

OFFICERS' PULSE

Issue no.47 | 17th April to 23rd April, 2022



**AT A GLANCE
& IN DEPTH.**

COVERAGE.

The Hindu
The Indian Express
PIB
Rajya Sabha TV
All India Radio

Polity and Social Issues
Economy
International Relations
Environment
Science and Tech
Culture

CURRENT AFFAIRS WEEKLY
THE **PULSE** OF UPSC AT YOUR FINGER TIPS



News @ a glance

POLITY.....	3	2) Tilting trains.....	12
1) The functioning of the Enforcement Directorate.....	3	3) RLV-LEX.....	13
2) Postal Ballots for NRIs.....	3	DEFENCE.....	14
ENVIRONMENT.....	6	1) Satellite Phones.....	14
1) World Earth Day 2022.....	6	2) Frigates.....	14
2) India's Coal Shortage and its effect on Power Supply.....	6	3) INS Vagsheer.....	15
ECONOMY.....	8	4) iDEX Prime.....	15
1) Govt. amends rules governing Nidhi companies.....	8	ART AND CULTURE.....	17
2) World Economic Outlook.....	8	1) Guru Tegh Bahadur.....	17
3) Payments banks.....	9	PIB ANALYSIS.....	18
INTERNATIONAL RELATIONS.....	11	1) India's sugar exports.....	18
1) Financial Action Task Force.....	11	2) Atal Pension Yojana.....	18
SCIENCE AND TECHNOLOGY.....	12	3) One District One Product Scheme.....	18
1) Space Bricks.....	12	4) Formation and Promotion of FPOs.....	19
		5) One Nation One Ration Card.....	20
		6) Pradhan Mantri Bhartiya.....	21

News in Depth

AIR NEWS.....23

- 1) National Apprenticeship Mela.....23
- 2) Tuberculosis23

THE HINDU EDITORIALS.....25

- 1) Unfounded apprehensions about this Act.25
- 2) Fishing for workable solutions in the Palk Bay.....26

INDIAN EXPRESS EXPLAINED.....28

- 1) A new research about Jupiter's moon "Europa"28
- 2) Life and legend of Guru Tegh Bahadur, who stood up to the Mughals28

INFOGRAPHIC OF THE WEEK30

- 1) INTERNATIONAL COURT OF JUSTICE30

News @ a glance

POLITY

1) The functioning of the Enforcement Directorate

Context

- The Enforcement Directorate (ED) is in the news now and often.
- It goes back to May 1, 1956, when an 'Enforcement Unit' was formed in the **Department of Economic Affairs**, for handling Exchange Control Laws violations under the **Foreign Exchange Regulation Act (FERA)**.
- The ED today is a multi-dimensional organisation investigating economic offences under the **Prevention of Money Laundering Act (PMLA)**, **Fugitive Economic Offenders Act**, **Foreign Exchange Management Act** and **FERA**.

Powers of ED

- The PMLA was brought in to **prevent parking of money outside India and to trace out the layering and the trail of money**. The ED got its power to investigate these crimes under Sections 48 and 49 of the Act.
- Whenever any offence is registered by a local police station, which has generated **proceeds of crime over and above ₹1 crore**, the ED steps in. The ED can also carry out search (property) and seizure (money/documents) if it suspects money has been laundered.
- A person shall be guilty of the offence of money-laundering, if such person is found to have directly or indirectly attempted to indulge or knowingly assist a party involved in one or more of the following activities — concealment; possession; acquisition; use; or projecting as untainted property; or claiming as untainted property in any manner.

- If money has been laundered abroad, the **PMLA court (constituted as per the Act)** has the right to send a letter of rogatory under Section 105 (reciprocal arrangements regarding processes) of the Code of Criminal Procedure. The said government can then share the documents and evidence needed by the agency.

Can the ED investigate cases of money laundering retrospectively?

- Since the PMLA was enacted only in 2005, **any ill-gotten property acquired before the year 2005 has no case under PMLA**.

2) Postal Ballots for NRIs

What's in the news?

- Chief Election Commissioner Sushil Chandra urged Non-Resident Indians (NRIs) to register as overseas electors and told them about a proposal on postal ballots for NRIs being contemplated during a recent visit to South Africa and Mauritius.
- During the interaction with members of the Indian community, the CEC urged them to register as overseas voters as the present numbers are abysmally low. He also shared with the members that extension of Electronically Transmitted Postal Ballot System (ETPBS) facility to overseas voters is being contemplated.
- The EC had written to the Law Ministry in 2020 proposing NRIs be allowed to vote through postal ballots, following which the matter has been under consideration by the government.

How can overseas voters currently vote in Indian elections?

- **Prior to 2010**, an Indian citizen who is an eligible voter and was residing abroad for more than six months owing to employment, education or otherwise, **would not have been able to vote** in elections. This was because the NRI's name was deleted from electoral rolls if he or she stayed outside the country for more than six months at a stretch.
- After the passing of the **Representation of the People (Amendment) Act, 2010**, eligible NRIs who had stayed abroad beyond six months have been **enabled to vote, but only in person at the polling station where they have been enrolled as an overseas elector**.
- Yet, the provision of having to visit the polling booth in person has discouraged eligible voters from exercising their mandate. Only a **very low proportion** of eligible overseas residents actually registered or turned up to vote.

What is the current strength of NRI voters?

- According to a UN report of 2015, **India's diaspora population is the largest in the world** at 16 million people.
- As of now there are only 1.12 lakh registered overseas electors.

Government's proposal

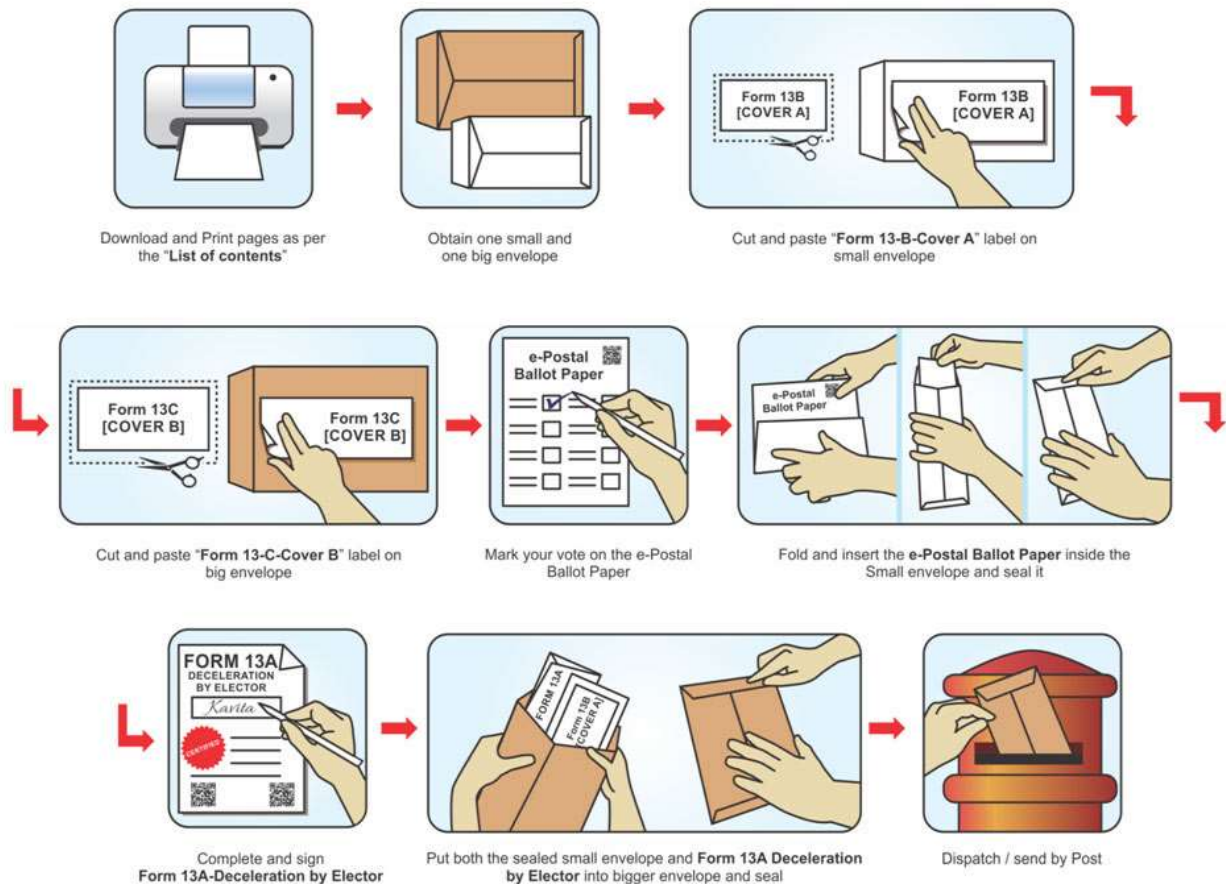
- In the winter session of Parliament in 2017, the government **proposed to remove the restriction imposed by Section 20A of the Representation of the People Act**, which required them to be physically present to vote in their constituencies.
- The Bill provided for overseas voters to be able to **appoint a proxy to cast their votes on their behalf**, subject to conditions laid down in the Conduct of Election Rules, 1961. The Bill was later

passed in 2018, but **lapsed with the dissolution of the 16th Lok Sabha**.

- Now the ECI has approached the government to permit NRIs to vote via postal ballots similar to a system that is already used by service voters (**the Electronically Transmitted Postal Ballot System, or ETPBS**).

What is ETPBS and how does it function?

- The Electronically transmitted Postal Ballot System is developed by Election Commission of India with the help of **Centre for Development of Advanced Computing (C-DAC)**, for the use of the Service Voters.
- It is a fully secured system, having **two layers of security**. Secrecy is maintained through the use of **OTP and PIN** and no duplication of casted Electronically Transmitted Postal Ballot (ETPB) is possible due to the **unique QR Code**.
- The developed System is implemented **inline with the existing Postal Ballot System**. This system enables the entitled service voters to cast their vote using an **electronically received postal ballot from anywhere outside their constituency**. The voters who make such a choice will be entitled for the Postal Ballot delivered through Electronic Media for a particular election.
- The service voter can then download the ETPB, register their mandate on the ballot and send it to the returning officer of the constituency via ordinary mail. The postal ballot **must reach the returning officer by 8 a.m. on the day of the counting of results**.
- This system would be an easier option of facilitating voting by the electors as the time constraint for dispatch of postal ballot has been addressed using this system.



- The **Conduct of Election Rules, 1961** was **amended in 2016** to allow service voters to use the ETPBS.
- This facility is **now available for service voters** (being a member of the armed Forces of the Union; or a member of a force to which provisions of the Army Act, 1950; a member of an Armed Police Force of a State, and serving outside that State; or a person who is employed under the Government of India, in a post outside India) and the ECI now proposes to extend this facility to overseas voters as well. For this to commence, the Law Ministry has to amend the Conduct of Election Rules, 1961.

Are postal ballots a viable means of voting?

- The ETPBS method **allowed for greater turnout among service voters** in the 2019 Lok Sabha election.
- With increasing mobility of citizens across countries for reasons related to work, the postal ballot method has been recognised by the **International Institute for Democracy and Electoral Assistance** (an

intergovernmental organisation that works to support democratic processes and institutions) as a means to allow overseas voters to exercise their right, subject to certain conditions normally related to the time spent abroad or the work carried out abroad.

- Postal ballots were proven to be a **secure and an easy way** of registering the mandate in the presidential elections in the United States recently with many voters preferring to use this method due to the COVID-19 social distancing norms.
- A postal ballot mechanism that allows for **proper authentication of the ballot** at designated consular/embassy offices and an effective postal system should ease this process for NRIs, but the rules must be clearly framed for eligibility on the basis of time spent away from the country.

For doubts and queries email us at doubts@officerspulse.com

ENVIRONMENT

1) World Earth Day 2022

About World Earth Day

- The World Earth Day, also known as the **International Mother Earth Day**, is celebrated every year on April 22 under which countries across the globe come together to create more awareness about the dire need to protect our environment.
- The day focuses on the **global climate crisis** that is worsening with each passing day.
- On this day, the emphasis is on the increasing environmental problems, including **overpopulation, loss of biodiversity, depleting ozone layer and rising pollution**.

History of Earth Day

- Earth Day was first celebrated on **April 22, 1970** when the peace activist **John Mc Connell** proposed to honor Mother Earth and the concept of peace during a UNESCO conference in San Francisco.
- World Earth Day was earlier decided to be celebrated on March 21, 1970 as the day one of spring in the Northern Hemisphere.

Why is Earth Day Celebrated?

- In 1969, Santa Barbara in California was ravaged by a massive oil spill which served as a motivation for the Senator to work towards the protection of the environment.
- On Earth Day, millions of people connect to discuss environmental issues like **pollution and deforestation**. Many people participate and organize events to hold discussions around topics of **environmental literacy to educate young minds** about various climate issues.

What was the impact of the first Earth Day?

- By the end of 1970, the U.S. had set up the United States Environmental Protection Agency to take care of

matters related to environmental protection.

- The country also passed several **environment-related laws** including the National Environmental Education Act, the Occupational Safety and Health Act, and the Clean Air Act.

What is the theme for the 2022 Earth Day?

- The theme of this year's Earth Day is "**invest in our planet**".
- The focus is on activities that promote a **partnership between businesses, governments, and citizens** for urgent action towards environmental protection in order to ensure a sustainable future.
- **In 2020, the world observed the 50th anniversary of Earth Day.**
- In 2021, the theme was to 'Restore our Earth' and in 2020, the theme was 'Climate action'.

Why in news?

- Every year people across the world **celebrate Earth Day on April 22** to show their support for the protection of the earth and the environment.
- Events on the day include plantation drives, protests, awareness sessions, competitions for children, and so on.

2) India's Coal Shortage and its effect on Power Supply

What's the news?

- As per the latest data, coal stocks at more than **100** thermal power plants in India have **fallen below 25%** of the required stock (critical mark).
- In more than 50 thermal plants, the stock has **fallen below the 10%** mark, leading to States seeking additional coal supplies from India's sole coal producer Coal India Ltd (CIL).

News in detail

- Central Electricity Authority (CEA) data shows that as of 2022, India's power generation via thermal plants using **domestic coal stood at 182.39**

GW with an average of 34% coal stock in them. Meanwhile, **16.73 GW was generated by power plants using imported coal** with an average coal stock of 34%.

- Nine thermal plants with the capacity to generate 3.56 GW are currently non-functional.
- Of the 173 thermal power plants, 85 plants fired by domestic coal have less than 25% stock while 11 plants running on imported coal have hit critical levels.

Why does India face a Coal Shortage?

- The biggest reason for coal shortage is the **increasing power demand**. In 2021, demand increased to 124.2 BU per month from 106.6 BU per month in 2019. In 2022, the demand has further increased to 132 BU.
- Centre's core management team (CMT) stated that the **heavy rains in coal mining areas** like Gujarat, Punjab, Rajasthan, Delhi and Tamil Nadu had resulted in lesser coal production.
- Moreover, prior to the monsoon season, there was inadequate coal stock build-up in most thermal plants, pushing them below critical levels.
- The Centre also stated that there was a **43.6% reduction in power generation from imported coal**, which led to extra demand of 17.4 MT of domestic coal, further depleting coal reserves.

How will coal shortage affect power supply and cost?

- As per **Fitch**, the daily electricity deficit in India has increased from **0.3% to 1% in April 2022**. This has led to an **85% increase in the price of electricity** traded on Indian exchanges from an average of Rs 3/kWh to Rs 8.23/kWh in March.
- Fitch further estimates that low coal supplies will not allow National Thermal Power Corporation (NTPC) to **increase its plant load** factor to its

power output with respect to its fuel by more than 70.7%. This was the limit NTPC had increased its load to in 2021, up from 66% in 2020.

- The peak in demand has been met with **load shedding, planned outages** by States like Andhra Pradesh, Gujarat, Maharashtra, Jharkhand, Bihar, Haryana and Uttarakhand.
- Eg: Since April 1, Jharkhand has been facing an average supply shortage of 10-12%, followed by Andhra Pradesh (10%), Uttarakhand (8-10%), Madhya Pradesh (6%) and Haryana (4%).

How does the Centre plan to fix the coal crisis?

- The Centre has **allowed States to use its captive coal reserves up to 25%** to meet growing domestic demand.
- It has also allowed **generating companies to blend imported coal up to 10%** to ease the burden on CIL.
- In 2020, Centre had passed **mining reforms** to end CIL's monopoly on India's coal manufacturing.
- The law allowed **commercial mining in the coal sector** with 50 blocks to be offered immediately. It also allowed **any party to bid for coal mines instead of only captive consumers** (i.e companies which use coal for running their businesses).
- The law also incentivised early coal production with rebate in revenue share and promised Rs 50,000 crore investment for diversifying CIL's operations which had run into severe Opposition from States especially mineral-rich states like Jharkhand, Bihar citing that this will have an adverse impact on a large tribal population and forests. The case is pending in the Supreme Court.

For doubts and queries email us at: doubts@officerspulse.com

ECONOMY

1) Govt. amends rules governing Nidhi companies

About Nidhi companies

- Nidhi companies carry on the business of **accepting deposits and lending the same on demand amongst its members**. Their main objective is **cultivating the habit of thrift and saving amongst its members**.
- It is a **type of Non-Banking Financial Company (NBFC)** registered under the **Companies Act 2013**.
- One of the key features of a Nidhi company is the **limitation of its services to its members only**. This reduces the risk of non-payment of loans as the Company accepts deposits and offers loans to its members only.
- These companies are **not entitled to carry on** the business of Hire Purchase Financing, Insurance, Chit Funds and Acquisition of securities or Issue of any Debt Instruments.
- Nidhi Companies are regulated by the **Ministry of Corporate Affairs**.
- Since Nidhi's come under one class of NBFCs, **RBI is empowered to issue directions** to them in matters relating to their deposit acceptance activities. However, in recognition of the fact that these Nidhi's deal with their shareholder-members only, RBI has **exempted the notified Nidhi's from the core provisions of the RBI Act and other directions applicable to NBFCs**.

Why in News?

- The union government has amended Nidhi rules, under which **public companies seeking to function as Nidhis must obtain prior declaration from the Centre before accepting deposits**.
- The government has amended the rules to **protect the interests of the public and prevent possible illegal fundraising activities**.
- The move by the Corporate Affairs Ministry also came against the backdrop of a significant increase in

the number of Nidhi companies in recent years and instances of the public getting duped by fraudulent money-pooling activities.

2) World Economic Outlook

About

- The World Economic Outlook (WEO) is an **International Monetary Fund's** report that provides analysis and forecasts of economic developments and policies in its member countries.
- The report encapsulates the state of the global economy and highlights risks and uncertainty that threaten growth.
- It is usually published **twice a year**.

Why in News?

- The IMF, in its latest World Economic Outlook, has cut its forecast for **India's GDP growth in the current fiscal year to 8.2%**, a 0.8 percentage point reduction from its previous projection, as it downgraded the outlook for global growth citing the economic impact of the Russia-Ukraine war.
- It also projected **India's economy to expand by 6.9%** next year, putting it on course to be the fastest growing large economy over the next two years.
- **World output is now projected to grow by 3.6%** this calendar year and next, slowing sharply from the 6.1% expansion seen in 2021.
- The global impacts of Russia's invasion of Ukraine are expected to work through several channels. First, the commodity price increases. Second, direct impacts to the extent that countries have trade links with Russia or Ukraine. Third, via disruptions to cross-border production networks (e.g. neon gas production, an input for silicon chips is concentrated in Russia and Ukraine as per the IMF). Fourth, sanctions.

3) Payments banks

About Payments banks

- Payments banks are the new age banks with limited facilities. These banks mostly operate through the small vendors and shopkeepers. It exists in between the mobile wallet and regular banks.
- Payments banks are permitted to set up their own 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.
- A payments bank provides following services to its customers:
 - Accept demand deposits (restricted upto **Rs.2 lakh**)
 - Remittance services
 - Mobile payments
 - Fund transfers
 - Debit card and associated services (**Payments banks, however, cannot issue credit cards**)
 - Net Banking services
 - 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.**

Objectives

- The main objective of payments banks is to widen the spread of payment and financial services to small business, low-income households, and the migrant labour 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

labourers, low-income households and small businesses, offering savings accounts and remittance services with a low transaction cost.

Eligible promoters

- Existing non-bank Pre-paid Payment Instrument (PPI) issuers authorised under the Payment and Settlement Systems 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.

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**.
- Deposits mobilised by the payments bank are covered under the **deposit insurance scheme of the Deposit Insurance and Credit Guarantee Corporation of India (DICGC)**.
- Apart from amounts maintained as **Cash Reserve Ratio (CRR)** with RBI on its outside demand and time liabilities, Payments banks are required to invest **minimum 75 per cent of its "demand deposit balances"** in Government securities/Treasury Bills with maturity up to one year that are recognized by RBI as eligible securities for maintenance of Statutory Liquidity Ratio (SLR) and hold **maximum 25 per cent in current and time / fixed deposits** with other scheduled commercial banks for operational purposes and liquidity management.
- The **minimum paid-up equity capital for payments banks shall be Rs. 100 crore**, of which the promoter's contribution would be minimum 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 upto a maximum of 74 per cent of the paid-up capital of the bank.
- Last year, the RBI **doubled the maximum limit of funds account holders of payments banks to Rs 2 lakh** from Rs 1 lakh earlier with immediate effect.
- The decision to double the limit was based on a review of the performance of payments banks and with a view to encourage their efforts for financial inclusion and to expand their ability to

cater to the needs of their customers, including MSMEs, small traders and merchants.

Why in News?

- On the occasion of the 75th anniversary of Indian Independence & ongoing Azadi ka Amrit Mahotasav, India Post Payments Bank (IPPB), a 100% government owned entity under Department of Posts (DoP) announced the launch of **Fincluvation**- a joint initiative to collaborate with Fintech Startup community to co-create and innovate solutions for financial inclusion.

For doubts and queries email us at: doubts@officerspulse.com

INTERNATIONAL RELATIONS

1) Financial Action Task Force

About Financial Action Task Force (FATF)

- It is an **intergovernmental organization** that designs and promotes policies and standards to combat financial crime.
- Recommendations of the FATF target
 - Money laundering
 - Terrorist financing
 - Other threats to the global financial system
- The FATF was created in 1989 by the **G7 countries**, and is headquartered in Paris.
- There are **37 members**, including **India** and **two regional organisations** - European Commission and the Gulf Cooperation Council.

Grey list FATF

- Member countries that have deficiencies in their anti-money laundering and counter terrorist financing (AML/CTF) regimes but they **commit** to an action plan to address these loopholes.
- Currently, there are more than 20 countries on the grey list, including **Pakistan**.

Black list FATF

- Member countries that have deficiencies in their anti-money laundering and counter terrorist financing (AML/CTF) regimes and **do not end up doing enough**.
- As of now there are only two countries in the blacklist — **Iran and North Korea**.
- While greylist includes countries which are considered as safe havens for supporting terror funding and money laundering, blacklisting will mean **severe strictures on the countries banks and credit rating**, as well as **access to loans and foreign investments**.
- Pakistan has been under the FATF's scanner since 2018, when it was put on the greylist for terror financing and money laundering risks.

Why in News?

- Union Minister for Finance & Corporate Affairs Nirmala Sitharaman attended the FATF Ministerial Meeting in Washington D.C. held recently.

For doubts and queries email us at: doubts@officerspulse.com

SCIENCE AND TECHNOLOGY

1) Space Bricks

What's in News?

- Researchers from the Indian Space Research Organisation (ISRO) and the Indian Institute of Science (IISc) have **developed** a way to make **bricks** from **Martian soil** with the help of **bacteria and urea**.
- These 'space bricks' can be used to construct building-like structures on Mars that could facilitate human settlement on Mars.

The process used by the researchers

- The team first **made the slurry by mixing Martian soil with guar gum, a bacterium called Sporosarcina pasteurii, urea and nickel chloride (NiCl₂)**.
- This **slurry can be poured into moulds of any desired shape**, and over a few days the **bacteria convert the urea into crystals of calcium carbonate**.
- These crystals, along with **biopolymers secreted by the microbes, act as cement** holding the soil particles together.

Advantages of this method

- This **method ensures** that the **bricks are less porous**, which was a problem with other methods used to make Martian bricks. The **bacteria seep deep into the pore spaces**, using their own **proteins to bind the particles together**, decreasing porosity and leading to **stronger bricks**.
- The current slurry-casting method **can also produce bricks of complex shapes**.

Challenges faced by the researchers

- The **composition of Martian soil** has a lot of **iron** that **causes toxicity** to organisms and it doesn't let bacteria grow at all. **Adding nickel chloride** was the **key step** in making the soil **hospitable to the bacteria**.
- The **Martian atmosphere is a hundred times thinner than that of Earth's**, and contains over **95%**

carbon dioxide, which may **significantly affect bacterial growth**.

2) Tilting trains

Why in News?

- According to one of the experts who worked with Paris-based consultancy Systra on the feasibility report for the Silverline Project, Kerala should investigate the possibility of introducing tilting trains on existing broad gauge rail tracks, which would allow the state to increase train speeds by about 20% -30%.

What are they?

- **Tilting trains**, which have a **mechanism enabling higher speed on regular broad-gauge tracks**, tilt while negotiating a bend or curve on the track.
- Objects inside a train (or other vehicle) **experience centrifugal force** when it turns a curve at high speed.
 - Centrifugal force is the **apparent outward force on a mass when it is rotated**.
- Packages may slide about, sitting people may feel crushed by the outboard armrest, and standing passengers may lose their balance as a result of this. **Tilting trains are designed to compensate for the g-force by tilting the carriages towards the inside of the curve**. The train might be designed to tilt due to inertial forces (passive tilt), or it could feature a computer-controlled powered system (active tilt).
- **During a curve to the left, the train tilts to the left and vice versa**.
- Tilting trains **can be introduced after installing automatic signalling and strengthening** the existing tracks.

Other options to increase the speed of existing trains

- The State can **straighten the curves in the existing lines** once the doubling works are over. This would allow the Railways to run trains

reaching speeds in the range of 160-180 km/hr.

- The State can explore the **possibility of constructing a dedicated line on broad gauge for running high-speed or semi-high-speed trains**. This would allow the State to integrate the new lines with existing ones.

3) RLV-LEX

Why in News:

- The Indian Space Research Organisation (ISRO) is aiming to carry out a **landing experiment (LEX)**, a critical **component of the Reusable Launch Vehicle-Technology Demonstration (RLV-TD) programme**.

About the experiment

- **RLV-LEX** involves taking an **unmanned, winged prototype to an altitude** of about 2.3 km to 2.4 km on a helicopter and **releasing it to land**.
- The prototype will be released 3.7 km away from the airstrip and it must travel the distance autonomously, gain velocity, maintain control and come in like any typical aircraft, touching down with the rear wheels first. A parachute will then be deployed for braking.

Reusable Launch Vehicle-Technology Demonstration (RLV-TD) programme

- The **cost of access to space is the major deterrent** in space exploration and space utilization. A **reusable launch vehicle is the unanimous solution** to achieve low cost, reliable and on-demand space access.
- **Currently, ISRO employs** expendable rockets such as the Polar Satellite

Launch Vehicle (**PSLV**) and the Geosynchronous Satellite Launch Vehicle (**GSLV**) for space missions.

- Reusable Launch Vehicle-Technology Demonstration Program or **RLV-TD** is a series of technology demonstration missions that have been considered as a first step towards realizing a **Two Stage To Orbit (TSTO) fully reusable vehicle**.
- A Winged Reusable Launch Vehicle technology Demonstrator (RLV-TD) has been configured to act as a flying test bed to evaluate various technologies, namely, hypersonic flight, autonomous landing, powered cruise flight and hypersonic flight using air-breathing propulsion.
- These technologies will be developed in phases through a series of experimental flights. The first in the series of experimental flights is the **hypersonic flight experiment (HEX)** followed by the landing experiment (**LEX**), return flight experiment (**REX**) and scramjet propulsion experiment (**SPEX**).
- Reusable Launch Vehicle Technology Demonstrator Hypersonic Experiment (RLV-TD HEX1) wherein the hypersonic aero-thermo dynamic characterization of winged re-entry body along with autonomous mission management to land at a specified location and characterization of hot structures are planned to be demonstrated.

For doubts and queries email us at: doubts@officerspulse.com

DEFENCE

1) Satellite Phones

Why in News:

- Signatures of Iridium satellite phones, used by the US-led allied forces in Afghanistan, and Wi-Fi-enabled thermal imagery devices that help a terrorist to escape security cordons especially during night have been found in the militancy-hit Kashmir valley.
- In the aftermath of the 2008 Mumbai terror attacks, the Directorate General of Shipping (DGS) first restricted the use of Iridium and Thuraya satellite phones and infrastructure, and in 2012 completely banned them under the provisions of the **Indian Telegraph Act**.

Satellite Phones

- A **satellite phone** is a phone that can **communicate with satellites in orbit**. They can **connect to voice and short message services**, as well as low-bandwidth Internet access, much like terrestrial mobile phones.
- Because satellite phones are directly connected to satellites throughout the world and do not rely on terrestrial mobile cellular networks, they **can connect from anywhere**.
- A satellite phone is designed to work outside, mostly when a mobile phone is not functional owing to a lack of a network, which is more typically in **very remote locations and, on occasion, in harsh weather**. Satellite phones are very **beneficial in the world's most remote locations**, such as mountains, woods, poles, deserts, and the middle of the ocean.

Thermal imagery devices

- **Thermal imaging cameras are handheld electronic devices** with an integrated visual display, **designed for detecting heat energy**.
- The key component of a thermal camera is a **heat sensor attached to a special type of lens**, which is then adapted to work alongside standard image-capture technologies

- Visible light forms only a small part of the electromagnetic spectrum, and the only part we can actually see.
- When pointed at an object or area, the **sensor on a thermal detection camera** allows the user to **view** the otherwise **invisible infrared spectrum**, which exists at wavelengths between visible light and microwaves. This is often rendered as a colour map in modern IR cameras.
- On a **colour** thermographic display, **warmer components** or regions will **show up as reds, oranges and yellows**, while **cooler parts** will typically be **shown as purples and blues** (**green** usually indicates areas that are **roughly at room temperature**).
- Because they measure infrared radiation, and not visible light, thermal cameras are also useful for identifying heat sources in very dark or otherwise obscured environments.

2) Frigates

What's in News:

- Russia has assured India that it would deliver the two **Talwar-class stealth frigates** under construction there as per schedule.
- As per a 2016 **Inter-Governmental Agreement (IGA)**, two stealth frigates are under construction in Russia under a \$1-billion deal while two more are being built by the Goa Shipyard Limited (GSL) under technology transfer.

What are frigates

- **Frigates are naval vessels intermediate between corvettes and destroyers**, and have had a significant role in the naval history of India.
- Frigates which employ stealth technology construction techniques in an effort to ensure that it is **harder to detect by one or more of radar, visual, sonar, and infrared methods**.

3) INS Vagsheer

Why in News:

- The **sixth and last** of the French **Scorpène**-class submarines, **INS Vagsheer**, was **launched** into water at the Mazagon Docks Limited (MDL) in Mumbai.
- The **six submarines** were being built under **Project-75** by the MDL under technology transfer from the Naval Group under a \$3.75 bn deal signed in 2005. The **first** one, **INS Kalvari**, was commissioned in 2017; the **second**, **INS Khanderi**, in 2019; the **third**, **INS Karanj**, in March 2021; and the **fourth** one, **INS Vela**, joined service in November 2021. The **5th** one, **INS Vagir**, was launched in November 2020 and is undergoing sea trials.
- The Navy has drawn up **plans to install an Air Independent Propulsion (AIP) module on all the Scorpènes** as they go for **refit**, beginning with **INS Kalvari**, in the next couple of years to enhance their endurance.
 - **AIP allows a non-nuclear submarine to operate without access to atmospheric oxygen**

What are Scorpene-class submarines?

- They are the most **advanced conventional submarines** with superior **stealth** features, such as advanced **acoustic silencing techniques**, **low radiated noise levels** and ability to attack with precision-guided weapons on board.
- They were designed by French naval shipbuilding firm DCNS in partnership with Spanish shipbuilding firm Navantia.
- These are used in the missions such as **area surveillance, intelligence gathering, anti-submarine warfare, anti-surface warfare and minelaying operations**.
- It can carry upto 6 torpedoes and 18 heavy weapons.
- With 350 meters diving depth, it can travel upto 20 knots speed (37.04 kmph) and submerged upto 21 days.

About Project 75I

- Indian Navy's **Project 75I (P75I)** is the **development of Scorpene submarine development** for six latest-generation attack submarines.
- It is expected to be completed by 2022.
- The project is taking shape at Mazagon Dock in Mumbai.

4) iDEX Prime

Why in News:

- The Defence Minister launched Innovations for Defence Excellence (**iDEX**) Prime and the sixth **Defence India Start-up Challenge (DISC-6)** meant to **encourage defence start-ups during DefConnect 2.0**.
- The **iDEX-Prime aims to support projects, requiring support beyond ₹1.5 crore up to ₹10 crore, to help the ever-growing start-ups in the sector**
 - The iDEX has provided an opportunity to science and technology professionals to understand futuristic technologies such as **AI, Augmented Reality, blockchain and space technologies**

About iDEX

- The iDEX initiative of the Department of Defence Production under the **Ministry of Defence** was launched by the Prime Minister in April 2018.
- iDEX aims at
 - **Creation of an ecosystem to foster innovation** and technology development in Defence and Aerospace by engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes & academia.
 - Provide them **grants/funding** and other support to carry out R&D which has good potential for future adoption for Indian defence and aerospace needs.
 - Provide the **latest technological innovations** for specific challenges experienced in operational environments through co-development and

co-production of innovative solutions.

- iDEX will be funded and managed by a '**Defence Innovation Organization (DIO)**' which has been formed as a 'not for profit' company as per Section 8 of the Companies Act 2013 for this purpose.
- iDEX initiative is a decisive step towards achieving Self-reliance and is one of the most effective and well-executed defence Start-up ecosystems in the true spirit of the Atma Nirbhar Bharat.

Schemes related to modernisation and indigenisation of defence

- In recent years, the government of India has initiated various schemes like **Make In India, Startup India, Atal Innovation Mission (AIM)**, etc. to encourage innovation and entrepreneurship in the Indian commercial ecosystem.

- **Strategic Partnership (SP) Model-** It lists a few Indian private enterprises that will seek knowledge transfers from global Original Equipment Manufacturers (OEMs) in order to establish domestic manufacturing facilities and supply networks.
- **Artificial Intelligence** in Defence- **N Chadrasekharan Task Force** set up in 2018
- **Defence Artificial Intelligence Project Agency (DAIPA)** – to give a thrust on Artificial Intelligence (AI) in Defence, formulation of an AI roadmap for each Defence PSU and Ordnance Factory Board to develop AI-enabled products.
- Addition of "**Buy (Indian-IDDM)**" i.e Indigenously Designed, Developed and Manufactured defence goods category in Defence Procurement Procedure

For doubts and queries email us at:
doubts@officerspulse.com

ART AND CULTURE

1) Guru Tegh Bahadur

Why in News:

- The Prime Minister will address the nation from Red Fort to mark the **400th birth anniversary of Guru Tegh Bahadur, the ninth Sikh Guru.**
 - Red Fort was the place from where Mughal ruler Aurangzeb gave orders for the execution of Guru Tegh Bahadur in 1675.

About Guru Tegh Bahadur

- He was the **ninth Sikh Guru** (Born in Amritsar in 1621 as **Guru Hargobind's youngest son**)
- **Known as the "Protector of Humanity"** (Srisht-di-Chadar) amongst Sikhs.
- His field of expertise revolves around being a teacher, fighter, thinker, traveller, and poet.
- Many hymns written by Guru Tegh Bahadur were included in the Guru Granth Sahib.
- It was his efforts that started **construction of community**

water wells and langars (community kitchen for the poor and hungry).

- Created the **settlement of Chak-Nanki in Punjab** (later became a part of Punjab's Anandpur Sahib).
- Negotiated a treaty between the King of Ahom and Raja Ram Singh of Amber in Assam in 1668. He was sent there by Emperor Aurangzeb.
- Guru Tegh Bahadur was **assassinated in Delhi in 1675** on the orders of **Mughal Emperor Aurangzeb.**
- **His nine-year-old son, Guru Gobind Singh took over after him and** structured the Sikh community into a formalized **community with a separate symbol known as Khalsa** (Martial) identity.

For doubts and queries email us at doubts@officerspulse.com

PIB ANALYSIS

1) India's sugar exports

What's in the news?

- **India's Sugar Exports witnessed an astounding growth of 291%** from USD 1,177 million in FY 2013-14 to USD 4600 million in FY 2021-22. India exported sugar to 121 countries across the globe.
- Sugar export jumped 65 per cent in 2021-22 corresponding to the previous year. The growth was achieved despite logistical challenges posed by COVID19 pandemic in the form of high freight rates, container shortages, etc.
- In 2021-22 (April-February), India has exported sugar worth USD 769 million to **Indonesia**, followed by **Bangladesh** (USD 561 million), **Sudan** (USD 530 million) and **U.A.E** (USD 270 million).
- **Uttar Pradesh, Maharashtra and Karnataka** account for nearly 80 percent of the total sugar production in the country. The other major sugarcane-producing states are Andhra Pradesh, Gujarat, Madhya Pradesh, Odisha, Tamil Nadu, Bihar, Haryana, and Punjab.
- Notably, **India is the world's second-largest sugar producer** after Brazil. Since 2010-11, India has consistently produced surplus sugar, comfortably exceeding the domestic requirements.
- In order to ensure seamless quality certification of products to be exported, APEDA has recognized 220 labs across India to provide services of testing to a wide range of products and exporters.

2) Atal Pension Yojana

About the Scheme

- Atal Pension Yojana (APY) addresses the **old age income security** of the working poor. It is **focused on the unorganized sector workers**.
- It encourages the workers in the **unorganised sector to voluntarily save for their retirement**. The

Government had launched the scheme with effect from **1st June, 2015**.

Eligibility

- Any citizen of India can join the APY scheme. The age of the subscriber should be between **18-40 years**. The contribution levels would vary and would be low if a subscriber joins early and increases if she joins late.
- The benefits of the scheme will arise to the subscribers on attaining the **age of 60 years**.

Features of APY

- Fixed pension for the subscribers ranging between **Rs.1000 to Rs. 5000**, if s/he joins and contributes **between the age of 18 years and 40 years**.
- The same pension is payable to Spouse after death of Subscriber.
- Return of indicative pension wealth to nominees after death of spouse.
- Under the scheme, individuals who have registered before March 31, 2016, will get a co-contribution from the government, which will be 50 percent of the subscriber contribution up to a maximum of Rs. 1,000. The co-contribution will be for 5 years from 2015-16 to 2019-20.
- APY is administered by the **Pension Fund Regulatory and Development Authority (PFRDA)**.

Why in News?

- The total enrollments under APY Scheme have crossed 4.01 crore as on March 2022 out of which more than 99 lakh APY accounts were opened during FY 2021-22.
- Around 71% of the enrolments are done by Public-sector banks, 19% by Regional Rural Banks, 6% by Private Sector Banks, 3% by Payment and Small Finance Banks.

3) One District One Product Scheme

About the scheme

- One District One Product One District One Product (ODOP) scheme was

launched by the **Ministry of Commerce and Industry**.

- The objective is to **convert each District of the country into an Export Hub** by
 - Identifying products with export potential in the District,
 - Addressing bottlenecks for exporting these products,
 - Supporting local exporters/manufacturers to scale up manufacturing, and
 - Find potential buyers outside India with the aim of promoting exports,
 - Promoting the manufacturing & services industry in the District and generating employment in the District.
- The programme aims to **promote local indigenous specialised products and the crafts of each district** through various development initiatives, including providing loans to local production units, artisans, and farmers; establishing common facility centres; helping market these products at a global level; etc.
- Under the initial phase of the ODOP programme, **106 Products have been identified from 103 districts across 27 States**.
- There may be more than one cluster of ODOP products in one district. There may be a cluster of ODOP products consisting of more than one adjacent district in a State.

Significance of the initiative

- ODOP is seen as a transformational step forward towards realizing the true potential of a district, fuel economic growth and generate employment and rural entrepreneurship, taking us to the goal of AtmaNirbhar Bharat.
- It will increase income and local employment at the bottom of the value chain and can empower the craftsmen, artisans, and farmers to improve their product quality and attain newer skills to produce better products.

Why in News?

- With the vision to promote sustainable trade and create market

linkages, a mega buyer-seller meet was recently organized at Jammu and Kashmir under One District One Product initiative of Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.

4) Formation and Promotion of FPOs

What is a Farmer Producer Organization?

- A Producer Organisation (PO) is a **legal entity formed by primary producers**, viz. farmers, milk producers, fishermen, weavers, rural artisans, craftsmen.
- A PO can be a producer company, a cooperative society or any other legal form which provides for sharing of profits/benefits among the members.
- In some forms like producer companies, institutions of primary producers can also become members of PO.
- Farmer Producer Organization (FPO) is **one type of PO where the members are farmers**.
- **Small Farmers' Agribusiness Consortium (SFAC)** is providing support for the promotion of FPOs.

About the Scheme

- In 2021, Government of India launched a Scheme titled "Formation and Promotion of 10,000 Farmer Produce Organizations (FPOs)" to form and promote 10,000 new FPOs in the country.
- Formation and Promotion of FPOs would be a **new Central Sector Scheme** under the **Ministry of Agriculture and Farmers Welfare** to form and promote 10,000 new FPOs.
- Initially there will be **three implementing Agencies** to form and promote FPOs, namely Small Farmers Agri-business Consortium (SFAC), National Cooperative Development Corporation (NCDC) and National Bank for Agriculture and Rural Development (NABARD).
- States may also, if so desire, nominate their Implementing Agency in consultation with the Department of

Agriculture, Co-operation and Farmers Welfare (DAC&FW).

- DAC&FW will allocate Cluster/States to Implementing Agencies which in turn will form the Cluster-Based Business Organization in the States.

Benefits

- Small and marginal farmers do not have the economic strength to apply production technology, services and marketing including value addition.
- Through the formation of FPOs, farmers will have **better collective strength** for better access to quality input, technology, credit and better marketing access through economies of scale for better realization of income.

Why in News?

- During the National Conference of Cluster Based Business Organisations (CBBOs), held recently, Union Agriculture Minister Narendra Singh Tomar mentioned the significance of the Formation and Promotion of FPOs Scheme.

5) One Nation One Ration Card

PDS in India

- Under the **National Food Security Act, 2013**, about 81 crore persons are entitled to buy subsidized foodgrain — rice at Rs 3/kg, wheat at Rs 2/kg, and coarse grains at Re 1/kg — from their designated Fair Price Shops (FPS) of the **Targeted Public Distribution System (TPDS)**.
- PDS is operated under the **joint responsibility** of the Central and the State Governments.
- The Central Government, through **Food Corporation of India (FCI)**, has assumed the responsibility for procurement, storage, transportation and bulk allocation of food grains to the State Governments.
- The **operational responsibilities** including allocation within the State, identification of eligible families, issue of Ration Cards and supervision of the functioning of Fair Price Shops (FPSs) etc., rests with the State Governments.

What is the one 'One Nation, One Ration Card' system?

- Earlier, a ration cardholder can buy food grains only from an FPS that has been assigned to her in the locality in which she lives.
- However, under the 'One Nation, One Ration Card' system, the beneficiary will be able to buy subsidised foodgrains from **any FPS across the country**.
- The biggest beneficiaries will be **migrant workers** who move to other states to seek better job opportunities.

How will the system of ration card portability work?

- Ration card portability is aimed at providing **intra-state as well as inter-state portability** of ration cards.
- The new system, based on a technological solution, will identify a beneficiary through **biometric authentication** on electronic Point of Sale (ePoS) devices installed at the FPSs, and enable that person to purchase the quantity of foodgrains to which she is entitled under the NFSA.
- While the **Integrated Management of Public Distribution System (IM-PDS) portal** (<http://www.impds.nic.in/>) provides the technological platform for the inter-state portability of ration cards, enabling a migrant worker to buy foodgrains from any FPS across the country, the other portal (**annavitran.nic.in**) hosts the data of distribution of foodgrains through E-PoS devices within a state.
- Once the 'one nation one ration card' system takes effect in a given state, the beneficiary family **can purchase food grains from different locations**. For example, a migrant worker staying in a different state can buy his or her share of the subsidized food grains from any FPS in the state where they work while the remaining family members will be able to buy their quota of the supplies back at home.

Since when has the One Nation, One Ration Card System been in the works?

- Work on this ambitious project started about three years back when the government launched a scheme called

Integrated Management of Public Distribution System (IM-PDS) in April 2018 to reform the public distribution system in the country.

- The PDS system was marred with inefficiency leading to leakages in the system. To plug the leakages and make the system better, the government started the reform process.
- For this purpose, it used a technological solution involving the **use of Aadhaar to identify beneficiaries**. Under the scheme, the **seeding of ration cards with Aadhaar** is being done.
- Simultaneously, **PoS machines** are being installed at all FPSs across the country. Once 100 per cent of Aadhaar seeding and 100 per cent installation of PoS devices is achieved, the national portability of ration cards will become a reality.

Why in News?

- The Department of Food and Public Distribution (DFPD) received the prestigious **Prime Minister's Award for Excellence in Public Administration, 2020** for its scheme 'One Nation One Ration Card' (ONORC). The award was presented under the category Innovation (General)-Central.
- The landmark plan of ONORC is a countrywide innovation that allows all NFSA beneficiaries, particularly migrant beneficiaries, to claim either full or part foodgrains from any Fair Price Shop (FPS) of choice in the country through existing ration card with biometric/Aadhaar authentication in a seamless manner. The system also allows their family members back home, if any, to claim the balance of foodgrains on same the ration card.

6) Pradhan Mantri Bhartiya Janaushadhi Pariyojana

About PMBJP

- Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) is a campaign launched by the **Department of Pharmaceuticals** to **provide quality**

medicines at affordable prices to the masses.

- In 2015, an existing 'Jan Aushadhi Scheme' was revamped as 'Pradhan Mantri Jan Aushadhi Yojana' and in November, 2016, to give further impetus to the scheme, it was again renamed as "Pradhan Mantri Bhartiya Janaushadhi Pariyojana".
- PMBJP stores have been set up to provide **generic drugs**, which are available at lesser prices but are equivalent in quality and efficacy as expensive branded drugs.
- **Pharmaceuticals & Medical Devices Bureau of India (PMBI)** is the implementing agency for PMBJP.

Objectives of PMBJP

- Making quality medicines available at affordable prices for all, particularly the poor and disadvantaged, through exclusive outlets "**Jan Aushadhi Kendras**", to reduce out of pocket expenses in healthcare.
- Create awareness among the public regarding generic medicines.
- Create demand for generic medicines through medical practitioners.
- Create awareness through education and awareness programs that high price need not be synonymous with high quality.

Who can open a Jan Aushadhi Kendras?

- State Governments or any organization / reputed NGOs / Trusts / Private hospitals / Charitable institutions / Doctors / Unemployed pharmacists/ individual entrepreneurs are eligible to apply for new Jan Aushadhi stores.
- The applicants shall have to employ one B Pharma / D Pharma degree holder as Pharmacist in their proposed store.
- They can be set up at any suitable place within Government hospital or Private hospital premises or anywhere outside the premises.

Why in News?

- Pharmaceuticals & Medical Devices Bureau of India is inviting applications from Individuals, Unemployed Pharmacist, Government nominated agencies, NGO's, Trust, Societies, etc. for opening of Pradhan Mantri

Bhartiya Janaushadhi Kendras (PMBJKs).

- The applications have been invited through an online process. Interested applicants can apply on PMBI's website janaushadhi.gov.in. Eligible applicants will be given in-principal approval for taking drug license on the name of PMBJP on first come first basis.

Related Information

What are generic drugs?

- When a company develops a new drug — often after years of research — it applies for a patent, which **prohibits anyone else from making the drug for a fixed period**.
- To recover the cost of research and development, companies usually price their brand- name drugs on the higher side.
- Once the patent expires, other manufacturers duplicate and market their own versions of the drug.

Cost-effectiveness of generic medicines

- Since the manufacture of these generic drugs do not involve a repeat of the extensive clinical trials to prove their safety and efficacy, it **costs less to develop them**. Generic drugs are, therefore, **cheaper**.
- However, because the compounds in the generic versions have the same

molecular structure as the brand-name version, they provide the **same clinical benefits** as its brand-name version. The generic drug has the **same "active ingredient"** as the brand-name drug. This ingredient is the one that cures the patient; and other, "inert ingredients", which give the drug its colour, shape or taste, vary from the brand-name drug to the generics.

- In addition, multiple applications for generic drugs are often approved to market a single product; this creates competition in the marketplace, typically resulting in lower prices. **Typically results in prices about 85% less than the brand-name.**

About BPPI

- The Bureau of Pharma PSUs of India comprising all the Pharma CPSUs under the Department of Pharmaceuticals was established in 2008.
- It aims to bring about effective collaboration and cooperation in furthering the working and resources of these organizations.

For doubts and queries email us at doubts@officerspulse.com

News in Depth

AIR NEWS

1) National Apprenticeship Mela

What's in the news?

- National Apprenticeship Mela 2022 was organised across the country in more than 700 locations recently.
- **Skill India**, in association with the Directorate General of Training, organised the Mela across the country. Under the initiative, the aim is to support hiring of more than one lakh apprentices and assist employers in tapping the right talent and develop it further with training and providing practical skillsets.
- The event witnessed participation from more than four thousand organisations across the country, operating in more than 30 sectors such as Power, Retail, Telecom, IT/ITeS, Electronics, Automotive.
- The aim is to fill the gap in supply and demand for skilled workforce and meet the aspirations of the Indian youth through gaining on-the-job training and securing better opportunities for employment.

2) Tuberculosis

What is TB?

- Tuberculosis (TB) is a disease **caused by bacteria called Mycobacterium tuberculosis**. TB is an **ancient disease** and has been documented to have existed in Egypt as early as 3000 BC.
- TB most commonly affects the **lungs** (pulmonary TB), but it can also affect **other organs** (extra-pulmonary TB).
- TB **spreads through the air** when a person with TB of the lungs or throat coughs, sneezes, or talks.
- Common symptoms of TB are:

- Cough for three weeks or more, sometimes with blood-streaked sputum; Fever, especially at night; Weight loss and Loss of appetite.

Who is at risk?

- **Over 95% of cases and deaths are in developing countries.**
- People infected with TB bacteria have a 5–10% lifetime risk of falling ill with TB. Those with **compromised immune systems**, such as people living with HIV, malnutrition or diabetes, or people who use tobacco, have a **higher risk of falling ill**.
- However, TB is **curable and preventable**.

Treatment for TB

- **Directly Observed Treatment Short-course (DOTS)** is the strategy followed for treatment of TB. Tuberculosis treatment requires **at least 6 months of treatment**.
- Currently, **BCG (Bacillus Calmette-Guerin)** is the only licensed vaccine available for the prevention of TB.
- **BCG works well in certain places but not so well in others.** Generally, the farther a country is from the equator, the higher is the efficacy.
- However, BCG gives **excellent protection against severe forms of tuberculosis in children**.

What is Multidrug-resistant TB?

- Anti-TB medicines have been used for decades and **strains that are resistant** to one or more of the medicines have been documented in every country surveyed. Drug resistance emerges when **anti-TB medicines are used inappropriately**, through incorrect prescription by health care providers, poor quality

drugs, and patients stopping treatment prematurely.

- **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by **bacteria that do not respond to isoniazid and rifampicin**, the 2 most effective first-line anti-TB drugs.
- MDR-TB is treatable and curable by **using second-line drugs**. However, second-line treatment options are **limited and require extensive chemotherapy** (up to 2 years of treatment) with medicines that are expensive and toxic.

India and TB

- According to the **WHO's Global TB Report**, 10 million people developed TB in 2019 with 1.4 million deaths. **India accounts for 27% of these cases.**
- **BCG** was first introduced in a limited scale in 1948 and became a part of the National TB Control Programme in 1962.
- **National Tuberculosis Elimination Programme (NTEP)** aims at **eliminating TB by 2025** in India. It is crafted in line with other health sector strategies and global efforts, such as the World Health Organization's (WHO) End TB Strategy.

- **Nikshay Portal:** Nikshay is a unified ICT system for TB patient management and care in India and allows both public and private sector health care providers to manage their patients.
- **Nikshay Poshan Yojana (NPY):** Under the Nikshay Poshan Yojana government provide financial help to TB Patients for their treatment. The government provides Rs 500/- per month financial incentive to TB patients for their treatment and food. Nikshay Poshan Yojana Money will be transferred directly to the patient's bank account.

Why in News?

- Health Minister Dr Mansukh Mandaviya has said that the country is marching rapidly towards making India TB-Free by 2025.
- The Minister said, the **incidence rate of TB has reduced to over 34 per cent**. In 2015, the incidence rate of TB was 217 per lakh population, which has reduced to **142 in 2020**.
- The **mortality rate was also reduced to 53 per cent**. In 2015, the mortality was 32 per lakh population, which has decreased to 15 in 2020.

For doubts and queries email us at doubts@officerspulse.com

THE HINDU EDITORIALS

1) Unfounded apprehensions about this Act

Background:

- The **Criminal Procedure (Identification) Act, 2022** authorises the police and prison authorities to take ‘**measurements**’ of convicts and others for the purpose of identification and investigation in criminal matters and to preserve records.
- The Act seeks to **repeal the Identification of Prisoners Act (IPA)** of 1920, whose scope was limited to recording measurements which include finger impressions and footprint impressions of certain convicts and non-convict persons.

Broader scope:

- While the scope of the ‘measurements’ in the IPA was limited, the Act now includes physical measurements such as finger impressions, palm prints, footprint impressions, photographs, **iris and retina scans; biological samples** and their analysis; and behavioural attributes including signatures, handwriting; or any other examination referred to in Sections 53 or 53A of the Code of Criminal Procedure (CrPC), 1973.
- Section 311A of the CrPC empowers a **magistrate** to direct any person (including an accused person) to give a specimen signature or handwriting for the purpose of any investigation or proceedings.
- The enlarged scope of ‘measurements’ in the Act is nothing but a **merger of the scope of ‘measurements’ in the IPA and provisions of the CrPC** with the addition of modern techniques of identification such as an iris and retina scan.

Constitutionality of the Act:

- In **1961**, the Supreme Court of India in **State of Bombay vs Kathi Kalu** held that the person in custody giving his specimen handwriting or signature or impression of his thumb, finger, palm or foot, to the

investigating officer, **cannot be included** in the expression “**to be a witness**” under **Articles 20(3)** of the Constitution.

- Similarly, in a series of cases, it has been held that taking a blood sample for the purpose of a **DNA test**, taking a hair sample or voice sample will not amount to compelling an accused to become a witness against himself, as such samples by themselves are innocuous and do not convey information within personal knowledge of the accused.
- The only **exceptions** are scientific techniques, namely **narcoanalysis, polygraphy and brain fingerprinting** which the Supreme Court in **Selvi vs State of Karnataka (2010)** held to be testimonial compulsions (if conducted without consent), and thus prohibited under Article 20(3) of the Constitution.
- The validity of any new scientific technique, to be applied in future, would need to be tested on the touchstone of permissible restrictions on fundamental rights.

On Juveniles:

- Though the Act does not explicitly bar taking measurements of juveniles, the provisions of the (Special Act) Juvenile Justice Act, 2015 regarding destruction of records of conviction under the Act, shall apply.
- A first information report is to be written only in heinous cases (offences punishable with imprisonment for seven years or more).
- In all other cases, delinquent juveniles are produced before the Juvenile Justice Board along with a **general daily diary report and social background report**.
- Since the records of juveniles are required to be erased, the period of storage of measurements of adults could have been conveniently reduced by 10 years, as the probability of committing a crime by any person after the age of 80 years is negligible.

- The Crime in India – 2020 statistics published by the **National Crime Records Bureau (NCRB)** shows that the number of arrested persons over 60 years of age is less than 1.5%.

Need of the hour:

- The Act **does not mandate the compulsory recording of all measurements** for all types of offences. The measurements shall be taken **'if so required'** and as may be prescribed by governments.
- The purpose is to help the enforcement agencies in the prevention and the detection of crime.
- The NCRB will store, process, and preserve whatever data is collected by the States and Union Territories.
- The **Crime and Criminal Tracking Network & Systems (CCTNS)** data have only helped enforcement agencies across States in matching missing persons with found persons and unidentified bodies, matching lost/stolen mobile phones and vehicles with the recovered ones, tracking habitual criminals and inter-State gangs, etc.
- Access to biometrics collected by the **Unique Identification Authority of India (UIDAI)** has been refused to enforcement agencies on the pretext of 'technology issues' and strict provisions of the law.

Conclusion :

- The objective of the Act is to facilitate **identification and investigation** in criminal matters.
- Enforcement agencies must be allowed to use **scientific methods to prevent and detect crime**.
- A number of **analytical tools** can be applied nowadays to the database of measurements to do predictive policing (which is very common in developed countries).
- The use of better technology will only help in **minimising the probability of errors**.
- The right of an individual will have to be considered in the background of the interests of society.

- The data proposed to be collected through measurements of convicts and others does not appear to be disproportionate with the stated objectives of the Act.

2) Fishing for workable solutions in the Palk Bay

Background:

- After a gap of 15 months, the India-Sri Lanka **Joint Working Group (JWG)** on fisheries held its deliberations (in virtual format) on March 25.
- Just as sections of fishermen from the Palk Bay bordering districts of Tamil Nadu continue to transgress the **International Maritime Boundary Line (IMBL)**, cases of many of them getting arrested and their boats being impounded by the Sri Lankan authorities continue.

Issue with Trawling:

- The use of **mechanised bottom trawlers** is an issue that has become a bone of contention between the fishermen of the two countries.
- This method of fishing, which was once promoted by the authorities in India, is now seen as being extremely adverse to the marine ecology, and has been acknowledged so by India.
- At the same time, the fishermen of Tamil Nadu experience a genuine problem, the **lack of fishing areas** consequent to the demarcation of the International Maritime Boundary Line (IMBL) in June 1974.
- If they confine themselves to Indian waters, they find the area available for fishing full of rocks and coral reefs besides being shallow.
- Under the **Tamil Nadu Marine Fishing Regulation Act 1983**, mechanised fishing boats can fish only beyond 3 NM from the coast. This explains the trend of the fishermen having to cross the IMBL frequently.

Fishermen level talks:

- Indian fishermen can present a **road map for their transition** to deep sea fishing or alternative methods of fishing, the Sri Lankan side has to take

a pragmatic view that the transition cannot happen abruptly.

- To elicit a favourable response from the fishermen of the Northern Province, the Tamil Nadu fishermen have to commit themselves to a **short and swift transition** for which the governments in India (Central and State) have to come forward to perform the role of guarantors.
- Whenever there is a genuine complaint about Tamil Nadu fishermen having damaged the properties of the Northern Province's fishermen, the Indian government can **compensate this through the proper channels** of Sri Lanka.

Deep-sea fishing:

- India will have to modify its scheme on deep sea fishing to accommodate the concerns of its fishermen, especially those from Ramanathapuram district, so that they take to deep sea fishing without any reservation.
- The revised scheme has to absorb satisfactorily not only the unit cost of long liners but also the running cost.
- There is a compelling need for the Central and State governments to implement in Tamil Nadu the **Pradhan Mantri Matsya Sampada Yojana** in a proactive manner.

- The scheme, which was flagged off two years ago, covers alternative livelihood measures too including seaweed cultivation, open sea cage cultivation, and sea/ocean ranching.
- India had signed a memorandum of understanding with Sri Lanka for the **development of fisheries harbours**. This can be modified to include a scheme for deep sea fishing to the fishermen of the North.
- It is a welcome development that the JWG has agreed to have **joint research on fisheries**, which should be commissioned at the earliest. Such a study should cover the extent of the adverse impact of bottom trawling in the Palk Bay region.

Conclusion:

- The two countries should explore the possibility of establishing a **permanent multi-stakeholder** institutional mechanism to regulate fishing activity in the region.
- A number of options are available to make the Palk Bay not only free of troubles but also a **model for collaborative endeavours in fishing**.

For doubts and queries email us at doubts@officerspulse.com

INDIAN EXPRESS EXPLAINED

1) A new research about Jupiter's moon "Europa"

Why in the news?

- Recently, a team of researchers from Stanford University have said that on one of Jupiter's moons **Europa, a prime candidate for life** in the solar system, there might be an abundance of water pockets beneath formations called double ridges.
- It is already known that Europa, whose surface is mostly solid water ice, contains water beneath it. The researchers are now saying that the **double ridges** – the formations which are most common on Europa's surface and are similar to those seen on Earth's Greenland ice sheet – are formed over shallow pockets of water.

About Europa

- **Europa is slightly smaller than Earth's moon** and its diameter is about one-quarter that of the Earth.
- Even though Europa has a very thin oxygen atmosphere, it is considered one of the most promising places in the solar system to find present-day environments that are suitable for life beyond the Earth.
- It is also believed that underneath Europa's icy surface the amount of water is twice that on Earth. NASA notes that scientists believe Europa's ice shell is 15-25 km thick and is floating on an ocean, which is estimated to be between 60-150 km deep. Interestingly, while its diameter is less than the Earth's, Europa probably contains twice the amount of the water in all of the Earth's oceans.
- NASA is expected to launch its Europa Clipper in 2024. The module will orbit Jupiter and conduct multiple close flybys to Europa to gather data on the moon's atmosphere, surface and its interior.

What are the implications of the recent findings?

- The central implication is that the shallow water pockets beneath the

double ridge, like surfaces seen on the Greenland ice sheet on Earth and those seen on Europa's ice shell, **increase the potential habitability of the moon.**

- The ice shell is believed to be less of a barrier and more of a dynamic system. This means that the ice shell does not behave like an inert block of ice, but rather undergoes a variety of geological and hydrological processes.

2) Life and legend of Guru Tegh Bahadur, who stood up to the Mughals

Why in the news?

- Recently, the 401st birth anniversary of Guru Tegh Bahadur (1621 -1675) was widely celebrated.

Guru Tegh Bahadur

- Tegh Bahadur was born in Amritsar on April 21, 1621 to Mata Nanki and Guru Hargobind, the sixth Sikh guru, who raised an army against the Mughals and introduced the concept of warrior saint.
- As a boy, Tegh Bahadur was called Tyag Mal because of his ascetic nature. He spent his early childhood in Amritsar under the tutelage of Bhai Gurdas, who taught him Gurmukhi, Hindi, Sanskrit, and Indian religious philosophy, while Baba Budha trained him in swordsmanship, archery and horse-riding.
- He became the **ninth Sikh Guru.**
- Guru Tegh Bahadur traveled extensively through Malwa and Majha, first came into conflict with the authorities when he started questioning the tradition of worshipping at the graves of pirs and faqirs.
- He preached against this practice, and urged his followers to be 'nirbhau' (fearless) and 'nirvair' (without envy).
- His sermons, delivered in a mix of **Sadukhri and Braj languages**, were

widely understood from Sindh to Bengal.

The guru's martyrdom

- **The Mughal Emperor Aurangzeb was the contemporary of Guru Tegh Bahadur.**
- Back in Anandpur Sahib, the guru was approached by Kirpa Ram, a Kashmiri Brahmin who sought his protection with a group from the Valley. The guru assured Das and his group of his protection and told them to tell the

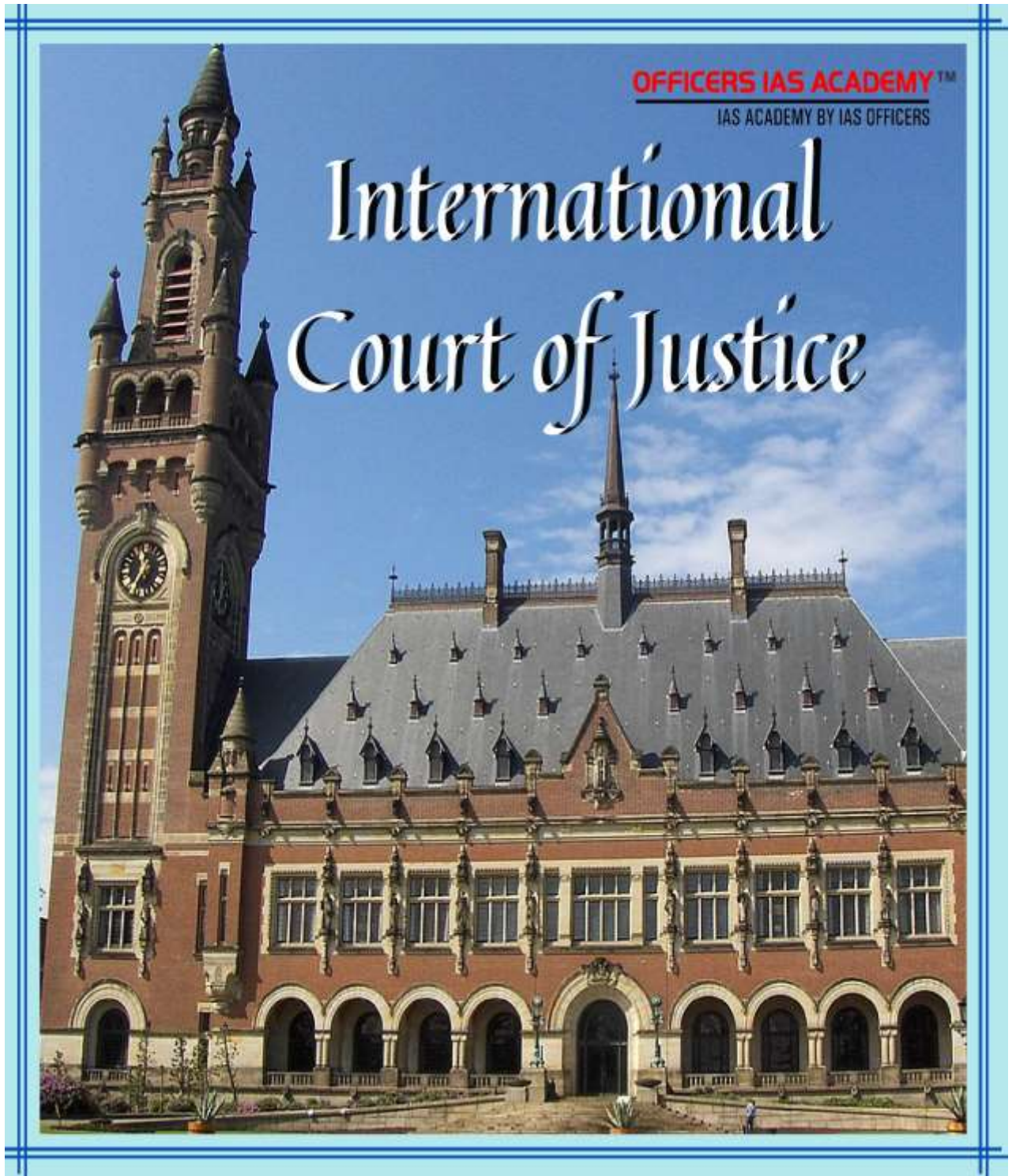
Mughals that they should first try to convert the guru.

- Aurangzeb considered this an open challenge to his authority. Historians accounts that **Aurangzeb ordered the public execution of the guru** on November 11, 1675 after the guru declined to embrace Islam.

For doubts and queries email us at doubts@officerspulse.com

INFOGRAPHIC OF THE WEEK

1) INTERNATIONAL COURT OF JUSTICE





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

For free learning, visit www.officerspulse.com


OFFICERS IAS ACADEMY™
IAS ACADEMY BY IAS OFFICERS

About ICJ


The ICJ is the **principal judicial organ of the United Nations (UN)**. It was established in 1945 by the Charter of the United Nations and began work in 1946.

The court is the **successor to the Permanent Court of International Justice (PCIJ)**, which was brought into being through,



1922

and by, the League of Nations, and which held its inaugural sitting at the Peace Palace in The Hague, Netherlands, in 1922.



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

For free learning, visit www.officerspulse.com

After World War II, the League of Nations and PCIJ were replaced by the United Nations and ICJ respectively.

The PCIJ was formally dissolved in 1946, and its last president, Judge José Gustavo Guerrero of El Salvador, became the first president of the ICJ.



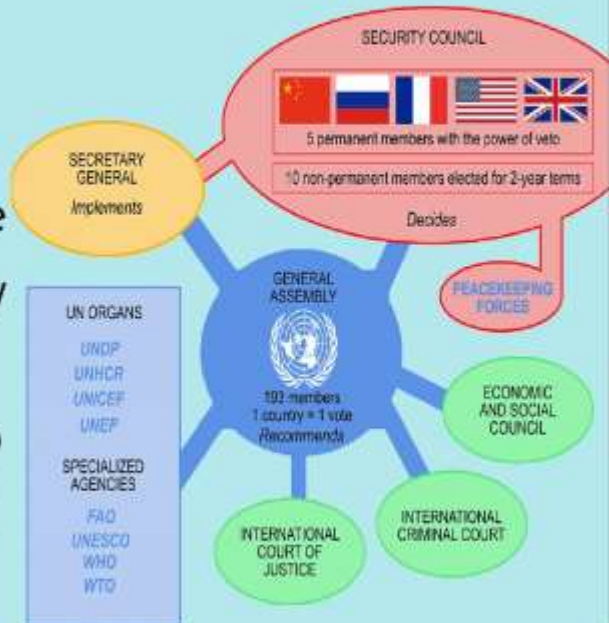
The first case, which was brought by the UK against Albania and concerned incidents in the Corfu channel – the narrow strait of the Ionian Sea between the Greek island of Corfu and Albania on the European mainland – was submitted in 1947.

Seat and role



Like the PCIJ, the ICJ is based at the **Peace Palace in The Hague**. It is the only one of the six principal organs of the UN that is not located in New York City.

(The other five organs are the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, and the Secretariat.)



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

For free learning, visit www.officerspulse.com

According to the ICJ's own description, its role is "to settle, in accordance with international law,



legal disputes submitted to it by States and to give advisory opinions on legal questions referred to it by authorized United Nations organs and specialized agencies"

The court "as a whole must represent the main forms of civilization and the principal legal systems of the world".





English and French are the ICJ's official languages.

All members of the UN are automatically parties to the ICJ statute, but this does not automatically give the ICJ



jurisdiction over disputes involving them. The ICJ gets jurisdiction only if both parties consent to it.

The judgment of the ICJ is **final and technically binding** on the parties to a case.



There is **no provision of appeal**; it can at the most, be subject to **interpretation** or, upon the discovery of a new fact, **revision**.



However, the ICJ has **no way to ensure compliance of its orders**, and its authority is derived from the willingness of countries to abide by them.

Judges of the court



The ICJ has 15 judges who are elected to nine-year terms by the UN General Assembly and Security Council, which vote simultaneously but separately.

To be elected, a candidate must receive a majority of the votes in both bodies, a requirement that sometimes necessitates multiple rounds of voting.



A third of the court is elected every three years. Judges are eligible for re-election.

OFFICERS IAS ACADEMY™
IAS ACADEMY BY IAS OFFICERS

Why in News?



The International Court of Justice has ruled that Russia should suspend its military operations in Ukraine immediately. The ICJ in its order said that the Russian Federation shall immediately suspend the military operations that it commenced recently in the territory of Ukraine.

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

For free learning, visit www.officerspulse.com

Reference:

<https://newsonair.gov.in/News?title=International-Court-of-Justice-asks-Russia-to-immediately-suspend-its-military-operations-in-Ukraine&id=437348>

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

For free learning, visit www.officerspulse.com

References:**POLITY**

- <https://www.thehindu.com/news/national/the-functioning-of-the-enforcement-directorate/article65329177.ece>
- <https://www.thehindu.com/news/national/nris-in-south-africa-told-to-sign-up-as-overseas-electors-ec/article65344486.ece>

ENVIRONMENT

- <https://www.thehindu.com/sci-tech/energy-and-environment/earth-day-the-history-and-impact-of-the-environmental-movement/article65338361.ece>
- <https://www.dnaindia.com/lifestyle/report-world-earth-day-2022-know-history-significance-theme-this-year-2947701>
- <https://www.thehindu.com/news/national/explained-why-india-faces-annual-coal-shortage-how-does-it-affect-power-supply/article65339185.ece>

ECONOMY

- <https://www.thehindu.com/business/Economy/govt-amends-rules-governing-nidhi-companies/article65339331.ece>
- <https://www.thehindu.com/business/Economy/imf-cuts-global-growth-outlook-on-war-trims-india-forecast-to-82/article65335858.ece>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1818635>

INTERNATIONAL RELATIONS

- <https://pib.gov.in/PressReleasePage.aspx?PRID=1818880>

SCIENCE AND TECHNOLOGY

- <https://www.thehindu.com/news/national/karnataka/isro-iisc-researchers-develop-way-to-make-bricks-from-martian-soil/article65338661.ece>
- <https://www.newindianexpress.com/cities/bengaluru/2022/apr/20/want-to-build-a-house-on-mars-iisc-and-isro-researchers-now-have-bricks-just-for-you-2444379.html>

- <https://www.thehindu.com/news/national/kerala/give-priority-to-tilting-trains-than-k-rail-says-expert/article65338857.ece>
- <https://indianexpress.com/article/india/india-railways-to-get-swiss-tilting-trains-signs-two-mous-with-switzerland-4823594/>
- <https://indianexpress.com/article/india/india-railways-to-get-swiss-tilting-trains-signs-two-mous-with-switzerland-4823594/>
- <https://www.isro.gov.in/technology-development-programmes/reusable-launch-vehicle-technology-demonstration-program-rlv-td>
- <https://www.thehindu.com/news/national/kerala/isro-to-conduct-rlv-landing-experiment-soon/article65344990.ece>

DEFENCE

- <https://www.thehindu.com/news/national/militant-groups-in-kashmir-now-have-iridium-satellite-phones-wifi-enabled-thermal-imagery-tools/article65329539.ece>
- <https://www.thehindu.com/news/national/delivery-of-stealth-frigates-as-per-schedule-russia/article65326853.ece>
- <https://www.thehindu.com/news/national/sixth-scorpne-submarine-vagsheer-launched-into-water-in-mumbai/article65338261.ece>
- <https://newsonair.gov.in/Main-News-Details.aspx?id=439635>
<https://www.pressreader.com/india/the-hindu/20220423/281964611275791>

ART AND CULTURE

- <https://indianexpress.com/article/india/pms-red-fort-address-to-mark-birth-anniv-of-guru-tegh-bahadur-7875686/>
- <https://www.thehindu.com/news/national/event-at-red-fort-release-of-coin-and-stamp-to-mark-400th-birth-anniversary-of-guru-tegh-bahadur/article65332385.ece>

PIB

- <https://pib.gov.in/PressReleasePage.aspx?PRID=1817808>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1818719>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1818790>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1818764>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1819025>
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1819197>

AIR

- <https://newsonair.gov.in/News?title=National-Apprenticeship-Mela-2022-to-be-organised-across-the-country-in-over-700-locations-on-21st-April&id=439462>
- <https://newsonair.gov.in/News?title=Country-is-marching-rapidly-towards-making-India-TB-Free-by-2025%2c->

[says-Health-Minister-Mansukh-Mandaviya&id=439704](https://pib.gov.in/PressReleasePage.aspx?PRID=1817808)

EDITORIALS

- <https://www.google.com/amp/s/www.thehindu.com/opinion/lead/unfounded-apprehensions-about-this-act/article65339172.ece/amp/>
- <https://www.google.com/amp/s/www.thehindu.com/opinion/op-ed/fishing-for-workable-solutions-in-the-palk-bay/article65345894.ece/amp/>

INDIAN EXPRESS

- <https://indianexpress.com/article/explained/explained-jupiter-moon-europa-research-7880787/>
- <https://indianexpress.com/article/explained/guru-tegh-bahadur-life-legend-mughals-explained-7879281/>