Sub-Categorisation of Scheduled Castes

For Prelims: Sub-Categorisation of Scheduled Castes, **Madiga community**, Justice P. Ramachandra Raju Commission, **National Commissions for Scheduled Castes**, E.V. Chinnaiah v State of Andhra Pradesh case.

For Mains: Legal Tussle over Subcategorisation of Scheduled Castes, Benefits and Challenges Related to Subcategorisation

Source: TH

Why in News?

The **Indian government** has set up a high-level committee, led by the **Cabinet Secretary,** to address the issue of **dominant** Scheduled Caste (SC) **communities** receiving more benefits than the most backward ones.

- This development comes particularly in response to the Madiga community's **demands in Telangana.**

What is the Mandate of the Newly Formed Committee?

- The committee's primary objective is to **explore alternative methods** for addressing grievances faced by various SC communities across the country.
    - While initiated in response to the Madiga community's concerns, the committee's **scope extends beyond one community or state.**
- It aims to evaluate and work out a method for the equitable distribution of benefits, schemes and initiatives to the most backward communities amongst the over 1,200 Scheduled Castes across the country, that have been **crowded out by relatively forward and dominant ones.**

What are the Major Aspects Related to Subcategorisation of SC in India?

- **About:** Subcategorisation refers to the division or classification of a larger category into smaller, more specific subcategories based on certain criteria or characteristics.
    - In the context of **SC in India,** subcategorisation may involve further classification within the SC group based on factors such as **socioeconomic status or historical disadvantages.**
- **Madiga Community's Struggle:** The Madiga community, constituting **50% of SCs in Telangana,** has faced challenges in accessing government benefits intended for SCs due to dominance by the **Mala community**.
    - Despite their substantial population, the Madiga community argued that it has been excluded from SC-related initiatives.
    - They have been struggling since **1994** for the sub-categorisation of SCs and it was this demand that first led to the formation of the **Justice P. Ramachandra Raju Commission** in 1996 and later a **National Commission in 2007.**
- **Similar Issue Across States:** SC communities in various states have reported similar challenges,

leading to the formation of commissions by both State and Union governments.
    - States like **Punjab, Bihar, and Tamil Nadu** attempted sub-categorisation at the state level, but these efforts are currently tied up in legal battles.
- **Constitutional Stance:**
    - **Articles 341 and 342:** It grants powers to the President **to notify SC and ST lists** and to Parliament to create these lists.
        - However, there is no explicit prohibition against sub-categorisation.
- **Previous Standpoint of Union Government:** The Union government had in 2005 considered legal options for sub-categorisation of SCs.
    - At the time, the erstwhile Attorney General of India had opined that this could be possible but only if there was **“unimpeachable evidence to indicate a necessity”.**
    - Also, both the National Commissions for Scheduled Castes **and Scheduled Tribes** opposed amending the Constitution at that time.
        - They argued that creating a sub-quota within the existing quota is not enough, emphasising the immediate need to prioritise the allocation of existing schemes and benefits to these communities.

What is the Legal Tussle over the Subcategorisation of SC (Case of Punjab)?

- **1975:** The Punjab government issues a notification dividing its **25% SC reservation** into two categories. It was **one of the first instances of existing reservations being ‘sub-classified’ by a state.**
    - While the notification remained in force for nearly 30 years, it ran into legal hurdles in 2004.
- **2004:** Supreme Court strikes down **Andhra Pradesh Scheduled Castes (Rationalisation of Reservations) Act, 2000**, citing violation of the right to equality in the **E.V. Chinnaiah v State of Andhra Pradesh case.**
    - Emphasises that the **SC list should be treated as a single, homogeneous group.**
    - The President has the power to create the SC list (Article 341), and states cannot interfere or disturb it, including through sub-classification.
    - Later, the Punjab & Haryana High Court, in **Dr. Kishan Pal v. State of Punjab, struck down the 1975 notification, supporting the E.V. Chinnaiah decision.**
- **2006:** The Punjab government attempts to reintroduce sub-categorisation through the **Punjab Scheduled Caste and Backward Classes (Reservation in Services) Act, 2006,** but it was struck down in 2010.
- **2014:** Supreme Court refers the matter to a **five-judge constitution bench, questioning the correctness of the 2004 E.V. Chinnaiah decision.**
- **2020:** The Constitution bench holds that the **2004 decision needs reconsideration, rejecting the idea of SCs being a homogeneous group** and acknowledging the existence of "unequal" within the list.
    - The concept of the **"creamy layer"** was also recommended by the Supreme Court for SC and ST.
- **Present:** A larger **seven-judge bench is hearing the issue** as only its judgment can prevail over the decision of a smaller bench.
    - Sub-classification will impact various communities across states, including **Balmikis and Mazhabi Sikhs** in Punjab, **Madiga** in Andhra Pradesh, **Paswans** in Bihar, **Jatavs** in UP, and **Arundhatiyars** in TamilNadu.

Benefits of Subcategorisation	Challenges of Subcategorisation
Targeted Policies: Granular available data for targeted policies and programs.	**Social divisions:** Risk of exacerbating existing social tensions.
Fair Representation: Increased political participation from different sub-groups.	**Identification & Verification:** Complexities in accurate identification and documentation.
Empowerment & Recognition: Spotlighting the **cultural heritage of sub-**	**Politicisation:** Potential for manipulation by different groups.

groups, fostering a sense of identity and belonging.	

Conclusion

The forthcoming ruling by a seven-judge bench of the **Supreme Court**, along with the insights from a committee, will guide the path for the subcategorisation of Scheduled Castes. By focusing on pragmatic solutions aligned with legal standards, we can harness the potential benefits of subcategorisation while mitigating associated risks, fostering a society that is **inclusive, supportive, responsive and resilient.**

UPSC Civil Services Examination, Previous Year Question:

Q. Consider the following organizations/bodies in India: (2023)

1. The National Commission for Backward Classes
2. The National Human Rights Commission
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

How many of the above constitutional bodies?

(a) Only one
(b) Only two
(c) Only three
(d) All four

Ans: (a)

Q. With reference to 'Changpa' community of India, consider the following statements:(2014)

1. They live mainly in the State of Uttarakhand.
2. They rear the Pashmina goats that yield a fine wool.
3. They are kept in the category of Scheduled Tribes.
4. Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

Ans: (b)

Mains:

Q. What are the two major legal initiatives by the State since Independence addressing discrimination against Scheduled Tribes (STs). **(2017)**

Pradhan Mantri Suryodaya Yojana

Source: IE

Why in News?

Recently, the Indian Prime Minister launched the **'Pradhan Mantri Suryodaya Yojana,'** a pioneering government initiative aimed at **installing** rooftop solar power **systems in one crore households** across the nation.

What are Rooftop Solar Panels?

- **About:** Rooftop solar panels are **photovoltaic panels** installed on the roof of a building that is connected to the main power supply unit.
- **Benefit:** It reduces the consumption of **grid-connected electricity** and saves electricity costs for the consumer.
    - Surplus solar power units generated from the rooftop solar plant can be exported to the grid as per the metering provisions.
    - The consumer can receive monetary benefits for the surplus exported power as per the prevailing regulations
- **Related Government Initiatives:** In 2014, the government launched the **Rooftop Solar Programme** that aimed to achieve a cumulative installed capacity of **40,000 megawatts (MW) or 40 gigawatts (GW) by 2022.**
    - However, this target could not be achieved. As a result, the government extended the deadline from 2022 to 2026.
    - According to some reports, the **Pradhan Mantri Suryodaya Yojana seems** to be an attempt to help reach the **target of 40 GW rooftop solar capacity.**

What is the Current Solar Capacity in India?

- **India's Current Solar Capacity:**
    - **Rooftop Solar Capacity:** Total rooftop solar installed **capacity is around 11.08 GW** as of December 2023.
        - **Gujarat tops the list with 2.8 GW**, followed by Maharashtra by 1.7 GW.
        - According to a recent report by **Council on Energy, Environment and Water (CEEW)**, only **20%** of rooftop solar capacity installations are in the residential sector, with the majority in commercial and industrial sectors.
            - The report suggests that **India's 25 crore households could deploy 637 GW of solar energy on rooftops,** and just one-third of this could meet the entire residential electricity demand in the country.
    - **Total Installed Capacity:** According to the **Ministry of New and Renewable Energy** solar power installed capacity in India has reached around 73.31 GW as of December 2023.
        - In terms of total solar capacity, **Rajasthan is at the top with 18.7 GW.** Gujarat is at the second position with 10.5 GW.
        - When it comes to rooftop solar capacity, **Gujarat tops the list with 2.8 GW,** followed by Maharashtra by 1.7 GW.

India's Surging Energy Demand

- India is projected to experience the highest energy demand growth globally over the next three decades, as per the International **Energy Agency.**
    - Despite an increase in coal production, India is committed to achieving **500 GW of** renewable energy capacity by 2030.
- Also, the country aims for **50% of electricity generation from non-fossil fuel sources by 2030**, having already reached **43%,** with renewables contributing **30%** to the total installed capacity.
    - Rapid growth in renewable capacity, especially in solar energy, is essential to meet the surging electricity demand.

What are the Other Government Initiatives to Harness Solar Energy?

- **National Solar Mission**
- **Solar Park Scheme**
- **Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM)**
- **Suryamitra Skill Development Programme**
- **International Solar Alliance**

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Consider the following statements: (2016)

1. The International Solar Alliance was launched at the United Nations Climate Change Conference in 2015.
2. The Alliance includes all the member countries of the United Nations.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

Ans: (a)

Mains

Q. India has immense potential of solar energy though there are regional variations in its developments. Elaborate. **(2020)**

Golden Tiger in Kaziranga National Park

Source: TH

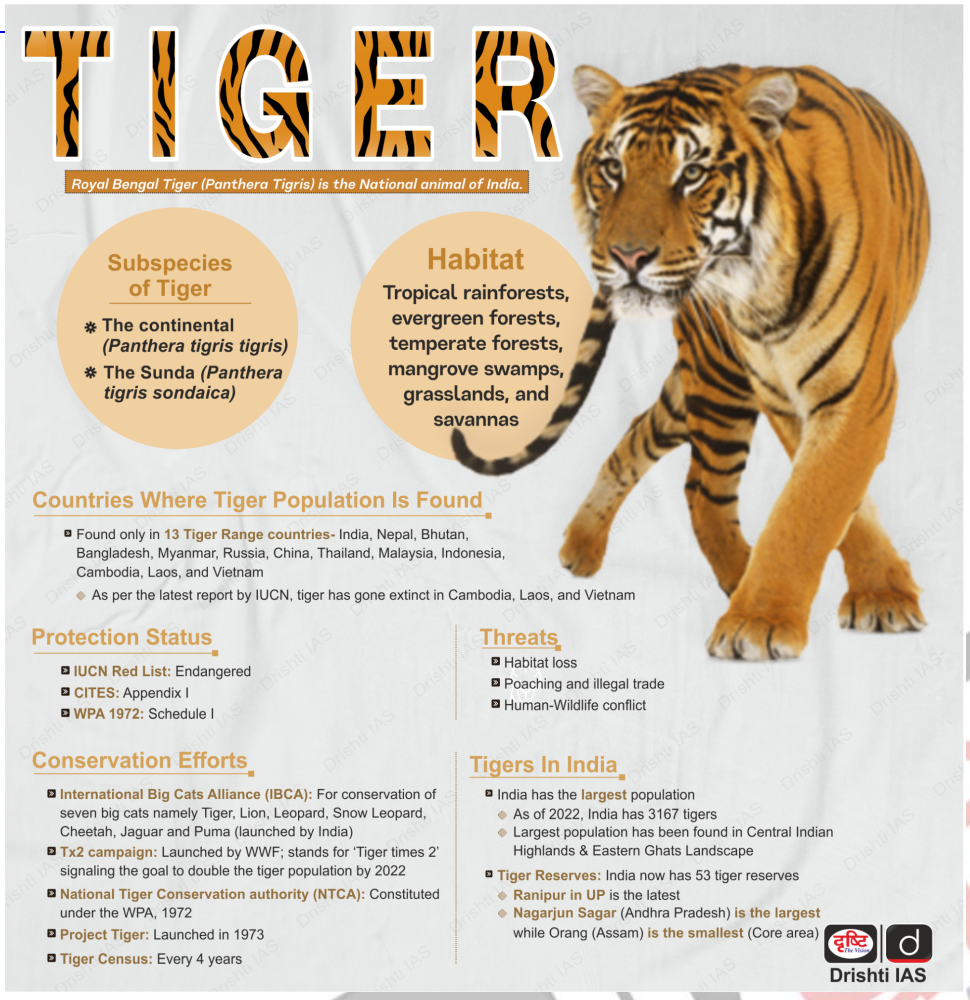
Why in News?

Recently, a wildlife photographer captured a **rare golden tiger in** Kaziranga National Park (KNP).

What are the Key Facts About the Golden Tiger?

- **Golden tigers** (also known as a golden tabby tiger) **are a colour form**, not a separate subspecies, like white and **black tigers.**
- They are exceptionally rare in the wild and even rarer in captivity.
- Golden tiger spotted in KNP are a **color variation of** Bengal tigers caused by a recessive gene called **"wideband".**
    - This gene affects the production of **black pigments** during the hair growth cycle.
- Tigers typically exhibit three colours: **black, orange, and white. I**n the golden tiger, the black colour is absent, and the orange appears faded.

//



Kaziranga National Park

- Formed in 1908 KNP is located in the edge of the **north eastern part of the country in the district of Golaghat and Nagoan in the state of Assam.** It was declared as a National Park in 1974.
    - In the year 1985, the park was declared as a **World Heritage Site by UNESCO** and was declared as Tiger Reserve **in 2006.**
- It is the single **largest undisturbed and representative** area in the **Brahmaputra** Valley floodplain.
- KNP has mainly four types of vegetation' like **alluvial inundated grasslands**, alluvial **savanna woodlands, tropical moist mixed deciduous forests,** and **tropical semi-evergreen forests.**
- It is the home to more than 2200 **Indian one-horned rhinoceros**, approximately **2/3rd** of their total world population.
- KNP harbours significant populations of other threatened species **including tigers, elephants, wild water buffalo and bears** as well as aquatic species including the **Ganges River dolphin**. It is an important area for migratory birds.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. Consider the following pairs: (2013)

National Park River flowing through Park

1. Corbett National Park : Ganga
2. Kaziranga National Park : Manas
3. Silent Valley National Park : Kaveri

Which of the above pairs is/are correctly matched?

(a) 1 and 2
(b) 3 only
(c) 1 and 3
(d) None

Ans: (d)

Q2. Among the following Tiger Reserves, which one has the largest area under "Critical Tiger Habitat"? (2020)

(a) Corbett
(b) Ranthambore
(c) Nagarjunasagar-Srisailam
(d) Sundarbans

Ans: C

Mains

Q: "Policy contradictions among various competing sectors and stakeholders have resulted in inadequate

‘protection and prevention of degradation’ to environment.” Comment with relevant illustrations. **(2018)**

Kairali AI Chip

For Prelims: Artificial Intelligence (AI), Kairali AI Chip, **Machine Learning**, **Unmanned Aerial Vehicles (UAVs)**, **Active Neural Network (ANN)**, Edge AI

For Mains: Kairali AI Chip, Achievements of Indians in science & technology.

Source: TH

Why in News?

Recently, the Digital University Kerala has introduced State’s maiden silicon-proven Artificial Intelligence (AI) **chip—Kairali AI Chip**, that offers **Speed, Power Efficiency and Scalability** for various applications.

What is a Kairali AI Chip?

- **About:**
  - This chip leverages edge intelligence (or edge AI) to deliver **high performance and low power consumption** for a wide range of applications.
    - Edge artificial intelligence (AI), or AI at the edge, is the implementation of AI in an edge computing environment, which allows computations to be done close to where data is actually collected, **rather than at a centralized cloud computing facility** or an offsite data center.
    - It entails deploying Machine Learning **algorithms** on the edge device where the data is generated, rather than relying on cloud computing.
    - Edge intelligence can provide **faster and more efficient data processing** while also protecting the privacy and security of both data and users.
- **Potential Applications:**
  - **Agriculture:** The chip can **enable precision farming techniques** by providing real-time monitoring of crop health, soil conditions and environmental factors. This can help in **optimizing the use of resources and enhancing** the crop yields.
  - **Mobile Phone**: The chip can i**mprove the efficiency and performance** of smartphones by enabling advanced features such as real-time language translation, enhanced image processing and AI-powered personal assistants.
  - **Aerospace:** The chip can augment the capabilities of **Unmanned Aerial Vehicles (UAVs)** and satellites by providing advanced processing power for navigation, data collection and real-time decision-making, all with minimal power consumption. The chip can also enhance the navigation and autonomous decision-making capabilities of drones, which are useful for applications such as delivery services and environmental monitoring.
  - **Automobile:** The chip can be a game-changer for autonomous vehicles by providing the necessary computing power for real-time processing of sensory information, which is essential for safe and efficient autonomous driving.
  - **Security and surveillance:** The chip can enable faster and efficient facial recognition algorithms, threat detection and real-time analytics by using its edge computing capability.

What are AI chips?

- **About:**
  - AI chips are built with specific architecture and have integrated AI acceleration to support deep learning-based applications.
    - Deep learning, more commonly known as **Active Neural Network (ANN)** or Deep Neural Network (DNN), is a subset of **Machine Learning** and comes under the broader umbrella of AI.
- **Functions**:
  - It combines a series of computer commands or algorithms that stimulate activity and brain structure.
  - DNNs go through a training phase, learning new capabilities from existing data.
    - **DNNs can then inference**, by applying these capabilities learned during deep learning training to make predictions against previously unseen data.
    - Deep learning can make the process of collecting, analysing, and interpreting enormous amounts of data faster and easier.
  - Chips like these, **with their hardware architectures, complementary packaging,** memory, storage, and interconnect solutions, make it possible for AI to be integrated into applications across a wide spectrum to turn data into information and then into knowledge.
- **Types of AI Chips Designed for Diverse AI Applications:**
  - Application-Specific Integrated Circuits (ASICs), Field-Programmable Gate Arrays (FPGAs), Central Processing Units (CPUs) and GPUs.
- **Applications:**
  - AI applications include Natural Language Processing (NLP), computer vision, robotics, and network security across a wide variety of sectors, including automotive, IT, healthcare, and retail.

What are the Benefits of AI Chips?

- **Faster Computation:**
  - Artificial intelligence applications typically require parallel computational capabilities in order to run sophisticated training models and algorithms.
  - AI hardware provides more parallel processing capability that is estimated to have up to 10 times more competing power in ANN applications compared to traditional semiconductor devices at similar price points.
- **High Bandwidth Memory:**
  - Specialized AI hardware is estimated to allocate 4-5 times more bandwidth than traditional chips.
  - This is necessary because due to the need for parallel processing, AI applications require significantly more bandwidth between processors for efficient performance.

What are the Differences between Cloud AI and Edge AI, and Traditional Chips and AI Chips?

Cloud AI vs Edge AI

Aspect	Cloud AI	Edge AI
Location of Processing	Remote servers in data centers	Locally on devices
Latency	May have higher latency	Typically lower latency
Bandwidth	Requires substantial bandwidth	Can operate with lower bandwidth
Privacy and Security	Raises concerns about data privacy and security	Enhanced privacy and security as data remains on the device
Use Cases	Suited for high computational requirements, large datasets, and less stringent real-time processing needs	Ideal for real-time or near-real-time processing, such as in IoT devices and wearables

Traditional Chips vs AI Chips

Aspect	Traditional Chips	AI Chips
Design and Architecture	General-purpose processors	Specialized processors optimized for AI workloads
Energy Efficiency	May not be as energy-efficient for AI tasks	Engineered to be more power-efficient for AI computations
Flexibility	Versatile for a broad range of applications	Specialized for AI tasks, potentially less versatile for general-purpose computing
Performance	Can handle a variety of tasks but may not achieve the same level of performance as AI chips for specific AI workloads	Specialized for higher performance in AI-specific tasks
Examples	The CPU in laptops or smartphones	GPUs powering AI-powered self-driving cars

UPSC Civil Services Examination, Previous Year Questions

Q. With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)

1. Bring down electricity consumption in industrial units
2. Create meaningful short stories and songs
3. Disease diagnosis
4. Text-to-Speech Conversion
5. Wireless transmission of electrical energy

Select the correct answer using the code given below:

(a) 1, 2, 3 and 5 only
(b) 1, 3 and 4 only
(c) 2, 4 and 5 only
(d) 1, 2, 3, 4 and 5

Ans: (b)

Exp:

- Google is using the Internet of Things (IoT) and Artificial Intelligence (AI) from its DeepMind acquisition to reduce energy consumption in its data centres by as much as 30%. Hence, 1 is correct.
- Using AI as a tool to make music or aid musicians has been in practice for quite some time. In the 1990s, David Bowie helped develop the Verbasizer, which took literary source material and randomly reordered the words to create new combinations that could be used as lyrics. However, as AI works in programmed ecosystem and does not have emotions so it would be hard for an AI to create meaningful short stories and songs. Hence, 2 is not correct.
- AI combined with robotics and the Internet of Medical Things (IoMT) could potentially be the new nervous system for healthcare, presenting solutions to address healthcare problems. Integration of AI technology in cancer care could improve the accuracy and speed of diagnosis, aid clinical decision-making, and lead to better health outcomes. Hence, 3 is correct.
- Speech synthesis is the artificial production of human speech. It is a way to convert language to human voice (or speech). For example, Google’s Assistant, Amazon’s Echo, Apple’s Siri, etc. Hence, 4 is correct.

- Potential cases of AI's use in the energy sector include energy system modelling and forecasting to decrease unpredictability and increase efficiency in power balancing and usage. However, it cannot be used for transmission of electrical energy. Hence, 5 is not correct. Therefore, option (b) is the correct answer.

National Conference on Technical Textiles

The Ministry of Textiles, in collaboration with the Government of Andhra Pradesh, recently hosted a **National Conference on Technical Textiles** in Vijayawada, emphasizing policy pathways and innovation in this critical sector.

- The event featured panel discussions on **Circular Economy Strategies**, Sustainability in Technical Textiles, Agrotextiles, Geotextiles for Infrastructure, and Future Trends.
- Textile industry in Andhra Pradesh was urged to actively participate in **BHARAT TEX 2024** to showcase their ideas and innovativeness in **Technical Textiles with increased participation.**
    - **Bharat Tex 2024** is the **largest textile event in 2024**, organized by the **Ministry of Textiles** and 11 Textile Export Promotion Councils of India. It will take place in New Delhi from **February 26 to 29, 2024.**
        - The event will showcase the **entire** textile value chain of India, from farm to fashion, and highlight its heritage, craftsmanship, and innovations.
        - Bharat Tex 2024 aims to position India as a global powerhouse in textiles and attract investments, trade, and partnerships from around the world.

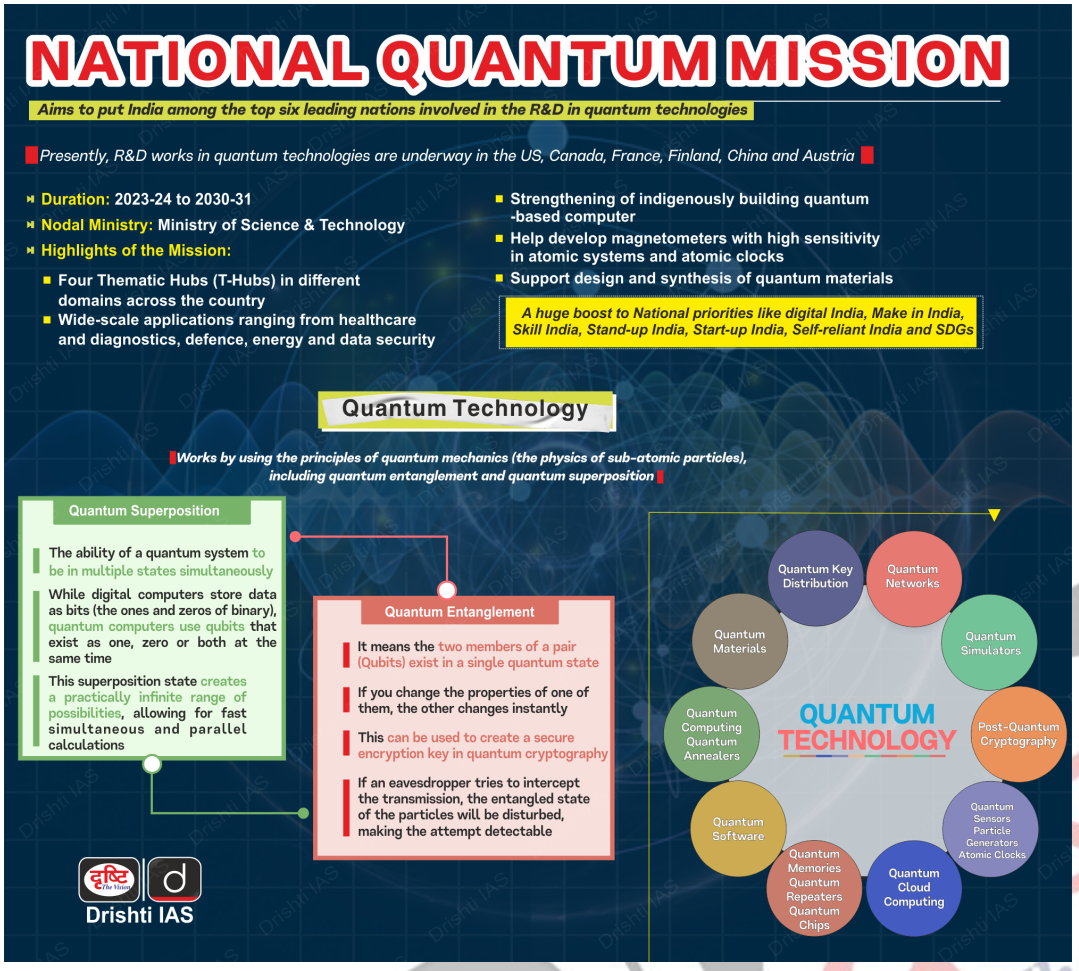
Read more: PM MITRA Scheme and Textile Sector

---

100 years of S N Bose's Colossal Work

Distinguished scientists and scientific administrators recently gathered at the **S.N. Bose National Centre for Basic Sciences (SNBNCBS) in Kolkata** to celebrate the 100th anniversary of **Satyendra Nath Bose's** last of the **four revolutionary publications** that led to new **quantum mechanics** (the others being those of **Planck in 1900,** Einstein **in 1905, and Niels Bohr in 1913)**, traced the evolution of quantum mechanics through the years.

- SNBNCBS, an Autonomous Research Institute established under the **Department of Science and Technology (DST),** in 1986 to honour the life and work of **S. N. Bose.**
    - S N Bose's pioneering work on **quantum statistics** has paved the way for the development of **modern quantum technologies** including **Bose-Einstein condensation**, **quantum superconductivity**, and **quantum information theory.**
    - Half the fundamental particles in the **Universe are named after him –** BOSON**.**
- The conference highlighted that **23 countries have set up** National Quantum Missions and India has a substantial contribution to make at an international level, especially in the field of quantum algorithms.



Read more: National Quantum Mission

Central Armed Police Forces (CAPF)

CENTRAL ARMED POLICE FORCES (CAPF)

The CAPF includes the seven security forces in India functioning under the Ministry of Home Affairs.

Assam Rifles (AR)

- **Origin:** 1835, as militia called **'Cachar Levy'**
  - **Erstwhile objective:** To protect British Tea estates
- **Current Objectives:**
  - Conducting anti-terrorist operations in NER
  - Ensuring security at India-China and India-Myanmar borders
- **Imp Role in:**
  - Sino-India War 1962
  - Indian Peace Keeping Force (IPKF) to Sri Lanka (1987)

Due to long association with tribal belts, Assam Rifles are also called 'Friends of the North East'

Border Security Force (BSF)

- **Origin:** 1965
- **Objectives:**
  - Securing land borders with Pakistan and Bangladesh
  - Also performing Anti-Infiltration in Kashmir Valley
  - Counter Insurgency in NER
  - Anti-Naxal Operations in Odisha and Chhattisgarh
- **Wings:** Air wing, marine wing, an artillery regiment, and commando units

BSF is India's First Line of Defence and the world's largest border guarding force

Central Reserve Police Force (CRPF)

- **Pre-Independence Origin:** 1939 (Crown Representative's Police)
- **Post Independence:** 1949 - under CRPF Act, became Central Reserve Police Force
- **Objective:** Crowd control, riot control, counter militancy/insurgency operations, etc.

CRPF is the principle central police force for internal security

Indo-Tibetan Border Police (ITBP)

- **Origin:** 1962
- **Objectives:**
  - Deployed on border from Karakoram Pass (Ladakh) to Jachep La (Arunachal Pradesh) (~3488 km of Indo-China Border)
  - Manning Border Outposts on altitudes 9000 ft - 18700 ft in Western, Middle and Eastern sectors of Indo-China Border

ITBP is India's specialised mountain force & the first responder to natural disasters

National Security Guard (NSG)

- **Origin:** 1984 (came into being in 1986), following **Operation Blue Star**
- **Objectives:** Counter-terrorism unit/Federal Contingency Force
- **Task-oriented Force - Two complementary elements:**
  - Special Action Group (SAG)
  - Special Ranger Groups (SRG)

Sashastra Seema Bal (SSB)

- **Origin:** 1963
- **Objectives:**
  - Guarding Indo-Nepal and Indo-Bhutan borders
  - Enhance border security, curb trans-border crimes, prevent unauthorised entry/exit, halt smuggling, etc.

Central Industrial Security Force (CISF)

- **Origin:** Central Industrial Security Force Act, 1968
- **Objectives:** Ensuring security of major critical infrastructure installations

CISF is the sole CAPF unit with a specialised fire wing

Drishti IAS

[Read more...]