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News @ a glance

POLITY

1) The partial rollback of AFSPA

Context

- The Ministry of Home Affairs has recently announced the **reduction of "disturbed areas" under the Armed Forces (Special Powers) Act in Assam, Manipur and Nagaland** with effect from April 1.
- The decision was based on the recommendations of a committee the Ministry had constituted in December 2021, to study the possibility of withdrawing the AFSPA from areas in Nagaland in the wake of public anger against a botched ambush by an elite unit of the Army that led to the killing of 13 civilians at Oting in Mon district on December 4.

How did the AFSPA come about?

- The British colonial government had on August 15, 1942, promulgated the Armed Forces Special Powers Ordinance to **suppress the Quit India movement.**
- It was the foundation for four ordinances, including one for the "Assam disturbed areas" invoked in 1947 to deal with Partition-induced internal security challenges. The **Armed Forces (Assam and Manipur) Special Powers Act, 1958**, followed the Assam Disturbed Areas Act of 1955 to deal with the uprising in the Naga Hills and adjoining areas. The Act was replaced by the AFSPA for wider application. A similar Act specific to **Jammu and Kashmir** was enacted in 1990.

How is the AFSPA imposed?

- Section 3 of the AFSPA **empowers the Governor of a State and the administrator of a Union Territory (UT) to declare an area "disturbed"**

and issue an official notification in The Gazette of India to give the Centre the authority to deploy the "armed forces in aid of the civil power".

- A government considers an area "disturbed" if it perceives a threat to "public peace and tranquility, by reason of differences or disputes between members of different religious, racial, language or regional groups or castes or communities."
- The Act is said to give **unbridled power to the armed forces and the Central Armed Police Forces deployed in "disturbed areas"** to kill anyone acting in contravention of the law, arrest and search any premises without a warrant and protection from prosecution and legal suits without the Central government's sanction.
- It says any commissioned officer, warrant officer, non-commissioned officer or any other person of equivalent rank in the armed forces can for the maintenance of public order "fire upon or otherwise use force" after giving such due warning as he may consider necessary.
- The situation is reviewed periodically for extension of the AFSPA. While the Assam and Manipur governments issue a notification in this regard, the Ministry of Home Affairs does it for Nagaland and Arunachal Pradesh, where it is applicable in Tirap, Changlang, Longding and areas falling under Namsai and Mahadevpur police stations bordering Assam.
- Once declared "disturbed", a region has to maintain the status quo for a **minimum of three months** according to The Disturbed Areas (Special Courts) Act, 1976.

How is the AFSPA viewed?

- The AFSPA has often been under the scanner for giving the armed forces personnel the **"license to kill".** Rights groups have panned it as a tool of State abuse, oppression and discrimination while the United Nations has often pointed out it has no place in Indian democracy.
- The trigger for the recent decision was the revival of the anti-AFSPA demand across the Northeast following the killing of 13 people in Nagaland's Oting village on December 4, 2021, in a botched ambush by the armed forces.
- In Assam, the AFSPA has been removed completely from 23 districts and partially from the Cachar district. The Act has been revoked from 15 police station areas in six districts of Manipur but continues in 82 police stations in 16 districts.
- In Nagaland, the AFSPA has been removed from areas under 15 police stations in seven districts but remains active in areas under 57 police stations in 13 districts.

2) Citizenship (Amendment) Act, 2019

How is citizenship acquired in India?

- In India, citizenship is regulated by the **Citizenship Act, 1955.**
- The Act specifies that citizenship may be acquired in India through **five methods** – by birth in India, by descent, through registration, by naturalisation (extended residence in India), and by incorporation of territory into India.

Can illegal migrants acquire citizenship?

- An illegal migrant is prohibited from acquiring Indian citizenship.
- An illegal migrant is a foreigner who: (i) enters the country without valid travel documents, like a passport and visa, or (ii) enters with valid documents, but stays beyond the permitted time period.
- Illegal migrants may be imprisoned or deported under the **Foreigners Act, 1946** and the **Passport (Entry into India) Act, 1920.**

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How does the 2019 Act seek to change the criteria for determining citizenship?

- The Citizenship (Amendment) Act 2019 makes it clear that immigrants belonging to **Hindu, Sikh, Christian, Buddhist, Jain and Parsi communities** from the Muslim-majority nations (**Pakistan, Bangladesh and Afghanistan**) will not be treated as illegal.
- They will also be eligible to get naturalised citizenship.
- One of the requirements for citizenship by **naturalization** under the 1955 Act is that the applicant must have resided in India during the last 12 months, and for 11 of the previous 14 years.
- The amendment act **relaxes this 11-year requirement to five years** for persons belonging to these six religions from these three countries.
- They will also no longer be deported or jailed under the Foreigners Act of 1946 and the Passport (Entry into India) Act of 1920.
- The cut-off date for citizenship is **December 31, 2014** which means the applicant should have entered India on or before that date.

Rationale of the Law

- The Statement of Objects and Reasons in the amendment Act (SoR) states that India has had historic migration of people from Afghanistan, Pakistan and Bangladesh, and these countries have a state religion, which has resulted in **religious persecution** of minority groups.

Are the provisions of the Act applicable across the country?

- The Act clarifies that the amendments will not apply to certain areas. These are:
  - the tribal areas of Assam, Meghalaya, Mizoram, and Tripura, as included in the **Sixth Schedule to the Constitution.** These tribal areas include Karbi Anglong (in Assam), Garo Hills (in Meghalaya), Chakma District (in Mizoram), and Tripura Tribal Areas District.

o the **states regulated by the "Inner Line" permit** under the Bengal Eastern Frontier Regulation 1873.

How does the Act change the regulations for Overseas Citizens of India?

- The Act also amends the provisions on registration of Overseas Citizens of India (OCI).
- OCI cardholders are foreigners who are persons of Indian origin.
- The government may cancel a person's OCI registration on various grounds specified in the 1955 Act.
- The 2019 amendment **adds another ground for cancelling OCI registration** — violation of any law notified by the central government.

Why in News?

- The Ministry of Home Affairs (MHA) has asked the parliamentary committee for more time to frame the rules of the Citizenship (Amendment) Act, 2019 (CAA), on the grounds that consultation process is on.
- Besides the consultation process, MHA said that the construction of the rules had been delayed due to the COVID-19 pandemic. Without the rules being framed, the Act cannot be implemented.
- The tribal areas of Assam, Meghalaya, Mizoram or Tripura as included in the Sixth Schedule to the Constitution and States of Arunachal Pradesh, Mizoram, Nagaland and Manipur are exempted from CAA.

Related Information
Inner Line Permit

- The Inner Line Permit (ILP) is an official travel document that allows Indian citizens to stay in an area under the ILP system.
- The document is currently required by visitors to **Arunachal Pradesh, Manipur, Nagaland and Mizoram.**
- The ILP is issued by the **concerned state government**. The permits issued are mostly of different kinds, provided separately for tourists, tenants and for other purposes.
- The main objective of the ILP system is to prevent settlement of other Indian nationals in the notified states in order to **protect the indigenous population.** It also offers protection for the locals with regards to lands, jobs and other facilities.

History of ILP

- Under the **Bengal Eastern Frontier Regulation Act, 1873**, the British framed regulations restricting the entry and regulating the stay of outsiders in designated areas.
- This was to protect the Crown's own commercial interests by preventing "British subjects" (Indians) from trading within these regions.
- In 1950, the Indian government replaced "British subjects" with "Citizen of India". This was to address local concerns about protecting the interests of the indigenous people from outsiders belonging to other Indian states.

ENVIRONMENT

1) The key takeaways of a UNEP Report on Noise Pollution

What's the news?

- A report commissioned by the **United Nations Environment Programme** on the environmental challenges posed by noise, wildfires and the disruption of biological rhythms of plants, animals and ecological cycles **became controversial on account of the mention of a single city, Moradabad.**

What is the Controversy?

- The report called **Frontiers 2022: Noise, Blazes and Mismatches** which compiles studies about noise levels in several cities around the world and illustrates a subset of 61 cities and the range of dB (decibel) levels has shown **Moradabad in Uttar Pradesh as having a dB range from 29 to 114.** At a maximum value of 114, it was the **second-most-noisiest city** in the list, which appeared strange because similar **studies in the past had never suggested it to be an unusually noisy city.**

- While road traffic, industry and high population density are well-known factors associated with high dB levels, there was **no mention of the city in any of the scientific reports** listed out in the bibliography of sources.

Why are measurements of Noise important?

- The latest 2018 World Health Organization (WHO) guidelines established a health-protective recommendation for **road traffic noise levels of 53 dB.**

- The Frontiers report compiled a host of evidence, including the adverse effects of noise on public health, which range from **mild and temporary distress to severe and chronic physical impairment.**

- Estimates suggest that in Europe 22 million and 6.5 million people suffer from **chronic noise annoyance and sleep disturbance**, respectively. The **elderly, pregnant women and shift workers** are among those at risk of noise-induced sleep disturbance.

- **Eg:** Long-term exposure to environmental noise contributes to **48,000 new cases of ischemic heart disease and causes 12,000 premature deaths** annually in Europe.

- **Traffic noise** exposure is a risk factor for the development of **cardiovascular and metabolic disorders** such as elevated blood pressure, arterial hypertension, coronary heart disease and diabetes.

- **Eg:** The 15-year-long studies of long-term residents of Toronto, Canada found that exposure to road traffic noise elevated risks of acute myocardial infarction and congestive heart failure, and increased the incidence of **Type 2 diabetes by 8%, and hypertension by 2%.**

What is India doing about Noise Pollution?

- In India, the **Central Pollution Control Board (CPCB) is mandated to track noise levels**, set standards as well as ensure, via their State units, that sources of excessive noise are controlled.

- The agency has a **manual monitoring system** where sensors are installed in major cities and few cities have the facility to track noise levels in real time.

2) WHO says 99% of World's Population breathes Poor-quality Air

What's the news?

- The World Health Organization (WHO), about six months after tightening its guidelines on air quality, issued an **update to its database on air quality** that draws on information from a growing number of cities, towns and villages across the globe,

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now totalling over **6,000 municipalities.**

- The database, which has traditionally considered two types of particulate matter known as **PM2.5 and PM10**, for the **first time has included ground measurements of nitrogen dioxide**. The last version of the database was issued in 2018.

Key Points

- The UN health agency says nearly everybody in the world breathes air that **doesn't meet its standards for air quality**, calling for more action to **reduce use of fossil-fuel**, which generates pollutants that cause respiratory- and blood-flow problems and lead to millions of preventable deaths each year.
- Around **99% of the global population breathes air that exceeds its air-quality limits** and is often rife with particles that can penetrate deep into the lungs, enter the veins and arteries and cause disease.
- Air quality is **poorest in WHO's Eastern Mediterranean and Southeast Asia regions, followed by Africa.**

Major effects of Pollutants

- Nitrogen dioxide originates mainly from **human-generated burning of fuel**, such as through automobile traffic, and is most common in urban areas. Exposure can bring **respiratory disease** such as asthma and symptoms such as coughing, wheezing and difficulty in breathing, and more hospital and emergency-room admissions.
- The highest concentrations were found in the **eastern Mediterranean region.**
- **Particulate matter** has many sources, such as transportation, power plants, agriculture, the burning of waste and industry – as well as from natural sources such as desert dust.
- The database showed that the **developing world is particularly hard hit**. Eg: India had high levels of PM10, while China showed high levels of PM2.5.

- The Council on Energy, Environment and Water, a New Delhi-based think tank, found in a study that more than **60% of India's PM2.5 loads are from households and industries.**

What needs to be done?

- The Center for Science and Environment emphasized that **India and the world need to brace for major changes** to try to curb air pollution through adopting **Electric vehicles, shift away from fossil fuels; a massive scaling-up of green energy; and households separating their types of waste.**
- An **action plan for reducing emissions** from industries, automobiles, biomass burning and domestic energy needs to be framed.
- **Prioritizing clean energy access for households** is the need of the hour.

3) Energy sector needs a major Revamp: IPCC

What's the news?

- A consortium of scientists part of the Intergovernmental Panel on Climate Change (IPCC) suggested that "limiting global warming will require **major transitions in the energy sector** and this will mean drastically **reducing fossil fuel use, widespread electrification, improved energy efficiency, and the use of alternative fuels**".

Key Highlights

- With particular relevance to India, the panel finds that **all coal-fired power plants, without the technology to capture and store carbon (CCS), need to be shuttered by 2050** if the world aspires to limit global temperature rise to 1.5c.
- According to the Central Electricity Authority, India has about 211 GW of operational coal-fired power plants accounting roughly 10% of global capacity. As per Global Energy Monitor data, another 31 GW was being constructed and about 24 GW in various pre-construction phases.
- The main concern is that **none of the existing under construction coal-**

fired power plants in India have CCS facilities.
- The scientists also emphasized that limiting warming to around 1.5°C requires global greenhouse gas emissions to peak before 2025 at the latest and be reduced by **43% by 2030**; at the same time, **methane would also need to be reduced by about a third.**
- Failure to arrest the planet's warming to 1.5 degrees Celsius is likely to cause irretrievable damage to our ecosystems, which in turn could disproportionately **devastate the economies and vulnerable communities in the Global South.**

Way Forward
- The latest IPCC report is a stark reminder to all **developed countries to significantly bring forward their transition to a net-zero economy.** This would leave additional carbon space for countries like India to meet their development priorities on the path to achieving their net-zero target.
- To accelerate the low-carbon transition, **developed countries should ensure higher flows of finance and technology transfer** in critical areas such as renewables, electric vehicles, green hydrogen, and others.
- Thus, having the **right policies, infrastructure and technology in place** to enable changes to our lifestyles and behavior can result in a **70% reduction in greenhouse gas emissions by 2050** which offers significant untapped potential.

4) Key infra in Mumbai and other Coastal Cities may submerge by 2050

What's the news?
- A new analysis by **RMSI, a global risk management firm on impact of sea level rise on coastal Indian cities** has revealed that some critical properties and road networks in Mumbai, Kochi, Mangalore, Chennai,Vishakhapatnam, and Thiruvananthapuram will be submerged by 2050.

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- RMSI considered findings from the Intergovernmental Panel on Climate Change's sixth assessment report 'Climate Change 2021: The Physical Science Basis' released in August last year; various publications based on the IPCC report , the latest climate change data, and its own models to find out possible impact on the Indian coastline.

Key Findings
- Six coastal cities of India , **Mumbai, Chennai, Kochi, Vizag, Mangalore, and Thiruvananthapuram** were considered for this analysis.
- The analysis has found that Haji Ali dargah, JawaharLal Nehru Port Trust, Western Express Highway, Bandra-Worli Sea-link,and Queen's Necklace on Marine drive, all in Mumbai , are at **risk of submergence.**
- IPCC has projected that the **sea level around India will rise significantly by 2050.** The moderate emissions (RCP 4.5) scenario of IPCC projects that steric sea level (variation in the ocean volume due to density changes) of the north Indian Ocean will rise by approximately 300 mm (a foot) relative to the average values from 1986 to 2005.
- The analysis pointed out that sea-level rise is not the only factor that can inundate coastal cities as at **1°C global change,** coastal regions are already facing the brunt of climate change with increasing **intense cyclones, storm surges, and heavy rainfall events that lead to coastal flooding.**
- The **cyclones on the west coast have increased by 52%** over the last four decades, extreme rains causing floods have seen a threefold rise since the 1950s. **By 2050, the global temperature change will be close to 2°C**, and these cyclones and heavy rains are projected to intensify further, putting the coastal cities in danger.
- The **accelerated sea-level rise can compound coastal flooding** due to such events, raising the water level and resulting in floods that cover larger areas for longer times.

- The **impact of sea level rise will be different in different parts** for which early knowledge of how coastal cities are going to be impacted, some interventions can be made , including **land reclamation; increasing the height of roads and strengthening buildings against corrosion or relocating them.**
- Hence, there is a need to urgently **monitor and study the compound events** (where multiple extremes overlap) so that we can prepare early warning systems for efficient disaster management.
- According to IPCC, the amount of greenhouse gases like **CO2 emitted by the world needs to peak by 2025 followed by a 43% reduction in the 10 years** after in order to limit global warming to 1.5 degree C by the year 2100.

5) Bengal Coast faces most Erosion

What's the news?

- The Ministry of Earth Sciences, in a response to a question informed Lok Sabha that of the **6,907.18 km(1990-2018) long Indian coastline of the mainland, about 34% is under varying degrees of erosion, while 26% is of the coastline is of an accreting nature, and the remaining 40% is in a stable state.**

News in detail

- The **National Centre for Coastal Research (NCCR), Chennai**, an attached office of the Ministry of Earth Sciences (MoES) has been **monitoring shoreline erosion since 1990** using remote sensing data and GIS mapping techniques.
- It states that in terms of percentage, **West Bengal, located on the eastern coast of the country, with a 534.35 km-long coastline, suffered erosion along about 60.5% of the coast** (323.07 km) over the period from 1990 to 2018 followed by **Kerala on the west coast, which has 592.96 km of coastline and 46.4% of it (275.33 km) faced erosion.**

- Tamil Nadu, with a long coastline of 991.47 km, recorded erosion along 42.7% of it (422.94 km) while Gujarat, with the longest coastline of 1,945.60 km, recorded erosion along 27.06% (537.5 km) of it.
- In the Union Territory of Puducherry, with a 41.66 km-long coastline, about 56.2% of its coast (23.42 km) recorded erosion.
- The Ministry informed that another organization under the MoES, the **Indian National Centre for Ocean Information Services (INCOIS)**, has prepared and published an atlas of **Coastal Vulnerability Index (CVI) maps for the entire coastline of India** at a 1:100000 scale using data on sea level rise, coastal slope, shoreline change rate, coastal elevation, coastal geomorphology, tidal range and significant wave height.

Policy on Displacement of people from Low-lying Coastal areas

- The MoES stated that the **15th Finance Commission** had recommended the creation of a **National Disaster Risk Management Fund (NDRMF) and State Disaster Risk Management Fund (SDRMF) comprising a Mitigation Fund at the National and State-levels (NDMF/SDMF), and a Response Fund at the National and State level (NDRF/SDRF)** for the award period from 2021-22 to 2022-26.
- The Commission has also made specific recommendations for 'Mitigation Measures to Prevent Erosion' under NDMF and 'Resettlement of Displaced People Affected by Erosion' under NDRF.
- The MoES further added that the 15th Finance Commission had suggested, "**The National Disaster Management Authority (NDMA) and/or Ministry of Home Affairs** "may develop **suitable norms for mitigation measures** to prevent erosion and both the Union and the State Governments develop a policy to deal with the extensive displacement of people caused by coastal and river erosion.

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ECONOMY

1) Purchasing Managers' Index

What is PMI?

- Purchasing Managers' Index is an economic indicator which indicates the business activity & economic health of both the **manufacturing and service sectors.**
- PMI of India is published by Japanese firm **Nikkei** but compiled and constructed by **IHS Markit**, a London–based global information provider.
- PMI is an **investor sentiment tracking index** and is more dynamic in nature. They are derived from monthly surveys of about 400 private companies.
- Variables used for calculating the PMI are: Output, New Orders, Employment, Input Costs, Output Prices, Backlogs of Work, Export Orders, Quantity of Purchases, Suppliers' Delivery Times, Stocks of Purchases and Stocks of Finished Goods.
- PMI, which is usually released at the **start of the month**, serves as a leading indicator of economic activity. It comes before the official data on industrial output, core sector manufacturing and GDP growth.

How to read PMI?

- While PMI >50 implies an expansion of business and economic activity, PMI <50 means contraction.

Why in News?

- Purchasing Managers' Index (PMI) for Manufacturing dropped to a six-month low last month. According to the latest data, the index dropped to **54.0 in March** from 54.9 in February.

2) The India-Australia trade agreement

Context

- India and Australia have signed an **Economic Cooperation and Trade Agreement (ECTA).** The landmark bilateral trade pact is the **second trade agreement** India has signed this year after inking a similar deal with the **United Arab Emirates** in February.
- The ECTA is expected to **increase trade between the two sides to $45-50 billion** over five years, from the current estimate of $27 billion, and create over **10 lakh additional job opportunities.**
- Under this agreement, **India will give 85% of Australia's exports zero-duty access** to its domestic market. India is expected to get **zero-duty access to Australia for its goods over five years.**
- The negotiations had begun over a decade ago in 2011, but were restarted in September 2021.

What are the main features?

- The ECTA is guided by a **Preamble** and is divided into **multiple sections** that will govern what is hoped to be the **most expansive bilateral trade** since the two countries established diplomatic ties before India attained independence.
- It has a section on goods exports, and lays out clearly **"Rules of Origin"** that are aimed at creating anti-dumping measures. There are also sections that are aimed at providing **remedies and mechanisms for resolving trade disputes.**
- The Commerce Ministry underlined that this is the **first trade deal signed by India that has a compulsory review mechanism after 15 years of implementation.**

Will Australia get access to India's agriculture market?

- Under this agreement, Australia will get the **opportunity to export certain varieties of agricultural produce** like potatoes, lentils, and meat products with some caveats. However, **bovine meat** is not part of the agreement. Australia may also send **machineries that are required for food processing** under this agreement.

- In a historic first, **India may open up to a wide-range of alcoholic and non-alcoholic drinks** including Australian beer. Australian wines costing over $5 may face lower import duties in the Indian market.
- The Indian side said **Australia will provide 'preferential access' to all the labour-intensive sectors of export items from India** such as gems and jewellery, textiles, leather, footwear, furniture, food, engineering products, medical devices and automobiles.
- India will also allow Australia to export raw materials under preferential terms like coal and mineral ores.

What does it say about the services sector?

- The Government of India has said that Australia has offered wide ranging commitments in around 135 sub-sectors and **Most Favoured Nation** in 120 sub-sectors which cover key areas of the Indian services sector like IT, ITES, business services, health, education and audio-visual services.
- Indian chefs and yoga teachers will get **specific entry quotas into Australia**, while Indian students in Australia will be able to secure **work visas** for periods ranging from 18 months to four years on a 'reciprocal' basis.

What about the pharmaceuticals sector?

- India and Australia have agreed to enable **fast track approval for patented, generic and biosimilar medicines.**
- Therapeutic Goods Regulators of both sides will have a role to play in monitoring and ensuring smooth trade in pharma products between the two sides.
- Both sides have agreed to audits of imports that require sanitary and phytosanitary inspection as per the law of the land. The importing side will ensure that plants and plant products, animal products and other goods, and their packaging are inspected through recognised methodologies. If either party finds examples of non-compliance, remedial measures will be taken by both sides.

What is the dispute settlement mechanism in place?

- Under Article 13.5, both parties have agreed to hold consultations — and make every effort to find a solution — in case of disputes that may emerge in the course of trade in goods or services.
- They have also recognised that in case they have to resort to international arbitration, they may opt for an organisation (i.e, World Trade Organization) where both are members. They may also use "good offices" and form panels with qualified members drawn from government and business to resolve the disputes.
- The **dispute resolution may range from 45 days to 15 months.**

What are the rules of origin included in the agreement?

- The rules of origin are based on the principle that they should be **wholly obtained or produced in the territory of one or both of the parties.** This section ensures that waste material will not be exported by either side unless they contribute to the production of any of the items listed in the ECTA.

3) RBI raises inflation estimate

About MPC

- The Monetary Policy Committee (MPC) is a committee of the RBI which is entrusted with the task of fixing the benchmark policy interest rate (repo rate) to **contain inflation within the specified target level.**
- The 2016 amendment of the Reserve Bank of India Act, 1934 provides for a statutory and institutionalised framework for the MPC.
- The MPC has **six members**
  - **RBI Governor (Chairperson)**, RBI Deputy Governor in charge of monetary policy, one official nominated by the RBI Board and remaining 3 members would represent the Government.
- The MPC makes decisions based on **majority vote**. In case of a tie, the **RBI**

governor will have a second or casting vote.

Why in News?

- The Reserve Bank of India's Monetary Policy Committee has raised its estimate for inflation in FY23 to 5.7%, from the 4.5% forecast in February before Russia invaded Ukraine, and stressed that it would now focus on the **withdrawal of accommodation stance** to ensure that inflation remains within the target going forward.
- The central bank had shifted from a **'neutral' to an 'accommodative' stance** in the middle of 2019.
- The MPC, based on an assessment of the macroeconomic situation and the outlook, voted unanimously to **keep the policy repo rate unchanged at 4%.**

Related Information
Repo Rate & Reverse Repo Rate

- Repo rate is the rate of interest which is applied by RBI to commercial banks when the latter borrows from RBI. Reverse Repo rate is the rate at which RBI borrows money from commercial banks by lending securities.
- Both the Repo rate and Reverse Repo rate are used to **control inflation and money supply in the economy.**
- In the event of rising inflation, the RBI increases the repo rate which will act as a disincentive for banks to borrow from the central bank.
- This ultimately reduces the money supply in the economy and thus helps in arresting inflation. Similarly, if it wants to make it cheaper for banks to borrow money, it reduces the repo rate.

Monetary policy stance

- The Central Banks use different terms to indicate its monetary policy stance on deciding policy rates like repo rate.
- **"Accommodative"** indicates that the central bank is telling the market to expect a rate cut anytime, **"neutral"** means that RBI could either increase or reduce repo rates as per liquidity conditions, **"calibrated tightening"** means that a cut in the repo rate is unlikely in the current rate cycle.

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4) Standing Deposit Facility
What's in the news?

- The RBI has introduced the Standing Deposit Facility (SDF), an **additional tool for absorbing liquidity, at an interest rate of 3.75 per cent.**

Role of SDF

- The main purpose of SDF is to **reduce the excess liquidity of Rs 8.5 lakh crore in the system, and control inflation.**
- In **2018**, the **amended Section 17 of the RBI Act** empowered the Reserve Bank to introduce the SDF – an additional tool for **absorbing liquidity without any collateral.** By removing the binding collateral constraint on the RBI, the SDF strengthens the operating framework of monetary policy. The SDF is also a **financial stability tool in addition to its role in liquidity management.**
- Through this new tool the central bank can absorb excess liquidity from the commercial banks, which is currently hovering at about Rs 8.5 lakh crore, **without an exchange of collateral like government-backed securities (G-Secs).**
- Interest rate for SDF has been fixed at **3.75 per cent, 40 basis points higher than reverse repo rate**. It is a win-win for both the central bank and commercial banks, as it will be more attractive for the commercial banks to pump that liquidity back to the central bank due to higher returns, while for the central bank it would not need to offer any security to the commercial bank.
- The **SDF will replace the fixed rate reverse repo (FRRR)** as the floor of the liquidity adjustment facility corridor. Both the standing facilities — the **MSF (marginal standing facility) and the SDF** will be available on all days of the week, throughout the year.

How it will operate

- The SDF rate will be **25 bps below the policy rate (Repo rate),** and it will be applicable to **overnight deposits** at this stage. It would, however, retain the flexibility to absorb liquidity of

longer tenors as and when the need arises, with appropriate pricing.

- The RBI's plan is to restore the size of the liquidity surplus in the system to a level consistent with the prevailing stance of monetary policy.

Reverse repo rate

- The fixed rate reverse repo (FRRR) rate which is retained at 3.35 per cent will remain part of the RBI's toolkit, and its operation will be at the discretion of the RBI for purposes specified from time to time. The FRRR along with the SDF will impart flexibility to the RBI's liquidity management framework.

Question of liquidity

- The "extraordinary" liquidity measures undertaken in the wake of the pandemic, combined with the liquidity injected through various other operations of the RBI, have left a liquidity overhang of the order of Rs 8.5 lakh crore in the system.
- This has pushed up the retail inflation level in the system.

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INTERNATIONAL RELATIONS

1) UNHRC
About UNHRC

- The Human Rights Council is an **inter-governmental body within the United Nations system.**
- The Council's mandate is to promote "universal respect for the protection of all human rights and fundamental freedoms for all" and "address situations of violations of human rights, including gross and systematic violations, and make recommendations thereon."
- It has the ability to discuss all thematic human rights issues and situations that require its attention throughout the year.
- The Council was created by the **United Nations General Assembly** in **2006**. It replaced the former United Nations Commission on Human Rights.
- The headquarters of UNHRC is in **Geneva, Switzerland.**

Membership

- The Council is made of **47 Member States**, which are elected by the majority of members of the General Assembly of the United Nations through **direct and secret ballot**.
- The Council's Membership is based on **equitable geographical distribution**.
- Members of the Council serve for a period of **three years** and are **not eligible for immediate re-election after serving two consecutive terms.**

Why in News?

- Russia has been suspended from the UN Human Rights Council after the 193-member General Assembly voted to adopt a resolution moved by the United States over allegations that Russian troops killed civilians while pulling back from towns around the Ukrainian capital of Kyiv.
- The resolution titled 'Suspension of the rights of membership of the Russian Federation in the Human Rights Council' was adopted with 93 votes in favour, 24 against and 58 abstentions, including India.
- With this, Russia became the second country to have its membership rights stripped at the rights council, which was established in 2006. In 2011, **Libya** was suspended by the assembly when upheaval in the North African country brought down longtime leader Moammar Gadhafi.
- The Human Rights Council consists of 47 Member States, elected directly and individually by secret ballot by the majority of the UNGA members. The **General Assembly, with its two-thirds majority of the members present and voting,** may suspend the rights of membership in the Council of a member of the Council that commits gross and systematic violations of human rights. **Abstentions do not count.**
- Russia's current membership on the Council expires in December 2023.

2) Asian Development Bank
About ADB

- The Asian Development Bank (ADB) was founded in 1966 with the primary mission of fostering growth and cooperation among countries in the Asia-Pacific Region.
- It is headquartered in **Manila**, Philippines.
- At present, ADB comprises 68 members (including **India**)- of which 49 are from within Asia and the Pacific and 19 outside.
- The ADB was **modeled closely on the World Bank**, and has a similar weighted voting system where votes are distributed in proportion with members' capital subscriptions.
- The two largest shareholders of the ADB are the **US and Japan.**
- ADB is an official United Nations Observer.

Why in News?

- The Asian Development Bank, in its **Asian Development Outlook report,** forecasts India's GDP growth to moderate to 7.5% in 2022-23 from an estimated 8.9% in 2021-22, but will pick up to reach 8% in 2023-2024.
- The ADB has factored in the Russia-Ukraine conflict's implications for India, which will be largely indirect through higher oil prices, and has assumed that the severity of the COVID-19 pandemic will subside with a rise in vaccination rates.

- Although oil prices will exert upward pressure on the inflation front, the impact on inflation would be moderated by fuel subsidies and oil refineries stocking up on cheap crude from the Russian Federation, the ADB noted, predicting an average inflation rate of 5.8% in 2022-23, and 5% in 2023-24.

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SCIENCE AND TECHNOLOGY

1) XE recombinant

What's in News:

- The World Health Organization (WHO) has flagged the emergence of a **new variant of the SARS-CoV-2 virus, the XE recombinant.**

What is a recombinant?

- A **recombinant variant occurs** when an **individual becomes infected with two or more variants at the same time**, leading to a **mixing of genetic material** in the human body.

2) Evolution at Shorter timescales

What's in News:

- The results of a study to **understand the pace of evolution,** titled — "direct observation of adaptive tracking on ecological timescales — in Drosophila" was published in the journal Science.
- **Taking fruit flies (Drosophila melanogaster) as the sample,** scientists began a large-scale controlled field experiment
- The study has vastly changed the understanding of evolution and questioned the old notion of evolution being a slow process occurring over a longer period of time. The **change is actually happening faste**r than scientists thought and that **not all evolution happens due to habitat destruction, invasion or pollution**.
- The **study establishes** that **evolutionary changes happen quickly** and researchers can track these in real time — within a single seasonal turn in a year.

Methodology

- Researchers **measured phenotypic and genomic evolution** in response to **natural seasonal change.**
- In response to environmental changes, the direction of phenotypic and genetic alterations altered throughout time.
- This research underlines the significance of gathering data with a high temporal resolution in order to observe the impacts of fluctuating selection.

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Related Information

- A **phenotype** is a **set of traits or characteristics** that may be seen in an **organism**, such as **height, eye colour, or blood type**. The **genotype** is the **genetic contribution to the phenotype**(The **genotype** is the **genetic material that is passed down across generations**.) The **whole hereditary information** of an **organism** is called a "**genotype**." The **observable qualities of an organism**, such as **morphology**, development, or **behaviour**, **are referred to as "phenotype."** This distinction is critical in the study of trait inheritance and evolution.
- **Drosophila**, frequently known as **fruit flies** or vinegar, wine, pomace or flies- is one of the most **widely-used and preferred model organisms** in biological research. 75 percent of the genes that cause disease in humans are also found in the fruit fly. It is used by scientists for experimental studies because of the **short & simple life cycle, easy to culture, single reproduction** produces large number of progeny, the genome can be mutated easily.

3) Near Field Communication (NFC)

Why in News:

- Google Pay has recently launched a new feature in India, 'Tap to pay for UPI'. The feature makes use of **Near Field Communication (NFC) technology.**
- The functionality will **allow users with NFC-enabled Android smartphones** and UPI accounts linked to Google Pay to **carry out transactions** just by **tapping their phones** on **point-of-sale (POS) terminals.**. Till now, Tap to Pay was only available for cards.

What is NFC?

- **NFC** is a **short-range wireless connectivity** technology that allows **NFC**-enabled devices to **communicate with each other** and **transfer information quickly** and easily with a **single touch** — whether to pay bills, exchange business cards, download coupons, or share a document.
- NFC **transmits data through electromagnetic radio fields**, to enable communication between two devices.
- **Both devices must contain NFC chips**, as **transactions take** place **within a very short distance**.
- **NFC-enabled** devices **must be either physically touching or within a few centimetres** from each other for data transfer to occur.
- The **process** is **much faster compared to scanning a QR code** or **entering the UPI-linked** mobile number which has been the conventional way till now.

What are the other applications of NFC technology?

- It is **used in contactless banking cards** to perform money transactions or to generate **contact-less tickets** for public transport. Contactless cards and readers use NFC in several applications from **securing networks** and buildings to monitoring inventory and sales, preventing auto theft, keeping tabs on library books, and running unmanned toll booths.
- NFC is behind the cards that we wave over **card readers in subway turnstiles** and on **buses to check tickets.** It is present in speakers, household appliances, and othe**r electronic devices** that we monitor and control through our smartphones.
- With just a touch, **NFC can also set up WiFi and Bluetooth device**s in our homes.
- It also has an **application in healthcare,** to monitor patient stats through **NFC-enabled wristbands.**
- NFC is used in **wireless charging** too.

Advantages

- **NFC** technology is designed for an **operation between devices within a few centimetres** from each other. This

makes it difficult for attackers to **record the communication** between the devices compared to other wireless technologies which have a working distance of several metres.
- The **security level** of the NFC **communication is by default higher** compared to other wireless communication protocols.
- **Peer to Peer communication** which is a mechanism **to cipher all exchanged data** to avoid **external interpretation is possible.**

Other wireless tech

- The **IrDa technology is a short range** (a few metres) connection based on the **exchange of data over infrared light** where the two communication devices must be positioned within a line of sight. Today, this technology is mainly used for **remote control devices.**
- For **larger data communication** with computer devices this technology was replaced by **Bluetooth or WiFi connections.**

4) Technology for Indian Agriculture

Background

- According to the estimates of the FAO, about **60 per cent of the global population** is **still** dependent, **directly or indirectly, on agriculture**. Yet, its contribution to the **world GDP** is just about **4 per cent** — a dismal figure in comparison to the combined contribution of 90 per cent of the secondary and tertiary sectors of the economy.
- The **Indian scenario** isn't much different, except that the **GDP contribution** of this sector **(12-15 per cent)** to the economy is somewhat higher than the world average. This is a **case of sectoral income inequalities.**

The need for imbibing technology into agriculture

- An **Ernst & Young 2020** study pitches **India's agritech market at USD 24 billion by 2025** with the potential for supply chain technology and output

markets at the highest. But this ecosystem can sustain at the last mile only when technology interventions are popular and adopted by small and marginal farmers.

- The **'Digital India Initiative'** aims at widespread adoption of technology through digital platforms, analytics, **artificial intelligence, blockchain, machine learning, Software as a Service (SaaS) and Internet of Things (IoT)** in agriculture.
- Experts have opined that the **onset of Covid-19 pandemic** has led to aggressive adoption of automation, machines and technology.

How can technology improve Indian Agriculture scenario?

- The areas of 'idea' incubation are as diverse as **farm inputs, precision agriculture, farm management, quality as well as traceability parameters, supply chain/output market linkages and access to financial services** etc.
- Advancements in agriculture technology (agri-tech) **offer precise solutions for sustainable farming** that includes indoor **vertical farming, hydroponic farming, and modern greenhouse practices.** These practices are set to redesign the farming experience with myriad benefits.
- They **produce healthier, fresh, and more nutritious food that has a longer shelf life**. These practices also help in s**aving valuable water, land, and labour resources.** Additionally, the controlled growing system enables farmers to produce **food free from harmful chemicals and residue.**
- These measures will **accelerate production, ensure efficient input use, reduce post-harvest losses, intensify value addition, introduce risk mitigation and optimise ancillary activities**.

Government measures

- Making farm **mechanisation equipment available** to farmers through aggregated custom hiring, high-tech centers and machinery banks.

- Initiating the **electronic National Agriculture Market (e-NAM)** in 1,000 regulated wholesale spot markets for real time price discovery with quality assaying.
- Launching the scheme for creation of **10,000 Farmer Producer Organisations (FPOs)** to bring economies of scale through aggregation, and allowing existing FPOs to trade online.
- Initiation of the creation of a **federated national database for farm services.**
- Launch of **standard operating procedures for drone technologies,** including financial assistance to farmer collectives for their use.
- The creation of 1-lakh crore **Agri Infrastructure Fund (AIF)**. It provides access to credit, with interest subvention, for agri-entrepreneurs, FPOs and governments to invest in rural community assets and post-harvest infrastructure.
- **NITI Aayog's Atal Innovation Mission (AIM**) is also a plug-in to aggressively push technological innovation with its over 1,000 **Atal Tinkering Labs (ATLs)** that have been set up across districts.
- **Rastriya Krishi Vikas Yojana (RKVY)** has now been innovatively designed to promote agritech.
- **Agri-preneurship and startups**
- International Crops Research Institute for Semi-Arid Tropics (**ICRISAT**) and National Academy of Agricultural Management (**NAARM**).

Examples of Indian startups using technology

- **Fasal's AI and IoT platform** delivers farm-specific, crop-specific and crop-stage specific actionable advisory for reducing the cost of operation and increasing quality and yield. The startup's **artificial intelligence-driven platform** regularly relays information to smartphone on the **quantum of irrigation needs, risk of pest attack and use of pesticides.** Data collected through readings is converted through '**Internet of Things' (IoT)** into precise actionable

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intelligence. Its operations on 20,000 acres of land across states have led to the saving of up to 3 billion litres of water from irrigation, reduced pesticide costs by 60% and increased yield by up to 40%.

- **Tartan Sense,** operating on the theme of "small robot for small farms" utilises **semi-autonomous rovers named 'BrijBot' to capture farm images**. These are analysed with the help of **AI algorithms to identify weeds,** following which an on-board computer sprays chemical only on the detected weeds. Weeding costs on cotton fields have reduced by 70% due to these rovers.

- **Wingreens Farms** has shifted the processing stage to the farms itself. They have developed packages for over 100 crops while **simultaneously educating farmers** on moving away from water-hungry crops to lucrative and water-efficient crops. Their practices have led to savings of 2.5 lakh litres of water per acre per annum and increased some farmer's income by around 1000%.

- **MyCrop** has developed an **'agriculture platform as a service'** approach which provisions for the utilisation of algorithms and big data to facilitate informed access to markets for farmers. A 'farmer mitra' **delivers analytical insights and expertise** to farmers for increasing profitability by **reducing the cost of cultivation, increasing yield and finding suitable marketplaces.**

- **Aibono** brings forth an **AI-powered aggregator of fresh produce.** Its **'seed to plate platform' connects stakeholders** from the growing stage to consumption. It provides insights derived from AI on what and how to produce while enabling retailers and consumers to source farm produce from a traceable aggregated source.

- **Agricx** has developed an **AI-enabled software-as-a-service** stack for entities across **producing, trading, storing, transporting, processing or financing of agricultural commodities.** Their services provide

an opportunity to **digitise** the entire procurement process. Further, the portable spectrometer and hyperspectral device ensures lab equivalent results in a matter of seconds making destructive testing redundant.

- There are firms which are also offering **end to end services** across the agriculture value chain. For instance, **WayCool takes a 'tech-enabled end-to-end supply chain approach' utilising robotic process automation, AI and ML.** Their operation has spread across product sourcing, food processing, branding and marketing, last-mile distribution, and farm inputs. Sourcing fruits and vegetables from small and medium farmers, they facilitate access to buyer clientele such as Taj Group of Hotels, Elior, and Sodexo for maximum revenue realisation.

- **Cropin services** are being utilised by 1.6 million farmers for risk mitigation via **live tracking of farms and interpretation of market trends for sale revenue maximisation.** It utilises s**atellite imagery to create 'crop-signatures' to assess crop damage, productivity and farmers' credit-worthiness.** Furthermore, its smart farm platform supports farmers in terms of loans, insurance, crop and seeds. They are digitising farms while data-managing the entire ecosystem.

- **AgNext** has been using **AI, data analytics, internet-of-things and spectral analytics for analysing food quality to ensure effective trade, standarsidation, production, warehousing and consumption.** AgNext also uses c**omputer-based vision** for effective **post-harvest quality inspection** of crops to substitute visual inspection.

- Startups such as Ninjacart, Crofarm and KrishiHub are procuring fruits/vegetables **directly from farmers and selling those to retailers.** They use myriad technologies to keep their target farmers abreast of quantum of demand and current prices, coupled with

optimised logistics and online payments.

- **Milk Mantra** is working on innovative packaging formats and dairy products. They have introduced a network of Bulk Milk Coolers in villages of Odisha with more than 35,000 dairy farmers benefiting from their services.

Challenges faced

- **Small farm size,** coupled with **low digital adoption** by small and marginal farmers.
- But technological innovations are also being triggered by critical factors such as **climate change, reduction in water availability, tolerance of pests, decrease in quality of soils and labour shortages.**
- Lack of **funding**

How to overcome these challenges?

- **A hub and spoke model-** More than 700 Krishi Vigyan Kendras (KVKs) or entities such as ITC's e-Choupal 4.0 can be hubs in agro-climatic regions to impart digital literacy as well as to share best practices with aggregated farmers in farms around these hubs.
- One way to achieve scaling is by strengthening their **partnership with FPOs** and, more importantly, f**ood-**processing **companie**s. This could be further coupled with e**xtensive cross-country collaborations** to support incubators, accelerators and investors supporting agritech.
- **Funding,,** specifically for on-farm management and precision agriculture, they suggest**, has to be increased.**
- **"First Trade Minimum Price" (FTMP)-** Fixation of prices of all the agricultural primary goods on a day-to-day basis or periodically by the local farming community. Once such prices are discovered and fixed, the first trader will have to procure that commodity at a price not below the price so fixed. The subsequent sales or trades can happen depending on the market forces.

5) Space Debris
Why in News:

- The India Space Research Organisation (ISRO) will send a team of its experts to Pawanpur village, in the Chandrapur district of Maharashtra to investigate what is believed to be **remnants of a disintegrated Chinese rocket.**
- **Space debris** or remnants of satellites, rockets, and other **objects in space crashing into the earth** are a common occurrence but it is relatively rare for such objects to fall onto land.

Background

- Space **debris** is a result of tens of thousands of **rocket parts from launches, past collisions, defunct satellites, and fragments after anti-satellite weapon strikes (ASAT).**
- While some have re-entered Earth's atmosphere, many others have continued to orbit Earth and collide with active satellites.
- Given that the number of launches and payloads peaked in 2021, the crisis has only intensified. **Hours have to be spent** monitoring the debris **to plan manoeuvres** to avoid collisions.
- Also considering the **extra fuel spent on such movements**, it becomes a **costly** exercise. India did 19 such corrections in 2021, the highest ever for the country.
- The **U.S. and Russia/USSR** are at present **responsible for over 70% of debris.**

Why worry?

- According to a Bank of America Report, the **$350 billion space market today** will touch **$2.7 trillion by 2050.**
- Until recently, outer space has been the sole preserve of states. But **private entities are now major players in space commerce.**
- Space becomes a **critical factor in shaping the military balance** of power on the earth, there is growing competition among states.
- The **US has traditionally dominated outer space** in the commercial domain. Its military competition with Russia set the norms in the security field.

- **China's emergence as a major space power** — in both civilian and military — is reshaping astropolitics. The dramatic expansion of Chinese space capabilities and Beijing's ambition to dominate outer space have lent a new urgency for democratic powers to come together to secure their national interests as well as promote sustainable order in the skies above.

Related Information
Space situational awareness (SSA)

- Space situational awareness (**SSA**) involves **monitoring the movement of all objects** — **natural** (meteors) and **man-made** (satellites) — **and tracking space weather.** Today, space is integral to our lives and disruption of space-based communications and earth observation will have serious consequences.
- As **commercial and military activity in outer space grows**, the 20th-century agreements like the Outer **Space Treaty and the Moon Treaty (1979) need reinforcement and renewal.**
- **India is a party** to all the major international treaties/regulations related to outer space, including **Outer Space Treaty,** the **Rescue Agreement, the Liability Convention and the Registration Convention** and has also signed the **Moon Treaty.**

Outer Space Treaty

The Outer Space Treaty provides the basic framework on international space law, including the following principles:

- the **exploration** and use of outer space **shall be carried out for the benefit and in the interests of all countries** and shall be the province of all mankind;
- outer space shall be **free for exploration and use by all States**;
- outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means;
- States **shall not place nuclear weapons or other weapons** of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner;
- the Moon and other celestial bodies shall be used exclusively for peaceful purposes;
- astronauts shall be regarded as the envoys of mankind;
- States shall be responsible for national space activities whether carried out by governmental or non-governmental entities;
- States shall be liable for damage caused by their space objects; and
- States shall avoid harmful contamination of space and celestial bodies.

Moon treaty

- The Agreement **reaffirms and elaborates** on many of the provisions of the Outer Space Treaty as **applied to the Moon and other celestial bodies,** providing that those bodies should be used exclusively for peaceful purposes, that their environments should not be disrupted, that the United Nations should be informed of the location and purpose of any station established on those bodies.
- In addition, the Agreement provides that the **Moon and its natural resources are the common heritage of mankind** and that an international regime should be established to govern the exploitation of such resources when such exploitation is about to become feasible.

1. *Read about India's Space Situational Awareness Initiative at:* *https://officerspulse.com/project-netra/*

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DEFENCE

1) Igla-S MANPADS
What's in News:
- The Army has inducted **Igla-S new man portable air defence systems** systems from **Russia**.
- A much larger contract for **Igla-S** systems under the **Very Short Range Air Defence System (VSHORAD)** deal is still pending and under review by the Defence Ministry.
- **VSHORAD** is the soldier's **last line of defence** against enemy **combat aircraft and helicopters** in the multilayered air defence network.

To read about MANPADS-
https://officerspulse.com/man-portable-air-defence-systems-manpads/

2) Mehar Baba Competition
What's in News:
- The Defence Minister unveiled the **second edition of the 'Mehar Baba' swarm drone competition** by the Indian Air Force (IAF) for **Indian start-ups** to develop a swarm drone based system to detect foreign objects on aircraft operating surfaces.
- The competition was conceptualised **to evolve proprietary design, development, manufacturing and production** of **low cost-high impact solutions** for **swarm drone** technology. It is open to **only indigenous talent and indigenous start-ups.**
- The system will be able to c**arry a range of payloads and sensors**, have image correction ability, provide alerts and **provide accurate location and discernable image of foreign objects.**

Uses of Swarm Drones
- Swarm drones **work together in algorithms**—swarming is achieved by developing the capability of each drone to not strike another drone while in formation.
- Swarm drone systems should be able to **scan and detect sub-centimetre size foreign objects** on aircraft operating surfaces.
- The system will be able to **operate in a GPS denied environment**, and **operate day and night and in reduced visibility** as well as light windy conditions.
- Utilisation of varied domains, including r**esponse to disaster relief operation**

Read about latest Drone Regulations-
1. *https://officerspulse.com/indias-new-drone-rules-and-regulations/*
2. *https://officerspulse.com/drone-draft-rules-impetus-to-future-tech/*

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1. *https://officerspulse.com/drones/*

3) MH-60R Multi-Role Helicopters (MRH)
Why in News:
- The first batch of **Indian Navy** aircrew successfully completed its training on the **MH-60R Multi-Role Helicopters (MRH).**
- Indian Navy is **getting** 24 MH-60R helicopters **through the Foreign Military sales (FMS) route** and these are being **manufactured by the US based Lockheed Martin Corporation.**
  - Foreign Military Sales (**FMS**) is the **U.S. Government's program** for **transferring defense articles, services, and training to our international partners and international organizations.**

The need
- The MH-60R helicopters will provide the Navy **enhanced offensive** role including **anti-submarine warfare, anti-ship strike**, specialised maritime operations as well as **search and rescue operations.**
- These helicopters as has been reported earlier will play a very **significant role in the Indian Ocean Region** where

the **Chinese presence** continues to expand and also in the Indo-Pacific Region.

4) Positive Indigenisation List

Why in News:

- The **Defence Ministry notified** th**e** 3rd **positive indigenisation list**
  - The list **includes** naval utility **helicopters, light tanks, small Unmanned Aerial Vehicles, anti-ship missiles** among others.

What is a positive indigenisation list (Negative Import List)?

- The positive indigenisation list (Negative Import List) essentially means that the **Armed Forces—Army, Navy and Air Force,** will only **procure** such items **from domestic manufacturers.**
- The **manufacturers could be private sector players or Defence Public Sector Undertakings (DPSUs).**

Why the need?

- Not only does the list **recognise** the potential of the **local defence industry,** it will also invigorate impetus to **domestic Research and Development** by attracting fresh investment into technology and manufacturing capabilities.
- The list also provides an excellent opportunity for **'start-ups'** as also Micro, Small and Medium Enterprises (**MSMEs**).
- As per Stockholm International Peace Research Institute, **India** has been the **second largest importer between 2014 and 2019** with US$ 16.75 billion worth of imports during this period.
- The government wants to **reduce the dependence on imported items** in defence and give a shot in the arm to the domestic defence manufacturing industry.
- By denying the possibility of importing the items on the negative list, the **domestic industry** is given the opportunity to step up and manufacture them for the needs of the forces.

- This will **boost indigenisation of defence production** and is in line with the government's **target to reach a turnover of USD 25 billion by 2025** through indigenously manufactured defence products.
- It is a big step towards **self-reliance in defence under the Atmanirbhar Bharat initiative.**

To read about Atma Nirbhar Bharat:

1. https://officerspulse.com/aatma-nirbhar-bharat-package/
2. https://officerspulse.com/aatmanirbhar-bharat/

5) The Assam-Meghalaya boundary dispute

Why in News:

- **Assam and Meghalaya partially resolved** a **50-year-old dispute** along their 884.9 km boundary.
- Tarabari, Gizang, Hahim, Boklapara, Khanapara-Pillangkata, and Ratacherra are the s**ix disputed sectors** of Assam's Kamrup, Kamrup (Metro), and Cachar districts, as well as Meghalaya's West Khasi Hills, Ri-Bhoi, and East Jaintia Hills districts.
- **During British rule, undivided Assam included present-day Nagaland, Arunachal Pradesh, Meghalaya and Mizoram**. **Meghalaya** was carved out in **1972**, its **boundaries demarcated as per the Assam Reorganisation (Meghalaya) Act of 1969,** but has held a different interpretation of the border since.

How did the boundary dispute start?

- Meghalaya, carved out of Assam as an autonomous State in 1970, became a full-fledged State in 1972.
- The **creation** of the new State was **based on the Assam Reorganisation (Meghalaya) Act** of 1969, which the **Meghalaya government refused to accept.**
- This was because the Act **followed the recommendations of a 1951 committee** to define the boundary of Meghalaya. On that panel's recommendations, **areas of the present-day East Jaintia Hills, Ri-Bhoi and West Khasi Hills districts**

of **Meghalaya** were **transferred** to the Karbi Anglong, Kamrup (metro) and Kamrup districts of **Assam**.

- **Meghalaya contested these transfers after statehood**, claiming that they belonged to its tribal chieftains.

How did the two governments go about handling the issue?

- In May 1983 when they **formed a joint official committee** to address the issue. In its report submitted in November 1983, the **committee suggested that the Survey of India should re-delineate the boundary with the cooperation of both the States** towards settling the dispute.
- Justice Y.V. **Chandrachud committee** submitted its **report** in 1987. Meghalaya rejected the report as it was allegedly pro-Assam. Following more **disputes and resultant violence**, the two **governments agreed** in 1991 to **jointly demarcate the border with the help of the Survey of India.**
  - About 100 km of the border was demarcated by the end of 1991, but Meghalaya found the exercise unconstitutional and refused to cooperate.
- In **2011**, the Meghalaya Assembly passed a **resolution for central intervention and the constitution of a boundary commission**. The Assam Assembly retaliated with a resolution to oppose the move.
- In **2019**, the **Meghalaya government petitioned** the **Supreme Court** to direct the Centre to settle the dispute. The **petition was dismissed.**

How was the dispute settled?

- In 2021, the two States decided to resume **talks at the CM level and adopt a "give-and-take" policy** to settle the disputes once and for all.
- Of the 12 disputed sectors, six "less complicated" areas — Tarabari, Gizang, Hahim, Boklapara, Khanapara-Pilingkata and Ratacherra — were chosen for resolving in the first phase.
- Both States **formed three regional committees**.

- These **committees**, each **headed by a cabinet minister**, were **given** "**five principles**" for approaching the issue. These principles are **historical facts of a disputed sector**, **ethnicity, administrative convenience, willingness of people and contiguity of land** preferably with natural boundaries such as rivers, streams and rocks.
- The committee members **conducted surveys** of the disputed sectors and **held several meetings with the local stakeholders.**

Other boundary disputes

- The Supreme Court is now hearing **Assam's boundary disputes with Arunachal Pradesh and Nagaland.**
- The boundary **conflicts between Assam and Mizoram** are now being resolved through negotiations.

Way forward

- **Satellite mapping of the real boundary locations.**
- Reviving the **Inter-state council** as a means of resolving an inter-state conflict. The Inter-state council is mandated by Article 263 of the Constitution to investigate and advise on disputes, examine issues that affect all states, and make proposals for greater policy cooperation.
- **Zonal councils can** be resurrected to debate issues of common importance to states in each zone, such as social and economic planning, border conflicts, inter-state transportation, and so on.

6) Role of Information and Broadcasting Ministry in ensuring internal security

Why in News:

- On January 31 2022, the **Information and Broadcasting Ministry barred** the **transmission** of **Malayalam news channel Media One citing 'security reasons'**. Later, the Kerala High Court granted a stay, allowing the channel to continue functioning.
- Recently, the Supreme Court stayed the Centre's decision to revoke the

security clearance of Malayalam news channel MediaOne

- In the case of **Media One**, its **licences** were **revoked because the Home Ministry had denied it security clearance**, which is essential as part of the policy.

In which sectors can the I&B Ministry regulate content?

- Until 2021, it had the powers to regulate content across all sectors — **TV channels, newspapers and magazines, movies in theatres and on TV, and the radio** — barring the internet.
- In **2021**, the **Information Technology** (Intermediary Guidelines and Digital Media Ethics Code) **Rules, 2021, extended its regulatory powers over internet content too**, especially on digital news platforms and OTT platforms such as Netflix, Amazon Prime etc.

In the case of movies

- Central Board of Film Certification (**CBFC**) **has** a **mandate** to give any film that will be played in a theatre, a **rating indicating the kind of audience** it is suitable for. For example, a movie with sensitive or sexual content would get an adults-only certificate.
- **In practice, however, the CBFC has often suggested changes** or cuts to a film before giving it a certification. While **it isn't the CBFC's mandate to censor a film, it can withhold giving a rating** unless the filmmaker agrees to its suggestions.

In the case of television and OTT

- When it comes to TV channels, there is a **three-tier grievance redressal structure for viewers** to raise concerns.
- A viewer can successively approach the **channel**, **then a self-regulatory body of the industry, and finally the I&B Ministry,** which can issue a showcause notice to the channel, and then refer the issue to an inter-ministerial committee (IMC).
- For **content on OTT platforms too, there is a similar structure.**

- The ministry also has the **Electronic Media Monitoring Cell,** which tracks channels for any violations of the programming and advertising codes mentioned in the Cable TV Network Rules, 1994.
- **Violation can lead to revocation of a channel's uplinking licence** (for sending content to a satellite) or downlinking licence (for broadcasting to viewers through an intermediary).
  - It is these licences of MediaOne that the government revoked.

In the case of Print Media (Newspapers/magazines)

- In print, **based on the recommendations of the Press Council of India,** the government can suspend its advertising to a publication.

Other online content (websites/online arenas)

- **Latest IT rules** allow the **I&B Ministry to issue orders to ban websites based on their content.**
- There is also a new mechanism the I&B Ministry adopts: It has used **emergency powers under the new IT Rules** to block certain YouTube channels and social media accounts **based on inputs from intelligence agencies.**

What kind of content is not allowed?

- There are **no specific laws on content allowed** or **prohibited** in print and electronic media, radio, films or OTT platforms.
- The **content on any of these platforms has to follow the free speech rules** .
- **Article 19(1)** of the Constitution, while protecting freedom of speech, also lists certain **"reasonable restrictions"** including content related to the **security of the state, friendly relationship with foreign states, public order, decency and morality** etc.
  - Action can be taken if any of these restrictions is violated.

Do other agencies play a role?

- There is **no direct involvement,** as the **powers to regulate content rest only with the I&B Ministry.**

- However, the **ministry relies on inputs from other ministries**, as well as **intelligence agencies.**

7) Solid Fuel Ducted Ramjet (SFDR)

What's in News?

- India successfully flight tested **Solid Fuel Ducted Ramjet (SFDR) booster,** a missile system.
- **Defence Research and Development Laboratory,** Hyderabad, developed the SFDR in partnership with other DRDO institutes such as Research Centre Imarat, Hyderabad, and High Energy Materials Research Laboratory, Pune.

About SFDR

- The SFDR technology is a missile propulsion s**ystem based on the principle of the Ramjet Engine.**
    - In a **ramjet**, the **high pressure is produced by "ramming" external air** into the combustor **using the forward speed of the vehicle**.
    - The external air that is brought into the propulsion system becomes the working fluid, much like a turbojet engine. In a turbojet engine, the high pressure in the combustor is generated by a piece of machinery called a compressor.

- But there are **no compressors in a ramjet.** Therefore, **ramjets are lighter and simpler than a turboje**t. **Ramjets produce thrust only when the vehicle is already moving;** ramjets cannot produce thrust when the engine is stationary or static.
- A **solid-fuelled air-breathing ramjet engine powers the system.**
- The **Ramjet**, unlike solid-propellant rockets, a**bsorbs oxygen from the atmosphere while in flight.**
- As a result, it is light and can carry more fuel.

Uses

- The SFDR-based propulsion **enables the missile to intercept aerial threats at very long range at supersonic speeds.**
- Because SFDR technology **eliminates the need for oxidizers,** air-to-air missiles with SFDR technology **can attain longer ranges.**
- The SFDR-based missiles travel at supersonic speeds and have **exceptional manoeuvrability,** ensuring that the target aircraft cannot escape.

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ART AND CULTURE

1) Prehistoric Settlement at Attappadi

What's in News:

- The discovery of several **prehistoric artefacts and archaeological remains** along the **banks of three rivers flowing through the Attappady hills** straddling Kerala and Tamil Nadu, indicates the **presence of a mature settlement.**

What did the archaeologists find?

- The discovery of several **stone tools, inhabited caves, menhirs, cists or burial chambers, stone circles, burial urns, black and red ware pottery, terracotta images, stone carvings, and granite inscriptions** points to prehistoric human settlements in the predominantly tribal area of Attappady.
- The archaeological discoveries were made from different places along the banks of the **rivers Bhavani, Siruvani, and Kodumkara Pallam or Anakkatti**

About Attappadi

- **Attappadi** is among the **biggest tribal settlements** along the **Attappadi valley in Palakkad district** in **Kerala**.
- The **Bhavani River** plays an integral part of **tribal** life. Much of the reserves area is currently inhabited by **Irulas, Mudugas and Kurumbar.**
- Attappadi is a mountain valley at the **mouth of the Bhavani River**, which is a **tributary of the Kaveri River**.The **Bhavani forest ranges** are **part** of the **Silent Valley national park'**s buffer zone.In 1984, Kerala's Silent Valley was designated as a national park.
- It is situated in the **Nilgiris'** south-western corner. Within the Nilgiri Biosphere Reserve, it is a protected area.

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PIB ANALYSIS

1) International Air Connectivity Scheme

What's in the news?

- The **Ministry of Civil Aviation** has launched the **International Air Connectivity Scheme (IACS) scheme (International Ude Desh ka Aam Nagrik (UDAN))** with an objective to **enhance air connectivity from certain States of the country** with selected international destinations to promote socio-economic growth.
- This scheme is **supported by the State Governments.**
- The State Government of Assam, Manipur and Tripura have identified routes connecting Guwahati, Imphal and Agartala with selected international destinations viz. Bangkok, Dhaka, Kathmandu, Yangon, Hanoi, Mandalay, Kunming & Chittagong.

Significance

- Development and up-gradation of airports to international standards is a continuous process and is undertaken by concerned airport operators from time to time depending upon commercial viability, traffic demand, availability of land etc.
- As on date, there are two international airports in the North East Region at Guwahati and Imphal which are operated by **Guwahati International Airport Limited (GIAL) and Airports Authority of India (AAI)** respectively.

2) National Clean Air Program

About NCAP

- National Clean Air Program (NCAP) is a pollution control initiative that was launched by the **Ministry of Environment, Forest and Climate Change** in 2019.
- This is the first ever effort in the country to frame a national framework for air quality management with a time-bound reduction target.

- It aims to reduce particulate matter **(PM2.5 and PM10)** pollution by **20-30%** in **132 cities by 2024**, with 2017 as the base year for comparison.
- The **Central Pollution Control Board (CPCB)** executes this programme.

Implementation

- Under NCAP, **132 non-attainment cities** have been identified across the country as they did not meet the national ambient air quality standards for the 2011-15 under the National Air Quality Monitoring Program.
- Apart from experts from the industry and academia, the programme is a collaboration between the Ministry of Road Transport and Highways, Ministry of Petroleum and Natural Gas, Ministry of New and Renewable Energy, Ministry of Heavy Industry, Ministry of Housing and Urban Affairs, Ministry of Agriculture, Ministry of Health, NITI Aayog, and Central Pollution Control Board.
- **City specific action plans** have been prepared which include measures for strengthening the monitoring network, reducing vehicular/industrial emissions, increasing public awareness etc.
- Implementation of the city specific action plans are regularly monitored by Committees at Central and State level namely Steering Committee, Monitoring Committee and Implementation Committee.
- Air quality of cities is monitored by **State Pollution Control Boards** which publishes their results from time to time.

Why in News?

- The Minister of Environment, Forest & Climate Change has provided city-wise details of funds released to support the implementation of City Specific action plans (CAPs) for the improvement of Air Quality under NCAP.

3) AIM: Fostering Innovation

Atal Innovation Mission

- The Atal Innovation Mission (AIM) is a flagship initiative set up by the **NITI Aayog** to **promote innovation and entrepreneurship** across the length and breadth of the country.
- AIM's objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee the innovation ecosystem of the country.

Initiatives under Atal Innovation Mission
Atal Tinkering Labs - at School Level

- AIM has launched the establishment of thousands of Atal Tinkering Labs enabling students from **grade 6 to grade 12** to have access to and tinker with innovative tools and technologies like 3D printers, robotics, miniaturised electronics do-it-yourself kits, thus stimulating a problem solving innovative mindset to solve problems in the community they are in.

Atal Incubators at Universities, Institutions, Industry Level

- To promote creation of a supporting ecosystem for start-ups and entrepreneurs, AIM has been establishing world-class incubators called Atal Incubation Centres (AICs) in universities. Institutions, corporates, etc. that would foster innovative start-ups and become scalable and sustainable enterprises.

Atal Community Innovation Centres - Serving Unserved and Under-Served Regions of India

- To promote the benefits of technology led innovation to the unserved/ underserved regions of India including Tier 2, Tier 3 cities, aspirational districts, tribal, hilly and coastal areas, AIM is setting up Atal Community Innovation Centres (ACICs) with a unique partnership driven model wherein AIM would **grant up to Rs. 2.5 crore** to an ACIC subject to a partner proving equal or greater matching funding.

Atal New India Challenges - Product and Service Innovations with National Impact

- To create product and service innovations having national socio-economic impact, AIM has launched over 24 Atal New India Challenges in partnership with five different ministries and departments of the central government.

Applied Research and Innovation for Small Enterprises (ARISE)

- To promote innovation in a phased manner in the MSME/Start-up sector AIM will be launching ARISE along with partner Ministries so that great research ideas are converted to viable innovative prototypes followed by product development and commercial deployment.

Mentorship and Partnerships - with Public, Private sector, NGOs, Academia, Institutions

- To enable all the initiatives to succeed, AIM has launched the **"Mentor India – The Mentors of Change"** programme, in collaboration with the public sector, corporates and institutions, to support all the initiatives of the mission.

Why in News?

- The Union Cabinet chaired by the Prime Minister Narendra Modi has approved continuation of Atal Innovation Mission till March 2023.
- The intended targets that will be achieved by AIM are:
  - Establishing 10000 Atal Tinkering Labs (ATLs),
  - Establishing 101 Atal Incubation Centers (AICs),
  - Establishing 50 Atal Community Innovation Centers (ACICs) and
 - Supporting 200 startups via the Atal New India Challenges.

4) India's Agri Exports
What's in the news?

- **India's agri exports crossed USD 50 billion** for the year 2021-22, notwithstanding logistical challenges posed by COVID-19 pandemic in the form of high freight rates, container shortages, etc.
- **Agricultural and Processed Food Products Export Development**

Authority (APEDA), which works under the **Ministry of Commerce and Industry,** has scripted a new history by **exporting agricultural and processed food products to the tune of USD 25.6 billion,** which is 51 per cent of the India's total agriculture exports of USD 50 billion.

- Besides, the APEDA has also surpassed its own export target of USD 23.7 billion for the financial year 2021-22 by registering shipment of USD 25.6 billion.
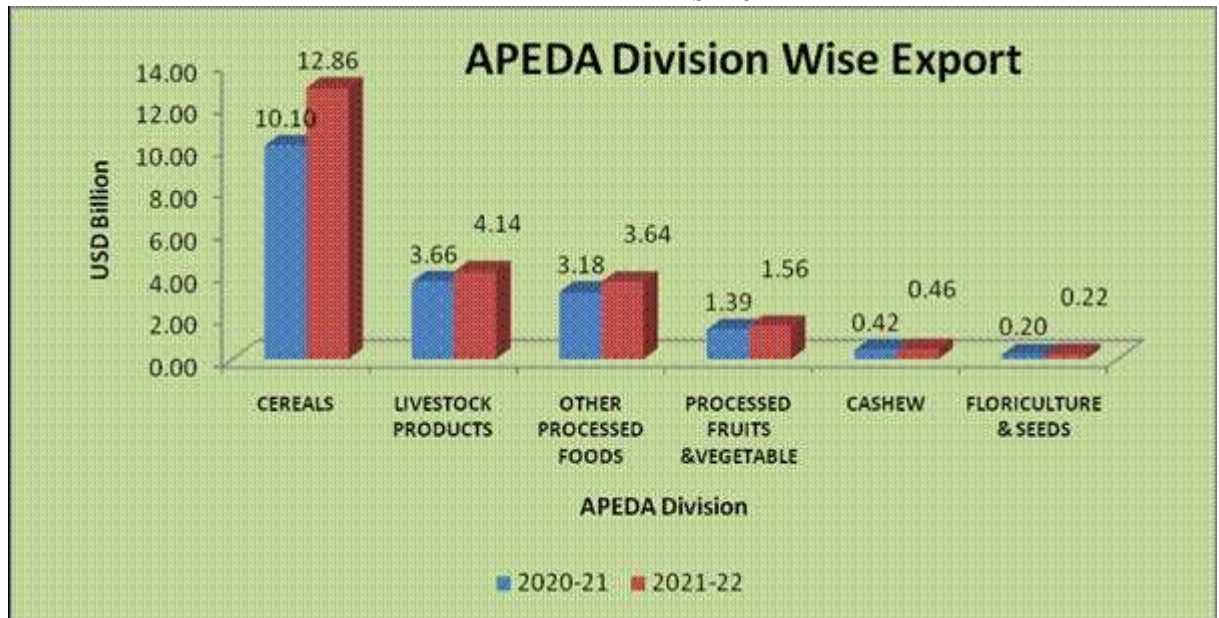
- APEDA's major exporting destinations as per 2021-22 data are **Bangladesh, UAE, Vietnam, USA, Nepal, Malaysia, Saudi Arabia, Indonesia, Iran and Egypt.**
- The rise in export of agricultural and processed food products has been largely due to the various initiatives taken by Centre through APEDA such as organizing B2B exhibitions in different countries, exploring new potential markets through product specific and general marketing campaigns by active involvement of Indian Embassies.
- In order to ensure seamless quality certification of products to be exported, the government has recognized 220 labs across India to provide services of testing a wide range of products to exporters.
- A **Farmer Connect Portal** has also been set up on APEDA's website for providing a platform for Farmer Producers Organisations (FPOs) or Farmer Producer Companies (FPCs), Cooperatives and women entrepreneurs to interact with

exporters. Around 3,295 FPOs and FPCs and 3,315 exporters have been registered in the portal so far. More than 24 lakh organic farmers registered with APEDA.

5) Geographical Indication
About GI Tag
- A geographical indication (GI) is a sign used on products that have a **specific geographical origin** and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place.
- It is used for **agricultural, natural and manufactured goods**. **Darjeeling tea** became the first GI tagged product in India.
- The registration of GI is valid for **10 years** after which it needs to be renewed.
- It should be noted that registration of a product is **not compulsory.**
  - Registration affords better legal protection to facilitate an action for infringement

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- o The registered proprietor and authorised users can initiate infringement actions
- o The authorised users can exercise the exclusive right to use the geographical indication.

Legislations

- In India, GI is given under the **Geographical Indications of Goods (Registration and Protection) Act, 1999**.
- The Act is administered by the **Controller General of Patents, Designs & TradeMarks, GI (CGPDTM-India)** under the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry.
- India enacted its GI legislation to comply with India's obligations under the Trade-Related Aspects of Intellectual Property Rights **(TRIPS) agreement**.
- GI registration gives to the registered proprietor and its authorized users, the legal right to the exclusive use of the GI and also the right to obtain relief in case of its infringement.

- GI is a **collective intellectual property right** and is thus owned by all the producers within the defined GI territory unlike intellectual properties like patent and trademark which are owned by an individual or a business entity.

Benefits of registration of Geographical Indications

- It confers **legal protection** to Geographical Indications in India
- **Prevents unauthorised use** of a Registered Geographical Indication by others
- It provides legal protection to Indian Geographical Indications which in turn **boost exports.**
- It **promotes economic prosperity** of producers of goods produced in a geographical territory.

Why in News?

- The Office of Geographical Indications Registry has registered thirty-five Geographical Indications Applications from North Eastern Region of India.

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News in Depth

AIR NEWS

1) Eklavya Model Residential School

About EMRS

- The scheme of Eklavya Model Residential Schools (EMRSs) was introduced in the year 1997-98 with an objective **to provide quality middle and high-level education to Scheduled Tribe (ST) students in remote areas** in order to enable them to avail of reservation in high and professional educational courses and get jobs in government and public and private sectors.
- The schools focus not only on academic education but on the **all-round development of the students.** Each school has a capacity of 480 students, catering to students from **Class VI to XII.**
- It has been decided that by the year 2022, **every block with more than 50% ST population and at least 20,000 tribal persons**, will have an EMRS.
- EMRS are set up in States/UTs with grants under **Article 275(1)** of the Constitution of India.
- The scheme is being implemented by the **Ministry of Tribal Affairs.**

Why in the news?

- The Standing Committee on Social Justice and Empowerment noted that the teachers appointed for Eklavya Model Residential Schools by the States are not in accordance with a uniform criteria for the appointment of teachers for schools despite the existence of the Scheme since 1997-98.
- The Committee asked the Ministry to take all necessary action for the recruitment of non-teaching staff too for efficient management of EMRS.

2) Pradhan Mantri Mudra Yojana

About the scheme

- Pradhan Mantri Mudra Yojana (PMMY) is a flagship scheme of Government of India to **"fund the unfunded"** by bringing such enterprises to the formal financial system and extending affordable credit to them.
- Launched in 2015 to promote entrepreneurship, PMMY provides loans upto **Rs. 10 lakh to the non-corporate, non-farm small/micro enterprises.**
- Under PMMY collateral free loans of upto Rs. 10 Lakh are extended by **Member Lending Institutions (MLIs)** viz Scheduled Commercial Banks, Regional Rural Banks (RRBs), Small Finance Banks (SFBs), Non Banking Financial Companies (NBFCs), Micro Finance Institutions (MFIs) etc.
- The loans are given for **income generating activities in manufacturing, trading and services sectors and for activities allied to agriculture.**
- Mudra loans are offered in three categories namely, 'Shishu', 'Kishore' and 'Tarun' which signifies the stage of growth or development and funding needs of the borrowers:-
  - **Shishu :** covering loans upto Rs. 50,000/-
  - **Kishore :** covering loans above Rs. 50,000/- and upto Rs. 5 lakh
  - **Tarun :** covering loans above Rs. 5 lakh and upto Rs. 10 lakh

- With an objective to promote entrepreneurship among the new generation aspiring youth, it is ensured that **more focus is given to Shishu Category loans and then Kishore and Tarun categories.**

Why in News?

- Finance Minister Nirmala Sitharaman has said that more than **51 percent of total loans sanctioned under the Pradhan Mantri Mudra Yojana went to Scheduled Caste, Scheduled Tribe, and Other Backward Class categories.**
- **Around 68 percent of loans sanctioned to Women Entrepreneurs and 22 percent of the loans have been given to new entrepreneurs** who had not availed of any loan since the inception of the Scheme.

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THE HINDU EDITORIALS

1) Making groundwater visible

Background:

- The theme of this year's World Water Day (March 22) was **'Groundwater: Making the Invisible Visible'.**
- The primary focus is to draw attention to the role of groundwater in water and sanitation systems, agriculture, industry, ecosystems, and climate change adaptation.

Extraction:

- With an annual groundwater extraction of 248.69 billion cubic meters (2017), India is among the largest users of groundwater in the world.
- Almost **89%** of the groundwater extracted is used for **irrigation** and the rest for **domestic and industrial use (9% and 2%).**
- According to the **Central Ground Water Board**, the annual groundwater withdrawal is considered to be safe when the extraction rate is limited to below 70% of the annual replenishable recharge.
- Available data indicate that the **level of extraction for the country in 2017 was 63%,** from 58% in 2004.
- However, the level varied across regions.
- Of 534 districts in 22 States/UTs, 202 districts had stage of extraction ranging from 71% to 385%.
- **NITI Aayog** has set the **70% extraction value** as the target to be achieved by 2030.

Concerns over extraction:

- Besides the high level of extraction, quality is also an issue of concern.
- A quantity-wise safe district may be vulnerable due to **deterioration of water quality**.
- Fluoride, iron, salinity, nitrate, and arsenic contamination are major problems.
- As many as **335 districts** reported **nitrate pollution** compared to 109 in 2006.

- A high level of nitrate affects human health. The Sources of nitrates are mainly **anthropogenic** and depend on local actions.
- Biological contamination has also been reported from different parts of the country.

Changing approach:

- The **Mihir Shah Committee (2016)** proposed that the Central Water Commission and the Central Ground Water Board could be united and a national water framework with an integrated perspective developed.
- There is also a need to work out **local-level plans** covering water resources in all its forms: rainwater, surface water, soil water and groundwater and the resource use sectors.
- Groundwater, surface water and the intervening landscape form part of a matrix, and together with the vegetation system they constitute the **Critical Zone,** where most terrestrial life resides.
- Linking **cropping patterns and crop intensity** with groundwater availability, aquifer type, and the present state of groundwater extraction at the farm level is imperative.

Conclusion:

- The new paradigm for groundwater management is a **socio-ecological challenge**, where localism matters.
- It warrants technical, economic, legal and governance remediation with space for active public participation and community regulatory options to maintain groundwater balance at the village/ watershed level.

2) Beyond Border-Gavaskar

Background:

- The India-Australia **Economic Cooperation and Trade Agreement (ECTA)** signed last week is a key step in enhancing bilateral economic ties between the two major Indian Ocean littoral states and reflects

the growing strategic alignment between the countries.

Economic Cooperation and Trade Agreement (ECTA):

- In **June 2020 virtual summit** Prime Ministers Narendra Modi and Scott Morrison decided to elevate the relationship to the level of a Comprehensive Strategic Partnership.
- Defence and strategic ties have gained significant traction and the latest ECTA has been hammered out in just six months since negotiations restarted in end-September.
- The ECTA covers the gamut of **economic and commercial relations** including trade in goods and services, rules of origin, technical barriers to trade, dispute settlement and customs procedures.
- Targeting a goal of doubling bilateral trade to about **$50 billion in five years,** from the $27.5 billion logged in 2021, the partners have set about dismantling or lowering tariff barriers.
- Australia has agreed to **eliminate tariffs on more than 96%** of Indian exports, including several labour-intensive industries.
- India will allow the **duty-free entry of 85% of Australian goods** exports by value from day one and within the next 10 years cut tariffs to zero on another 5% of Australian merchandise.
- **Dairy sector**, a politically significant export industry in Australia, were set aside for separate resolutions at later talks.

Movement of 'natural persons':

- It is inextricably linked to **fostering closer people-to-people links** and is an imperative in efforts to promote bilateral trade in services.
- The agreement aims to support access for a range of Australian and Indian skilled service providers, investors, and business visitors and also, crucially, seeks to address an area linked to another major Australian export , education.
- Australia has now agreed, on a reciprocal basis, to **ease visa restrictions**, enabling students at varied levels of higher education to stay on for periods ranging from 18 months to four years to pursue work opportunities on a temporary basis.

Conclusion:

- The best feature of the ECTA though is the incorporation of a **compulsory review mechanism** at the end of **15 years.**
- With past FTAs having proved less than beneficial to domestic industry, India's negotiators have set a meaningful precedent in including the feature to periodically reappraise the economic gains from such trade pacts.

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INDIAN EXPRESS EXPLAINED

1) The complete human genome, and what it is about

Why in the news?

- Nearly two decades ago, when scientists published the map of the human genome for the first time, it was hailed as a breakthrough. That was incomplete, however: about 8% of the human DNA was left unsequenced.
- Now, in a series of papers, a large team has accounted for that 8%, completing the picture of the human genome for the first time.

Why does it matter?

- A complete human genome makes it **easier to study genetic variation between individuals or between populations.**
- A genome refers to **all of the genetic material in an organism**, and the human genome is mostly the same in all people, but a **very small part of the DNA does vary between one individual and another.**
- By constructing a complete human genome, scientists can use it for reference while studying the genome of various individuals, which would help them understand which variations, if any, might be responsible for disease.

What was missing?

- The genetic sequence made available in 2003 from the Human Genome Project, an international collaboration between 1990 and 2003, contained information from a region of the human genome known as the **euchromatin**. Here, the chromosome is rich in genes, and the DNA encodes for protein.
- The 8% that was left out was in the area called **heterochromatin**. This is a smaller portion of the genome, and does not produce protein.
- There were at least two key reasons why heterochromatin was given lower priority. This part of the genome was thought to be "junk DNA", because it had no clear function. Besides, the euchromatin contained more genes that were simpler to sequence with the tools available at the time.
- Now, the fully sequenced genome is the result of the efforts of a global collaboration called the Telomere-2-Telomere (T2T) project.
- The invention of new methods of DNA sequencing and computational analysis helped complete the reading of the remaining 8% of the genome.

What's in the 8% and its significance?

- The new reference genome, called T2T-CHM13, includes highly repetitive DNA sequences found in and around the **telomeres** (structures at the ends of chromosomes) and the **centromeres** (at the middle section of each chromosome).
- The new sequence also reveals long stretches of DNA that are duplicated in the genome and are known to play important roles in evolution and disease.
- The new T2T reference genome will complement the standard human reference genome, known as **Genome Reference Consortium build 38 (GRCh38)**, which originated from the Human Genome Project and has been updated since.

2) What is fortified rice, and how is it prepared?

Why in the news?

- Recently, the Union Cabinet approved a scheme to distribute fortified rice under government programmes.
- Earlier the Prime Minister had announced the fortification of rice distributed under various government schemes, including the public distribution system (PDS) and midday meals in schools, by 2024.

What is rice fortification?

- The Food Safety and Standards Authority of India (FSSAI) defines fortification as "**deliberately increasing the content of essential micronutrients** in a food so as to

improve the nutritional quality of food and to provide public health benefit with minimal risk to health".

- Various technologies are available to add micronutrients to regular rice, such as **coating, dusting, and 'extrusion'.**
- Extrusion involves the production of **fortified rice kernels (FRKs)** from a mixture using an 'extruder' machine. It is considered to be the best technology for India. The fortified rice kernels are blended with regular rice to produce fortified rice.

Why does rice have to be fortified in the first place?

- India has very high levels of malnutrition among women and children. According to the Food Ministry, **every second woman in the country is anaemic and every third child is stunted.**
- Fortification of food is considered to be one of the most suitable methods to combat malnutrition.
- Rice is one of India's staple foods, consumed by about two-thirds of the population. Per capita rice consumption in India is 6.8 kg per month.
- Therefore, fortifying rice with micronutrients is an option to supplement the diet of the poor.

What are the standards for fortification?

- Under the government's guidelines, 10 g of FRK must be blended with 1 kg of regular rice.
- According to FSSAI norms, 1 kg of fortified rice will contain the following: **iron** (28 mg-42.5 mg), **folic acid** (75-125 microgram), and **vitamin B-12** (0.75-1.25 microgram).
- Rice may also be fortified with **zinc, vitamin A, vitamin B-1, vitamin B-2, vitamin B-3 and vitamin B-6.**

3) CAG report on Aadhaar

What's in the news?

- Recently, Comptroller and Auditor General of India (CAG) audit reports indicate there are **issues of data-matching, errors in authentication,** **and shortfall in archiving on the functioning of the UIDAI.**
- UIDAI (Unique Identification Authority of India) is the **statutory authority** established in 2016 to issue Aadhaar to all residents of the country. As of October 31, 2021, UIDAI had issued 131.68 crore Aadhaar numbers.

Problems with UIDAI that have been identified by the CAG

- The CAG has said the data of Aadhaar card holders have not been matched with their Aadhaar number even after 10 years in some cases.
- It has also criticized the **absence of a system to analyze the factors** leading to **authentication errors,** and said that even though UIDAI was maintaining one of the largest biometric databases in the world, it **did not have a data archiving policy**, which is considered a vital storage management best practice.
- The CAG report noted that UIDAI provided Authentication services to banks, mobile operators and other agencies free of charge till March 2019, contrary to the provisions of their own Regulations, depriving revenue to the Government.
- The report also noted that the Authority had **not ensured security and safety of data in Aadhaar vaults**. They had not independently conducted any verification of compliance to the process involved.
- In the conclusion of its report, the CAG has said that UIDAI generated Aadhaar numbers with incomplete information, which, along with the lack of proper documentation or poor quality biometrics, have resulted in multiple or duplicate Aadhaar cards being issued to the same person.
- The CAG report recommended that The **UIDAI should go beyond self-declaration, and prescribe a procedure and required documentation other than self-declaration,** in order to confirm and authenticate the residence status of applicants.

4) How electoral bonds work, and why they face criticism

What are electoral bonds?

- Electoral bonds are an instrument through which **anyone can donate money to political parties.**
- Such bonds, which are sold in **multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore,** can be bought from **authorized branches of the State Bank of India.**
- As such, a donor is required to pay the amount via a cheque or a digital mechanism (**cash is not allowed**) to the authorized SBI branch.
- The donor can then give this bond to the party or parties of their choice.
- The political parties can choose to encash such bonds **within 15 days of receiving them** and fund their electoral expenses. On the face of it, the process **ensures that the name of the donor remains anonymous.**

When were electoral bonds introduced and why?

- The central idea behind the electoral bonds scheme was to bring about **transparency in electoral funding in India.**
- The government **reduced the amount of money that a political party could accept in cash from anonymous sources — from Rs 20,000 to Rs 2,000.**
- The introduction of electoral bonds as a way to make such funding more transparent. Formally, these bonds were introduced in **2018.**

Why have electoral bonds attracted criticism?

- The central criticism of the electoral bonds scheme is that **it does the exact opposite of what it was meant to do: bring transparency to election funding.**
- For example, critics argue that the **anonymity of electoral bonds is only for the broader public and opposition parties.**
- The fact that such bonds are sold via a government-owned bank (SBI) leaves the door open for the government to know exactly who is funding its opponents, providing an unfair advantage to the party in power.
- Further, one of the arguments for introducing electoral bonds was to allow common people to easily fund political parties of their choice but **more than 90% of the bonds have been of the highest denomination (Rs 1 crore).**
- Moreover, before the electoral bonds scheme was announced, there was a **cap on how much a company could donate to a political party: 7.5 per cent of the average net profits of a company in the preceding three years.**
- However, the government amended the Companies Act to **remove this limit**, opening the doors to unlimited funding by corporate India.

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INFOGRAPHIC OF THE WEEK

1) PAYMENTS BANKS
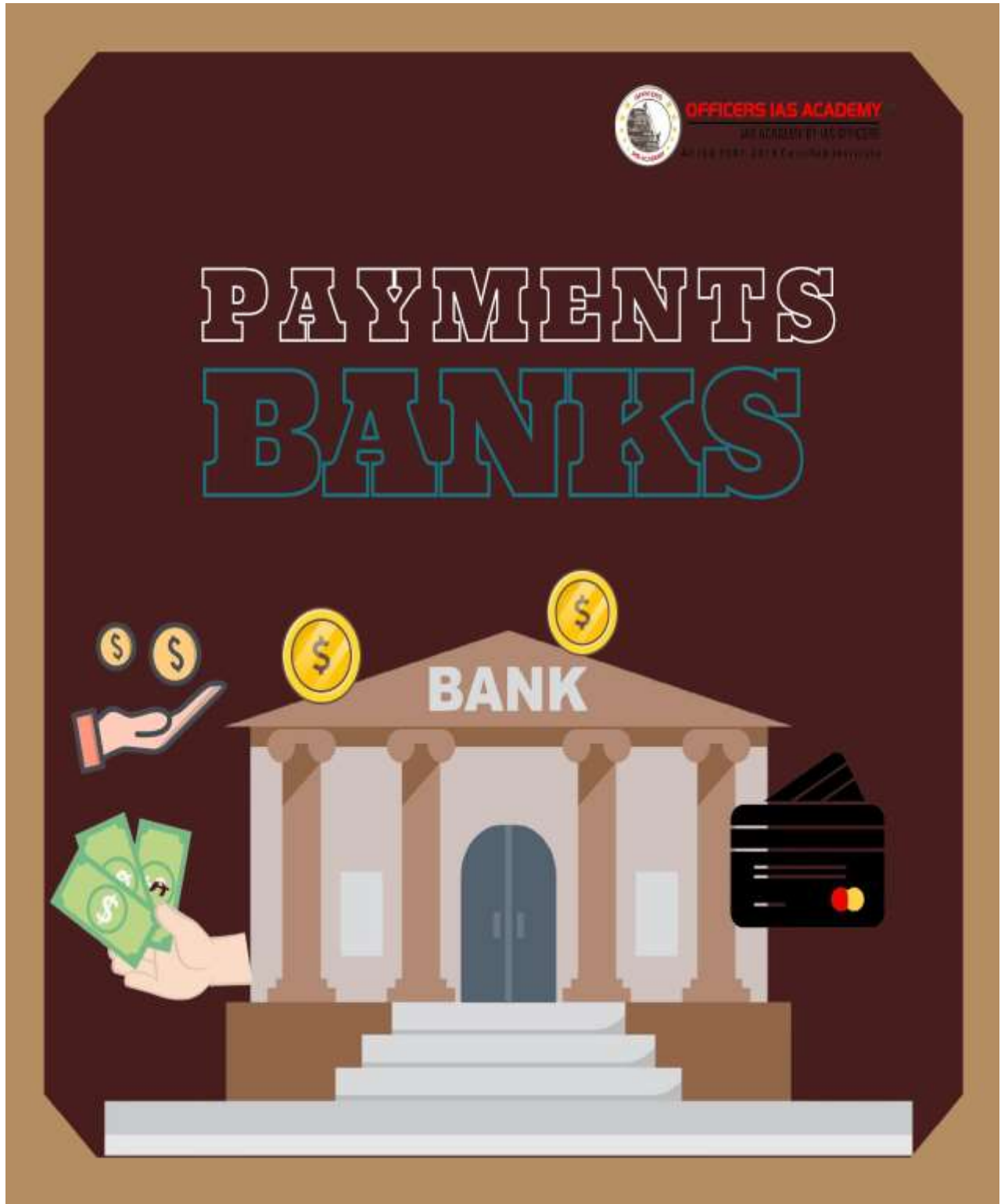
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About Payments banks
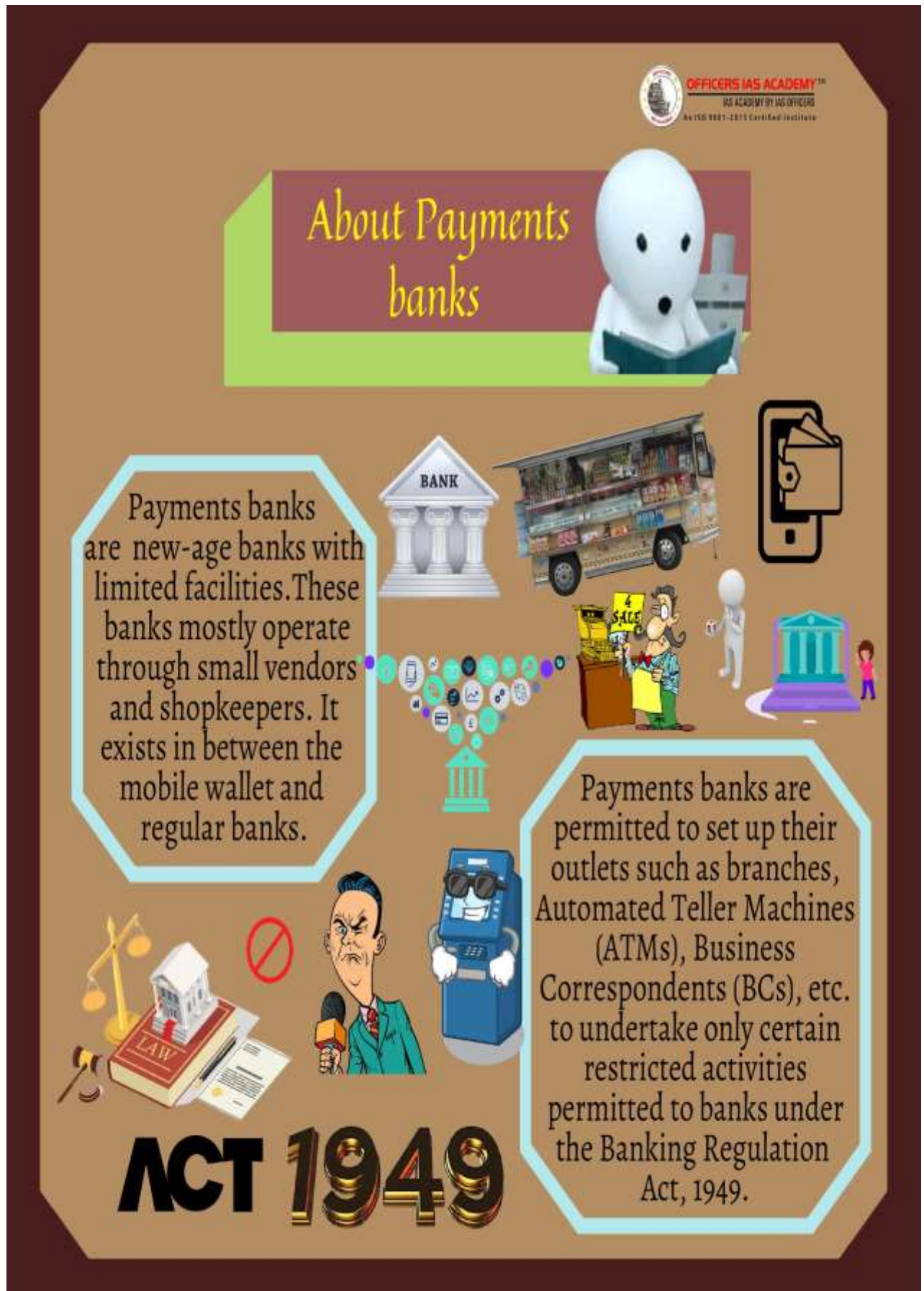
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BANK

Payments banks are new-age banks with limited facilities. These banks mostly operate through small vendors and shopkeepers. It exists in between the mobile wallet and regular banks.

Payments banks are permitted to set up their outlets such as branches, Automated Teller Machines (ATMs), Business Correspondents (BCs), etc. to undertake only certain restricted activities permitted to banks under the Banking Regulation Act, 1949.

LAW

ACT 1949

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A payments bank provides following services to its customers:

Accept demand deposits (restricted upto **Rs.2 lakhs**)

2 Lakhs

Remittance services

Mobile payments

Fund transfers

Debit card and associated services **(Payments banks, however, cannot issue credit cards)**

Net Banking services

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Sell third-party financial products like insurance and mutual funds

However, payments banks cannot undertake the following activities:

They **cannot undertake lending activities**
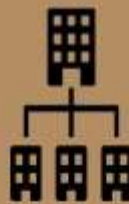
They **cannot set up subsidiaries to undertake non-banking financial services/activities**

They are not eligible to accept NRI deposits.

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Objectives

The main objective of payments banks is to widen the spread of payment and financial services to small businesses, low-income households, and the migrant labor workforce in a secured technology-driven environment.

With payments banks, RBI seeks to increase the penetration level of financial services to the remote areas of the country.

The Reserve Bank expects payments banks to target India's migrant laborers, low-income households, and small businesses, offering savings accounts and remittance services with a low transaction cost.

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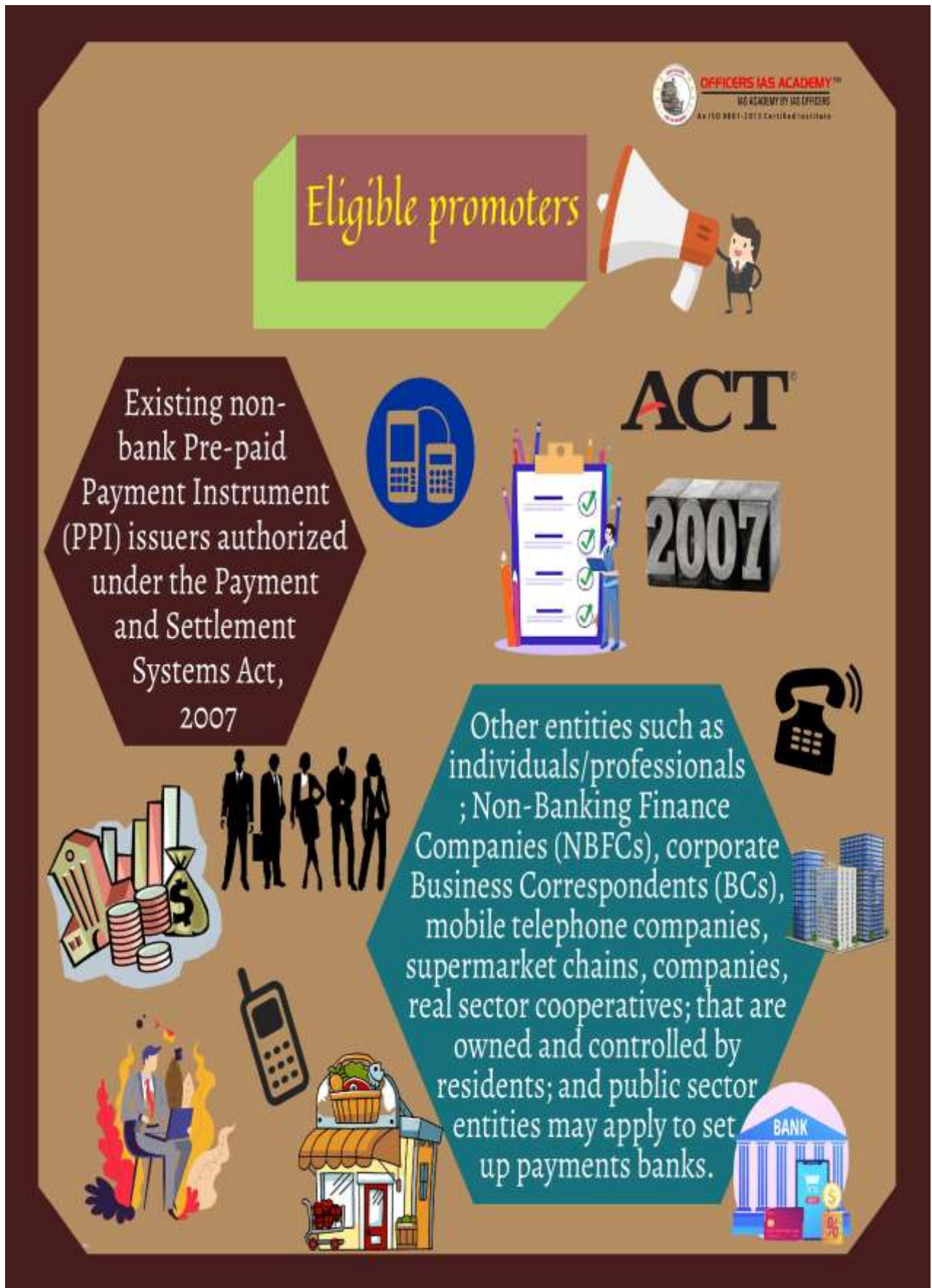
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Eligible promoters

Existing non-bank Pre-paid Payment Instrument (PPI) issuers authorized under the Payment and Settlement Systems Act, 2007

ACT

2007

Other entities such as individuals/professionals ; Non-Banking Finance Companies (NBFCs), corporate Business Correspondents (BCs), mobile telephone companies, supermarket chains, companies, real sector cooperatives; that are owned and controlled by residents; and public sector entities may apply to set up payments banks.

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Regulations

Payments banks are registered as a **public limited company** under the **Companies Act, 2013**, and licensed under Section 22 of the **Banking Regulation Act, 1949**
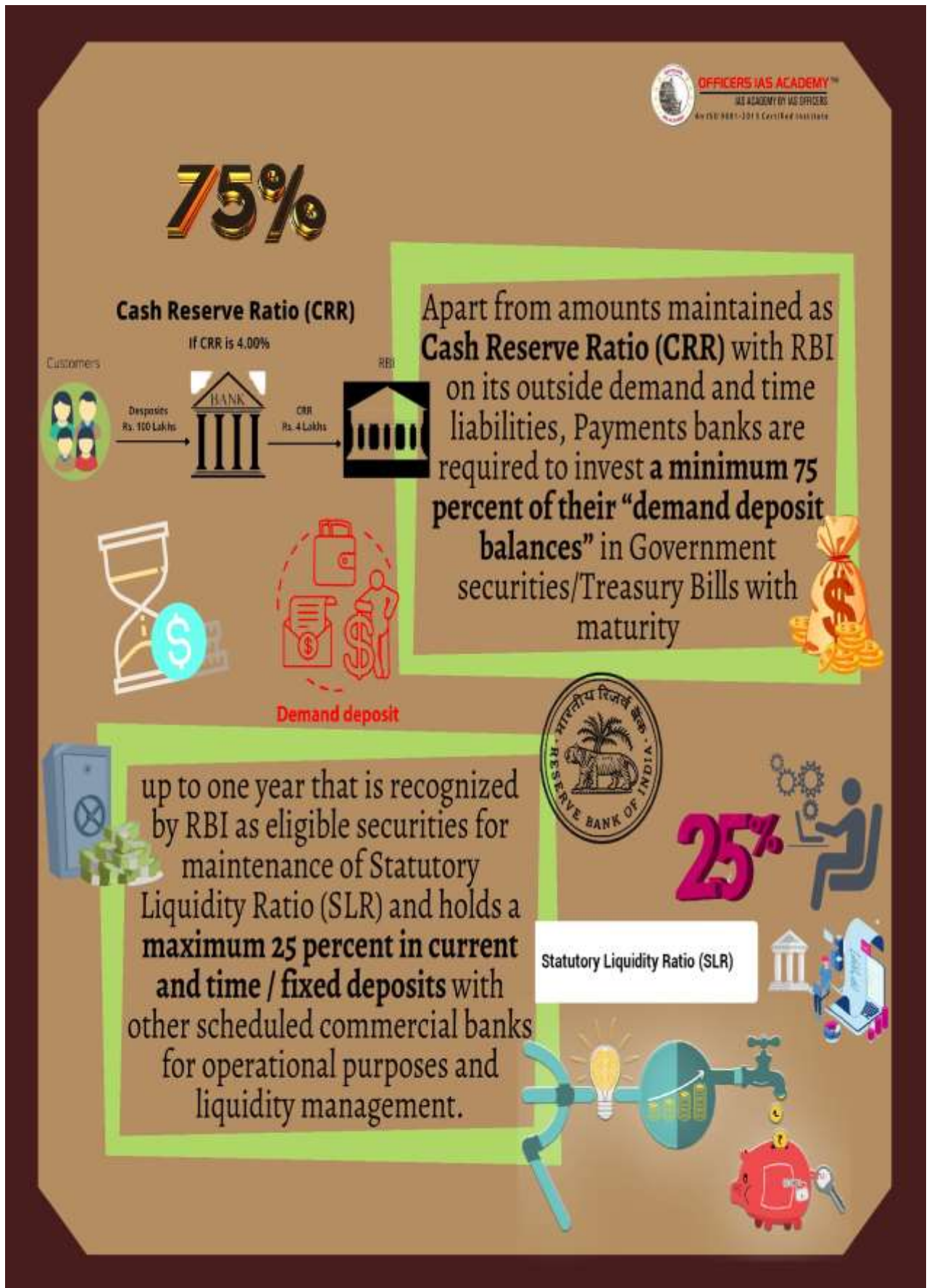
SECTION 22

1949

Deposits mobilized by the payments bank are covered under the **deposit insurance scheme of the Deposit Insurance and Credit Guarantee Corporation of India (DICGC).**

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75%

Cash Reserve Ratio (CRR)

If CRR is 4.00%

Customers

RBI

Desposits
Rs. 100 Lakhs

BANK

CRR
Rs. 4 Lakhs

Apart from amounts maintained as **Cash Reserve Ratio (CRR)** with RBI on its outside demand and time liabilities, Payments banks are required to invest **a minimum 75 percent of their "demand deposit balances"** in Government securities/Treasury Bills with maturity

Demand deposit

up to one year that is recognized by RBI as eligible securities for maintenance of Statutory Liquidity Ratio (SLR) and holds a **maximum 25 percent in current and time / fixed deposits** with other scheduled commercial banks for operational purposes and liquidity management.

25%

Statutory Liquidity Ratio (SLR)

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The **minimum paid-up equity capital for payments banks shall be Rs. 100 crore**, of which the promoter's contribution would be a minimum of 40 percent of paid-up equity capital for the first 5 years of commencement of the business.

The foreign shareholding in the payments bank would be **as per the Foreign Direct Investment (FDI) policy for private sector** banks as amended from time to time.

As per the current FDI policy, the aggregate foreign investment in a private sector bank from all sources will be allowed up to a maximum of 74 per cent of the paid-up capital of the bank.

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Why in News?

The RBI has asked Paytm Payments Bank to stop opening new accounts amid "material supervisory concerns" observed in the bank.

The bank has also been directed to appoint an IT audit firm to conduct a comprehensive system audit of its IT system.

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For free learning, visit www.officerspulse.com

Reference:

https://www.telegraphindia.com/business/rbi-asks-paytm-payments-bank-to-stop-opening-new-accounts/cid/1855547

For more such graphic learnings, visit https://officerspulse.com/infographics/

For free learning, visit www.officerspulse.com

References:

POLITY
- https://www.thehindu.com/news/states/the-partial-rollback-of-the-armed-forces-special-powers-act/article65289913.ece
- https://www.thehindu.com/news/national/home-ministry-seeks-more-time-to-frame-caa-rules/article38394468.ece

ENVIRONMENT
- https://www.thehindu.com/sci-tech/energy-and-environment/the-key-takeaways-of-a-unep-report-on-noise-pollution/article65286815.ece
- https://www.thehindu.com/news/international/united-nations-health-agency-who-says-99-of-worlds-population-breathes-poor-quality-air/article65289657.ece
- https://www.thehindu.com/sci-tech/energy-and-environment/no-place-for-new-coal-plants-says-ipcc-report/article65290258.ece
- https://www.hindustantimes.com/india-news/key-infra-in-mumbai-other-coastal-cities-may-submerge-by-2050-101649357980809.htmlhttps://www.thehindu.com/sci-tech/energy-and-environment/34-of-indias-coastline-is-eroding-ministry-of-earth-sciences/article65305899.ece

ECONOMY
- https://www.thehindubusinessline.com/economy/manufacturing-pmi-slips-to-six-month-low-in-march/article65288983.ece
- https://www.thehindu.com/news/international/the-india-australia-trade-agreement/article65290575.ece
- https://www.thehindu.com/business/rbi-raises-inflation-estimate-pivots-focus-to-price-stability/article65303577.ece
- https://www.thehindu.com/business/Economy/rbi-moves-to-normalise-liquidity-introduces-sdf-as-the-floor-to-absorb-excess-funds/article65303413.ece

- https://indianexpress.com/article/explained/everyday-explainers/what-is-standing-deposit-facility-7859803/

INTERNATIONAL RELATIONS
- https://indianexpress.com/article/india/india-un-general-assembly-vote-suspend-russia-un-human-rights-council-7858775/
- https://www.thehindu.com/business/Economy/adb-pegs-2022-23-gdp-growth-at-75/article65295702.ece

SCIENCE AND TECHNOLOGY
- https://www.thehindu.com/sci-tech/health/who-records-new-recombinant-sars-cov-2-variant/article65284952.ece
- https://www.thehindu.com/sci-tech/evolution-can-happen-at-shorter-timescales-a-fruit-fly-study-shows/article65281474.ece
- https://www.thehindu.com/sci-tech/technology/nfc-technology-for-instant-payments/article65286681.ece
- https://www.investopedia.com/terms/n/near-field-communication-nfc.asp

- http://www.millenniumpost.in/opinion/potential-for-augmentation-471067
- https://indianexpress.com/article/opinion/columns/industrial-revolution-agriculture-sector-farmers-protests-7188818/
- https://www.financialexpress.com/opinion/sowing-future-growth-agri-transformation-is-next-growth-frontier-for-entrepreneurship/2171265/
- https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html
- https://indianexpress.com/article/opinion/columns/quad-partners-outer-space-cooperation-ssa-space-situational-awareness-india-7538272/

DEFENCE
- https://www.thehindu.com/news/national/army-inducts-igla-s-shoulder-

- fired-air-defence-systems-from-russia/article65284695.ece
- https://www.thehindu.com/news/national/rajnath-singh-launches-second-edition-of-swarm-drone-competition-for-start-ups/article65296709.ece
- https://indianexpress.com/article/cities/bangalore/iaf-announces-winners-mehar-baba-swarm-drone-competition-7588658/
- https://www.thehindu.com/news/national/navy-aircrew-completes-training-on-mh-60r-helicopters-in-us/article65303552.ece
- https://www.financialexpress.com/defence/first-batch-of-crew-for-mh-60r-completes-training/2485584/
- https://www.thehindu.com/news/national/defence-ministry-notifies-3rd-positive-indigenisation-list/article65299040.ecehttps://www.thehindu.com/news/national/other-states/the-assam-meghalaya-boundary-dispute-resolution/article65273908.ece
- https://indianexpress.com/article/explained/assam-meghalaya-border-dispute-pact-explained-7847108/
- https://indianexpress.com/article/explained/explained-ib-ministrys-powers-to-regulate-content-on-tv-other-platforms-7761547/
- https://www.business-standard.com/article/pti-stories/india-successfully-flight-testes-missile-system-sfdr-booster-122040800852_1.html
- https://www.grc.nasa.gov/www/k-12/airplane/ramjet.html

ART AND CULTURE
- https://www.thehindu.com/news/national/kerala/prehistoric-relics-reveal-attappadys-ancient-past/article65282602.ece

PIB
- https://pib.gov.in/PressReleasePage.aspx?PRID=1813138
- https://pib.gov.in/PressReleasePage.aspx?PRID=1813171
- https://pib.gov.in/PressReleasePage.aspx?PRID=1814821

- https://pib.gov.in/PressReleasePage.aspx?PRID=1815164
- https://pib.gov.in/PressReleasePage.aspx?PRID=1814442

AIR
- https://newsonair.gov.in/News?title=Speed-up-works-of-Eklavya-Model-residential-schools%2c-Parliamentary-panel-tells-government&id=438406
- https://newsonair.gov.in/News?title=FM-Nirmala-Sitharaman-says%2c-over-51-percent-of-total-loan-sanctioned-under-Pradhan-Mantri-Mudra-Yojana-to-SC%2c-ST%2c-and-OBC&id=438760

EDITORIALS
- https://www.thehindu.com/opinion/op-ed/making-groundwater-visible/article65287459.ece
- https://www.thehindu.com/opinion/op-ed/making-groundwater-visible/article65287459.ece

INDIAN EXPRESS
- https://indianexpress.com/article/explained/complete-human-genome-explained-7848706/
- https://indianexpress.com/article/explained/what-is-fortified-rice-how-is-it-prepared-7860432/
- https://indianexpress.com/article/explained/cag-report-uidai-audit-aadhaar-data-7857808/
- https://indianexpress.com/article/explained/explained-how-electoral-bonds-work-why-criticism-7856583/

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