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TATHASTU

Institute of Civil Services



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GI Tags

News: 7 products from UP were recently given GI Tags.

What is GI Tag?

- A GI is primarily an **agricultural, natural or manufactured product** (handicrafts and industrial goods) originating from a definite geographical territory.
- They are granted by the **Geographical Indications Registry** under the **Geographical Indications of Goods (Registration and Protection) Act, 1999**.
- A GI tag is **valid only for 10 years**, although it **can be renewed** from time to time for a **further period of 10 years** each through every subsequent renewal.

Benefits of GI Tags:

- They **protect the authenticity and distinctiveness** of the products from being imitated or copied by others.
- They promote the **economic and social development of the local communities** by creating employment, income, and market opportunities.
- They **preserve the cultural and traditional heritage of the regions** by encouraging the use of indigenous knowledge, skills, and resources.
- They **enhance consumer awareness and trust** by providing reliable information about the origin and quality of the products.

Which are the products?

- **Amroha Dholak** - A musical instrument made of natural wood, particularly mango and Sheesham trees. The instrument consists of hollow blocks carved from wood and fitted with animal skin, usually goatskin.
- **Barabanki Handloom Product** - Handloom products from Barabanki and adjoining areas are known for their extensive weaving tradition.
- **Kalpi Handmade paper** - Handmade paper manufacturing from Kalpi, a historical centre for this craft. The craft has been practised since the 1940s, but its origins may date back further.
- **Mainpuri Tarkashi** - Brass wire inlay work on wood, primarily used for making khadaous (wooden sandals) in Mainpuri. Leather was avoided due to cultural considerations.
- **Sambhal Horn Craft** - Crafts are made from raw materials sourced from deceased animals. The craft is entirely handmade.
- **Baghpat Home Furnishings** - Handloom home furnishing products and fabrics woven in Baghpat and Meerut using only cotton yarn. Weaving is done on frame looms instead of pit looms.

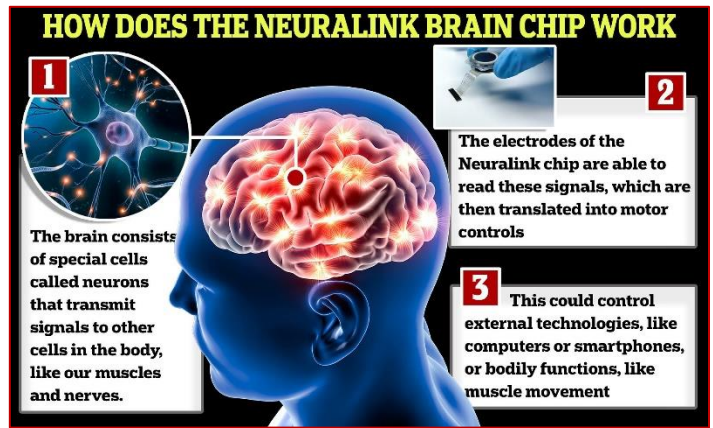
Nueralink

News: Elon Musk's brain-implant company Neuralink recently received regulatory approval to conduct the first clinical trial of its experimental device in humans.

What is Nueralink? How does it work?

- Neuralink project is a **brain-computer interface technology** that aims to create a generalized brain interface to restore autonomy to those with unmet medical needs today and unlock human potential tomorrow.
- The project involves **implanting a microchip in the brain** that can record and stimulate neural activity, and transmit it wirelessly to a computer or mobile device.
- The project claims that its implant is fully implantable, cosmetically invisible, biocompatible, and low-power.

- The implant consists of a biocompatible enclosure that contains chips and electronics, a battery that can be charged wirelessly, and threads that record neural signals from 1024 electrodes. The **implant is inserted by a surgical robot that can precisely position the threads in the brain.**
- The implant communicates with a Neuralink app that decodes the data stream into actions and intents.



What are the possible benefits of the technology?

- It can help people with unmet medical needs, such as paralysis, blindness, deafness, memory loss, and mental disorders, by restoring their autonomy and improving their quality of life.
- It can enhance human capabilities, such as learning, communication, and creativity, by enabling faster and more accurate access to information and skills.
- It can achieve symbiosis with artificial intelligence, which may be an existential threat to humanity if it goes unchecked. By merging with AI, humans can keep up with its progress and influence its direction.

What are the ethical and technical challenges it may face?

- Ensuring the safety, reliability, and accessibility of the implant, which involves invasive surgery, potential complications, and high costs.
- Protecting the privacy and security of the data, which may be vulnerable to hacking, manipulation, or misuse by third parties or malicious actors.
- Addressing the social and moral implications of enhancing human cognition, which may create new inequalities, conflicts, or dilemmas among individuals and groups.

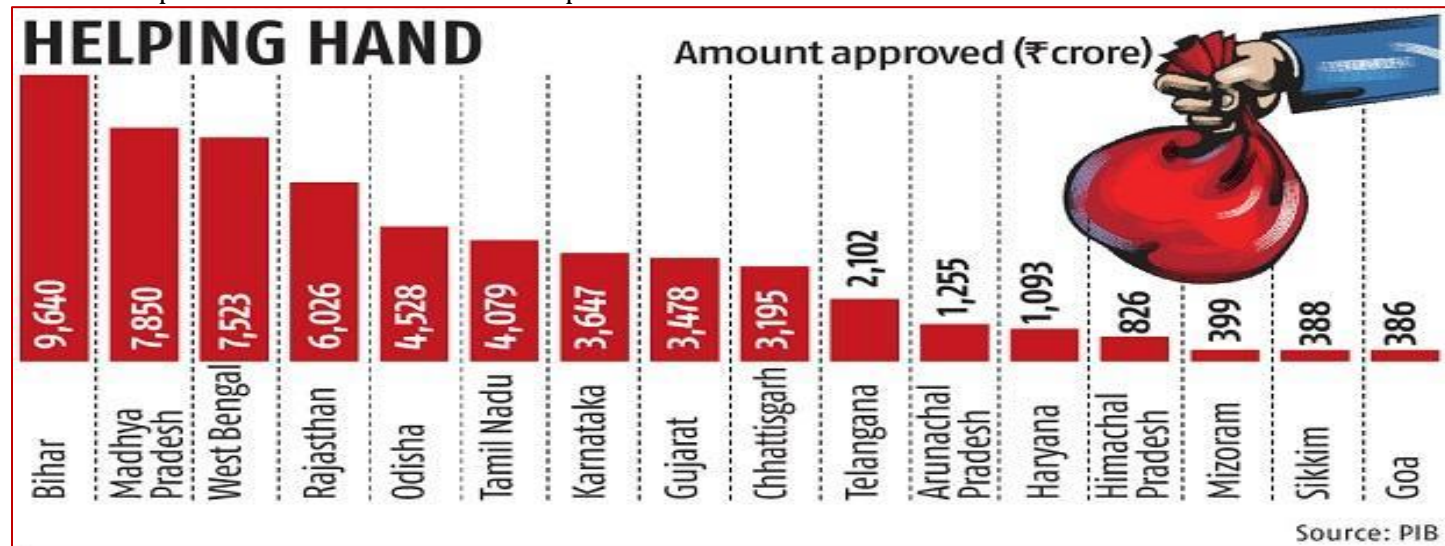
Conclusion

- Neuralink technology is one of the most ambitious and controversial projects in the field of neurotechnology. It has the potential to change lives for the better or worse, depending on how it is developed and used.

Source – BBC, Neuralink

Special Assistance to States for Capital Investment 2023-24

News: The Department of Expenditure under the Finance Ministry of India has approved capital investment proposals of Rs. 56,415 crore for 16 states in the current financial year 2023-24. These approvals have been given under the 'Special Assistance to States for Capital Investment 2023-24' Scheme.



What is the Special Assistance to States for Capital Investment 2023-24 scheme?

- “Special Assistance to States for Capital Investment 2023-24” was announced in the Union Budget 2023-24.
- It aims to provide a boost to capital spending by State Governments.
- Under the scheme, special assistance is being provided to the State Governments in the form of a **50-year interest-free loan** up to an overall sum of Rs. 1.3 lakh crore during the financial year 2023-24.

Key objectives of the Scheme:

- The scheme is expected to have a **higher multiplier effect on the economy** by stimulating demand and creating jobs.
- It aims to **enhance the pace of projects** in key sectors such as **Jal Jeevan Mission** and **Pradhan Mantri Gram Sadak Yojana** by providing funds for meeting the state share.
- The scheme also seeks to encourage states to undertake reforms in **urban planning** and **urban finance** to improve the quality of life and governance in cities.

What are the different parts of the scheme?

- The scheme has eight parts, **Part-I being the largest with allocation of Rs. 1 lakh crore**. This amount has been allocated amongst states in proportion to their share of central taxes and duties as per the award of the 15th Finance Commission.
- Part II - It aims at providing incentives to States for the scrapping of State Government vehicles and ambulances, waiver of liabilities on old vehicles, providing tax concessions to individuals for scrapping of old vehicles, and setting up of automated vehicle testing facilities.
- Part-III & IV - It aims at providing incentives to States for reforms in Urban Planning and Urban Finance.
- Part V - It aims at increasing the housing stock for the police personnel and their families within the police stations in urban areas.
- Part VI - It aims to promote national integration, carry forward the concept of “Make in India” and promote the concept of “One District, One Product (ODOP)” through the construction of Unity Mall in each State

- Part VII - It aims to provide financial assistance to States for setting up libraries with digital infrastructure at Panchayat and Ward level for children and adolescents.
- Part VIII - Incentives for implementing timely release of Centrally Sponsored Scheme funds by State Governments to vendors and beneficiaries.

Multilateral Development Banks

News: In his address to the US Congress, the Indian PM talked about the relevance of Multilateral Development Banks (MDBs) and the need to reform them.

What are MDBs?

- Multilateral development banks are international financial institutions that are established by two or more countries for the purpose of promoting economic and social development in poorer nations.
- They provide loans and grants to fund projects that support infrastructure, energy, education, environmental sustainability, and other areas that contribute to development.

Why are MDBs relevant?

- At the end of WWII, delegates from 44 countries met in Bretton Woods (US) to agree upon a series of new rules for international cooperation and reconstruction. This led to the creation of the IMF and World Bank Group (WBG) in 1944.
- World Bank Group (WBG) was responsible for providing **financial assistance** for the **post-war reconstruction** and **economic development** of the less developed countries.
- The WBG lends to low-and middle-income (LICs and MICs) countries, to the private sector and encourages private companies to invest in foreign countries.

What is the need to reform MDBs?

- The world has changed significantly since the establishment of the multilateral development banks, with new actors, issues, and opportunities emerging.
- These institutions are **no longer suited** in terms of the resources, cultural ethos and methods to address the emerging challenges. These relate to global public goods, climate change, inequality, fragility and pandemics.
- The multilateral development banks **face a gap between their available resources and their demand for financing**. They also face constraints in their operational efficiency, effectiveness, and innovation.
- The MDBs suffer from a **lack of representation, voice, and influence** of the **developing countries in their decision-making processes**. They also face challenges in ensuring transparency, accountability, and legitimacy of their actions and outcomes.

How can credible sources of finance be secured to meet growing challenges?

- The MDBs need to optimise their current balance sheets to create higher leverage from existing funds and to attract private capital.
- They need to fix annual targets and judge performances by the outcomes secured in this altered framework of accountability.
- De-risking approaches such as blended finance and guarantees aimed at tilting the balance do exist.
- Financial channels for capital mobilisation need to be strengthened.

Way Forward

- Broad and deep changes are required to significantly strengthen performance, such as first loss guarantees, realistic return targets and risk management. For India, reforming MDBs would mean advocating the voice of the Global South.
- Deeper integration with multiple stakeholders is crucial. If MDBs do not respond to these new challenges, they will become increasingly irrelevant and be substituted by other forms of cooperation.

Facts for Prelims

Chiral Bose Liquid state

News: Recent research has suggested that the chiral Bose-liquid state could be a completely new form of matter. Typically, matter exists in solid, liquid, or gas states. However, at extremely low temperatures or within the quantum realm, matter behaves differently.

What is Quantum states of matter?

- Quantum states of matter exhibit unique behaviours distinct from our familiar solid, liquid, and gaseous states.
- Frustrated quantum systems, in particular, involve the interactions of particles leading to infinite possibilities. In these systems, collisions can produce unexpected outcomes, such as levitating or defying traditional angles.

How is Chiral Bose liquid state formed?

- The chiral Bose-liquid state is formed by bringing two layers of a special material very close together at very low temperatures (close to absolute Zero). One layer has an abundance of electrons, while the other layer has “holes” where electrons can go.
- When these layers are brought together, a local imbalance is created, causing electrons to not have enough holes to fill. This imbalance triggers the formation of the chiral Bose-liquid state, which has unique properties and behaviours.
- This unique state allows electrons to freeze into predictable patterns, exhibit resilience to changes in spin (a characteristic of subatomic particles), and synchronize their movements.

Why it called chiral?

- The term “chiral” refers to a property in physics where an object or system cannot be superimposed onto its mirror image. In the context of the chiral Bose-liquid state, the term “chiral” is used because the electrons in the chiral Bose-liquid state move or behave differently compared to their mirror-image counterparts, leading to unique and asymmetric characteristics.
- The state could be useful for encryption technology in the future.

UTPRERAK

News: The Ministry of Power has set up UTPRERAK, a Centre of Excellence, dedicated to accelerating the adoption of clean technologies by industries.

What is UTPRERAK?

- UTPRERAK stands for **Unnat Takniki Pradarshan Kendra**.
- It is a Centre of Excellence to Accelerate Adoption of Energy Efficient Technologies.
- It has also been named as Advanced Industrial Technology Demonstration Centre (AITDC).
- It is set up by the **Bureau of Energy Efficiency (BEE)**, Ministry of Power.
- Location - Badarpur, New Delhi campus of the National Power Training Institute (NPTI), Ministry of Power.

Key role:

- To serve as a strategic capacity-building institution by providing intensive training to more than 10,000 energy professionals from the industry and other potential sectors over the next five years.
- To demonstrate and showcase energy-efficient technologies in key industry sectors.
- To provide key inputs for national energy policy formulation, link education and research in energy-efficient solutions and develop innovative applied solutions for energy efficiency.

Places in News

Democratic Republic of Congo

News: Recently, a report revealed that the Congo, the world's second-largest rainforest, lost half a million hectares of forest in 2022.

About:

- The DRC is a country in Central Africa with a 25-mile (40-km) **coastline on the Atlantic Ocean**. It is the second-largest country in Africa, after Algeria, and the 11th-largest in the world.
- Capital - Kinshasa
- The DRC is bordered by **nine other countries** - the Republic of the Congo, the Central African Republic, South Sudan, Uganda, Rwanda, Burundi, Tanzania, Zambia, and Angola. It also has a small exclave of Angola on its coast.
- The DRC has a diverse and rich natural environment, with the Congo River being the second longest and second largest river in Africa. It also has the second-largest rainforest in the world after the Amazon. It is home to many endangered species such as gorillas, elephants, okapis, bonobos, and rhinos.

Which are some of the influential tribes in DRC?

- The Luba people, The Mongo, The Kongo, The Mangbetu and The Zande.

Which are the important lakes found in DRC?

- Lake Kivu, Lake Tanganyika, Lake Mweru, Lake Mai-Ndombe, Lake Albert.

Which are important mountain ranges?

- The three mountain ranges - the **Mayumbe Mountains** in the west, the **Mitumba Mountains** in the east, and the **Ruwenzori Mountains** in the northeast.
- The Ruwenzori mountains are the highest in the country and have snow-capped peaks and glaciers.

