WHAT ARE REGIONAL RURAL BANKS (RRBS)?

Union Finance Minister recently emphasised regional rural banks (RRBs) to upgrade their digital capability and increase penetration under Pradhan Mantri Mudra Yojana.

About Regional Rural Banks (RRBs):

- RRBs are **government-owned scheduled commercial banks** of India that operate at the **regional level** in different states of India.
- They serve the country's rural areas and provide them with basic banking and other financial-related services.
- **Origin:**
  - **The Narasimham Committee** on Rural Credit (1975) recommended the establishment of Regional Rural Banks (RRBs).
  - The establishment of RRBs finds its route in the ordinance passed on 26th September 1975 and the **RRB Act 1976.**
  - Prathama Grameen Bank was the first RRB bank and was established on 2nd October 1975.
- **Functions:**
  - To provide basic **banking facilities** to rural and semi-urban areas.
  - To effect some governmental functions, such as the disbursal of wages under the **MGNREGA policy.**
  - To provide other bank-related facilities such as locker facility, internet banking, mobile banking, debit and credit cards, etc.
  - **Grant credit facilities** to people in rural areas, such as small farmers, artisans, small entrepreneurs, etc.
  - To accept deposits from people.
- **Regulation**: Regional Rural Banks are regulated by RBI and supervised by the National Bank for Agriculture and Rural Development (NABARD).
- **Ownership:** RRBs are jointly owned by the Government of India (GOI), the Sponsor Bank and the concerned State Government with share proportions of 50%, 35% & 15%, respectively.

Key Facts Pradhan Mantri Mudra Yojana (PMJDY):

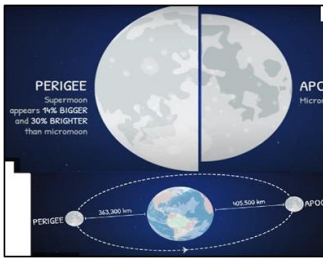
- It is a flagship **scheme of the Ministry of Finance, Government of India, launched on 8th April 2015.**
- It is a F**inancial Inclusion (FI) programme in the country** based on three pillars - Banking the Unbanked, Securing the Unsecured and Funding the Unfunded.
- **Types of loans:**
  - **Shishu** Covering l**oans up to Rs 50,000;**
  - **Kishor** Covering loans **above Rs 50,000 and up to Rs 5 lakh;**
  - **Tarun** Covering loans **above Rs 5 lakh and up to Rs 10 lakh.**

Eligibility:

- **Any Indian Citizen with a business plan for a non-farm sector income-generating activities** such as manufacturing, processing, trading or service sector.
- **They can avail** from all Public Sector Banks, Regional Rural Banks and Cooperative Banks, Private Sector Banks, Foreign Banks, Micro Finance Institutions (MFI) and Non-Banking Finance Companies (NBFC) **up to Rs 10 lakhs Micro Units Development & Refinance Agency Ltd. (MUDRA) loans under PMMY.**

SUPER BLUE MOON

Why in news?



- The Raksha Bandhan full moon on August 30-31 will be unusual: it will be both a “blue moon” and a “super moon.
  - Rakhi is celebrated on the Purnima of the month of Shravan.
- Hence, it will witness the occurrence of a "**Super Blue Moon**," an extraordinary convergence of three celestial phenomena.

What is a super moon?

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- The orbit of the moon around the earth is not circular; it is elliptical, that is, an elongated or stretched-out circle. It takes the moon 27.3 days to orbit the earth.
  - It is 29.5 days from **new moon to new moon**, though.
  - This is because while the moon is orbiting the earth, both the earth and the moon are also moving around the sun.
  - Hence, it takes additional time for the sun to light up the moon in the same way as it does at the beginning of every revolution around the earth.
  - The **new moon is the opposite of the full moon** — it is the darkest part of the moon's invisible phase, when its illuminated side is facing away from the earth.
- The point closest to earth in the moon's elliptical orbit is called perigee, and the point that is farthest is called apogee.
- A super moon happens when the **moon is passing through or is close to its perigee, and is also a full moon**. This happens with a new moon as well, just that it is not visible.
  - A full moon occurs when the moon is directly opposite the sun (as seen from earth), and therefore, has its entire day side lit up.
  - The full moon appears as a brilliant circle in the sky that rises around sunset and sets around sunrise.
  - According to NASA, a full moon at perigee (super moon) is about 14% bigger and 30% brighter than a full moon at apogee (called a "micro moon").

What is a blue moon?

- Blue moon describes the situation when a **full moon is seen twice in a single month**.
- Because the new moon to new moon cycle lasts 29.5 days, a time comes when the full moon occurs at the beginning of a month, and there are days left still for another full cycle to be completed.
  - Such a month, in which the full moon is seen on the 1st or 2nd, will have a second full moon on the 30th or 31st.
  - According to NASA, this happens every two or three years.

- It is important to note that the term Blue Moon has nothing to do with the actual colour of the moon.
- Moons can appear in various shades depending on atmospheric conditions, but a Blue Moon is not necessarily blue in colour.
  - Sometimes, smoke or dust in the air can scatter red wavelengths of light, as a result of which the moon may, in certain places, appear more blue than usual.
  - But this has nothing to do with the name "blue" moon.

How rare is a blue supermoon?

- According to NASA, the blue supermoons are a very rare phenomenon. It mentions that these moons often only appear once every ten years due to astronomical conditions.
- But occasionally, the interval between blue supermoons can be as long as twenty years.
- The following super blue moons will take place in pairs in 2037, in January and March.

INDUS WATER TREATY

Indus Water Treaty (IWT)

- IWT was **signed in 1960 between India and Pakistan and was brokered by the World Bank,** which too is a signatory to the treaty.
- The treaty **fixed the rights and obligations of both countries concerning the use of the waters of the Indus River system.**
- It gives control over the waters of the three 'eastern rivers' -the Beas, Ravi, and Sutlej - to India, while control over the waters of the three 'western rivers' -the Indus, Chenab, and Jhelum - to Pakistan.
- The treaty **allows India to use the western river waters for limited irrigation use and unlimited non-consumptive use for such applications as power generation, navigation, fish culture, etc.**
- It lays down detailed regulations for India in building projects over the western rivers.

A Background of Conflict over IWT

- **Indian Decision to Modify IWT**
  - In January, **India announced the desire to modify the 62-year-old IWT with Pakistan**, citing what it called Pakistan's unwillingness to find a solution to disputes over the Kishanganga and Ratle hydropower projects, both in J&K.
  - Two hydroelectric power projects, one on the Kishanganga river (a tributary of the Jhelum), and the other on the Chenab (Ratle), have been the subject of a prolonged controversy.
  - **India called for modifications to the treaty as per Article XII (3) of the IWT** which specify that provisions of the treaty may from time to time be modified for any specific purpose between the two Governments.
  - **The notice comes as a result of Pakistan's continuous inaction** in enforcing the IWT by repeatedly objecting to the development of hydroelectric projects on the Indian side.
- **Pakistan's Decision to Approach Arbitration Court**
  - Pakistan initiated arbitration at the PCA to address the interpretation and application of the IWT to certain design elements of two run-of-river hydroelectric projects.
  - Pakistan first raised its concerns over the Kishanganga project in 2006 and the Ratle project on the Chenab in 2012.**Pakistan contended that India's plan is not in line with the IWT.**
- **India's Objection to Arbitration**
  - **India protested Pakistan's "unilateral" decision** to approach a court of arbitration at The Hague in the Netherlands.
  - India raised objections as it views that the Court of Arbitration (CoA) is not competent to consider the questions put to it by Pakistan and that such questions should instead be decided through the neutral expert process.

Outcome of the Arbitration

- **India can Divert Water for Power Generation**
  - In 2013, the CoA delivered the final judgment, **ruling that the Kishanganga hydroelectric project is a run-of-river dam, and India under the IWT can divert water** from the river Kishanganga/Neelum for power generation.

- However, the court stated that **India has to maintain a minimum flow of water in the Kishanganga/Neelum river** to nine cusecs (cubic metre of water per second).

- **No Resolution Between India and Pakistan**
- After the Court of Arbitration (CoA)'s judgment, the two countries reached an amicable resolution on only one out of four issues that were expected to be resolved.
- Despite several rounds of talks between the Indus Water Commissioners, **Delhi and Islamabad could not resolve the other three matters relating to pondage and spillway configuration.**
- Consequently, Pakistan went to the World Bank accusing India of violating the IWT and the court's verdict.

CE-20 CRYOGENIC ENGINE

ISRO's Liquid Propulsion Research Centre (IPRC) in Mahendragiri has successfully tested the cryogenic rocket engine to be used in its 'Mission Gaganyaan'.

About CE-20 cryogenic engine:

- It has been designed and developed by **the Liquid Propulsion Systems Centre** (LPSC), a subsidiary of ISRO.
- It will power **the Cryogenic Upper Stage of the LVM3**launch vehicle.
- ISRO will use it for its 'Mission Gaganyaan' for sending man to space in 2024.
- It is the first Indian cryogenic engine to feature a gas-generator cycle.
- It is one of the most powerful **upper-stage cryogenic engines in the world**.
- This engine develops a nominal thrust of 186.36 kN in vacuum.

What is a Cryogenic stage?

- The cryogenic stage is technically a very complex system due to its use of propellants at **extremely low temperatures** and the associated thermal and structural problems.
- It uses liquid fuels (**Oxygen** liquifies at -183 deg C and **Hydrogen** at -253 deg C) **that are cooled to very low temperatures.**
- A Cryogenic rocket stage is more efficient and provides more thrust for every kilogram of propellant it burns compared to solid and earth-storable liquid propellant rocket stages.

LASER-INDUCED BREAKDOWN SPECTROSCOPY (LIBS)

The Laser-Induced Breakdown Spectroscopy (LIBS) instrument onboard Chandrayaan-3 Rover confirms the presence of Sulphur (S) on the lunar surface.

About Laser-Induced Breakdown Spectroscopy (LIBS):

- This instrument has made the first-ever in-situ measurements of the elemental composition of the lunar surface **near the South Pole.**
- **How does this work?**
  - It is a scientific technique that analyses the composition of materials by **exposing them to intense laser pulses.**
  - A high-energy laser pulse is focused onto the surface of a material, such as a rock or soil.
  - The laser pulse generates **extremely hot and localised plasma.**
  - The collected plasma light is **spectrally resolved and detected** by detectors such as Charge Coupled Devices.
  - Since each element emits a **characteristic set of wavelengths of light** when it's in a plasma state, the elemental composition of the material is determined.

Key findings: Preliminary analyses, graphically represented, have unveiled the presence of Aluminum (Al), Sulphur (S), Calcium (Ca), Iron (Fe), Chromium (Cr), and Titanium (Ti) on the lunar surface. Further measurements have revealed the presence of manganese (Mn), silicon (Si), and oxygen (O).

- The evidence of the presence of Sulphur **can reveal insights into the formation and evolution of the Moon.**
- Sulphur usually originates from volcanic activities, and its presence on the Moon can offer indications about the Moon's history and composition.
- LIBS payload is developed at **the Laboratory for Electro-Optics Systems** (LEOS)/ISRO, Bengaluru.

WHAT IS THE MILLENNIUM CHALLENGE CORPORATION (MCC)?

Aiming to enhance the road and power transmission capacity of Nepal, the multimillion-dollar Millennium Challenge Corporation (MCC) pact recently started its work formally.

About Millennium Challenge Corporation:

- MCC is an independent **S. foreign assistance agency** that has the goal of reducing poverty in developing countries.
- It was created by the **S. Congress in 2004** to promote economic growth, open markets, and increased living standards in select countries.

How does it work?

- MCC forms partnerships with countries that are committed to good governance, economic freedom and investing in their citizens.
- MCC provides selected countries with large-scale grants to fund projects for reducing poverty through sustainable economic growth.
- These projects include building infrastructure, reforming institutions, and promoting access to healthcare and education.
- MCC grants may complement other U.S. and international development programs.
- MCC utilises two primary types of grants: **compacts and threshold programs.**
- Compacts are large, 5-year grants for countries that pass MCC's eligibility criteria.
- Threshold Programs are smaller grants awarded to countries that come close to passing these criteria and are committed to improving their policy performance.
- Governing Body: The U.S. Secretary of State, the Secretary of the Treasury, the U.S. Trade Representative, and the USAID Administrator serve on the MCC board along with four private sector representatives.

MAHENDRAGIRI FRIGATE

The wife of the Vice President will launch India's latest warship, Mahendragiri, at the Mazagon Dock Shipbuilders Limited, Mumbai.

About Mahendragiri Frigate:

- It is the seventh and last stealth frigate of **Project 17A Frigates.**
- It is named after **a mountain peak in Eastern Ghats** located in Odisha.
- The ship is being built by the **Mazagon Dock Shipbuilders Limited** (MDL) in Mumbai.

What is Project 17A?

- The project was launched by the defence forces of India to construct a series of **stealth guided-missile frigates.**
- Under the Project 17A programme, four ships by Mumbai-based Mazagon Dock Shipbuilders Limited (MDL) and three by Garden Reach Shipbuilders and Engineers Limited (GRSE) are being built.
- These warships follow the Project 17 Class Frigates (Shivalik Class) and boast enhanced stealth features, advanced weapons, sensors, and platform management systems.
- Project 17A ships have been designed in-house by the Indian Navy's Warship Design Bureau WDB.
- As much as **75% of the orders for equipment and systems** of Project 17A ships are from indigenous firms, including MSMEs.
- The first six ships of the project have been launched so far by MDL & GRSE between 2019-2023.