

FIELDS MEDAL

SYLLABUS: GS PAPER-III (SCIENTIFIC DISCOVERIES AND INVENTIONS)

CONTEXT: Ukrainian mathematician **Maryna Viazovska**, chair of Number Theory at **École Polytechnique fédérale de Lausanne (EPFL) in Switzerland**, was on Tuesday (July 5) named as one of four recipients of the 2022 Fields Medal, an honor that is often described the Nobel Prize in mathematics.

ABOUT FIELDS MEDAL

- The Fields Medal is awarded by the **International Mathematical Union (IMU)**, an international non-governmental and non-profit scientific organization that aims to promote international cooperation in mathematics.
- The Fields Medal is awarded every four years to one or more mathematicians under the age of 40 in recognition of “**outstanding mathematical achievement for existing work and for the promise of future achievement**”.
- The honor carries a physical medal of 14K gold, 63.5 mm in diameter and weighing 169 g, and with a unit price of approximately 5,500 Canadian dollars, according to the IMU website. There is also a cash award of CAD 15,000.
- The obverse of the medal is embossed with the head of Archimedes facing right, and the Latin words “Transire suum pectus mundoque potiri,” translated as “To pass beyond your understanding and make yourself master of the universe.”
- The reverse has the inscription “Congregati ex toto orbe mathematici ob scripta insignia tribuere,” or “The mathematicians having congregated from the entire world awarded (this medal) because of outstanding writings.”

WINNERS

- The IMU recognized Viazovska’s work on the sphere-packing problem in 8 and 24 dimensions.
- The other winners were French mathematician Hugo Duminil-Copin of the University of Geneva; Korean-American June Huh of Princeton; and Briton James Maynard of the University of Oxford.

CELEBRATION OF THE 100TH INTERNATIONAL DAY OF CO-OPERATIVES

SYLLABUS: GS PAPER-II (GOVERNANCE)

CONTEXT: On July 2, cooperatives all around the world will celebrate the 100th International Day of Cooperatives.

ABOUT INTERNATIONAL DAY OF COOPERATIVES

- International Co-operative Day has been celebrated on the first Saturday in July annually since 1923 by the International Co-operative Alliance.
- International Cooperative Day is a celebration of the cooperative movement.

- Since 1995 the United Nations' International Day of Co-operatives has been jointly celebrated alongside International Co-operative Day.
- 100th International Day of Cooperatives was celebrated on 02 July 2022.
- It is popularly known as #CoopsDay and the slogan for 2022 is “**Cooperatives Build a Better World**”.

ABOUT COOPERATIVES

- Co-operatives are associations and enterprises in which people come together and effectively improve their lives while contributing to the economic, social, cultural, and political advancement of their community and nation.
- Cooperatives are found in fields like health, agriculture, production, retail, finance, housing, employment, education, social services and many more.
- Co-operatives foster external equality, are community-based, and are committed to the sustainable development of their communities – environmentally, socially, and economically.

SIGNIFICANCE OF INTERNATIONAL DAY OF COOPERATIVES

- #CoopsDay is significant to spread the word about how a human-centered business model based on cooperative values of self-help and unity, as well as moral standards of socially responsibility, can reduce inequality and start creating shared prosperity.
- The main aim of the day is to popularize cooperatives and to advance the cooperative movement's principles of worldwide solidarity, economic efficiency, equality, and global peace.
- The event highlights the contributions of the cooperative movement to resolve the major problems addressed by the United Nations.
- It also strengthens and extends the partnerships between the international cooperative movement and other actors.
- Since for two years the world has been bearing the losses due to COVID-19, this year's theme was to react appropriately to the immediate effects of COVID-19.

PRELIMS FACTS

TIHAN (TECHNOLOGY INNOVATION HUB ON AUTONOMOUS NAVIGATION)

- TIHAN, India's first Autonomous Navigation Facility (for both aerial and ground vehicle testing), was inaugurated at **IIT Hyderabad**.
- TIHAN (by Ministry of Science & Technology) is a multidisciplinary initiative to make India a global player in **futuristic and next generation 'smart mobility' technology**.
- It will provide industries, research and development labs, and academia with a platform for research in autonomous navigation.
- TIHAN is one of the twenty-five technology innovation hubs under the National Mission on Interdisciplinary Cyber-Physical Systems.

RARE EARTH MINERALS (REM)

- India and Australia will strengthen cooperation in joint projects involving REMs (Rare Earths Metals) like lithium and cobalt.

- REMs, a set of 17 metallic elements, are more abundant than their name suggests but extracting, processing, and refining are tricky.
- In 2019, **China was responsible for 80% of REMs.**
- REMs are necessary components for more than 200 products across a wide range of applications, especially high-tech consumer products such as cellular telephones, electric and hybrid vehicles, and flat screen monitors and televisions.

LANCANG-MEKONG COOPERATION (LMC)

- Myanmar held its first multinational ministerial meeting of LMC countries since military takeover.
- LMC was formed in 2016 between the riparian states of Lancang/Mekong River to help ease tensions over development projects.
- Lancang is the Chinese name for the river Mekong.
- Originating in the **Tibetan plateau**, River Mekong flows through **China, Myanmar, Laos, Thailand, Cambodia, and Vietnam** before draining into the South-China Sea.

RUPEE DENOMINATED BONDS OR MASALA BONDS

- RBI has recommended that the government approach New Development Bank to sell rupee denominated bonds in overseas markets.
- It will help India tap foreign savings amid the government's record borrowing programme, raise funds at a cheaper rate as the bank is AAA-rated.
- Masala Bond is a term used to refer to a **financial instrument through which Indian entities can raise money from overseas markets in the rupee.**
- It is an attempt to shield issuers from currency risk and instead transfer the risk to investors buying these bonds.
- In 2015, RBI allowed Indian entities to issue rupee denominated bonds overseas.