July 1999	Operation Vijay	Tiger Hill, Jammu and Kashmir, India
	Sanjay Kumar	Rifleman	Jammu and Kashmir Rifles	5 July 1999	Operation Vijay	Kargil, Jammu and Kashmir, India
	Vikram Batra	Captain	Jammu and Kashmir Rifles	7 July 1999*	Operation Vijay	Kargil, Jammu and Kashmir, India

Forces

Rank Structure

Commission	Indian Navy	Indian Army	Indian Air Force
Commissioned	Admiral of the fleet	Field marshal	Marshal of the Indian Air Force
	Admiral	General	Air chief marshal
	Vice admiral	Lieutenant general	Air marshal
	Rear admiral	Major general	Air vice marshal
	Commodore	Brigadier	Air commodore
	Captain	Colonel	Group captain
	Commander	Lieutenant colonel	Wing commander
	Lieutenant commander	Major	Squadron leader
	Lieutenant	Captain	Flight lieutenant
	Sub lieutenant	Lieutenant	Flying officer
Junior commissioned	Master chief petty officer 1st class	*Subedar* major[Alt 1]	Master warrant officer
	Master chief petty officer 2nd class	*Subedar*[Alt 2]	Warrant officer
	Chief petty officer	*Naib subedar*[Alt 3]	Junior warrant officer
Non-commissioned	Petty officer	*Havildar*/*Daffadar*	Sergeant
	Leading seaman	*Naik*/*Lance daffadar*	Corporal
	Seaman 1	Lance *naik*/*Acting Lance-Daffadar*	Leading aircraftsman
	Seaman 2	*Sepoy*/*Sowar*	Aircraftsman

Equipment's

Defense Budget

- The **defense budget for FY 2025–26** is **₹6.81 lakh crore**, marking a **9.5% increase** over the previous year and accounting for approximately **13.45% of the total Union Budget**
- **This represents about 1.9% of India's GDP**
- **Revenue Expenditure** (salaries, maintenance, operations): ~₹3.11 lakh crore (~46%)
- **Capital Expenditure** (modernization, procurement): ~₹1.80 lakh crore (~26%)
- **Defense Pensions**: ~₹1.60 lakh crore (~24%)

See Recent Defense Procurements

Various exercise does yourself

History of wars do yourself

Badminton

History

- In India, a game called **"Poona"** was played, where players used rackets to hit a shuttlecock back and forth
- **Mid-19th century:** British army officers stationed in Pune, India, learned “Poona” and took it back to England.
- It became popular among the elite and was first played in **Badminton House**, Gloucestershire — giving the game its modern name *“Badminton”*.
- **1873:** Officially introduced as a sport in England at a party in Badminton House.
- **1893:** The **Badminton Association of England** was formed and published the first official rules.
- **1934:** Formation of the **International Badminton Federation (IBF)** (now the **Badminton World Federation – BWF**), with founding members from 9 countries.
- **1992 (Barcelona Olympics):** Became an official Olympic sport with men’s and women’s singles and doubles.
- **1996:** Mixed doubles added to the Olympic program.

Player

1. Prakash Padukone

- Major achievements:
    - 1978: Gold medal in Men’s Singles at Commonwealth Games (Edmonton).
    - 1980: All England Champion – considered the Wimbledon of badminton.
    - 1981: Won Swedish Open and Denmark Open.
- Awards:
    - Arjuna Award (1972) – youngest recipient at the time.
    - Padma Shri (1982) – for exceptional contribution to sports.

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2. Pullela Gopichand

- Career highlight: Second Indian to win the All-England Open Badminton Championships (2001).
- Awards:
    - Arjuna Award (1999).
    - Rajiv Gandhi Khel Ratna (2001).
    - Padma Bhushan (2014).
- Post-retirement achievement: Founded the Pullela Gopichand Badminton Academy, producing champions like P. V. Sindhu and Kidambi Srikanth.

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3. Saina Nehwal

- Career highlight: First Indian woman to reach Olympic badminton podium.
- Major achievements:
    - 2010: Gold medal at Commonwealth Games (Delhi).
    - 2012: Bronze medal at London Olympics – historic for Indian women's badminton.
    - 2015: First Indian woman ranked World No. 1 in BWF rankings.
- Awards:
    - Arjuna Award (2009).
    - Rajiv Gandhi Khel Ratna (2009–10).
    - Padma Bhushan (2016).

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4. P. V. Sindhu

- Career highlight: First Indian to win two Olympic medals in badminton.
- Major achievements:
    - 2016: Silver medal at Rio Olympics – youngest Indian Olympic medalist in badminton.
    - 2019: Gold medal at BWF World Championships – first Indian to achieve this.
    - 2020 (Tokyo Olympics, held in 2021): Bronze medal.
- Awards:
    - Rajiv Gandhi Khel Ratna (2016).
    - Padma Bhushan (2020).

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4. Lakshya Sen

Career Highlight: First Indian men's singles player to reach the Olympic semi-finals (Paris 2024), finishing 4th — the best-ever Olympic performance by an Indian male badminton player.

Major Achievements:

- 2018: Silver at the Youth Olympics; Bronze at the World Junior Championships; Gold at the Asian Junior Championships — first Indian ever to do so.
- 2019: First BWF World Tour title at the Dutch Open, followed by the SaarLorLux Open.
- 2021: Bronze at the BWF World Championships (debut).
- 2022: Gold at the India Open (Super 500); semi-finalist at the All England Open — only the third Indian to reach the final.
- 2022: Member of India's winning Thomas Cup team and won Commonwealth Games Gold.

Awards:

- Arjuna Award, 2022 — conferred by the President of India.

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5. Kidambi Srikanth

Career Highlight: First Indian men's singles player to be ranked World No. 1 (April 2018).

Major Achievements:

- 2014: First Indian male to win a Super Series Premier title — China Open.
- 2017: Won four Super Series titles in one calendar year: Indonesia, Australia, Denmark, and France.
- 2021: Silver medalist at the BWF World Championships — first Indian male finalist in the event.
- 2022: Captain of the Thomas Cup-winning team, leading India to its historic first title.

Awards:

- Arjuna Award, 2015 — for outstanding performance in badminton.
- Padma Shri (year not specified in source, but listed in his honors section)

6.Chirag Shetty

Career Highlight: Part of the first Indian men's doubles pair (with Satwiksairaj Rankireddy) to ever achieve World No. 1 BWF ranking (as of 10 October 2023)

Major Achievements:

- Gold Medals at the Asian Games, Commonwealth Games, and Asian Championships – all firsts for Indian doubles in badminton
- Indonesia Open (Super 1000) winner – their first Super 1000 title, also marking a major milestone

Awards:

- Arjuna Award (2020) – for outstanding performance in badminton.
- Major Dhyan Chand Khel Ratna Award (2023) – highest sporting honour in India, awarded jointly with Satwiksairaj Rankireddy.

7.Satwiksairaj Rankireddy

Career Highlight: Alongside Chirag Shetty, became part of the first Indian men's doubles pair to reach World No. 1 in BWF rankings (10 October 2023).

Major Achievements:

- Gold Medals at the Asian Games, Commonwealth Games, and Asian Championships — all Indian doubles firsts.
- Indonesia Open (Super 1000) victory — their inaugural win in the World Tour's highest category.
- Guinness World Record for fastest smash in badminton — 565 km/h.

Awards:

- Arjuna Award (2020) — for distinguished performance in badminton.
- Major Dhyan Chand Khel Ratna Award (2023) — shared with Chirag Shetty for exceptional sporting success.

Prominent Current International Badminton Players

- Viktor Axelsen (Denmark) – Olympic gold medalist, multiple World Championships titles, current World No. 1.
- Kento Momota (Japan) – Former World No. 1, two-time World Champion.
- Lee Chong Wei (Malaysia) – Legendary player, three-time Olympic silver medalist, long-time World No. 1.
- Carolina Marín (Spain) – Olympic gold medalist, three-time World Champion.
- Tai Tzu Ying (Chinese Taipei) – Known for her deceptive play, long-time World No. 1.
- Ratchanok Intanon (Thailand) – Youngest-ever World Champion (at 18).

Tournaments

1. BWF World Championships

- Organizer: Badminton World Federation (BWF)

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2. All England Open Badminton Championships

- Country: England (United Kingdom)
- City: Birmingham
- Importance: One of the oldest and most prestigious tournaments, often called the "Wimbledon of badminton."

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3. Thomas Cup *(Men's Team Championship)*

- Country: Rotates internationally (host changes every two years)
- Importance: Premier men's team event in world badminton.

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4. Uber Cup *(Women's Team Championship)*

- Country: Rotates internationally (host changes every two years)
- Importance: Premier women's team event in badminton.

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5. Sudirman Cup *(Mixed Team Championship)*

- Country: Rotates internationally (host changes every two years)
- Importance: Major mixed-gender team event in badminton.

6. Olympic Games – Badminton

Badminton Scenarios for Age Categories

Age Category	Typical Competitions	Purpose
Under-19 (U19)	- Junior National Badminton Championships (Organized by BAI) - BWF World Junior Championships (for qualified players) - Asian Junior Badminton Championships	- Prepares players for senior professional circuits - Acts as a stepping stone to international exposure

Age Category	Typical Competitions	Purpose
Under-17 (U17)	- Sub-Junior Nationals - All India U17 Ranking Tournaments	- Talent spotting for future junior teams - Training for international sub-junior meets
Under-15 (U15)	- Sub-Junior Nationals - All India U15 Ranking Tournaments	- Grassroots-level competition - Focus on skill development and early exposure

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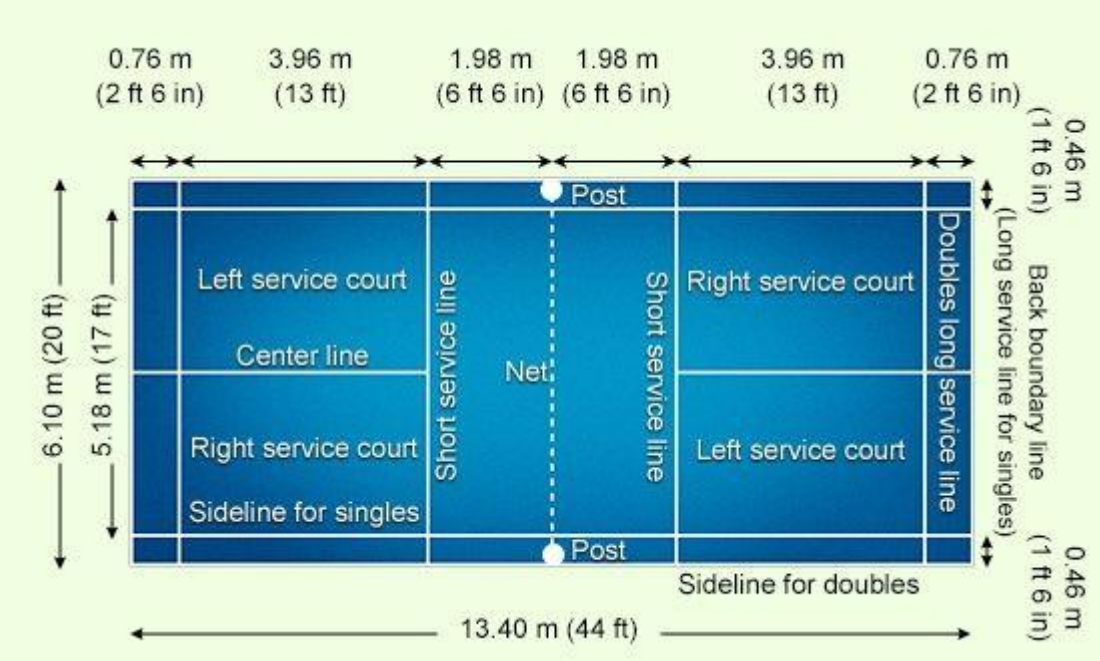
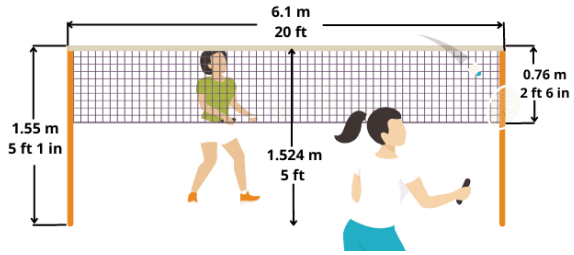
Major Badminton Clubs/Academies in India

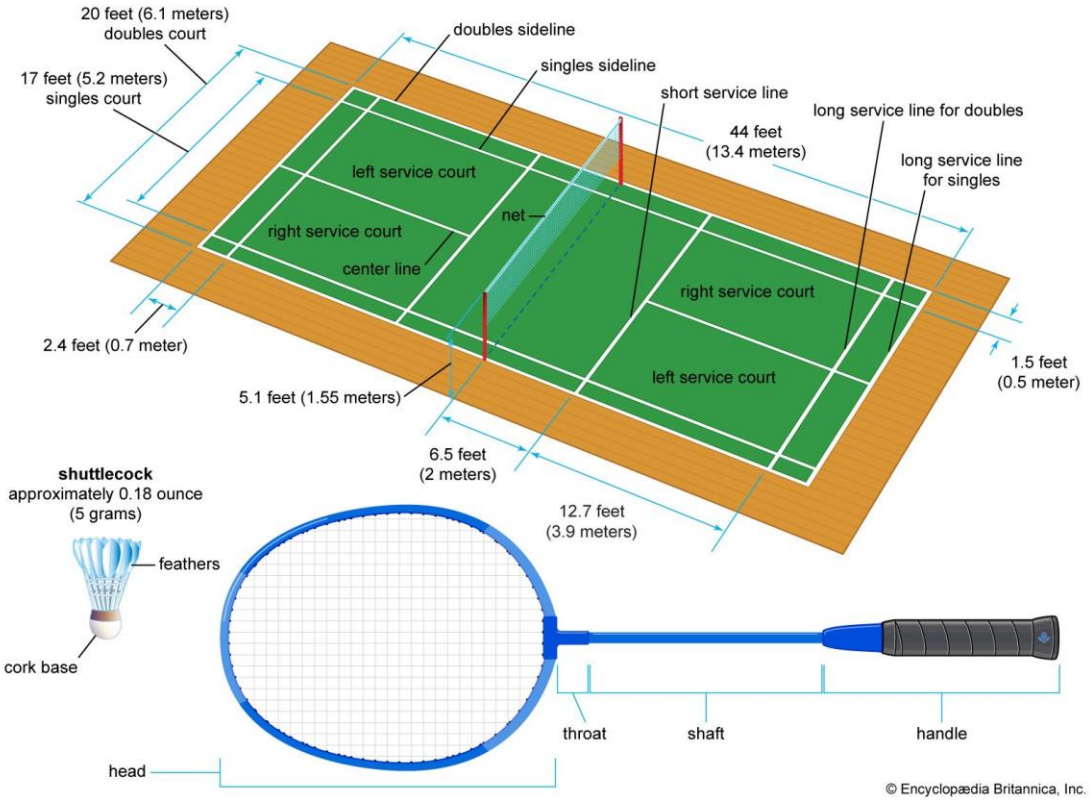
Club/Academy	Location	Known For
Pullela Gopichand Badminton Academy (PGBA)	Hyderabad, Telangana	Produced stars like PV Sindhu, Saina Nehwal, Kidambi Srikanth, Lakshya Sen
Prakash Padukone Badminton Academy (PPBA)	Bengaluru, Karnataka	Founded by Prakash Padukone; trained Lakshya Sen, Ashwini Ponnappa
BBD Uttar Pradesh Badminton Academy	Lucknow, Uttar Pradesh	State-level talent grooming
KBA (Karnataka Badminton Association)	Bengaluru, Karnataka	Strong training infrastructure
Tata Padukone Badminton Centre	Mumbai, Maharashtra	Joint venture for talent development
Suchitra Badminton Academy	Hyderabad, Telangana	Advanced sports science facilities

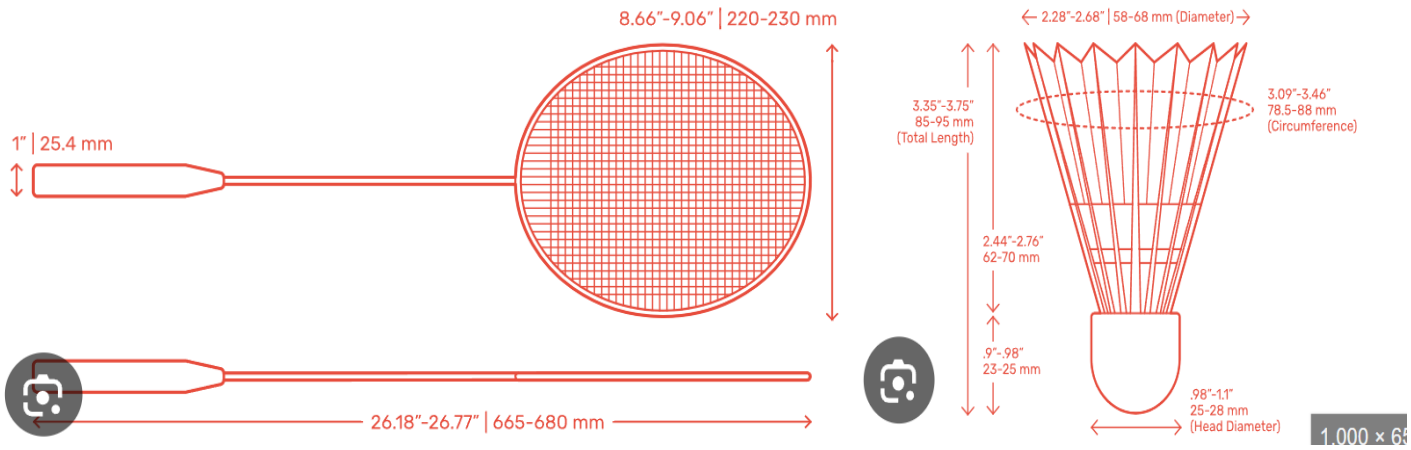
Dimensions





Badminton court dimensions





Rules

1. Serving

- Server must stand inside their service court (left or right), without touching the boundary lines.
- Receiver must also be inside their service court, without touching boundary lines.
- Both feet of server and receiver must remain in contact with the floor until the shuttle is struck.
- No part of either player's feet may be lifted before the shuttle is hit.
- The whole shuttle must be below 1.15 meters (115 cm) from the floor at the instant it is hit (as per new fixed-height service rule).
- The shuttle must travel diagonally across to the opponent's service court.

2. Scoring

1. Basic Scoring System (BWF rules)

    - Match format: Best of 3 games.
    - Points to win a game: First to 21 points.
    - Point system: Rally point — whoever wins the rally gets the point, regardless of who served.
    - Deuce: If the score reaches 20–20, play continues until one player/pair leads by 2 points (e.g., 22–20, 23–21).
    - Point cap: The game ends at 30 points (i.e., 30–29 is the maximum possible).

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2. Serving and Side Change

    - The winner of a rally serves next.
    - Player's switch ends after each game, and in the third game, they switch ends when the leading score reaches 11 points.

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3. Time Intervals in Badminton

- 60-second break allowed when the leading score reaches 11 points in any game.
- 120-second break between two games.

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4. “After a Time” (Special Timing Rules)

If the match is taking too long, the BWF “Interval and Delay” rules apply:

- 20 seconds’ rule: Players must serve within 20 seconds after the previous rally ends.
- 60 seconds at 11 points: A mandatory short break for both players/pairs.
- 90 seconds injury timeout: Allowed if approved by the referee.
- 5-minute interval: Only if a match is suspended (e.g., court repair).

Lets - If a let is called, the rally is stopped and replayed with no change to the score occur small halls the shuttle may touch an overhead rail, receiver is not ready when the service is delivered

double fault – in tennis, in badminton if you lose a service, you lose rally there is no second chance

Latest changes in single and doubles**

If sports minister then what is change?

five main areas: **grassroots development, infrastructure, coaching, funding, awareness, and policy support**.

Best exercise for badminton player?

the best exercises target speed, agility, strength, endurance, and flexibility

Ladder Drills, Cone Drills, Squats & Jump Squats, Lunges, Calf Raises

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Five basic shots

The **five basic shots in badminton** are generally considered to be:

1. Clear (Lob)
   - A high, deep shot aimed towards the opponent’s backcourt.
   - Used to give yourself time to recover and push the opponent away from the net.
2. Drop Shot - A soft shot that just clears the net and lands close to it in the opponent’s court.
3. Smash
   - A powerful, downward shot aimed to finish the rally.
   - Usually executed when the shuttle is high enough to attack.
4. Drive

- A flat, fast shot played horizontally across the court.
- Keeps the shuttle low and forces quick reactions from the opponent.

5. Net Shot

- A gentle shot played close to the net to force the opponent to lift the shuttle.
- Can be played with spin (tumbling net shot) for more difficulty.

Officials in a Badminton Tournament

1. **Referee**
    - Head official of the tournament.
    - Oversees the entire event, ensures rules are followed, handles disputes.
2. **Umpire**
    - In charge of a specific match.
    - Sits on an elevated chair near the net.
    - Keeps score, announces points, and enforces the rules during play.
3. **Service Judge**
    - Watches the server to ensure the service rules are followed (e.g., racket position, shuttle below waist height, correct stance).
4. **Line Judges**
    - Stand or sit at the court edges.
    - Call whether a shuttle lands "in" or "out" on their assigned lines.

Cards Used by Officials for Penalties in Badminton

In badminton, cards are used to warn or penalize players for misconduct, time-wasting, or repeated rule violations.

1. **Yellow Card – Warning**
    - Used for minor misconduct or first offense.
    - Player is warned but not penalized with points.
2. **Red Card – Fault / Point to Opponent**
    - Given for serious or repeated offenses.
    - Opponent is awarded a point and the service (if applicable).
3. **Black Card – Disqualification**
    - Used for extreme misconduct or refusal to comply with rules.
    - Player is disqualified from the match or tournament.

Injury badminton player sustains

- **Rotator cuff strain/tendinitis** – from repetitive overhead shots like smashes and clears.
- **Shoulder impingement** – due to overuse and poor technique.
- **Tennis elbow (lateral epicondylitis)** – from repeated backhand strokes.
- **Golfer's elbow (medial epicondylitis)** – from forehand strokes with excessive wrist action.
- **Ankle sprains** – very common due to rapid side-to-side footwork and quick stops.

- **Lower back pain** – due to poor posture and overuse.

Measurement Unit

1 inch = 2.54 cm

1 yard = 0.91 m or 3 feet

1 foot = 30.48 cm

1 acre = 43560 sq ft

1 hectare = 10000 sq m

1 m = 3.28 ft

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cooking

Which type of food? Indian Cuisine

Famous cook?

- **Sanjeev Kapoor** – Celebrity chef, author, and TV host of *Khana Khazana*.
- **Vikas Khanna** – Michelin-starred chef, restaurateur, and judge on *MasterChef India*.
- **Ranveer Brar** – Celebrity chef, author, and judge on *MasterChef India*.
- **Kunal Kapur** – Popular chef, restaurateur, and TV personality.

Books of cooking?

- **“Khana Khazana”** by **Sanjeev Kapoor** – Based on his iconic TV show, simple Indian recipes.
- **“Royal Hyderabadi Cooking”** by **Sanjeev Kapoor** – Famous for biryanis and Hyderabadi dishes.
- **“A Treasury of Indian Recipes”** by **Tarla Dalal** – Classic Indian cookbook, very popular with home cooks.

Programs for cooking?

- **Khana Khazana** (Zee TV) – Hosted by **Sanjeev Kapoor**, one of India’s longest-running and most popular cooking shows.
- **MasterChef India** (Sony/Star Plus) – Competitive cooking reality show, judges include Vikas Khanna, Ranveer Brar, Kunal Kapur.
- **Hell’s Kitchen** – Hosted by Gordon Ramsay, famous for high-pressure cooking challenges.

Apne bane hue Khane ko ap Kabhi kahrab nahi bata painge?

Running

it keeps me fit both physically and mentally. I usually run 4–5 km, three to four times a week. Running has taught me discipline, consistency, and how to push beyond limits, which I believe also helps in professional life

100m Sprint

- Men: **Usain Bolt (Jamaica)** – 9.58 sec (2009, Berlin)
- Women: **Florence Griffith-Joyner (USA)** – 10.49 sec (1988, Indianapolis)

200m Sprint

- Men: Usain Bolt – 19.19 sec (2009, Berlin)
- Women: Florence Griffith-Joyner – 21.34 sec (1988, Seoul)

400m

- Men: **Wayde van Niekerk (South Africa)** – 43.03 sec (2016, Rio Olympics)

IN National Running Records (India – Men & Women)

(As per Athletics Federation of India)

- **100m Sprint**
  - Men: **Amiya Kumar Mallick** – 10.26 sec (2016)
  - Women: **Dutee Chand** – 11.17 sec (2021)
- **200m Sprint**
  - Men: **Muhammed Anas Yahiya** – 20.63 sec (2018)
  - Women: **Hima Das** – 22.88 sec (2018)
- **400m**
  - Men: **Muhammed Anas Yahiya** – 45.21 sec (2019)
  - Women: **Hima Das** – 50.79 sec (2018)

Category	**Record Holder**	**Time**
Men	Abhishek Pal	**14:05**
Men	Joshua Cheptegei	**12:51**

It was converted into an **infantry division in 1970** and relocated to Meerut in 1976. The division participated in key operations including:

- **CDS:** Gen. Anil Chauhan
- **Army Chief:** Gen. Upendra Dwivedi
- **VCOAS**: Lieutenant General N. S. Raja Subramani
- **Air Chief:** ACM AP Singh
- **Navy Chief:** Adm. Dinesh K Tripathi

IMA

वीरता और विवेक (Veerta aur Vivek)

Serve with Honour

Signals

⚔️ Emblem: The Mercury (Messenger of the Gods)

✅ What it Looks Like:

Colonel Commandant of the Corps of Signals	Lt Gen Ulhas Kirpekar, AVSM, SM

- The **Roman god Mercury (Hermes in Greek mythology)** standing in armor, holding a caduceus (staff with two snakes), often with winged helmet and boots.
- Usually placed on a **blue background** (symbolizing sky, communication)

□ Why Mercury?

- **Mercury** is the **mythological god of messages, communication, and speed**
- He is depicted as:
  - A **swift messenger**, just like the Signals officers who carry urgent orders and data
  - A **protector of secrets**, representing the cyber and information security function
- Mercury's **winged boots and helmet** symbolize **speed**, **reach**, and **alertness**

- The **Caduceus** represents **negotiation, peace, and clarity in communication**

□ Corps of Signals – Overview

The **Corps of Signals** is the **communications and information technology arm** of the Indian Army. It plays a critical role in providing:

- **Battlefield communications**
- **Cybersecurity**
- **IT-enabled warfare**
- **Electronic warfare and satellite control**
- **Command, Control, Communications, Computers, and Intelligence (C4I2SR)**

Motto, Emblem & Values

Attribute	Description
Motto	"**Teevra Chaukas**" (Swift and Secure)
Est. Year	1911 (founded in Ferozepur) 115 raising 15 feb
Founder	Lieutenant Colonel S.H. Powell
Emblem	Mercury – the Roman god of communication
Corps Colors	Sky Blue (signifying the sky and tech dominance)

Role and Responsibilities

1. Communication Backbone of Indian Army

- Radio, satellite, optical fiber, mobile, and secure voice/data communications
- Setting up communication grids in war zones and forward areas

2. Cyber Operations

- **Cyber Defense and Cyber Security**
- Protecting Indian Army networks from foreign cyberattacks

📡 3. Electronic Warfare & Signal Intelligence

- Monitoring enemy communication and jamming enemy radar/communication systems

🖥️ 4. IT & Network Infrastructure

- Designing, implementing, and managing high-security IT systems
- Operates:
  - **AFNET (Armed Forces Network)**
  - **ASCON (Army Static Switched Communication Network)**
  - **TCS (Tactical Communication System)**

🛰️ 5. Satellite Communication

- Setting up satellite links in border and remote areas
- Real-time video links for senior leadership during operations

🎓 Training

🎖️ Training Centre:

- **Military College of Telecommunication Engineering (MCTE)**, Mhow, Madhya Pradesh
- 🎓🏫 **Courses include:**
- Tactical communications
- Satellite systems
- Cybersecurity & hacking defense
- IT project management
- Signal intelligence
- C4ISR systems

⚙️ Technology and Equipment Used

- **Software Defined Radios (SDRs)**
- **Tactical and Strategic Satellite Terminals**
- **Cyber defense software and firewalls**
- **Mobile Communication Nodes**
- **High-Capacity Radio Relays (HCRRs)**
- **Optical Fiber Cable (OFC) equipment**

🧒🎓 Eligibility and Entry Routes

🎖️ Famous Operations

- **Kargil War (1999)** – Maintained critical communication under extreme conditions
- **Operation Vijay / Operation Parakram**
- **Counter-insurgency Ops** – Northeast, Kashmir
- **UN Peacekeeping Missions** – Deployed to Congo, Lebanon, etc.

🌐 Why Corps of Signals Is Ideal for CSE Graduates

- Works at the intersection of **tech and defense**
- Deep involvement in **network security, ethical hacking, crypto systems**
- Opportunity to work with **DRDO, BEL, ISRO collaborations**
- Can be **seconded to intelligence agencies (RAW, DIA, NTRO)**

🚀 Post-Army Opportunities

After serving in the Signals, officers often get roles in:

- **Cybersecurity companies (TCS, Infosys, DRDO, etc.)**
- **Govt orgs like NTRO, NCIIPC, CERT-IN**
- **Public sector like BEL, BHEL, HAL**
- **Foreign defense contractors (after clearance)**

Feature	Corps of Engineers	Corps of Signals
Primary Role	Combat engineering, construction, field works	Communication, IT networks, cyber & signals
Motto	*Sarvatra* (Everywhere)	*Teevra Chaukas* (Swift and Secure)
Main Functions	Bridging, mining/demining, roads, defense works	Tactical communication, cybersecurity, IT
Emblem	Crossing swords, anchor, and gear	Mercury (Roman god of communication)
Training Institution	College of Military Engineering (CME), Pune	Military College of Telecommunication Engineering (MCTE), Mhow
Related Civil Fields	Civil, Mechanical, Structural Engineering	Computer Science, Electronics, IT
Deployment Roles	Flood relief, disaster management, border roads	C4ISR, cyber ops, battlefield communication

Sub-units	Madras Engg Group (MEG), Bengal Sappers etc.	Signal regiments
Inter-service Role	Coordinates with BRO, DRDO (infra side)	Coordinates with DRDO, DIA, NTRO (cyber/IT)

C4ISR stands for:

C – Command
C – Control
C – Communications
C – Computers
I – Intelligence
S – Surveillance
R – Reconnaissance

It is a **military framework** that integrates technology, intelligence, and operations to enhance the **situational awareness and decision-making** of armed forces.

🥊 Notable Sports Personalities from the Corps

- **M. P. Ganesh** – Former international hockey player who represented India in the **1972 Munich Olympics** and **1971 World Cup (Barcelona)**.
  - He captained the Indian team at the **1973 Hockey World Cup in Amsterdam**.
  - Awards: **Arjuna Award (1973)** and **Padma Shri (2020)**.
  - 🕮 *Suggested Source:* Padma Awards PDF – Ministry of Home Affairs and Olympic athlete profile
- **S. Jayaram** – Accomplished **boxer**, recipient of the **Arjuna Award in 1989** for his outstanding contribution to Indian boxing.
  - 🕮 *Suggested Source:* Arjuna Award archives by **Ministry of Youth Affairs and Sports**
- **Achinta Sheuli** – Weightlifter associated with the Signals (or Army Sports Institute), won **Gold in Commonwealth Games 2022**.
  - 🕮 *Suggested Source:* CWG 2022 medalists list, The Hindu, ESPN India

Other sportsmen such as **Leslie Fernandez**, **SR Pawar**, **Gulzar Singh**, and **Narender** have also brought accolades to the Corps and the Army.

🏍️ The Dare Devils – Dispatch Rider Team

- The **Dispatch Rider Motorcycle Team** of the Corps, known as **"The Dare Devils"**, has captivated audiences across the country with its **stunt-riding displays**.
- Their feats have been showcased during:
  - **Republic Day Parades**, especially in New Delhi
  - **Military exhibitions and ceremonial events**

- The team holds multiple entries in the:
  - **Guinness World Records**
  - **Limca Book of Record**

👩‍✈️ Captain Tania Shergill's Recognition

- **Captain Tania Shergill**, a Signals officer, led the **Republic Day Parade marching contingent** in **2020**, becoming the **first woman Parade Adjutant**.
- Her contingent was adjudged the **Best Marching Contingent** that year.

🛠️ Training and Technology

📡 Mobile Base Transceiver Station (MBTS)

The **Corps of Signals** deploys **Mobile Base Transceiver Stations (MBTS)** as part of its tactical communication system. These stations enable rapid, on-the-move mobile communication capabilities for formations in operational areas. MBTS units are:

- Vehicle-mounted and transportable across terrain
- Capable of providing **secure GSM/CDMA communication** for field forces
- Useful in **disaster relief**, **counter-insurgency**, and **field operations**

🛰️ Transportable Satellite Terminal (TST)

The Corps uses **Transportable Satellite Terminals (TSTs)** for **long-range, beyond-line-of-sight communications**. These terminals provide:

- Real-time voice, video, and data transmission using **dedicated satellites**
- Secure and encrypted links from remote forward locations to central command HQs
- Interoperability with Army Static Communication Network (**ASCON**) and Tactical Communication Systems (**TCS**)

TSTs play a vital role in:

- Surveillance coordination
- Strategic mobility
- Border outposts and remote missions

🔬 Partnership with DRDO and BEL

The Corps of Signals works closely with:

- **Defense Research and Development Organization (DRDO)**
- **Bharat Electronics Limited (BEL)**

Notable outcome of this collaboration includes:

💎 *Samyukta Electronic Warfare System*

- One of India's most advanced **mobile integrated electronic warfare systems**
- Developed for **electronic surveillance, interception, direction finding**, and jamming
- Comprises over 140 vehicles and integrates signals intelligence and communication jamming
- Designed to detect, intercept, and counter enemy signals over a wide frequency spectrum

🏛️ Signals War Museum – Jabalpur

The **Signals War Museum**, situated in **Jabalpur, Madhya Pradesh**, at the **1 Signals Training Centre**, houses:

- Comprises **Officers**, **Junior Commissioned Officers (JCOs)**, and **Other Ranks (ORs)**.
- ORs specialize in trades like **Operator Radio & Line (ORL)** and **Technician Electronics & Systems (TES)**.
- Each **Brigade** has a Signal Company; each **Division/Corps** has a Signal Regiment.

🎓 Training Establishments

1. **1 Signal Training Centre, Jabalpur** – Initial, upgrade, and trade-specific training.
2. **2 Signal Training Centre, Goa** – Largest military establishment in Goa; also supports civil authority.
3. **Military College of Telecommunication Engineering (MCTE), Mhow** – Premier Institute for Advanced Training in IT, cybersecurity, and telecom.

🛠️ Modernization & Technology

✅ *Key Systems:*

- **ASTROIDS & DCN** – Strategic-level communication networks
- **AREN** – Area radio network for field formations
- **ASCON** – Static, secure, and digital telecommunication system (being upgraded with optical fiber)
- **Troposcatter Systems** – Mobile, quick-deploy radio systems for mechanized forces
- **SATCOM** – Satellite communications using INMARSAT, INSAT, LCTs, ECTs for border and international ops

✓ *Advanced Communication Methods:*

- **GSM, CDMA, WLL, OFC**
- **SDH/PDH** for fast data transmission
- **Computer Data Networks** for weapon control and IT-based operations

✓ *Information Technology & AMSS:*

- Paperless, automated HQs and **message switching systems**
- Hierarchical information systems and digitized army functions
- Participation in UN missions and international training programs

https://web.archive.org/web/20120115042705/http://www.bharat-rakshak.com/LAND-FORCES/Units/Other/227-Corps-Of-Signals.html

The Modernization Process

The Corps of Signals is well poised to exploit the state-of-art modern communication techniques for meeting the requirements of the Indian Army of the 21st Century. The ASTROIDS (Army Strategic Operational Information Dissemination System) and the DCN (Defense Communication Network) are other networks which have been visualized to cover communication requirements of all three services at the strategic level. Some of the areas where the Corps is already in the process of exploiting are the cellular radios - in both GSM (Global Satellite for Mobile Communications) & CDMA (Code Division Multiple Access) modes, WLL (Wireless Local Loop), OFC (Optical Fiber Cable), mobile trunk radios, mobile satellite systems, etc. Advanced data transmission methods such as SDH (Synchronous Digital Hierarchy) and PDH (Plesiochronous Digital Hierarchy) are also being used.

Personnel of the Corps are regularly sent abroad to expand their knowledge in numerous areas of telecommunications, information technology and electronic warfare including attending conferences such as the International Telecommunication Union (ITU) to keep abreast with the latest in communications technology. The Corps also fielded communication task forces for the United Nations Interim Force in Lebanon and the United Nations Peace Keeping Force in Sierra Leone. Signals personnel have also attended the Indian Army's training teams at Botswana and Mauritius.

Army Radio Engineered Network (AREN)**:** This indigenously conceived area grid radio communication system for the field formations launched more than a decade ago has since grown into a potent tool for the commanders to exercise command & control and automated interoperable information and decision support systems in their area of responsibility.

Army Static Switched Communication Network (ASCON)**:** The ASCON was evolved to integrate the telecommunication infrastructure of the hinterland with the tactical communication networks. It is a digital, fully automated, secure, reliable and survivable static communication system based on microwave radio, optical fiber cable, satellite and milli-metric wave communication equipment’s. Value added services such as Fax, Telex, data transfer and video are also available to the defense users on this network. The ASCON network is currently being expanded to include all army commands and areas in eastern India and also finalizing plans for future expansion of the network. In addition, ASCON's existing microwave links are being replaced with optical fiber cable for increased reliability in communication.

Troposcatter Communication Systems**:** The Corps of Signals have harnessed the potential of troposcatter communications basically to meet the requirements of mechanized formations operating in rapidly changing tactical environments and for responsive & quickly deployable mobile systems to provide cross linkages and integration with the communication networks in the tactical zones. The digital mobile troposcatter systems are operated by specialized signal groups.

Satellite Communication (SATCOM)**:** Conventional communication systems derived over field & permanent lines and radios could not be satisfactorily established over mountainous and snow-clad areas of borders in India. Hence the Corps has developed expertise and are already exploiting the latest facilities available by using INMARSAT, INSAT, LCTs

and ECTs in the low-intensity conflict areas. INMARSAT has been used by the Corps of Signals units deputed for service in Somalia, Rwanda, Mozambique, Cambodia and Angola.

Computer Data Networks**:** The Corps of Signals has done pioneering work in spreading computer literacy in the Indian Army since the 1960s. Right now, the Corps is providing the pivotal role and infrastructure in exploiting Information Technology (IT) for data communications, weapon control and management systems. This fast proliferation of IT is providing an ideal incentive to the IT specialists for both graduates and post-graduates.

Electronic Warfare**:** This has become one of the most potent force multipliers and a technologically challenging field in which the Corps has developed tremendous expertise. EW has played a stellar role in anti-insurgency and low intensity conflict operations besides the conventional operations conducted earlier in Sri Lanka and recently in Kargil.

Information Technology**:** In the thrust of the Indian Army to usher into an era of acquiring maximum dividends from IT, the Corps of Signals is the torch bearer and facilitator. Fully automated offices with minimum paper work, improved response timings, fast information dissemination systems, hierarchical management information systems at all levels are some of the areas of thrust.

Static Peacetime Communications**:** Signals is providing standard subscriber communication services to the Army during peace time by way of telephone, telex, fax, e-mail, voice-mail and data transfer by establishing state-of-art communication systems and networks.

Automatic Message Switching / Handling Systems (AMSS)**:** The Corps is also using a computerized AMSS for handling the high-volume message traffic of the Army. This is network connecting the hierarchical nodes where the army formations are deployed

https://en.wikipedia.org/wiki/Category:Military_equipment_of_India

https://en.wikipedia.org/wiki/Category:Electronic_warfare_equipment

https://en.wikipedia.org/wiki/Military_College_of_Telecommunication_Engineering

https://en.wikipedia.org/wiki/Category:Military_academies_of_India

https://en.wikipedia.org/wiki/Indian_Army

https://www.facebook.com/info.warriors

https://en.wikipedia.org/wiki/Category:Army_units_and_formations_of_India

https://www.youtube.com/watch?v=UiTIoqdVTEs&ab_channel=DefenceMavericks

❖ Every Corps includes:

1. **Corps Signal Regiment (CSR)**
    a. Headquarters-level communication for the entire Corps
    b. Sets up secure links between:
        i. Corps HQ ↔ Divisions

ii. Corps HQ ↔ Command HQ
iii. Corps HQ ↔ Air Force & other joint commands

2. **Corps Grid Signal Regiment** *(in some cases like 1 Corps, 21 Corps)*
    a. Manages **area-wide grid networks** using:
        i. Microwave
        ii. Optical Fiber Cable (OFC)
        iii. Satellite communication
        iv. Mobile base stations (AREN, ASCON, etc.)
3. **Air Support Signal Unit** *(in Strike Corps and Mountain Strike Corps)*
    a. Handles **air-ground coordination** for close air support and surveillance

Component	Example Unit
HQ	1 Corps HQ, Mathura
Infantry Divisions	4 Infantry Division, 23 Infantry Division
Armored Division	33 Armored Division
Artillery Brigade	Corps Artillery Brigade
Engineer Brigade	471 Engineer Brigade
Air Defense Brigade	627 AD Bde, 786 AD Bde
Signals	1 Corps Signal Regt, Grid Signal Regt
Aviation	Army Aviation Flight (ALH, Cheetah)
Logistics	ASC, EME, Ordnance units
Medical	Field Hospital, Mobile Surgical Teams
Intelligence & EW	UAV detachments, Samyukta EW system

A **Mobile Base Transceiver Station (Mobile BTS or MBTS)** is a **portable or temporary cell tower** used to provide **mobile network coverage** in remote, emergency, disaster, or military areas where permanent infrastructure is unavailable or has been compromised.

📡 What is a Mobile BTS?

A **Mobile BTS** is a **compact, self-contained communication unit** that includes:

- Antennas
- Radio transceivers
- Power supply (often generator or solar)
- Backhaul connectivity (satellite/microwave/fiber)
- Sometimes mounted on a vehicle, trailer, or shelter

⚙ Working of a Mobile BTS (Step-by-Step):

Step	Function
1. Power Supply	BTS is powered by **diesel generator**, **solar**, or **battery backup**.
2. Signal Transmission	**Antennas** transmit and receive RF signals to/from nearby mobile devices.
3. Communication Link	The BTS connects to the core network via **satellite uplink**, **microwave link**, or **fiber** if available.
4. Call/Data Handling	The BTS processes **voice calls, SMS**, and **mobile data** through the mobile switching center (MSC).
5. Mobility Support	Users can **roam seamlessly**, and handover is managed between BTS units (if multiple exist).

🧱 Components:

- **Antenna Mast**: For wide signal coverage
- **RF Units (Transceivers)**: Communicate with mobile handsets
- **BSC (Base Station Controller)**: Controls multiple BTS units (optional in some mobile BTS)
- **Backhaul Equipment**: Satellite dish/microwave link
- **Power Source**: Generator + battery bank
- **Cooling System**: Fans or AC for electronics
- **Transport**: Truck/van/trailer-mounted

🚑 Applications:

- **Military Operations** (forward communication posts)
- **Disaster Relief** (post-flood, earthquake, warzone)
- **Remote Areas** (hilly or border regions)
- **Events** (Kumbh Mela, large gatherings)

🛡 In the Indian Army:

Mobile BTS units are used by **Corps of Signals** to:

- Set up **communication grids** in field areas
- Ensure **command-and-control** in remote/forward zones
- Enable secure and encrypted **voice/data transmission**
- https://www.youtube.com/watch?v=oeZ_p288slw&ab_channel=5MinutesEngineering

Here are some **recent advancements and procurements** by the **Corps of Signals** and the Indian Army's communication & electronic warfare (EW) capabilities:

📡 1. Radio Relay Communication Containers

- The MoD signed a **₹500 crore** contract with ICOMM Tele for **1,035 mobile radio relay containers** (5/7.5 ton), scheduled for delivery by FY 2023-24 en.wikipedia.org+13financialexpress.com+13livemint.com+13.
- These containers, mounted on specialist vehicles, provide **protected, failsafe communication hubs** in field environments.

🔁 2. Tactical Access Switch

- The Indian Army awarded a contract to **Tata Advanced Systems** for an **indigenous Tactical Access Switch** thestatesman.com+3business-standard.com+3livemint.com+3indiandefensenews.in+1indiandefensenews.in+1.
- This modular, rugged networking device enhances **IP/MPLS-based voice, video, and data handling**, boosting tactical communication infrastructure.

🧪 3. Signals Technology Evaluation & Adaptation Group (STEAG)

- In March 2024, the **21 Signals Group** was repurposed as the **Signal Technology Evaluation & Adaptation Group** thehindubusinessline.com+3thehindu.com+3business-standard.com+3.
- Headed by a Colonel, STEAG (≈280 personnel) evaluates AI, 5G/6G, SDRs, quantum communication, and EW technologies for future battlefield use.

🔐 4. Secure Mobile Ecosystem – SAMBHAV

- In 2025, the Army unveiled **SAMBHAV**, a **5G-ready, secure mobile ecosystem** with encrypted handsets and network-agnostic connectivity en.wikipedia.org+7indiandefensenews.in+7thehindu.com+7.
- This initiative also includes setting up **Command Cyber Operations Support Wings** (CCOSWs) across Commands to bolster cyber-warfare capabilities indiandefensenews.in+1thehindubusinessline.com+1.

5. Enhanced Electronic Warfare Systems

- Upgrades and deployment of **Samyukta**, **Him shakti**, and **Tarang Shakti** systems (advanced EW platforms) are underway indiandefensenews.in.
- These systems are integrated with **AI surveillance tech**, enabling faster detection, jamming, and spectrum dominance.

6. Akash Teer – Air Defense C2

- **Akash Teer**, an INDIGENOUS C2 system akin to Iron Dome, was inducted in early 2024 thehindubusinessline.com+3en.wikipedia.org+3en.wikipedia.org+3.
- Over **100 units** delivered, with 455 units expected by 2027; integrates radars, sensors, and ADS under the Integrated Air Command & Control System (IACCS) thestatesman.com+2en.wikipedia.org+2en.wikipedia.org+2.

Why These Matter for Corps of Signals

Feature	Capability
Mobility & Hardened Communication	Mobile Relay Containers + Tactical Switches = robust, field-ready networks
Tech Fusion	STEAG ensures Signals Corps tests and adapts AI, quantum, 5G/6G
Secure Channels	SAMBHAV ensures encrypted voice/data for field commanders
Spectrum Control	EW platforms (Samyukta, Tarang Shakti) enable electromagnetic dominance
Integrated Air Defense	Akash Teer links Signals to Air Defense systems via joint C2 networks

https://bel-india.in/product/transportable-satellite-terminal-tst/